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Disease Staging Clinical And Coded Criteria

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Preface

Since its initial development in the late sixties, Disease Staging has undergone extensive review. The inclusion of criteria for additional diseases and periodic adjustments of laboratory data and diagnostic code assignments have ensured the timeliness, accuracy, and clinical relevance of Disease Staging.

Much of the initial development of Disease Staging was sponsored by the Office of Planning, Evaluation, and Legislation, the evaluation component of the Health Services Administration with the (then) Department of Health, Education and Welfare. The Staging concept was used to develop medically meaningful clusters of patients in terms of disease severity. Staging was also designed as a quality assurance tool for evaluating ambulatory care by comparing levels of severity at the time of hospitalization for patients receiving their health benefits from different government and private insurers.

Later development of Disease Staging was sponsored by the National Center for Health Services Research (NCHSR), a branch of the Public Health Service. Under contract to NCHSR, Systemetrics (which is now part of The MEDSTAT Group) assembled a panel of physicians to develop Disease Staging criteria for 400 high-incidence diseases. Computer software was developed to apply Disease Staging criteria to automated hospital discharge abstract data. This software was validated in re-abstracting studies that compared manual and computer staging on a large sample of records. Results showed a high level of agreement between stages assigned manually using the full medical record and stages assigned by computer software operating on automated discharge abstract data.

Since the completion of the NCHSR work in 1983, improvements include the clinical modification of Staging criteria to reflect current clinical practice and the annual updating of coded Staging criteria to reflect current coding conventions. The result is a more complete and more precise system for defining disease severity. The Disease Staging definitions thus reflect the severity of a disease at any given time and the clusters have clinical significance in terms of prognosis and choice of therapy. Policy makers, health care administrators, and researchers, both in the United States and other countries, have applied Disease Staging in risk adjustment evaluations of health care efficiency and effectiveness.

Three decades of work developing Disease Staging have allowed the writer to appreciate the dedicated work of many, both in medicine and in other professions. The contributions of colleagues in the development of the first four editions, as well as the

present edition, are documented in the Contributors section. Others have made unique contributions which should be recognized: Cathleen A. Barnes, RRA, MEDSTAT, Santa Barbara, CA, who has supervised the assignment of the codes, a complex and monumental task; Clara A. Callahan, MD, the newest member of the team, who provided a clinical perspective, especially for the diseases of children; Marvin E. Gozum, MD, who has lent his research and computer skills to the project for a good part of ten years; and Daniel Z. Louis, who has been a collaborator on many studies for the past twenty-five years.

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Introduction

A disease can be effectively treated only when I as a doctor understand its causes in that particular patient, its site of origin, the internal havoc it creates, and the course which the process is likely to take whether treated or not. With that knowledge, I can make a diagnosis, prescribe a program of treatment, and predict an outcome.¹

Where? Why? How serious? These are the basic questions that a clinician must attempt to answer when a patient presents with a medical problem. The same questions must be answered to make appropriate comparisons in studies of outcomes, quality, or costs of care. The "where" is the specific organ or system of the body; the "why" is the etiology of the problem; and the "how serious" is the pathophysiologic changes that have occurred and ranking of the disease's complications.

Physicians use information from a patient's history, physical examination, laboratory findings, and other diagnostic tests to answer these questions in order to diagnose a disease, to estimate the patient's prognosis, and to prescribe appropriate treatment. Ideally, answers should be available before therapeutic intervention. Even in those cases when definitive answers may not be available and treatment must be given, it should be based on the presumptive answers to these questions.

Disease Staging is a classification system that uses diagnostic findings to produce clusters of patients who require similar treatment and have similar expected outcomes. It can serve as the basis for clustering of clinically homogeneous patients for assessment of quality of care, analysis of clinical outcomes, review of utilization of resources, assessment of efficacy of alternative treatments, and assignment of credentials for hospital privileges.

Ideally, a diagnostic label should have explicit data about the location of the health problem, cause of the problem, and severity of the problem. The majority of diagnostic labels identify the site of the disease (e.g., appendicitis, cholecystitis, diverticulitis, and peptic ulcer). Some provide information about the system involved and cause of the problem (e.g., Pneumococcal pneumonia and urinary tract infection caused by *E. coli*). Other diagnostic labels are manifestations of problems (e.g., hypertension and anemia). A few, because of the body system involved, also convey a degree of severity (e.g., myocardial infarction or

bacterial meningitis). And some may even be distinguished by the time of the disease's onset (e.g. congenital toxoplasmosis).

Only in the area of cancer has the medical profession developed a diagnostic classification that includes severity based on the understanding of the need to measure the efficacy of various forms of treatment for similar clusters of patients. Now that society is challenging the medical profession to document quality of care in a more objective manner, similar measurement instruments are needed for all medical problems.

Disease Staging Criteria

The Disease Staging criteria define levels of biological severity for specific medical diseases, where severity is defined as the risk of organ failure or death. The classification is based on the severity of the pathophysiologic manifestations of the disease:

Stage 1	A disease with no complications;
Stage 2	-the disease has local complications;
Stage 3	-the disease involves multiple sites, or has systemic complications;
Stage 4	-death.

Subdivisions of these stage levels have been defined to allow more precise classification. The challenge is to include enough detail to allow for a rich description of each disease and yet not be so overwhelmingly complete that the staging is cumbersome.

In the definition of the Staging criteria, most of the diseases begin at Stage 1 and continue through Stage 4. There are several exceptions to this rule. Some self-limiting diseases, such as cataracts, do not include a Stage 3 or 4. Other criteria begin at either Stage 2 or 3 since they are often complications of other diseases; e.g., bacterial meningitis, which can be a complication of sinusitis, otitis media, or bacterial pneumonia. Stage 0 has also been included in the classification of diseases for patients with a history of a significant predisposing risk factor for the disease, but for whom there is currently no pathology, e.g. history of carcinoma or a newborn baby born to a mother suspected of having an infection at the time of delivery.

The Stage levels are ordinal in nature for each medical problem. Stage 1 of one disease may have different implications for resource use, treatment, and prognosis than a similar stage of another disease. For example, hyperglycemia (Stage 1 diabetes mellitus) is different than positive serological evidence of AIDS (Stage 1). Even when major pathophysiologic damage exists such as coma, which in all diseases is a Stage 3 complication, the prognosis may be different for each disease since for some there is treatment which may reverse the complication. Treatment, whether medical or surgical, has not, however, been introduced into the staging classification; staging is driven by the natural history of the disease. Nor has quality of life been taken into consideration in Disease Staging. Controlling for other factors, such as choice of treatment, age, and presence of co-morbid disease, risk of death is a function of etiology and stage of disease and, while generally increasing by Stage level, may vary dramatically by Stage from one disease to another.

It is important to distinguish the etiology of a disease whenever possible. For example, "pneumonia" does not specify etiology. Designating that the pneumonia was bacterial in origin would be an improvement, (e.g., "bacterial pneumonia"), but optimally a physician should document the specific bacteria causing the pneumonia (e.g., "Pneumococcal pneumonia").

Health problems, such as congestive heart failure, and laboratory findings, such as anemia, that may result from a variety of causes, are not diagnoses. When this is all that is recorded as the patient's "diagnosis," the implication is that the physician did not know, or did not document, the disease process that produced the problem. Unfortunately, many users of medical information fail to distinguish between non-specific health problems (e.g., symptoms and laboratory findings) and diagnoses of specific diseases. As a result, patients may be inappropriately classified for the purposes of reimbursement, for the analysis of resource utilization, and for the assessment of quality of care.

For each Staging criteria set included in this volume the most likely etiology is specified. Some of the diseases may have multiple etiologies (e.g. bacterial pneumonia). While the classification of Pneumococcal pneumonia is essentially the same as for Staphylococcal or *Pseudomonas* pneumonia, each type of bacterial pneumonia should be analyzed separately when evaluating quality of care, clinical trials, and utilization of resources because of the varying prognosis associated with each.

There are a number of complications (for example, sepsis and congestive heart failure) that may result from many diseases. Generally, these complications have been assigned the same integer stage level across the different diseases, although not necessarily the same

substage level. Different integer stage levels have been used when the complication may indicate different levels of severity depending upon the underlying disease. For example, pneumonia is classified as a Stage 2 complication when it occurs secondary to other problems. There are a few diseases, such as botulism, where aspiration pneumonia or bacterial pneumonia is a reflection of the systemic nature of the problem rather than just the involvement of the respiratory system. For these diseases, pneumonia is classified as a Stage 3 complication.

Diagnostic Findings

In addition to the stages of the disease, each criteria set includes a specification of “diagnostic findings” that can be used to validate the presence of the disease and stage level. The diagnostic findings include physical findings, radiological and laboratory results, and pathological and operative reports.²

The present edition has addressed the validation issue more comprehensively than previous editions. Only the information that specifically documents a complication is included, with the understanding that physicians should first gather data from the history and physical examination to state an hypothesis (presumptive diagnosis) and use the laboratory judiciously to validate the diagnosis. Which laboratory data are collected will depend on available facilities and cost-benefits for the patients. For some diagnoses, both the patient and physician can accept uncertainty. However, if major treatment decisions are to be made, validation using objective data is essential. For instance, patients should not be treated for cancer on a presumptive diagnosis.

For some diagnostic testing (e.g. the use of the glucose tolerance test or fasting blood sugar for the diagnosis of diabetes mellitus), criteria have been recommended that are accepted by the medical community. Many laboratory tests, however, do not have nationally accepted values to delineate normal and abnormal results. In these situations, laboratory results have been defined to be abnormal when they exceed three standard deviations from the mean value.^{3,4}

In summary, the physician’s clinical judgment based on the history and physical examination should be used along with laboratory data to confirm or rule out the presence of a particular problem. In addition, laboratory values may need to be adjusted based on the calibration of the laboratory performing the test.

Applications of Disease Staging

Disease Staging is a valuable tool in many clinical, research, management, and educational studies. Examples of how Disease Staging has been used to classify patients for a number of applications are highlighted below.

Timing of Hospitalization⁵⁻⁸

Disease Staging may be used to document potential quality of care problems in ambulatory settings by providing data relating to the level of severity of illness of patients at time of hospitalization. Patients admitted to the hospital with advanced stages of illness represent possible failures of outpatient care. For example, an admission for cellulitis secondary to diabetes mellitus might have been preventable if the disease progression could have been averted with appropriate outpatient care.

For some diseases, such as appendicitis, hospitalization is clearly appropriate at the earliest stage of the disease. Other diseases, such as essential hypertension, rarely require hospitalization at the early stages; hospitalization is only required if the disease progresses to more advanced stages.

Because admitting patients to an acute care hospital involves incurring significant cost and potential risk, patients should be admitted to the hospital only if the expected benefits outweigh the costs and risks of the admission, such as: when they require inpatient diagnostic testing; when their symptoms suggest a serious illness which, if confirmed, may require immediate treatment; when they require treatment that is most appropriately provided as an inpatient; and, when they require the types of monitoring and nursing care which are available only in an acute care hospital.

Classification of severity of illness at the time of hospitalization is important for analysis of both inpatient and outpatient care. Comparison of outcomes of inpatient care can be accomplished only if one adjusts for patient risk at time of admission.

For patients admitted at earlier stages of illness, one may question whether an acceptable level of care could have been provided in an outpatient setting. A number of factors could make such an earlier stage admission appropriate. For example, a patient with acute symptoms (e.g. chest pain), but without a confirmed diagnosis, may be appropriately admitted to the hospital until a diagnosis and a decision can be made as to whether further inpatient care is necessary. A patient may have other co-morbid conditions (for example, poorly controlled diabetes mellitus) that make the admission advisable, or a patient may

choose to undergo an elective surgical procedure that must be performed as an inpatient. A patient with osteoarthritis of the hip who decides to have a total hip replacement would clearly require hospitalization.

For patients hospitalized at more advanced stages, the issue is whether the patient has complications that could have been preventable with earlier inpatient care. For example, a patient admitted with acute cholecystitis and gangrene of the gallbladder has a serious complication that may have been prevented with earlier hospitalization and treatment.

Timeliness of admission is, in part, a function of whether hospitalization is the first or subsequent admission for a particular complication of episode of care. For example, a first admission at advanced-stage cancer should raise questions about whether earlier detection was feasible. Subsequent scheduled admissions for the same patient to undergo chemotherapy would not, or course, raise the same question.

It is important to differentiate the concept of a timely admission from a preventable admission. For example, an admission at Stage 1 appendicitis is timely and, given current medical knowledge, not preventable. Such an admission does not raise issues of appropriateness of care. On the other hand, while an admission for Stage 2.5 diabetes mellitus and cellulitis is also timely, it may have been a preventable admission if the disease progression could have been averted with appropriate outpatient care.

Case-Mix Classification for Analysis of Resource Utilization and Reimbursement⁹⁻¹⁹

Disease Staging should be an integral part of systems designed to analyze resource utilization. Differences in length of stay and cost may result from differences in patient populations treated, as well as from differences in efficiency. Etiology and stage of disease are directly related to the use of resources and must be considered in these types of analyses whether the focus is at the level of an individual physician, a hospital product line, or an entire institution.

In addition to the stage of the principal disease, other variables to be included in analysis of utilization include: presence of co-morbid, or co-existing, medical problems (e.g., presence of diabetes mellitus in a patient hospitalized for appendicitis - both the diabetes mellitus and appendicitis should be staged); reason for admission (e.g., for diagnostic purposes, therapeutic purposes, both diagnosis and therapy, chemotherapy, or observation); and the

use of surgical procedures or special units (e.g., ICU, CCU) if such use is justified by the needs of the patient.

The use of resources depends on the clinical status of the patient, on the reason for admission, and whether the latter is the first or one of many re-admissions. For instance, a woman with Stage 3 cancer of the breast will consume more resources during the first hospitalization, when more diagnostic and therapeutic interventions will be used, than on her third hospitalization, when for the same problem she may likely receive only chemotherapy or radiation therapy. In addition, the social support needs of the patient should be considered, although this variable would have a greater impact on timing of hospitalization and length of stay than on the diagnostic or therapeutic intervention.

By using Disease Staging, the variation in resource use resulting from patient differences can be controlled so that the manager or researcher can appropriately focus on the analysis of differences resulting from variation in physician and institutional practices. For similar reasons, reimbursement systems should be modified to account for differences in severity of illness.

Quality of Care Assessment^{5, 20-30}

Whether the goal is assessment and improvement of the process of care or evaluation of clinical outcomes, there is a need for clinical specificity. The Health Care Financing Administration, for Medicare patients, and several statewide data organizations publish institution specific, and in some cases physician specific, information on outcome measures such as mortality. Without appropriate ways to account for differences in the severity of the patient mix treated, the meaningfulness of these types of analyses is questionable. For example, analysis of data from the National Hospital Discharge Survey demonstrated a 5.6% mortality rate for patients hospitalized with Stage 1 bacterial pneumonia, 9.5% for those with Stage 2, and a 33.1% mortality rate for Stage 3.²⁹ These estimates were further refined by considering the specific etiology (organism) of the pneumonia.

As a part of a quality improvement program, these types of advanced stage admissions should be reviewed to evaluate whether they resulted from physician related problems (e.g., delayed or incorrect diagnosis or treatment), patient related problems (e.g., failure to seek timely care or comply with prescribed treatment), system problems (e.g., lack of access to care), or were not preventable (e.g., resulting from rapid disease progression in a particular patient).

Disease Staging can also be used as a direct measure of patient outcomes by studying changes in disease stage over time. For instance, severity at hospital admission can be compared with severity at discharge. Patient based longitudinal data can be used in conjunction with Disease Staging to assess changes in severity of illness for defined populations and specific episodes of care.

Disease Staging is useful in evaluating processes as well as outcomes of medical care. A great deal of activity is currently being devoted to the development of clinical guidelines designed to reduce uncertainty and help guide the process of care. One of the difficulties faced in guidelines development is that the appropriateness of a specific diagnostic test or prescribed treatment varies by stage of disease. By defining stage-specific criteria it is possible to improve the specificity of clinical guidelines and process review criteria and make them more useful and acceptable to clinicians.

Clinical Trials²⁹

The primary objective of clinical trials is to test the efficacy of therapeutic interventions under highly controlled conditions. By using Disease Staging to help specify the study population, comparability of the treatment and control groups can be assessed. Staging allows the investigator to stratify patients more accurately both for their principal diagnoses or problems and for any co-morbid conditions that they may have. Depending on the goals of the trial, it can be restricted to samples defined using specific stages of disease or designed to allow the assessment of efficacy across different levels of severity.

Professional Staffing and Facility Planning in Health Care Institutions^{9-11, 31}

Severity of illness as documented by Disease Staging may be used to evaluate the appropriateness of current or planned staffing levels within hospitals or managed care institutions in relationship to patients' health care needs. Staging can provide data concerning the level of severity of specific patient groups that may warrant establishing or expanding special care units or securing special diagnostic equipment or other facilities.

Specialty Board Certification and Clinical Privileges³²⁻³⁴

A major responsibility of medical specialty boards is the development and administration of procedures and examinations for board certification and recertification. Disease Staging has

been used to classify the content of test items from the board certification/recertification examinations administered by the American Board of Family Practice³² and to analyze medical licensing examinations in Japan.³³ Each item on the examination is classified by organ system, etiology, and stage of illness, along with other dimensions such as age group affected and whether the item focuses on diagnosis or management.

Use of this type of classification enables the specialty board to assess the current mix of items and begin to develop a "blueprint" to guide development of future examinations. For example, by using Disease Staging, one can refine the assessment of the physician's knowledge of the management of diabetes mellitus to assure that there is an appropriate mixture of items concerning management of the disease at its early stages along with prevention and management of specific advanced stage complications.

Disease Staging can be used in the assignment of hospital clinical privileges.³⁴ Currently, the delineation of clinical privileges is primarily procedure oriented, even in the medically oriented specialties. For example, a general internist may be credentialed to perform procedures such as arterial puncture, thoracentesis, and lumbar puncture. However, the skills necessary to successfully perform an arterial puncture say very little about the physician's ability to diagnose or manage the complex patient with advanced stage medical problems.

Disease Staging can be used to delineate disease specific privileges that more appropriately reflect the clinical challenges of patient management. For example, a board certified general internist may have the appropriate education and experience to manage early stage diabetes mellitus, but not for the management of a patient admitted for hyperosmolar coma. Potentially, the volume and outcomes of stage specific experience could also be monitored, as is increasingly done for surgical volume and outcomes, to reassess the privileges assignment.

Medical Education^{35, 36}

A significant part of both undergraduate and graduate medical education involves increasing levels of patient care responsibility as the experience of the student/physician increases. Disease Staging can be used as a part of systems designed to document these clinical experiences. For example, what is the mix of severity of illness of patients with diabetes mellitus seen by medical students? Does the student have adequate experience managing a patient with this disease to avoid complications as well as in treating complications, which

may occur? Does this vary depending on the site where the students perform their clerkship? Is there significant variation from student to student?

Similarly, Disease Staging concepts can be used to evaluate the content of the curriculum. To what extent does the medical curriculum address Stage 1 illness and to what extent does it address Stage 3 illness? To what extent is attention devoted to problems associated with particular body organ systems or to problems of a particular etiological nature?

Use of Disease Staging can also help the student and resident become more effective diagnosticians. By understanding the evolution of a disease, the physician will use the laboratory more effectively and avoid delay in arriving at an accurate diagnosis.

Staged Diseases

The following pages include a detailed listing of all staged diseases.

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3. Tietz NW. Clinical Guide to Laboratory Tests. 3rd Ed. 1995, WB Saunders Company, Philadelphia.
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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS01

MultiStage: No

DXCat Label: Aneurysm, Abdominal

Specificity: A

Etiology: Degenerative

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Abdominal aneurysm ≤ 5 cm.	Abdominal aortic aneurysm ≤ 5 cm. in diameter [CT scan or sonogram or aortogram or operative/pathology report]	DX 4414;
1.02	Abdominal aneurysm > 5 cm.	Abdominal aortic aneurysm > 5 cm. in diameter [CT scan or sonogram or aortogram or operative/pathology report]	NO;
2.01	Symptomatic abdominal aneurysm	Stage 1.01-1.02 AND tender pulsatile abdominal mass OR diffuse dull abdominal pain	STAGE 1.01 + (DX 78900-78909, 78930-78939);
2.02	with dissection	Stage 1.01-2.01 AND dissecting abdominal aneurysm [operative/pathology report]	DX 44102;
3.01	with rupture	Stage 1.01-2.02 AND rupture of abdominal aneurysm [operative/pathology report]	DX 4413;
3.02	with shock	Stage 2.02-3.01 AND shock:	STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.01-3.02 AND death	NO;

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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS02

MultiStage: No

DXCat Label: Aneurysm, Thoracic

Specificity: A

Etiology: Degenerative; Trauma

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Asymptomatic thoracic aneurysm	Fusiform thoracic aneurysm [chest x-ray or aortography or MRI or CT scan report] OR saccular thoracic aneurysm [chest x-ray or aortography or MRI or CT scan report]	DX 4412, 4417, 4419;
2.01	with bronchial obstruction or laryngeal nerve involvement	Stage 1.01 AND history of persistent cough OR deviation of trachea [chest x-ray or MRI or CT scan report] OR hoarseness	STAGE 1.01 + (DX 5191-51919, 78449, 7862);
2.02	with superior vena cava obstruction	Stage 1.01-2.01 AND edema of face OR edema of head OR edema of neck	STAGE 1.01-2.01 + (DX 4532, 4592);
2.03	with dissection	Stage 1.01-2.02 AND dissecting thoracic aneurysm [CT scan or MRI report or operative/pathology report]	DX 44100-44101, 44103;
3.01	with rupture	Stage 1.01-2.03 AND rupture of thoracic aneurysm [operative/pathology report]	DX 4411, 4415, 4416;
3.02	with shock	Stage 2.02-3.01 AND shock:	STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.02-3.02 AND death	NO;

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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS03

MultiStage: No

DXCat Label: Anomaly: Patent Ductus Arteriosus

Specificity: A

Etiology: Congenital

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Asymptomatic patent ductus arteriosus	Patent ductus arteriosus [cardiac catheterization report] OR 'machinery' murmur AND diastolic pressure \leq 50 mmHg AND left atrial enlargement [EKG report or echocardiogram report] AND left ventricular hypertrophy [EKG report or echocardiogram report]	DX 7470;
2.01	with hypoxemia	Stage 1.01 AND hypoxemia:	STAGE 1.01 + GROUP HYPOXEMIA;
3.01	with pulmonary hypertension	Stage 1.01-2.01 AND pulmonary hypertension:	STAGE 1.01-2.01 + (DX 4150, 4160, 4168);
3.02	with infective endocarditis	Stage 1.01-3.01 AND infective endocarditis:	STAGE 1.01-3.01 + (DX 4210-4219, 42491);
3.03	with congestive heart failure	Stage 1.01-3.02 AND congestive heart failure:	STAGE 1.01-3.02 + GROUP CHF_NON_HTN;
3.04	with sepsis	Stage 1.01-3.03 AND sepsis:	STAGE 1.01-3.03 + GROUP SEPSIS; STAGE 1.01-3.03 + DX 41512;
3.05	with respiratory failure	Stage 1.01-3.04 AND respiratory failure:	STAGE 1.01-3.04 + GROUP RESP_FAIL;
3.06	with shock	Stage 1.01-3.05 AND shock:	STAGE 1.01-3.05 + GROUP SHOCKN;
4.00	with death	Stage 1.01-3.06 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS03

MultiStage: No

DXCat Label: Anomaly: Patent Ductus Arteriosus

Specificity: A

Etiology: Congenital

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS04

MultiStage: No

DXCat Label: Aortic Regurgitation

Specificity: A

Etiology: Congenital; Degenerative

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Mild chronic aortic regurgitation	Chronic: AND mild aortic regurgitation [echocardiogram report or cardiac catheterization report]	DX 7464;
2.01	Moderate chronic aortic regurgitation	Chronic: AND moderate aortic regurgitation [echocardiogram report or cardiac catheterization report]	NO;
2.02	Mild chronic aortic regurgitation with atrial fibrillation	Stage 1.01 AND atrial fibrillation [EKG report]	STAGE 1.01 + (DX 42731, 42732);
2.03	Moderate chronic aortic regurgitation with atrial fibrillation	Stage 2.01 AND atrial fibrillation [EKG report]	NO;
3.01	Mild chronic aortic regurgitation with CHF	Stage 1.01 OR Stage 2.02 AND congestive heart failure:	STAGE 1.01-2.02 + GROUP CHF__NON_HTN;
3.02	Moderate chronic aortic regurgitation with CHF	Stage 2.01 OR Stage 2.03 AND congestive heart failure:	NO;
3.03	Severe asymptomatic chronic aortic regurgitation	Stage 1.01-3.02 AND end-systolic left ventricular diameter ≤ 55 mm [echocardiogram report] OR end-systolic volume index ≤ 90 mL/M ² [radionuclide angiography] OR left ventricular ejection fraction < 55% [echocardiogram report or radionuclear ventriculogram report]	NO;
3.04	Acute severe aortic regurgitation	Acute: AND severe aortic regurgitation [echocardiogram report or radionuclear ventriculogram report]	NO;
3.05	Severe aortic regurgitation with ventricular dilatation	Stage 3.03-3.04 AND end systolic left ventricular diameter > 55 mm [echocardiogram report] OR end-systolic volume index > 90 mL/M ² [radionuclide angiography] OR left ventricular ejection fraction > 55% [echocardiogram report or radionuclear ventriculogram report]	STAGE 1.01-3.01 + DX 4293;
3.06	Severe aortic regurgitation with CHF	Stage 3.03-3.05 AND congestive heart failure:	NO;
3.07	Severe aortic regurgitation with sepsis	Stage 3.03-3.06 AND sepsis:	STAGE 1.01-3.05 + GROUP SEPSIS;
3.08	Severe aortic regurgitation with respiratory failure	Stage 3.03-3.07 AND respiratory failure:	STAGE 1.01-3.07 + GROUP RESP_FAIL;
3.09	Severe aortic regurgitation with shock	Stage 3.03-3.08 with shock:	STAGE 1.01-3.08 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	Severe aortic regurgitation with death	Stage 3.03-3.09 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS04

MultiStage: No

DXCat Label: Aortic Regurgitation

Specificity: A

Etiology: Congenital; Degenerative

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

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|---|
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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS05

MultiStage: No

DXCat Label: Aortic Stenosis

Specificity: A

Etiology: Congenital; Degenerative

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Mild aortic valve stenosis	Mean aortic valve gradient \leq 25mm Hg [echocardiogram report or Doppler report or cardiac catheterization report] OR aortic valve area $>$ 1.5cm ² [echocardiogram report or Doppler report or cardiac catheterization report]	DX 4241, 7463, 74681;
2.01	Moderate aortic valve stenosis	Mean aortic valve gradient $>$ 25 mmHg [echocardiogram report or Doppler report or cardiac catheterization report] AND mean aortic valve gradient \leq 50 mmHg [echocardiogram report or Doppler report or cardiac catheterization report] OR aortic valve area $<$ 1.5 cm ² [echocardiogram report or Doppler report or cardiac catheterization report]	NO;
3.01	Severe aortic valve stenosis	Mean aortic valve gradient $>$ 50 mmHg [echocardiogram report or Doppler report or cardiac catheterization report] OR aortic valve area $<$ 1.0 cm ² [echocardiogram report or Doppler report or cardiac catheterization report]	NO;
3.02	Severe aortic valve stenosis with angina	Stage 3.01 AND angina pectoris:	STAGE 1.01 + (DX 4111, 4130-4139);
3.03	Severe aortic valve stenosis with low ejection fraction	Stage 3.01-3.02 AND left ventricular ejection fraction $<$ 50% [echocardiogram report or doppler report or cardiac catheterization report or radionuclide ventriculogram report]	NO;
3.04	Severe aortic valve stenosis with syncope	Stage 3.01-3.03 AND syncope	STAGE 1.01-3.02 + DX 7802;
3.05	Severe aortic valve stenosis with atrial fibrillation	Stage 3.01-3.04 AND atrial fibrillation:	STAGE 1.01-3.04 + (DX 42731-42732);
3.06	Severe aortic valve stenosis with CHF	Stage 3.01-3.05 AND congestive heart failure:	STAGE 1.01-3.05 + GROUP CHF__NON_HTN;
3.07	Severe aortic valve stenosis with respiratory failure	Stage 3.01-3.06 AND respiratory failure:	STAGE 1.01-3.06 + GROUP RESP_FAIL;
3.08	Severe aortic valve stenosis with shock	Stage 3.01-3.07 AND shock:	STAGE 1.01-3.07 + (GROUP SHOCKA OR GROUP SHOCKC OR GROUP SHOCKN);
4.00	Severe aortic valve stenosis with death	Stage 3.01-3.08 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS05

MultiStage: No

DXCat Label: Aortic Stenosis

Specificity: A

Etiology: Congenital; Degenerative

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS06

MultiStage: No

DXCat Label: Arrhythmias

Specificity: B

Etiology: Congenital; Degenerative; Idiopathic; Toxicologic

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Atrial premature contractions or sinus arrhythmia or junctional rhythm	Atrial premature contractions [EKG report] OR atrial bigeminy [EKG report] OR atrial trigeminy [EKG report] OR sinus arrhythmia [EKG report] OR ectopic atrial rhythm [EKG report] OR junctional rhythm [EKG report]	DX 42760-42761, 42789-4279, 42682;
1.02	Asymptomatic unifocal ventricular premature contractions	No history of dizziness OR no history of being lightheaded AND unifocal ventricular contractions [EKG report] OR ventricular bigeminy [EKG report] OR ventricular trigeminy [EKG report]	DX 42769;
1.03	Wolff-Parkinson-White syndrome or Lown-Ganong-Levine syndrome	WPW syndrome [EKG report] OR LGL syndrome [EKG report] OR Short PR Syndrome [EKG report]	DX 4267, 42681;
1.04	Asymptomatic multifocal ventricular premature contractions	No history of dizziness OR no history of being lightheaded AND multifocal ventricular contractions [EKG report]	NO;
2.01	Paroxysmal atrial fibrillation or flutter	Paroxysmal atrial fibrillation [EKG report] OR paroxysmal atrial flutter [EKG report] OR paroxysmal atrial flutter-fibrillation [EKG report]	DX 42731-42732;
2.02	Atrial fibrillation or flutter	Atrial fibrillation [EKG report] OR atrial flutter [EKG report]	NO;
2.03	Sick sinus syndrome	Sick sinus syndrome [EKG report]	DX 42781;
2.04	Supraventricular tachycardia	Supraventricular tachycardia [EKG report]	DX 4270, 4272;
2.05	Symptomatic ventricular ectopy	History of dizziness OR history of being lightheaded AND multifocal ventricular contractions [EKG report] OR unifocal ventricular contractions [EKG report]	NO;
3.01	Arrhythmias with ventricular fibrillation or flutter or shock	Stage 1.01-2.05 AND ventricular fibrillation [EKG or rhythm strip report] OR ventricular flutter [EKG or rhythm strip report] OR shock:	DX 4271, 42741, 42742, 4275; STAGE 1.01-2.04 + (GROUP SHOCKA OR GROUP SHOCKC OR GROUP SHOCKN OR DX 7802);
4.00	Arrhythmias with death	Stage 2.01-3.01 AND death	DX 7981;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS06

MultiStage: No

DXCat Label: Arrhythmias

Specificity: B

Etiology: Congenital; Degenerative; Idiopathic; Toxicologic

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

Duncan AK, Vittone J, Fleming KC, Smith HC. Cardiovascular disease in elderly patients. <i>Mayo Clinic Proceedings</i> . 1996;71(2):184-196.
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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS07

MultiStage: No

DXCat Label: Cardiomyopathies

Specificity: A

Etiology: Congenital; Genetic (or hereditary); Immune; Infection; Toxicologic

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Transient hypertrophic cardiomyopathy of infancy	Transient hypertrophic cardiomyopathy of infancy [echocardiogram report or cardiac catheterization report or CT report or MRI report or nuclear medicine report or contrast ventriculography report]	NO;
2.01	Cardiomyopathies	Restrictive cardiomyopathy [biopsy report or echocardiogram report or cardiac catheterization report or CT report or MRI report or nuclear medicine report or contrast ventriculography report] OR Dilated cardiomyopathy [biopsy report or echocardiogram report or cardiac catheterization report or CT report or MRI report or nuclear medicine report or contrast ventriculography report] OR hypertrophic cardiomyopathy [biopsy report or echocardiogram report or cardiac catheterization report or CT report or MRI report or nuclear medicine report or contrast ventriculography report]	DX 4250-4254, 4257-4259, 42983;
2.02	with first degree heart block or Mobitz I heart block or bundle branch block	Stage 1.01-2.01 AND bundle branch block [EKG report] OR 1st degree heart block [EKG report] OR Mobitz I heart block [EKG report]	STAGE 2.01 + (DX 42611, 4262, 42613, 4263, 4264, 42650-42654, 4269);
2.03	with Mobitz II heart block	Stage 1.01-2.02 AND second degree heart block [EKG report]	STAGE 2.01-2.02 + DX 42612;
2.04	with supraventricular tachycardia or atrial fibrillation or atrial flutter	Stage 1.01-2.03 AND atrial fibrillation [EKG report] OR atrial flutter [EKG report] OR superventricular tachycardia [EKG report]	STAGE 2.01-2.03 + (DX 4270, 42731, 42732);
3.01	with complete heart block	Stage 1.01-2.04 AND complete heart block [EKG report]	STAGE 2.01-2.04 + (DX 4260, 42689);
3.02	with pulmonary embolism	Stage 1.01-3.01 AND pulmonary embolism:	STAGE 2.01-3.01 + GROUP PULMEMB;
3.03	with congestive heart failure	Stage 1.01-3.02 AND congestive heart failure:	STAGE 2.01-3.02 + GROUP CHF__NON_HTN;
3.04	with non-sustained ventricular tachycardia	Stage 1.01-3.03 AND non-sustained ventricular tachycardia [rhythm report or EKG report]	STAGE 2.01-3.03 + DX 4271;
3.05	with respiratory failure	Stage 1.01-3.04 AND respiratory failure:	STAGE 2.01-3.04 + GROUP RESP_FAIL;
3.06	with sustained ventricular tachycardia	Stage 1.01-3.05 AND sustained ventricular tachycardia [rhythm report or EKG report]	NO;
3.07	with ventricular fibrillation or ventricular flutter or shock	Stage 1.01-3.06 AND ventricular fibrillation [EKG report] OR ventricular flutter [EKG report] OR shock:	STAGE 2.01-3.05 + (GROUP SHOCKC OR GROUP SHOCKN) ; STAGE 2.01-3.05 + (DX 42741-42742);
4.00	with death	Stage 1.01-3.07 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS07

MultiStage: No

DXCat Label: Cardiomyopathies

Specificity: A

Etiology: Congenital; Genetic (or hereditary); Immune; Infection; Toxicologic

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS08

MultiStage: No

DXCat Label: Conduction Disorders

Specificity: A

Etiology: Congenital; Degenerative; Idiopathic

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	First degree heart block	First degree heart block [EKG report]	DX 42610-42611;
1.02	Hemiblocks	Left anterior hemiblock [EKG report] OR left posterior hemiblock [EKG report]	DX 4262;
1.03	Right bundle branch block	Right bundle branch block [EKG report]	DX 4264;
1.04	Left bundle branch block	Left bundle branch block [EKG report]	DX 4263, 42650-42654;
2.01	Mobitz type I heart block	Mobitz type I heart block or Wenckebach block [EKG report]	DX 42613, 4266;
2.02	Mobitz type II heart block	Mobitz type II heart block or 2:1 block [EKG report]	DX 42612;
2.03	Third degree heart block or complete heart block	Third degree heart block [EKG report] OR complete heart block [EKG report]	DX 4260, 42689, 4269;
3.01	Conduction disorders with shock	Stage 1.01-2.03 AND shock:	STAGE 1.01-2.03 + GROUP SHOCKA;
4.00	Conduction disorders with death	Stage 2.01-3.01 AND death	NO;

References:

Perloff JK. Isolated congenital complete heart block. In: The Clinical Recognition of Congenital Heart Disease. 4th ed. Philadelphia, PA: WB Saunders; 1994:53-66.

Bernstein D. Cardiac arrhythmias. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:1335-1344.

Duncan AK, Vittone J, Fleming KC, Smith HC. Cardiovascular disease in elderly patients. Mayo Clinic Proceedings. 1996;71(2):184-196.

Josephson ME, Zimetbaum P, Marchlinski FE, Buxton AE. "The bradyarrhythmias: disorders of sinus node function and AV conduction disturbances. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York: McGraw-Hill; 1998:1253-1261.

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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS09

MultiStage: No

DXCat Label: Congestive Heart Failure

Specificity: B

Etiology: Idiopathic

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.01	Congestive heart failure	Congestive heart failure:	DX 4280-42843;
3.02	with azotemia or hyponatremia	Stage 3.01 AND azotemia: OR hyponatremia:	STAGE 3.01 + (DX 2761, 7906);
3.03	with low ejection fraction	Stage 3.01 AND ejection fraction \leq 20% [echocardiogram report or nuclear ejection fraction report]	NO;
3.04	with respiratory failure	Stage 3.01-3.03 AND respiratory failure:	STAGE 3.01-3.02 + GROUP RESP_FAIL;
3.05	with shock	Stage 3.01-3.04 AND shock:	STAGE 3.01-3.04 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 3.01-3.05 AND death	NO;

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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS10

MultiStage: Yes

DXCat Label: Coronary Artery Disease with Prior Coronary Revascularization

Specificity: A

Etiology: Degenerative; Genetic (or hereditary)

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Coronary atherosclerosis or asymptomatic chronic ischemic heart disease or old myocardial infarction	Coronary atherosclerosis OR asymptomatic chronic ischemic heart disease OR old myocardial infarction OR history of myocardial infarction ≥ 30 days old AND ejection fraction ≥ 50% [echocardiogram report or nuclear ejection fraction report]	DX V4581, 99603, 41402-41407; (DX 41181, 412, 41400-41401, 4142-4143, 4292) + (DX V4581, 41402-41407, 99603);
1.02	Chronic stable exertional angina or chronic ischemic heart disease	Chronic stable exertional angina OR chronic ischemic heart disease	(DX 4139, 4148-4149) + (DX V4581, 41402-41407, 99603);
2.01	Progressing angina pectoris or exertional myocardial ischemic at low workload or old myocardial infarction with low ejection fraction	Progressing angina pectoris OR exercise induced myocardial ischemia at < 6 METS [stress test report] OR history of prior myocardial infarction ≥ 30 days AND left ventricular ejection fraction < 50% [echocardiogram report or nuclear ejection fraction report] AND left ventricular ejection fraction ≥ 30% [echocardiogram report or nuclear ejection fraction report]	(DX 4110, 41189) + (DX V4581, 41402-41407, 99603);
2.02	Prinzmetal's variant angina	Anginal pain AND ST-T elevations at time of pain [EKG report]	DX 4131 + (DX V4581, 41402-41407, 99603);
2.03	Angina with hypertrophy or akinesia or dyskinesia or S3 gallop or S4 gallop	Stage 1.01-2.02 AND hypertrophy [nuclear ejection fraction report or echocardiogram report] OR akinesia [nuclear ejection fraction report or echocardiogram report] OR hypokinesia [nuclear ejection fraction report or echocardiogram report] OR dyskinesia [nuclear ejection fraction report or echocardiogram report] OR S4 gallop OR S3 gallop	STAGE 1.01-2.02 + (DX 4293, 42789 OR GROUP CHF__NON_HTN);
2.04	Unstable angina pectoris	Stage 1.01-2.03 AND change in nature of onset of symptoms and severity of known anginal pain AND past history of angina OR angina occurring at rest	(DX 4111, 4130) + (DX V4581, 41402-41407, 99603); (DX 4111, 4130) + (DX V4581, 41402-41407, 4142, 99603) + GROUP CHF__NON_HTN;
3.01	Acute inferior or posterior wall myocardial infarction	Acute inferior or posterior wall myocardial infarction [EKG report or cardiac catheterization report] AND CPK-MB ≥ normal [CPK isoenzyme report]	DX 41020-41092 + (DX V4581, 41402-41407, 99603);
3.02	Acute inferior or posterior wall myocardial infarction with heart block or pericarditis	Stage 3.01 AND heart block [EKG report] OR pericarditis [EKG report]	STAGE 3.01 + (DX 42090-42099, 4260-4269);

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS10

MultiStage: Yes

DXCat Label: Coronary Artery Disease with Prior Coronary Revascularization

Specificity: A

Etiology: Degenerative; Genetic (or hereditary)

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.03	Acute inferior or posterior wall myocardial infarction with left ventricular thrombus	Stage 3.01-3.02 AND left ventricular thrombus [cardiac catheterization report or echocardiogram report]	NO;
3.04	Acute inferior or posterior wall myocardial infarction with left ventricular aneurysm	Stage 3.01-3.03 AND left ventricular aneurysm [cardiac catheterization report or echocardiogram report]	STAGE 3.01-3.03 + DX 41410;
3.05	Acute inferior or posterior wall myocardial infarction with CHF	Stage 3.01-3.04 AND congestive heart failure:	STAGE 3.01-3.04 + (GROUP CHF__NON_HTN OR DX 5184);
3.06	Acute anterior wall myocardial infarction	Acute anterior myocardial infarction [EKG report or cardiac catheterization report] AND CPK-MB ≥ normal [CPK isoenzyme report]	(DX 41000-41002, 41010-41012) + (DX V4581, 41402-41407, 99603);
3.07	Acute anterior wall or all other myocardial infarction with low ejection fraction	Stage 3.01-3.06 AND ejection fraction < 30% [echocardiogram report or radionuclide ventriculogram]	NO;
3.08	Acute anterior wall myocardial infarction with heart block or pericarditis	Stage 3.06 AND heart block OR pericarditis	STAGE 3.06 + (DX 42090-42099, 4260-4269);
3.09	Acute anterior wall myocardial infarction with ventricular thrombus formation	Stage 3.06 OR Stage 3.08 AND ventricular thrombus formation [echocardiogram report or catheterization report]	NO;
3.10	Acute anterior wall myocardial infarction with ventricular aneurysm	Stage 3.06 OR Stage 3.08-3.10 AND ventricular aneurysm [echocardiogram report]	STAGE 3.06-3.08 + DX 41410;
3.11	Acute anterior wall myocardial infarction with CHF	Stage 3.06 OR Stage 3.08-3.10 AND congestive heart failure:	STAGE 3.06-3.10 + (GROUP CHF__NON_HTN OR DX 5184);
3.12	Acute myocardial infarction with pulmonary embolism	Stage 3.06 OR Stage 3.08-3.11 AND pulmonary embolism:	STAGE 3.01-3.11 + (DX 41512, 41519);
3.13	Acute myocardial infarction with cerebrovascular accident	Stage 3.06 OR Stage 3.08-3.12 AND cerebrovascular accident [CT scan report or MRI report]	STAGE 3.01-3.12 + (DX 430-4329, 43401, 43411, 43491);
3.14	Acute anterior myocardial infarction with papillary muscle rupture or ventricular septal rupture	Stage 3.06 OR Stage 3.08-3.13 AND papillary muscle rupture [cardiac catheterization report or echocardiogram report] OR ventricular septal rupture [cardiac catheterization report or echocardiogram report]	STAGE 3.06-3.13 + DX 4296;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS10

MultiStage: Yes

DXCat Label: Coronary Artery Disease with Prior Coronary Revascularization

Specificity: A

Etiology: Degenerative; Genetic (or hereditary)

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.15	Coronary artery disease with ventricular fibrillation or shock	Stage 1.01-3.14 AND ventricular fibrillation [rhythm strip report or EKG report] OR shock:	STAGE 1.01-3.14 + (DX 4271, 42741-42742 OR GROUP SHOCKC OR GROUP SHOCKN);
3.16	Coronary artery disease with cardiac arrest	Stage 1.01-3.15 AND cardiac arrest [rhythm strip report or EKG report]	STAGE 1.01-3.15 + DX 4275;
4.00	Coronary artery disease with death	Stage 1.01-3.16 with death	NO;

References:

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Duncan AK, Vittone J, Fleming KC, Smith HC. Cardiovascular disease in elderly patients. *Mayo Clinic Proceedings.* 1996;71(2):184-196.

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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS11

MultiStage: Yes

DXCat Label: Coronary Artery Disease without Prior Coronary Revascularization

Specificity: A

Etiology: Degenerative; Genetic (or hereditary)

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Old myocardial infarction or coronary atherosclerosis or chronic ischemic heart disease	Coronary atherosclerosis OR chronic ischemic heart disease OR history of myocardial infarction \geq 30 days old AND ejection fraction \geq 50% [echocardiogram report or nuclear ejection fraction report]	(DX 41181, 412, 41400-41401, 4142-4143, 4292) + NOT (DX V4581, 41402-41407, 99603);
1.02	Chronic stable exertional angina	Chronic stable exertional angina	(DX 4139, 4148-4149) + NOT (DX V4581, 41402-41407, 99603);
2.01	Progressing angina pectoris or exertional myocardial ischemia at low workload or old myocardial infarction with low ejection fraction	Progressing angina pectoris OR exercise induced myocardial ischemia at $<$ 6 METS [stress test report] OR history of prior myocardial infarction \geq 30 days AND left ventricular ejection fraction $<$ 50% [echocardiogram report or nuclear ejection fraction report] AND left ventricular ejection fraction \geq 30% [echocardiogram report or nuclear ejection fraction report]	(DX 4110, 41189) + NOT (DX V4581, 41402-41407, 99603);
2.02	Prinzmetal's variant angina	Anginal pain AND ST-T elevations at time of pain [EKG report]	DX 4131 + NOT (DX V4581, 41402-41407, 99603);
2.03	Angina with hypertrophy or akinesia or dyskinesia or S3 gallop or S4 gallop	Stage 1.01-2.02 AND hypertrophy [nuclear ejection fraction report or echocardiogram report] OR akinesia [nuclear ejection fraction report or echocardiogram report] OR hypokinesia [nuclear ejection fraction report or echocardiogram report] OR dyskinesia [nuclear ejection fraction report or echocardiogram report] OR S4 gallop OR S3 gallop	STAGE 1.01-2.02 + (DX 4293, 42789 OR GROUP CHF_NON_HTN);
2.04	Unstable angina pectoris	Stage 1.01-2.03 AND change in nature of onset of symptoms and severity of known anginal pain AND past history of angina OR angina occurring at rest	(DX 4111, 4130) + NOT (DX V4581, 41402-41407, 99603); ((DX 4111, 4130) + GROUP CHF_NON_HTN) + NOT (DX V4581, 41402-41407, 99603);
3.01	Acute inferior or posterior wall myocardial infarction	Acute inferior or posterior wall myocardial infarction [EKG report or cardiac catheterization report] AND CPK-MB \geq normal [CPK isoenzyme report]	(DX 41020-41022, 41030-41032, 41040-41042, 41050-41052, 41060-41062, 41070-41072, 41080-41082, 41090-41092) + NOT (DX V4581, 41402-41407, 99603);

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS11

MultiStage: Yes

DXCat Label: Coronary Artery Disease without Prior Coronary Revascularization

Specificity: A

Etiology: Degenerative; Genetic (or hereditary)

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.02	Acute inferior or posterior wall myocardial infarction with heart block or pericarditis	Stage 3.01 AND heart block [EKG report] OR pericarditis [EKG report]	STAGE 3.01 + (DX 42090-42099, 4260-4269);
3.03	Acute inferior or posterior wall myocardial infarction with left ventricular thrombus	Stage 3.01-3.02 AND left ventricular thrombus [cardiac catheterization report or echocardiogram report]	NO;
3.04	Acute inferior or posterior wall myocardial infarction with left ventricular aneurysm	Stage 3.01-3.03 AND left ventricular aneurysm [cardiac catheterization report or echocardiogram report]	STAGE 3.01-3.03 + DX 41410;
3.05	Acute inferior or posterior wall myocardial infarction with CHF	Stage 3.01-3.04 AND congestive heart failure:	STAGE 3.01-3.04 + (GROUP CHF__NON_HTN OR DX 5184);
3.06	Acute anterior wall myocardial infarction	Acute anterior myocardial infarction [EKG report or cardiac catheterization report] AND CPK-MB \geq normal [CPK isoenzyme report]	(DX 41000-41002, 41010-41012) + NOT (DX V4581, 41402-41407, 99603);
3.07	Acute myocardial infarction with low ejection fraction	Stage 3.01-3.06 AND ejection fraction < 30% [echocardiogram report or radionuclide ventriculogram]	NO;
3.08	Acute anterior wall myocardial infarction with heart block pericarditis	Stage 3.06 AND heart block OR pericarditis	STAGE 3.06 + (DX 42090-42099, 4260-4269);
3.09	Acute anterior wall myocardial infarction with ventricular thrombus formation	Stage 3.06 OR Stage 3.08 AND ventricular thrombus formation [echocardiogram report or catheterization report]	NO;
3.10	Acute anterior wall myocardial infarction with ventricular aneurysm	Stage 3.06 OR Stage 3.08-3.09 AND ventricular aneurysm [echocardiogram report]	STAGE 3.06-3.08 + DX 41410;
3.11	Acute anterior wall myocardial infarction with CHF	Stage 3.06 OR Stage 3.08-3.10 AND congestive heart failure:	STAGE 3.06-3.10 + (GROUP CHF__NON_HTN OR DX 5184);
3.12	Acute myocardial infarction with pulmonary embolism	Stage 3.06 OR Stage 3.08-3.11 AND pulmonary embolism:	STAGE 3.01-3.11 + (DX 41512, 41519);
3.13	Acute myocardial infarction with cerebrovascular accident	Stage 3.06 OR Stage 3.08-3.12 AND cerebrovascular accident [CT scan report or MRI report]	STAGE 3.01-3.12 + (DX 430, 431, 4320-4329, 43401 , 43411, 43491);
3.14	Acute anterior myocardial infarction with papillary muscle rupture or ventricular septal rupture	Stage 3.06 OR Stage 3.08-3.13 AND papillary muscle rupture [cardiac catheterization report or echocardiogram report]	STAGE 3.06-3.13 + DX 4296;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS11

MultiStage: Yes

DXCat Label: Coronary Artery Disease without Prior Coronary Revascularization

Specificity: A

Etiology: Degenerative; Genetic (or hereditary)

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.15	Coronary artery disease with ventricular fibrillation or shock	Stage 1.01-3.14 AND ventricular fibrillation [rhythm strip report or EKG report] OR shock:	STAGE 1.01-3.14 + (DX 4271, 42741-42742 OR GROUP SHOCKC OR GROUP SHOCKN);
3.16	Coronary artery disease with cardiac arrest	Stage 1.01-3.15 AND cardiac arrest [rhythm strip report or EKG report]	STAGE 1.01-3.15 + DX 4275;
4.00	Coronary artery disease with death	Stage 1.01-3.16 with death	NO;

References:

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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS12

DXCat Label: Digoxin Toxicity

Etiology: Toxicologic

MultiStage: No

Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Digoxin toxicity	Digoxin level \geq 3.0 ng/ml [chemistry report]	DX 9721, E8583, E9421; (DX 2752, 2765-2766, 2768-2769, 29281, 36815, 36859, 37734, 7804, 7830, 7840, 78701-78703, 78900-78909, 9952-99529) + (DX E8583, E9421);
2.01	with unifocal PVCs	Stage 1.01 AND unifocal premature ventricular contractions [EKG report]	STAGE 1.01 + DX 42769;
2.02	with Mobitz type I heart block	Stage 1.01-2.01 AND Mobitz type I heart block [EKG report]	STAGE 1.01-2.01 + (DX 42613, 4266);
2.03	with multifocal PVCs	Stage 1.01-2.02 AND multifocal premature ventricular contractions [EKG report]	NO;
3.01	with Mobitz II or third degree heart block	Stage 1.01-2.03 AND Mobitz type II heart block or 2:1 heart block [EKG report or Holter report] OR third degree heart block [EKG report or Holter report]	STAGE 1.01-2.03 + (DX 4260, 42612, 42689, 4269);
3.02	with ventricular tachycardia	Stage 1.01-3.01 AND ventricular tachycardia [EKG report or Holter report or CRT monitor report]	STAGE 1.01-3.01 + DX 4271;
3.03	with ventricular fibrillation or flutter or shock	Stage 1.01-3.02 AND ventricular fibrillation [EKG report or Holter report or CRT monitor report] OR ventricular flutter [EKG report or Holter report or CRT monitor report] OR shock:	STAGE 1.01-3.02 + (DX 42741-42742); STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN);
4.00	with death	Stage 1.01-3.03 AND death	NO;

References:

Linden CH, Lovejoy Jr. FH. Poisoning and drug overdosage. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th Ed. New York, NY: McGraw-Hill; 1998:2523-2544.

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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS13

MultiStage: Yes

DXCat Label: Essential Hypertension

Specificity: A

Etiology: Degenerative; Genetic (or hereditary); Idiopathic

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Hypertension, minimal	History of minimal hypertension OR Diastolic pressure \geq 90 mmHg on three separate readings within one month AND diastolic pressure < 100 mmHg on three separate readings within one month OR history of diastolic pressure \geq 90 mmHg on three separate readings AND history of diastolic pressure < 100 mmHg on three separate readings OR systolic pressure \geq 140 mmHg on three separate readings within one month AND systolic pressure < 160 mmHg on three separate readings within one month	DX 4011, 4019;
1.02	Hypertension, moderate	History of moderate hypertension OR diastolic pressure \geq 100 mmHg on three separate readings within one month AND diastolic pressure < 110 mmHg on three separate readings within one month OR history of diastolic pressure \geq 100 mmHg on three separate readings AND history of diastolic pressure < 110 mmHg on three separate readings OR systolic pressure \geq 160 mmHg on three separate readings within one month AND systolic pressure < 180 mmHg on three separate readings within one month	DX 40300, 40310, 40390;
1.03	Hypertension, severe	History of severe hypertension OR Diastolic pressure \geq 110 mmHg on three separate readings within one month AND diastolic pressure < 120 mmHg on three separate readings within one month OR history of diastolic pressure \geq 110 mmHg on three separate readings AND history of diastolic pressure < 120 mmHg on three separate readings OR systolic pressure \geq 180 mmHg on three separate readings within one month AND systolic pressure < 210 mmHg on three separate readings within one month	NO;
2.01	Hypertension, very severe	Diastolic pressure \geq 120 mmHg OR systolic pressure \geq 210 mmHg	DX 4010;
2.02	Hypertensive retinopathy, Grade I or II of Keith and Wagener	Stage 1.02-2.01 AND A-V nicking [fundoscopy report] OR copper wire' vessels [fundoscopy report] OR narrowing of arterioles [fundoscopy report] OR Grade I Keith and Wagener retinopathy [fundoscopy report] OR Grade II Keith and Wagener retinopathy [fundoscopy report]	DX 36211;
2.03	Hypertensive retinopathy, Grade III or IV of Keith and Wagener	Stage 1.02-2.02 AND retinal hemorrhage [fundoscopy report] OR retinal exudates [fundoscopy report] OR Grade III Keith and Wagener retinopathy [fundoscopy report] OR Grade IV Keith and Wagener retinopathy [fundoscopy report]	STAGE 1.01-2.02 + (DX 36281-36282);

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS13

MultiStage: Yes

DXCat Label: Essential Hypertension

Specificity: A

Etiology: Degenerative; Genetic (or hereditary); Idiopathic

Stage	Description	Diagnostic findings	ICD-9-CM Codes
2.04	Hypertensive cardiomegaly, arrhythmias, or wall motion abnormalities	Stage 1.01-2.03 AND cardiomegaly [nuclear ejection fraction, cardiac catheterization, echocardiogram or chest x-ray report] OR ventricular hypertrophy [echocardiogram report] OR arrhythmias [EKG report] OR heart blocks [EKG or nuclear ejection fraction phase study report] OR dyskinesia [nuclear ejection fraction or cardiac catheterization report] OR hypokinesia [nuclear ejection fraction, cardiac catheterization or echocardiogram report] OR akinesia [nuclear ejection fraction, cardiac catheterization or echocardiogram report]	DX 40200, 40210, 40290;
3.01	Hypertensive renal failure	Stage 1.02-2.04 AND renal failure:	DX 40301, 40311, 40391, 40400, 40402, 40410, 40412, 40490, 40492;
3.02	Hypertensive congestive heart failure	Stage 1.02-3.01 AND congestive heart failure:	(DX 4010, 4011, 4019) + DX 4280; DX 40201, 40211, 40291, 40401, 40403, 40411, 40413, 40491, 40493; STAGE 1.01-3.01 + DX 4280-4289;
3.03	Hypertensive CVA or Hypertensive encephalopathy	Stage 1.02-3.02 AND intracranial hemorrhage [CT scan report] OR papilledema [fundoscopy report] AND disorientation:	DX 4372; STAGE 1.01-3.02 + (DX 430, 431, 4320-4329) ; STAGE 1.01-3.02 + (GROUP DISORIENT) + (DX 37700-37701);
3.04	Hypertensive CVA with cranial nerve involvement	Stage 3.03 AND cranial nerve palsy:	STAGE 3.03 + GROUP CRAN_NRV_PAL;
3.05	Hypertensive CVA with cerebellar or pyramidal tract dysfunction	Stage 3.03-3.04 AND sudden onset of one of the following which does not resolve within 24 hours: loss of coordination, [heel to shin test report] OR finger to nose test report OR Romberg's test report OR within 24 hours, onset of nystagmus OR within 24 hours, onset of dizziness OR within 24 hours, onset of vertigo	STAGE 3.03-3.04 + (DX 37950, 7804, 7810, 7812, 7813);

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS13

MultiStage: Yes

DXCat Label: Essential Hypertension

Specificity: A

Etiology: Degenerative; Genetic (or hereditary); Idiopathic

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.06	Hypertensive CVA with hemiparesis or hemiplegia	Stage 3.03-3.05 AND onset of hemiparesis unresolved within 24 hours OR onset of hemiplegia unresolved within 24 hours	STAGE 3.03-3.05 + (DX 34200-34202, 34210-34212, 34280-34282, 34290-34292);
3.07	Hypertensive CVA with amblyopia and contralateral hemiplegia	Stage 3.03-3.06 AND onset of amblyopia unresolved within 24 hours OR onset of dimness of vision unresolved within 24 hours AND onset of contralateral hemiplegia unresolved within 24 hours	STAGE 3.03-3.06 + (DX 36800, 36855 OR GROUP BLINDNESS);
3.08	Hypertensive CVA with quadriplegia	Stage 3.03-3.07 AND onset of quadriplegia unresolved within 24 hours	STAGE 3.03-3.07 + (DX 34400-34409);
3.09	with coma	Stage 1.02-3.08 AND coma:	STAGE 1.01-3.08 + GROUP COMA;
4.00	with death	Stage 1.02-3.09 AND death	NO;

References:

- Massie BM. Systemic hypertension. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:429-448.
- Moutquin JM, Garner PR, Burrows RF, et al. Report of the Canadian Hypertension Society Consensus Conference: 2. Nonpharmacologic management and prevention of hypertensive disorders in pregnancy. CMAJ. 1997;157(7):907-19.
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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS14

MultiStage: No

DXCat Label: Infective Endocarditis

Specificity: A

Etiology: Infection

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.01	Infective endocarditis	Infective endocarditis:	DX 4210-4219, 42491;
3.02	with glomerulonephritis	Stage 3.01 AND hematuria: AND proteinuria: AND azotemia:	STAGE 3.01 + DX 58081;
3.03	with renal failure	Stage 3.01-3.02 AND renal failure:	STAGE 3.01-3.02 + (GROUP REN_FAIL_ACU OR GROUP REN_FAIL_CHR);
3.04	with pulmonary embolism	Stage 3.01-3.03 AND pulmonary embolism:	STAGE 3.01-3.03 + GROUP PULMEMB;
3.05	with transient cerebral ischemic attacks	Stage 3.01-3.04 AND transient ischemic attack [no new infarct or normal per CT scan report] AND sudden onset of one of the following, with resolution within 24 hours: cranial nerve palsy:	STAGE 3.01-3.04 + (DX 4350-4359 OR GROUP CRAN_NRV_PAL OR GROUP BLINDNESS);
3.06	with myocarditis or myocardial abscess or valve obstruction or prosthetic valve dehiscence or acute mitral valve regurgitation or acute aortic valve regurgitation	Stage 3.01-3.05 AND myocarditis: OR myocardial abscess [myocardial biopsy report] OR valve obstruction [sonogram report or operative/pathology report] OR prosthetic valve dehiscence [sonogram report or operative/pathology report] OR acute mitral valve regurgitation OR acute aortic valve regurgitation	STAGE 3.01-3.05 + (DX 4220, 42290, 42292, 42299, 4240, 4241, 99602, 99661); DX 4220;
3.07	with meningitis or intracranial abscess or intracranial infarction or intracranial hemorrhage	Stage 3.01-3.06 AND intracranial infarction [CT scan or MRI report] OR intracranial hemorrhage [CT scan or MRI report] OR intracranial abscess [CT scan or MRI report] OR meningitis:	STAGE 3.01-3.06 + (DX 3240, 430-4329, 43411, 43491 OR GROUP MENGIT_BACT);
3.08	with congestive heart failure	Stage 3.01-3.07 AND congestive heart failure:	STAGE 3.01-3.07 + GROUP CHF_NON_HTN;
3.09	with sepsis	Stage 3.01-3.08 AND sepsis:	STAGE 3.01-3.08 + GROUP SEPSIS;
3.10	with respiratory failure	Stage 3.01-3.09 AND respiratory failure:	STAGE 3.01-3.09 + GROUP RESP_FAIL;
3.11	with shock	Stage 3.01-3.10 AND shock:	STAGE 3.01-3.10 + GROUP SHOCKN;
4.00	with death	Stage 3.01-3.11 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS14

MultiStage: No

DXCat Label: Infective Endocarditis

Specificity: A

Etiology: Infection

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

<p>Berbari EF, Cockerill FR 3rd, Steckelberg JM. Infective endocarditis due to unusual or fastidious microorganisms. <i>Mayo Clinic Proceedings</i>. 1997;72(6):532-542.</p>
<p>Bernstein D. Infective endocarditis. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. <i>Nelson Textbook of Pediatrics</i>, 15th ed. Philadelphia, PA: WB Saunders; 1996:1344-47.</p>
<p>Chambers HF. Heart: infective endocarditis. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. <i>Current Medical Diagnosis & Treatment</i>. Stamford, CT: Appleton & Lange; 1998:353-359.</p>
<p>Dajani AS, Taubert KA, Wilson W, et al. Prevention of bacterial endocarditis: a recommendation by the American Heart Association. <i>JAMA</i>, 1997;227(22):1794-1801.</p>
<p>Daniel WG, Mugge A. transesophageal echocardiography. <i>N Engl J Med</i>. 1995;332(19):1268-1679.</p>
<p>Durack DT, Lukes AS, Bright DK. New criteria for diagnosis of infective endocarditis: utilization of specific echocardiographic findings. Duke Endocarditis Service. <i>American Journal of Medicine</i>. 1994;96(3):200-9.</p>
<p>Kaye D. Infective endocarditis. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. <i>Harrison's Principles of Internal Medicine</i>, 14th ed. New York, NY: McGraw-Hill; 1998:785-791.</p>
<p>Vongpatanasin W, Hillis LD, Lange RA. Prosthetic heart valves. <i>N Engl J Med</i>. 1996;335(6):407-16.</p>
<p>Wilson WR, Karchmer AW, Dajani AS, Taubert KA, Bayer A, Kaye D, Bisno AL, Ferrieri P, Shulman ST, Durack DT, Antibiotic treatment of adults with infective endocarditis due to streptococci, enterococci, staphylococci, and HACEK microorganisms. American Heart Association. <i>JAMA</i>. 1995;274(21):1706-1713.</p>

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS15

MultiStage: No

DXCat Label: Mitral Regurgitation

Specificity: A

Etiology: Congenital; Degenerative

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Mitral valve prolapse without regurgitation	Mitral valve prolapse without regurgitation [echocardiogram report or cardiac catheterization report]	NO;
1.02	Mild chronic mitral regurgitation	Chronic: AND mild mitral regurgitation [echocardiogram report or cardiac catheterization report]	DX 7466;
2.01	Mild chronic mitral regurgitation with left atrial enlargement	Stage 1.02 AND chronic: AND left atrial enlargement [echocardiogram report or cardiac catheterization report]	STAGE 1.01-1.02 + DX 4293;
2.02	Moderate chronic mitral regurgitation	Chronic: Moderate mitral regurgitation [echocardiogram report or cardiac catheterization report]	NO;
2.03	Mild chronic mitral regurgitation with atrial fibrillation	Chronic: Mild mitral regurgitation [echocardiogram report or cardiac catheterization report] AND atrial fibrillation [EKG report]	STAGE 1.01-2.01 + (DX 42731-42732);
2.04	Moderate chronic mitral regurgitation with atrial fibrillation	Chronic: Mild mitral regurgitation [echocardiogram report or cardiac catheterization report] AND atrial fibrillation [EKG report]	NO;
2.05	Severe chronic mitral regurgitation	Chronic: AND severe mitral regurgitation [echocardiogram report or cardiac catheterization report]	NO;
3.01	Severe acute mitral regurgitation	Acute: AND severe mitral regurgitation [echocardiogram report or cardiac catheterization report]	NO;
3.02	Mild chronic mitral regurgitation with congestive heart failure	Chronic: AND mild mitral regurgitation [echocardiogram report or cardiac catheterization report] AND congestive heart failure:	STAGE 1.01-2.03 + GROUP CHF__NON_HTN;
3.03	Moderate chronic mitral regurgitation with congestive heart failure	Chronic: AND moderate mitral regurgitation [echocardiogram report or cardiac catheterization report] AND congestive heart failure:	NO;
3.04	Mitral regurgitation with low ejection fraction	Stage 3.01-3.03 AND left ventricular ejection fraction < 60% [echocardiogram report or cardiac catheterization report or radionucleide ventriculogram report]	NO;
3.05	Severe mitral regurgitation with congestive heart failure	Stage 3.01 AND congestive heart failure:	NO;
3.06	Mitral regurgitation with sepsis	Stage 3.01-3.05 AND sepsis:	STAGE 1.01-3.02 + GROUP SEPSIS;
3.07	Mitral regurgitation with respiratory failure	Stage 3.01-3.06 AND respiratory failure:	STAGE 1.01-3.06 + GROUP RESP_FAIL;
3.08	Mitral regurgitation with shock	Stage 3.01-3.07 AND shock:	STAGE 1.01-3.07 + GROUP SHOCKN;
4.00	Mitral regurgitation with death	Stage 3.01-3.08 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS15

MultiStage: No

DXCat Label: Mitral Regurgitation

Specificity: A

Etiology: Congenital; Degenerative

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

Braunwald E. Valvular heart disease. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1311-1324.

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Duncan AK, Vittone J, Fleming KC, Smith HC. Cardiovascular disease in elderly patients. Mayo Clinic Proceedings. 1996;71(2):184-196.

Massie BM, Amidon TM. Heart: valvular heart disease. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:344-353.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS16

MultiStage: No

DXCat Label: Mitral Stenosis

Specificity: A

Etiology: Congenital; Degenerative

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Mild mitral stenosis or mitral atresia	Mitral valve area ≥ 1.5 cm ² [echocardiogram report or cardiac catheterization report] AND mitral valve area < 2.0 cm ² [echocardiogram report or cardiac catheterization report] OR Mitral atresia [echocardiogram report or cardiac catheterization report]	DX 4240, 7465;
2.01	Moderate mitral stenosis	Mitral valve area ≥ 1.0 cm ² [echocardiogram report or cardiac catheterization report] AND mitral valve area < 1.5 cm ² [echocardiogram report or cardiac catheterization report]	NO;
2.02	Moderate mitral stenosis with left atrial enlargement	Stage 2.01 AND left atrial enlargement [echocardiogram report or cardiac catheterization report]	STAGE 1.01 + DX 4293;
2.03	Moderate mitral stenosis with atrial fibrillation	Stage 2.01-2.02 AND atrial fibrillation [EKG report]	STAGE 1.01-2.02 + (DX 42731-42732);
2.04	Severe mitral stenosis	Mitral valve area < 1.0 cm ² [echocardiogram report or cardiac catheterization report]	NO;
2.05	Severe mitral stenosis with atrial fibrillation	Stage 2.04 AND atrial fibrillation [EKG report]	NO;
3.01	Severe mitral stenosis with congestive heart failure	Stage 2.04-2.05 AND congestive heart failure:	STAGE 1.01-2.03 + GROUP CHF_NON_HTN;
3.02	Severe mitral stenosis with pulmonary hypertension	Stage 2.04-3.01 AND pulmonary hypertension:	STAGE 1.01-3.01 + (DX 4150, 4160, 4168);
3.03	Severe mitral stenosis with systemic embolic phenomena	Stage 2.04-3.02 AND systemic embolic phenomena OR pulmonary embolism:	STAGE 1.01-3.02 + (DX 41511-41512, 41519, 43410-43491, 4530, 4533, 59381);
3.04	Severe mitral stenosis with respiratory failure	Stage 2.04-3.03 AND respiratory failure:	STAGE 1.01-3.03 + GROUP RESP_FAIL;
3.05	Severe mitral stenosis with shock	Stage 2.04-3.04 AND shock:	STAGE 1.01-3.04 + GROUP SHOCKN;
4.00	Severe mitral stenosis with death	Stage 2.04-3.05 AND death	NO;

References:

Braunwald E. Valvular heart disease. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York: McGraw-Hill; 1998:1311-1324.

Carabello BA, Crawford FA Jr. Valvular heart disease. N Engl J Med. 1997;337(1):32-41.

Duncan AK, Vittone J, Fleming KC, Smith HC. Cardiovascular disease in elderly patients. Mayo Clinic Proceedings. 1996;71(2):184-196.

Massie BM, Amidon TM. Heart: valvular heart disease. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:344-353.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS17

MultiStage: No

DXCat Label: Periarteritis Nodosa

Specificity: A

Etiology: Immune

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Periarteritis nodosa or polyarteritis nodosa	Any three of the following: Weight loss of > 4 kg OR livedo reticularis OR testicular tenderness or pain OR diffuse myalgias or weakness OR neuropathies OR diastolic BP . 90 mmHg OR azotemia: OR creatinine > 1.5 mg/dl [chemistry report] OR hepatitis B infection [serology report] OR arteriographic abnormalities [arteriogram report] OR segmental necrotizing inflammation of the media and adventitia layers of arteries [operative/pathology report]	DX 4460;
1.02	with hypertension	Stage 1.01 AND hypertension:	STAGE 1.01 + GROUP HYPERTENSION;
2.01	with mononeuritis complex	Stage 1.01-1.02 AND neuralgia	STAGE 1.01-1.02 + (DX 3540-3556, 35571-3559);
2.02	with hepatitis	Stage 1.01-2.01 AND hepatitis:	STAGE 1.01-2.01 + DXCAT HEP10;
2.03	with nephritis	Stage 1.01-2.02 AND proteinuria: OR hematuria:	STAGE 1.01-2.02 + (DX 5800, 5804, 58081-5810, 5812-5839, 59381, 7910 OR GROUP HEMATURIA) ;
2.04	with peritonitis	Stage 1.01-2.03 AND peritonitis [operative/pathology report]	STAGE 1.01-2.03 + (DX 5672-5679, 56983);
3.01	with myocardial infarction	Stage 1.01-2.04 AND acute myocardial infarction:	STAGE 1.01-2.04 + GROUP AMI;
3.02	with congestive heart failure	Stage 1.01-3.01 AND congestive heart failure:	STAGE 1.01-3.01 + GROUP CHF__NON_HTN;
3.03	with renal failure	Stage 1.01-3.02 AND renal failure:	STAGE 1.01-3.02 + (GROUP REN_FAIL_ACU OR GROUP REN_FAIL_CHR);
3.04	with bleeding or ruptured aneurysm	Stage 1.01-3.03 AND bleeding:	STAGE 1.01-3.03 + (DX 4421, 44284);
3.05	with coma	Stage 1.01-3.04 AND coma:	STAGE 1.01-3.04 + GROUP COMA;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS17

MultiStage: No

DXCat Label: Periarteritis Nodosa

Specificity: A

Etiology: Immune

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.06	with shock	Stage 1.01-3.05 AND shock:	STAGE 1.01-3.05 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.01-3.06 AND death	NO;

References:

Anonymous. Guidelines for the use of antiretroviral agents in HIV-infected adults and adolescents. *Annals of Internal Medicine*. 1998;128(12):1079-1100.

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Fauci AS, Lane HC. Human immunodeficiency virus (HIV) disease: AIDS and related disorders. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. *Harrison's Principles of Internal Medicine*. 14th ed. New York, NY: McGraw-Hill; 1998:1791-1856.

Gazzard B, Moyle G. 1998 revision to the British HIV Association guidelines for antiretroviral treatment of HIV seropositive individuals. *BHIVA Guidelines Writing Committee. Lancet*. 1998;352(9124):314-6.

Havlir DV, Barnes PF. Tuberculosis in patients with human immunodeficiency virus infection. *N Engl J Med*. 1999;340(5):367-73.

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O'Brien W, Pomerantz RJ. AIDS and other diseases due to HIV infection. In: Neal Nathanson, ed. *Viral Pathogenesis*. New York, NY: Raven Press; 1997:813-837.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS18

MultiStage: No

DXCat Label: Pericarditis: Chronic

Specificity: A

Etiology: Infection; Idiopathic; Metabolic

Stage	Description	Diagnostic findings	ICD-9-CM Codes
2.01	Chronic pericarditis	Chronic pericarditis [pericardial biopsy or operative/pathology report or CT Scan report or MRI report or echocardiogram report]	DX 4238;
2.02	Constrictive pericarditis	Constrictive pericarditis [pericardial biopsy or operative/pathology report or CT Scan report or MRI report or echocardiogram report or pulmonary catheter reports elevation and equalization of diastolic pressure in atria and ventricles, elevated end diastolic pressures, and early diastolic dip in ventricular pressure contours or 'square root' sign]	DX 4231-4232;
2.03	with effusion	Stage 2.01-2.02 AND pericardial effusion [echocardiogram report]	DX 4230, 4233, 4239;
2.04	with mediastinitis	Stage 2.01-2.03 AND inflammation of mediastinum [operative/pathology report]	STAGE 2.01-2.03 + DX 5192;
3.01	with myocarditis	Stage 2.01-2.04 AND myocarditis:	STAGE 2.01-2.04 + GROUP MYOCARDITIS;
3.02	with congestive heart failure	Stage 2.01-3.01 AND congestive heart failure:	STAGE 2.01-3.01 + GROUP CHF_NON_HTN;
3.03	with anasarca	Stage 2.01-3.02 AND ascites OR hepatomegaly OR pleural effusion [chest x-ray report]	STAGE 2.01-3.02 + (DX 5119, 514, 7823, 7891, 7895, 78959);
3.04	with respiratory failure	Stage 2.01-3.03 AND respiratory failure:	STAGE 2.01-3.03 + GROUP RESP_FAIL;
4.00	with death	Stage 2.01-3.04 AND death	NO;

References:

- Bernstein D. Diseases of the pericardium. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:1355-1358.
- Braunwald E. Pericardial disease. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1334-1341.
- Farrar RS, McCully RB, Oh JK, Smith TF. Mycoplasma-associated pericarditis. Mayo Clinic Proceedings. 1997;72(1):33-36.
- Massie BM, Amidon TM. Diseases of the Pericardium. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:419-422.
- Wolfe RR, Boucek M, Schaffer MS, and Wiggins, JW. Acquired heart disease. In: Hay WW, Groosthius JR, Hayward AR, Levin MJ, eds. Current Pediatric Diagnosis and Treatment. 13th ed. Stamford, CT: Appleton & Lange; 1997:516-524.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS19

MultiStage: No

DXCat Label: Pericarditis: Viral or Traumatic

Specificity: A

Etiology: Idiopathic; Infection, Viral; Trauma

Stage	Description	Diagnostic findings	ICD-9-CM Codes
2.01	Acute pericarditis from viral infection or trauma or idiopathic pericarditis	Idiopathic pericarditis OR history of viral infection OR viral infection OR trauma to chest wall AND pericarditis:	DX 42090-42099, 4200;
2.02	with pericardial effusion	Stage 2.01 AND pericardial effusion [echocardiogram report]	STAGE 2.01 + (DX 4233, 4239);
3.01	with myocarditis	Stage 2.01-2.02 AND myocarditis:	STAGE 2.01-2.02 + (DX 4220, 42290, 42292-42299);
3.02	with pericardial tamponade	Stage 2.01-3.01 AND pericardial tamponade [pulmonary artery catheter report reveals 'equalization' of filling pressures or pulmonary catheter report equal diastolic pressure of right atrium, right ventricle and pulmonary capillary wedge pressure or echocardiogram reports pericardial effusion with diastolic collapse of the right atrium, right ventricle or both]	NO;
3.03	with congestive heart failure	Stage 2.01-3.02 AND congestive heart failure:	STAGE 2.01-3.01 + GROUP CHF_NON_HTN;
3.04	with respiratory failure	Stage 2.01-3.03 AND respiratory failure:	STAGE 2.01-3.03 + GROUP RESP_FAIL;
3.05	with shock	Stage 2.01-3.04 AND shock:	STAGE 2.01-3.04 + GROUP SHOCKA;
4.00	with death	Stage 2.01-3.05 AND death	NO;

References:

- Bernstein D. Diseases of the pericardium. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:1355-1358.
- Braunwald E. Pericardial disease. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1334-1341.
- Farrar RS, McCully RB, Oh JK, Smith TF. Mycoplasma-associated pericarditis. Mayo Clinic Proceedings. 1997;72(1):33-36.
- Massie BM and Amidon TM. Diseases of the pericardium. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:419-422.
- Wolfe RR, Boucek M, Schaffer MS, and Wiggins, JW. Acquired heart disease. In: Hay WW, Groosthous JR, Hayward AR, Levin MJ, eds. Current Pediatric Diagnosis and Treatment. 13th ed. Stamford, CT: Appleton & Lange; 1997:516-524.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS20

MultiStage: No

DXCat Label: Raynaud's Disease

Specificity: A

Etiology: Idiopathic; Immune; Trauma

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Raynaud's disease or phenomenon	History of vasospasm of arteries or arterioles of the hands in response to cold OR history of vasospasm of arteries or arterioles of the hands in response to stress OR trophic ulcers on the hands OR sclerodactyly cyanosis during vasospasm attacks	DX 4430;
2.01	Gangrene of the digits	Stage 1.01 AND gangrene of the fingers [operative/pathology report or physical examination]	STAGE 1.01 + DX 7854;
3.01	with sepsis	Stage 1.01-2.01 AND sepsis:	STAGE 1.01-2.01 + GROUP SEPSIS;
3.02	with shock	Stage 3.01 AND shock:	STAGE 1.01-3.01 + GROUP SHOCKA;
4.00	with death	Stage 2.01-3.02 AND death	NO;

References:

- Fraenkel L, Zhang Y, Chaisson CE, et al. Different factors influencing the expression of Raynaud's phenomenon in men and women. *Arthritis & Rheumatism*. 1999;42(2):306-10.
- Herrick AL, Clark S. Quantifying digital vascular disease in patients with primary Raynaud's phenomenon and systemic sclerosis. *Annals of the Rheumatic Diseases*. 1998;57(2):70-8.
- Kahaleh B, Matucci-Cerinic M. Raynaud's phenomenon and scleroderma. Dysregulated neuroendothelial control of vascular tone. *Arthritis & Rheumatism*. 1995;38(1):1-4.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS21

MultiStage: No

DXCat Label: Thromboangiitis Obliterans

Specificity: A

Etiology: Idiopathic

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Thromboangiitis obliterans	History of tobacco smoking AND nonsuppurative panarteritis of small and medium arteries [operative/pathology report] OR Raynaud's phenomenon AND intermittent claudication OR history of migratory thrombophlebitis OR arterial occlusion in affected upper limbs [arteriogram report] AND arterial occlusion in affected lower limbs [arteriogram report]	DX 4431;
2.01	with stasis ulcerations	Stage 1.01 AND stasis ulceration	STAGE 1.01 + (DX 70710-70719);
2.02	with gangrene	Stage 1.01-2.01 AND gangrene of involved extremity [operative/pathology report]	STAGE 1.01-2.01 + DX 7854;
3.01	with sepsis	Stage 1.01-2.02 AND sepsis:	STAGE 1.01-2.02 + GROUP SEPSIS;
3.02	with shock	Stage 2.02-3.01 AND shock:	STAGE 1.01-3.01 + GROUP SHOCKA;
4.00	with death	Stage 2.02-3.02 AND death	NO;

References:

Aqel MB, Olin JW. Thromboangiitis obliterans (Buerger's disease). *Vascular Medicine*. 1997;2(1):61-6.

Szuba A, Cooke JP. Thromboangiitis obliterans. An update on Buerger's disease. *Western Journal of Medicine*. 1998;168(4):255-60.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS22

MultiStage: No

DXCat Label: Thrombophlebitis

Specificity: A

Etiology: Idiopathic; Infection; Trauma

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Superficial thrombophlebitis or vein compression, postphlebitic syndrome, venous hypertension or insufficiency, or varices without bleed,	Superficial thrombophlebitis [venogram report or Doppler report or nuclear venogram report]	DX 4510, 4512, 45182, 45184, 45189, 4519, 4531, 4538-4539, 4561, 4563-4568, 4591-45910, 45912, 45930, 45932, 45939, 45981;
2.01	Deep vein thrombosis	DVT	DX 45111, 45119, 45181, 45183, 45340-45342;
2.02	with stasis ulceration or cellulitis	Stage 1.01-2.01 AND stasis ulcerations OR cellulitis:	STAGE 1.01-2.01 + (DX 68100, 68102, 68110, 68111 , 6820-6829);
2.03	Portal vein thrombosis or vena cava thrombosis or of renal vein thrombosis	Portal vein thrombosis [ultrasound or portal venography or MRI report] OR vena cava thrombosis [ultrasound or portal venography or MRI report] OR renal vein thrombosis [ultrasound or portal venography or MRI report]	DX 452, 4532, 4533;
3.01	with pulmonary embolism	Stage 2.01-2.03 AND pulmonary embolism [nuclear ventilation/perfusion scan or pulmonary angiogram report]	STAGE 1.01-2.03 + GROUP PULMEMB;
3.02	with sepsis	Stage 2.01-3.01 AND sepsis:	STAGE 1.01-3.01 + GROUP SEPSIS;
3.03	with respiratory failure	Stage 2.01-3.02 AND respiratory failure:	STAGE 1.01-3.02 + GROUP RESP_FAIL;
3.04	with shock	Stage 2.01-3.03 AND shock:	STAGE 1.01-3.03 + GROUP SHOCKN;
4.00	with death	Stage 2.01-3.04 AND death	NO;

References:

Kearon C, Julian JA, Newman TE, Ginsberg JS. Noninvasive diagnosis of deep venous thrombosis. McMaster diagnostic imaging practice guidelines initiative. Annals of Internal Medicine. 1998;128(8):663-77.

Koopman MM, Buller HR. Low-molecular-weight heparins in the treatment of venous thromboembolism. Annals of Internal Medicine. 1998;128(12 Pt 1):1037-9.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS23

MultiStage: No

DXCat Label: Tibial, Iliac, Femoral, or Popliteal Artery Disease

Specificity: A

Etiology: Degenerative

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Intermittent claudication	History of lower extremity pain or aching or fatigue with walking subsiding with rest OR venous filling time \geq 15 seconds AND pallor of extremity with elevation for \geq 1 minute AND rubor on dependency OR dorsalis pedis systolic pressure \leq 90% of brachial systolic pressure [Doppler ultrasonography report] AND dorsalis pedis systolic pressure $>$ 70% OR \leq 50% occlusion of tibial, iliac, femoral or popliteal artery [arteriogram report]	DX 44020, 44021, 4439, 44502, 44381;
1.02	Persistent claudication	History of lower extremity pain or aching or fatigue with walking subsiding with rest AND dorsalis pedis systolic pressure \leq 70% of brachial systolic pressure [Doppler ultrasonography report] OR \geq 50% occlusion of tibial, iliac, femoral or popliteal artery [arteriogram report]	DX 44022, 4404, 4422, 4423, 44422, 44481;
2.01	with ischemic ulceration	Stage 1.01-1.02 AND ulcerations	DX 44023, 44322; STAGE 1.01-1.02 + (DX 70710-70719);
2.02	with gangrene	Stage 1.01-2.01 AND gangrene of the extremity [physical examination or operative/pathology report]	DX 44024; STAGE 1.01-2.01 + DX 7854;
3.01	with sepsis	Stage 2.01-2.02 AND sepsis:	STAGE 1.01-2.02 + GROUP SEPSIS;
3.02	with shock	Stage 2.01-3.01 AND shock:	STAGE 1.01-3.01 + GROUP SHOCKA;
4.00	with death	Stage 2.01-3.02 AND death	NO;

References:

Anonymous. Thrombolysis in the management of lower limb peripheral arterial occlusion--a consensus document. Working Party on Thrombolysis in the Management of Limb Ischemia. American Journal of Cardiology. 1998;81(2):207-18.

Cantwell-Gab K. Identifying chronic peripheral arterial disease. American Journal of Nursing. 1996;96(7):40-6; quiz 47.

Golledge J. Lower-limb arterial disease. Lancet. 1997;350(9089):1459-65.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS24

MultiStage: No

DXCat Label: Varicose Veins of Lower Extremities

Specificity: A

Etiology: Degenerative; Genetic (or hereditary)

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Varicose veins	Varicose veins	DX 4548-4549;
1.02	with superficial thrombophlebitis	Stage 1.01 AND superficial thrombophlebitis [nuclear venogram report or Doppler ultrasonography report or physical examination]	STAGE 1.01 + (DX 4510, 4519);
2.01	with chronic venous insufficiency	Stage 1.01-1.02 AND dermal pigmentation OR stasis dermatitis OR induration of the skin	STAGE 1.01-1.02 + (DX 45981, 70900, 70909, 7828) ; DX 4541;
2.02	with stasis ulcers	Stage 1.01-2.01 AND stasis ulcers	DX 4540, 4542;
2.03	with cellulitis	Stage 1.01-2.02 AND cellulitis: OR area of redness, induration, tenderness and heat with indistinct borders	STAGE 1.01-2.02 + (DX 68110-68111, 6826, 6827);
2.04	with deep vein thrombosis	Stage 1.01-2.03 AND DVT:	STAGE 1.01-2.03 + (DX 45111, 45119);
3.01	with pulmonary embolism	Stage 2.04 AND pulmonary embolism [nuclear ventilation/perfusion scan or pulmonary angiogram report]	STAGE 2.04 + DX 41519;
3.02	with sepsis	Stage 2.03-3.01 AND sepsis:	STAGE 2.03-3.01 + GROUP SEPSIS;
3.03	with respiratory failure	Stage 2.03-3.02 AND respiratory failure:	STAGE 2.03-3.02 + GROUP RESP_FAIL;
3.04	with shock	Stage 2.03-3.03 AND shock:	STAGE 2.03-3.03 + GROUP SHOCKN;
4.00	with death	Stage 2.03-3.04 AND death	NO;

References:

Angle N, Bergan JJ. Chronic venous ulcer. BMJ. 1997;314(7086):1019-23.

Bradbury A, Evans C, Allan P, et al. What are the symptoms of varicose veins? Edinburgh vein study cross sectional population survey. BMJ. 1999;318(7180):353-6.

Chant AD. Venous insufficiency and perforating veins. British Journal of Surgery. 1998;85(12):1721.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS80

MultiStage: No

DXCat Label: Neoplasm, Benign, Cardiovascular System

Specificity: A

Etiology:

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Benign neoplasm of cardiovascular system		DX 2127;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS81

MultiStage: No

DXCat Label: Neoplasm, Malignant, Cardiovascular

Specificity: A

Etiology:

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Primary malignant neoplasm of heart		DX 1641;
2.01	with lymph node involvement		STAGE 1.01 + DX 1960-1963;
2.02	with anemia of neoplastic disease		STAGE 1.01-2.01 + DX 28522;
3.01	with distant metastases		STAGE 1.01-2.02 + DX 1965-1991;
3.02	with shock		STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS82

MultiStage: No

DXCat Label: Other Atherosclerosis

Specificity: C

Etiology:

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Other atherosclerosis of peripheral or renal arteries or of bypass grafts of extremities		DX 4400-4401, 44029-44032, 4408-4409;
2.01	Atheroembolisms of kidney and other sites; hypersensitivity angiitis		DX 44501, 44581-44589, 4461-4475, 4478-4489;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS83

MultiStage: No

DXCat Label: Other Cardiac Conditions

Specificity: C

Etiology:

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Kyphoscoliotic heart disease or chronic pulmonary heart disease; nonrheumatic valve disorder, heart or other coronary transplant or implanted device status		DX 4160-4169, 4242-4243, V421-V422, V432-V433, V4500-V4509;
2.01	Aneurysm of heart wall or coronary vessel, cardiomegaly, ill-defined heart disease		DX 41410-41411, 41419, 4220-42299, 4293, 42981-42982, 42989-4299;
3.01	Acute cor pulmonale, dissection of coronary artery, myocarditis or endocarditis not specified as infective, heart failure, septal defect, sequelae of AMI		DX 4150, 41412, 42490, 42499, 4290-4291, 4289, 4294-4296, 42971-42979;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS84

MultiStage: No

DXCat Label: Other Cardiovascular Symptoms

Specificity: C

Etiology:

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	Observation for suspected cardiovascular disease	Added stage 5/8/06 cb	DX 79430-79439, V717;
1.01	Tachycardia, palpitations, murmurs		DX 7850-7853, 78659, 7859, 7932;
3.01	Shock		DX 78550-78551, 78559;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS85

MultiStage: No

DXCat Label: Hypotension

Specificity: C

Etiology:

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Hypotension		DX 4580-4589;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS86

MultiStage: No

DXCat Label: Other Diseases of Arteries

Specificity: C

Etiology:

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Peripheral aneurysms, embolisms, and arterial strictures		DX 4420, 4429, 44382, 44389, 44421, 44489-4449;
1.02	Thoracic and abdominal aneurysms, embolisms, and arterial strictures		DX 4421, 44282-44289, 4440-4441;
1.03	Cerebral aneurysms, embolisms, and arterial strictures		DX 44281;
3.01	Arterial dissections		DX 44323-44329;
3.02	with sepsis	Stage 1.01-3.01 AND sepsis:	STAGE 1.01-3.01 + GROUP SEPSIS; DX 449;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS87

MultiStage: No

DXCat Label: Other Diseases of Veins

Specificity: C

Etiology:

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Hemorrhage or other circulatory diseases		DX 4590, 45989-4599, 45621;
2.01	Chronic venous hypertension with ulcer, varices with bleed		DX 4560, 45911, 45913-45919, 4592, 45931, 45933, 45620;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS88

MultiStage: No

DXCat Label: Other Disorders of Pulmonary Circulation

Specificity: C

Etiology:

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Disorder of pulmonary circulation		DX 4178-4179;
2.01	Pulmonary artery aneurysm or arteriovenous fistula of pulmonary vessel		DX 4170-4171;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS89

DXCat Label: Secondary Hypertension

Etiology:

MultiStage: No

Specificity: B

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Secondary hypertension, minimal		DX 40511-40599;
1.02	Secondary hypertension, moderate		NO;
1.03	Secondary hypertension, severe		NO;
2.01	Secondary hypertension, very severe		DX 40501-40509;
2.02	Hypertensive retinopathy, Grade I or II of Keith and Wagener		STAGE 1.01-2.01 + DX 36211;
2.03	Hypertensive retinopathy, Grade III or IV of Keith and Wagener		STAGE 1.01-2.02 + DX 36281-36282;
2.04	Hypertensive cardiomegaly, arrhythmias, or wall motion abnormalities		STAGE 1.01-2.03 + (GROUP ARHTHYM_AFI B OR GROUP ARHTHYM_AFLU OR GROUP ARHTHYM_ATPC OR GROUP ARHTHYM_CARD OR GROUP ARHTHYM_JNPC OR GROUP ARHTHYM_VFIB OR GROUP ARHTHYM_VTPC);
3.01	with renal failure		STAGE 1.01-2.04 + (GROUP REN_FAIL_ACU OR GROUP REN_FAIL_CHR);
3.02	with CHF		STAGE 1.01-3.01 + GROUP CHF_HTNIVE;
3.03	with CVA or encephalopathy		STAGE 1.01-3.02 + DX 430-4329; STAGE 1.01-3.02 + GROUP DISORIENT + DX 37000-37701;
3.04	with CVA and cranial nerve involvement		STAGE 3.03 + (GROUP CRAN_NRV_PAL OR GROUP BLINDNESS);
3.05	with CVA and cerebellar or pyramidal tract dysfunction		STAGE 3.03-3.04 + DX 3483;
3.06	with CVA and hemiparesis or hemiplegia		STAGE 3.03-3.05 + (DX 34200-34202, 34210-34212, 34280-34281, 34290-34292);
3.07	with CVA and amblyopia and contralateral hemiplegia		STAGE 3.03 + STAGE 3.06 + (DX 36800, 36855);

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: CVS89

MultiStage: No

DXCat Label: Secondary Hypertension

Specificity: B

Etiology:

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.08	with CVA and quadriplegia		STAGE 3.03-3.07 + DX 34400-34409;
3.09	with coma		STAGE 1.01-3.08 + GROUP COMA;
4.00	with death		NO;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: DEN01

MultiStage: No

DXCat Label: Anomaly: Cleft Lip or Palate

Specificity: A

Etiology: Congenital

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Cleft lip	Cleft lip, unilateral or bilateral	DX 74910-74914;
1.02	Cleft palate	Unilateral or bilateral cleft palate not extending beyond the incisive foramen	DX 74900-74904;
1.03	Cleft lip and palate	Stage 1.01 AND Stage 1.02	DX 74920-74925;
2.01	with recurrent otitis media and hearing loss	Stage 1.01-1.03 AND history of recurrent otitis media AND threshold for conductive sound \geq 30 dB [audiometry report]	STAGE 1.01-1.03 + (DXCAT ENT18 OR DX 3821, 3822, 3823, 3824) + (DX 38900-38922, 3898, 3899) ;
2.02	with other deformities of the maxilla or mandible or pharynx	Stage 1.01-2.01 AND maxillary retrusion or protrusion OR mandible retrusion or protrusion OR small mandible or Pierre Robin or Treacher Collins syndromes OR hypertelorism OR poor feeding OR dysphagia	STAGE 1.01-1.03 + (DX 52400-52406, 52409-52412, 52419, 5242-52429, 5244, 7560, 7793, 7833, 78701-78703, 7872-78729, 7961);
2.03	with aspiration pneumonia	Stage 1.01-2.02 AND aspiration AND pneumonia:	STAGE 1.01-2.02 + DX 5070;
3.01	with sepsis	Stage 3.01 AND sepsis:	STAGE 1.01-2.03 + GROUP SEPSIS;
3.02	with respiratory failure	Stage 2.03 AND respiratory failure:	STAGE 1.01-3.01 + GROUP RESP_FAIL;
3.03	with shock	Stage 2.03-3.02 AND shock:	STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	Cleft lip or palate and death	Stage 2.03-3.03 AND death	NO;

References:

Milerad J, Larson O, Hagberg C, Ideberg M. Associated malformations in infants with cleft lip and palate: a prospective, population-based study. *Pediatrics*. 1997;100(2 Pt 1):180-6.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: DEN02
 DXCat Label: Dental Disease
 Etiology: Infection

MultiStage: No
 Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Dental caries or tooth decay	Radiolucent areas on dentin of teeth [dental x-ray report] AND softened enamel or dentin by dental probing OR thermal sensitivity OR cold sensitivity OR sugar sensitivity	DX 5210-52109;
1.02	Pulpitis	Sharp, throbbing intermittent pain from tooth worsened by cold and relieved by heat	DX 5220, 5221, 5222, 5223, 5224;
1.03	Dental-alveolar abscess	Stage 1.01-1.02 AND dull continuous pain AND perforation of apical dental periosteum AND pain on percussion of tooth AND abscess formation [dental x-ray report]	DX 5225, 5226, 5227, 5228, 5229;

References:

Greenspan JS. Oral manifestations of disease. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:185-190.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: DEN03

MultiStage: No

DXCat Label: Diseases of the Salivary Gland or Parotitis Including Benign Tumors

Specificity: A

Etiology: Genetic (or hereditary); Idiopathic; Infection

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Sialolithiasis	Pain from salivary gland AND stone in salivary gland duct [x-ray report]	DX 5275, 5270-5271, 5277-5279;
1.02	Viral parotitis	Viral parotitis	DX 0729;
1.03	Recurrent sialoadenitis	Tender swelling of gland with eating	DX 5272;
2.01	Suppurative parotitis	Swelling of parotid gland AND tenderness of parotid gland AND abscess formation AND parotitis [culture reports growth of pathologic organism(s)]	DX 5273-5274, 5276;
2.02	Mixed salivary gland benign tumors	Swelling of parotid gland AND pleomorphic adenoma [operative/pathology report] OR Warthin's tumor [operative/pathology report] OR oncocytomas [operative/pathology report] OR benign lymphoepithelial lesion [operative/pathology report] OR monomorphic adenomas [operative/pathology report]	DX 2102;

References:

Jackler RK, Kaplan MJ. Ear, nose and throat. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:244-245.

McEwen DR, Sanchez MM. A guide to salivary gland disorders. AORN Journal. 1997;65(3):554-6, 559-67; quiz 568-9, 571-2.

Vokes EE. Head and neck cancer. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:549-552.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: DEN04

MultiStage: No

DXCat Label: Gingival and Periodontal Disease

Specificity: A

Etiology: Infection

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Gingivitis	Gingivitis OR band or erythematous, inflamed gum tissue surrounding neck of teeth AND edematous swelling of interdental papillae AND bleeding on minimal injury	DX 5230-52325;
1.02	Herpetic gingivostomatitis	Herpetic gingivostomatitis	DX 0542;
1.03	Periodontitis	Stage 1.01 AND destruction of the supporting osseous tissue of teeth [dental x-ray report]	DX 5233-52333, 5234-52342, 5235, 5236, 5238, 5239;
1.04	Periodontitis with abscess formation	Stage 1.01-1.03 AND abscess formation on gums	NO;
1.05	Vincent's angina or trench mouth	Acutely painful and bleeding gums AND fetid breath AND ulcerations limited to marginal gingivae and interdental papillae AND gums bleed on slight pressure AND interdental grayish membrane AND fusospirochete bacillus [gram stain report]	DX 101;

References:

Greenspan JS. Oral manifestations of disease. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:185-190.

Sheiham A. The future of preventive dentistry. BMJ. 1994;309(6949):214-5.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: DEN05

MultiStage: No

DXCat Label: Neoplasm, Malignant: Hypopharynx

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	History of cancer of the hypopharynx		NO;
1.01	Confined to one site	TNM Classification Stage 1 OR American Joint Committee on Cancer Stage I OR Cancer of the hypopharynx ≤ 2 cm. in diameter [operative/pathology report] OR Cancer of the hypopharynx localized to one anatomic site [operative/pathology report]	DX 1480, 1481, 1482, 1483, 1488, 1489;
2.01	Involving two sites	TNM Classification Stage 2 OR American Joint Committee on Cancer Stage II OR Cancer of the hypopharynx ≤ 4 cm. in diameter [operative/pathology report] OR Cancer of the hypopharynx localized to two adjacent anatomic sites [operative/pathology report]	NO;
2.02	with extension	TNM Classification Stage 3 OR American Joint Committee on Cancer Stage III OR Cancer of the hypopharynx ≥ 4 cm. in diameter [operative/pathology report] OR Cancer of the hypopharynx involves three or more adjacent anatomic sites [operative/pathology report] OR isolated neck node ≤ 3 cm. in diameter [operative/pathology report]	STAGE 0.00-1.01 + DX 3383;
3.01	with distant metastasis	TNM Classification Stage 4 OR American Joint Committee on Cancer Stage IV OR cancer of the hypopharynx involves any structure beyond the neck [operative/pathology report] OR extends beyond the confines of the nasopharynx [operative/pathology report] OR isolated neck node ≥ 3 cm. in diameter [operative/pathology report] OR neck metastasis involving > 1 lymph node [operative/pathology report] OR neck metastasis has fixation to surrounding soft tissue [operative/pathology report]	STAGE 1.01 + (DX 1960, 1961, 1962, 1963, 1965, 1966, 1968, 1969, 1970, 1971, 1972, 1973, 1974, 1975, 1976, 1977, 1978, 1980, 1981, 1982, 1983, 1984, 1985, 1986, 1987, 19881, 19882, 19889, 1990, 1991, 78951);
3.02	with shock	Stage 2.01-3.01 AND shock:	STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	and death	Stage 2.01-3.02 AND death	NO;

References:

Jackler RK, Kaplan MJ. Ear, nose and throat. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:244-245.

Vokes EE. Head and neck cancer. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:549-552.

Zbaren P, Becker M, Lang H. Pretherapeutic staging of hypopharyngeal carcinoma. Clinical findings, computed tomography, and magnetic resonance imaging compared with histopathologic evaluation. Archives of Otolaryngology -- Head & Neck Surgery. 1997;123(9):908-13.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: DEN06

MultiStage: No

DXCat Label: Neoplasm, Malignant: Oral Cavity

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	History of cancer of the oral cavity		DX V1002;
1.01	Cancer of the oral cavity < 2 cm in diameter	TNM Classification Stage 1 OR American Joint Committee on Cancer Stage I OR Cancer of the oral cavity ≤ 2 cm. in diameter [operative/pathology report or CT scan report or MRI scan report]	DX 1403-1405, 1410, 1411-1419, 1430-1459, 1490, 1491, 1498, 1499;
2.01	Tumor ≥ 2 cm in diameter and < 4 cm in diameter	TNM Classification Stage 2 OR American Joint Committee on Cancer Stage II OR Cancer of the oral cavity ≤ 4 cm. in diameter [operative/pathology report or CT scan report or MRI scan report]	NO;
3.01	Tumor ≥ 4 cm in diameter	TNM Classification Stage 3 OR American Joint Committee on Cancer Stage III OR Cancer of the oral cavity ≥ 4 cm. in diameter [operative/pathology report or CT scan report or MRI scan report] OR isolated neck node ≤ 3 cm. in diameter [operative/pathology report or CT scan report or MRI scan report]	NO;
3.02	with invasion of adjacent tissues or beyond	TNM Classification Stage 4 OR American Joint Committee on Cancer Stage IV OR cancer of the oral cavity involves any structure beyond the neck [operative/pathology report or CT scan report or MRI scan report] OR isolated neck node ≥ 3 cm. in diameter [operative/pathology report or CT scan report or MRI scan report] OR neck metastasis involving > 1 lymph node [operative/pathology report or CT scan report or MRI scan report] OR neck metastasis has fixation to surrounding soft tissue [operative/pathology report or CT scan report or MRI scan report] OR multiple contralateral or ipsilateral nodes [operative/pathology report or CT scan report or MRI scan report]	STAGE 0.00-1.01 + (DX 1960, 1961, 1962, 1963, 1965, 1966, 1968, 1969, 1970, 1971, 1972, 1973, 1974, 1975, 1976, 1977, 1978, 1980, 1981, 1982, 1983, 1984, 1985, 1986, 1987, 19881, 19882, 19889, 1990, 1991, 3383, 78951);
3.03	with shock	Stage 2.01-3.02 AND shock:	STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	and death	Stage 2.01-3.03 AND death	NO;

References:

Jackler RK, Kaplan MJ. Ear, nose, and throat. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:234-235, 244-245.

Vokes EE. Head and neck cancer. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:549-552.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: DEN07

MultiStage: No

DXCat Label: Neoplasm, Malignant: Oropharynx

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	History of cancer of the oropharynx		NO;
1.01	Confined to one site	TNM Classification Stage 1 OR American Joint Committee on Cancer Stage I OR Cancer of the oropharynx ≤ 2 cm. in diameter [operative/pathology report] OR Cancer of the oropharynx localized to one anatomic site [operative/pathology report]	DX 1460-1469;
2.01	Involving two sites	TNM Classification Stage 2 OR American Joint Committee on Cancer Stage II OR Cancer of the oropharynx ≤ 4 cm. in diameter [operative/pathology report] OR Cancer of the oropharynx localized to two adjacent anatomic sites [operative/pathology report]	NO;
2.02	with extension	TNM Classification Stage 3 OR American Joint Committee on Cancer Stage III OR Cancer of the oropharynx ≥ 4 cm. in diameter [operative/pathology report] OR Cancer of the oropharynx involves three or more adjacent anatomic sites [operative/pathology report] OR isolated neck node ≤ 3 cm. in diameter [operative/pathology report]	STAGE 0.00-1.01 + DX 3383;
3.01	with distant metastasis	TNM Classification Stage 4 OR American Joint Committee on Cancer Stage IV OR cancer of the oropharynx involves any structure beyond the neck [operative/pathology report] OR extends beyond the confines of the nasopharynx [operative/pathology report] OR isolated neck node ≥ 3 cm. in diameter [operative/pathology report] OR neck metastasis involving > 1 lymph node [operative/pathology report] OR neck metastasis has fixation to surrounding soft tissue [operative/pathology report]	STAGE 1.01 + (DX 1960-1969, 1970-1978, 1980-19889, 1990-1991, 78951);
3.02	with shock	Stage 2.01-3.01 AND shock:	STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	and death	Stage 2.01-3.02 AND death	NO;

References:

Jackler RK, Kaplan MJ. Ear, nose and throat. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:234-235, 244-245.

Vokes EE. Head and neck cancer. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:549-552.

Zbaren P, Becker M, Lang H. Pretherapeutic staging of hypopharyngeal carcinoma. Clinical findings, computed tomography, and magnetic resonance imaging compared with histopathologic evaluation. Archives of Otolaryngology -- Head & Neck Surgery. 1997;123(9):908-13.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: DEN08

MultiStage: No

DXCat Label: Neoplasm, Malignant: Salivary Glands and Mandible

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	History of cancer of the salivary gland		NO;
1.01	Solitary salivary gland cancers < 4 cm in diameter without invasion	American Joint Committee on Cancer Stage I OR Salivary gland carcinoma [operative/pathology report or CT scan report or MRI report] OR low grade mucoepidermoid carcinoma [operative/pathology report] OR Acinic cell carcinoma [operative/pathology report]	DX 1420-1429;
2.01	Tumor ≥ 4 cm in diameter and < 6 cm in diameter without local invasion or < 4 cm in diameter with local invasion	American Joint Committee on Cancer Stage II OR salivary gland carcinoma [operative/pathology report] OR Malignant mixed tumor [operative/pathology report] OR Mucoepidermoid carcinoma [operative/pathology report] OR Adenocarcinoma [operative/pathology report] OR Acinic cell carcinoma [operative/pathology report] OR fixation to the skin OR tumor ≥ 4cm in diameter and < 6 cm in diameter without local invasion [operative/pathology report] OR tumor < 4cm in diameter with local invasion [operative/pathology report]	NO;
2.02	with < 4 cm in diameter and one metastatic node or > 6 cm in diameter with local invasion	American Joint Committee on Cancer Stage III Stage 2.01 AND salivary gland carcinoma [operative/pathology report] OR Malignant mixed tumor [operative/pathology report] OR Mucoepidermoid carcinoma [operative/pathology report] OR Adenocarcinoma [operative/pathology report] OR Acinic cell carcinoma [operative/pathology report] OR Squamous cell carcinoma [operative/pathology report] AND lesion > 6 cm. in diameter AND local invasion OR lesion < 4cm in diameter AND one metastatic lymph node [operative/pathology report]	STAGE 1.01 + DX 1960;
2.03	Tumor ≥ 6 cm in diameter with local invasion and one lymph node or > 1 lymph node involvement or with facial paralysis or distant metastasis	American Joint Committee on Cancer Stage IV Salivary gland carcinoma [operative/pathology report] OR Adenocystic carcinoma [operative/pathology report] AND tumor ≥ 6cm in diameter with local invasion and one lymph node [operative/pathology report] OR tumor > 2 cervical lymph node involvement [operative/pathology report or CT scan or MRI report] OR paresis of one side of the face OR paralysis of one side of the face OR facial nerve palsy OR with distant metastases [operative/pathology report or CT scan or MRI report]	STAGE 1.01-2.02 + (DX 3510, 3383);

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: DEN08

MultiStage: No

DXCat Label: Neoplasm, Malignant: Salivary Glands and Mandible

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.01	with distant metastasis	Stage 1.01-2.03 AND distant metastases	STAGE 1.01-2.03 + (DX 1961-1969, 1970-1978, 1980-19889, 1990-1991, 78951);
3.02	with shock	Stage 2.01-3.01 AND shock:	STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	and death	Stage 2.01-3.02 AND death	NO;

References:

Jackler RK, Kaplan MJ. Ear, nose and throat. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:244-245.

McEwen DR, Sanchez MM. A guide to salivary gland disorders. AORN Journal. 1997;65(3):554-6, 559-67; quiz 568-9, 571-2.

Vokes EE. Head and neck cancer. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:549-552.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: DEN80

MultiStage: No

DXCat Label: Anomaly: Other Dentofacial

Specificity: C

Etiology:

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Dentofacial anomalies other than cleft lip or palate		DX 52400-5249;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: DEN81

MultiStage: No

DXCat Label: Other Disorders of Oral Cavity

Specificity: C

Etiology:

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Disorders of tooth eruption and dentition, other oral cavity conditions		DX 5200-5209, 5211-5219, 5250-5269, 5284-5299;
2.01	Stomatitis, cellulitis or abscess or mouth		DX 5280-52800, 52809-5283;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: END01

DXCat Label: Adrenal Insufficiency

Etiology: Metabolic

MultiStage: No

Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Primary adrenal insufficiency or Addison's disease	Hyperpigmentation OR serum ACTH \geq 120 pg/ml at 9 a.m. [chemistry report] OR serum ACTH \geq 35 pg/ml at midnight [chemistry report] OR serum a.m. cortisol \leq 4 mg/dl [chemistry report] AND positive cosyntropin stimulation test: at \geq 60 minute post infusion, serum cortisol is \leq 2 times baseline serum cortisol level [chemistry report] OR positive ACTH stimulation test: at \geq 60 minute post infusion, serum cortisol \leq 18 mg/dl [chemistry report]	DX 2554-25542, 2555;
1.02	Secondary adrenal insufficiency	Serum ACTH $<$ 35 pg/ml [chemistry report] AND serum a.m. cortisol \leq 4 mg/dl [chemistry report] AND positive cosyntropin stimulation test: at \geq 60 minute post infusion, serum cortisol is \leq 2 times baseline serum cortisol level [chemistry report]	NO;
2.01	with hyponatremia or hyperkalemia or hypochloremia	Stage 1.01 AND hyponatremia: OR hyperkalemia: OR hypochloremia:	STAGE 1.01 + (GROUP HYPONATREMIA OR GROUP HYPER_KALEM OR GROUP HYPOCHLOREM);
3.01	Addisonian crisis	Stage 1.01-2.01 AND hypotension: AND generalized weakness	STAGE 1.01-2.01 + DX 78079 + GROUP HYPOTENSION;
3.02	with renal failure	Stage 2.01-3.01 AND renal failure:	STAGE 1.01-3.01 + GROUP REN_FAIL_ACU;
4.00	with death	Stage 2.1-3.3 AND death	NO;

References:

Fitzgerald PA. Adrenocortical hypofunction. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:1072-1075.

White PC. Disorders of aldosterone biosynthesis and action. N Engl J Med. 1994;331(4):250-258.

Williams GH, Dluhy RG. Diseases of the adrenal cortex. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998: 2035-2057.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: END02

DXCat Label: Cushing's Syndrome

Etiology: Metabolic; Neoplasm

MultiStage: No

Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Cushing's Syndrome	Cushing's Syndrome [dexamethasone suppression test report] Presumptive Diagnostic Findings: urinary free cortisol \geq 110ug/24hrs [chemistry report]	DX 2550;
1.02	Cushing's Disease	Stage 1.1 AND 9 pm ACTH \geq 35 pg/ml [chemistry report] OR Basophilic pituitary adenoma [operative/pathology report] OR Chromophobe pituitary adenoma [operative/pathology report or immunohistochemical stain for ACTH report]	STAGE 1.01 + DX 2273;
2.01	with growth retardation	Stage 1.01-1.02 AND age < 16 years AND height < 3rd percentile OR growth velocity < 4 cm/yr OR bone age < 2 yrs. behind chronological age	STAGE 1.01-1.02 + AGE 0-15 + (DX 73391, 78340, 78343);
2.02	with osteoporosis	Stage 1.01-2.01 AND osteoporosis:	STAGE 1.01-2.01 + DXCAT MUS38;
2.03	with diabetes mellitus or hypertension or hypokalemia	Stage 1.01-2.02 AND Diabetes mellitus: OR hypertension: OR hypokalemia: OR centripetal obesity OR proximal muscle wasting OR proximal muscle weakness	STAGE 1.01-2.02 + (DXCAT END04 OR DXCAT END05 OR DXCAT CVS13 OR DX 2768, 7282);
2.04	with vertebral fractures	Stage 1.01-2.03 AND vertebral fracture [vertebrae x-ray report]	STAGE 1.01-2.03 + (DX 3383, 73313, 80500-8069);
2.05	with visual field defects	Stage 1.01-2.04 AND visual field defects	STAGE 1.01-2.04 + DX 36840-36847;
3.01	with Nelson's syndrome	Stage 1.01-2.05 AND Nelson's syndrome OR history of bilateral adrenalectomy AND hyperpigmentation AND history of glucocorticoid replacement therapy AND pituitary tumor [CT scan or MRI report]	NO;
3.02	with coma	Stage 1.01-3.01 AND coma:	STAGE 1.01-2.05 + GROUP COMA;
3.03	with shock	Stage 1.01-3.02 AND shock:	STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: END02

MultiStage: No

DXCat Label: Cushing's Syndrome

Specificity: A

Etiology: Metabolic; Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
4.00	with death	Stage 1.01-3.02 AND death	NO;

References:

Fitzgerald PA. Cushing's syndrome. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:1075-1076.

Orth DN, Kovacs WJ, DeBold CR. The adrenal cortex. In: Wilson JD, Foster DW, eds. Williams Textbook of Endocrinology. 8th ed. Philadelphia, PA: WB Saunders; 1992:489-620.

Orth DN. Cushing's syndrome. N Engl J Med. 1995;332(12):791-803.

Williams GH, Dluhy RG. Disorders of adrenal cortex. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:2035-2057.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: END03

DXCat Label: Diabetes insipidus

Etiology: Metabolic

MultiStage: No

Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Primary diabetes insipidus	Diabetes insipidus OR fluid restriction to >1kg weight loss ≤ 24 hrs AND vasopressin challenge test shows rise in urinary osmolality ≥ 9 % AND plasma osmolality ≥ 288 mmol/kg [chemistry report] OR Wolfram Syndrome	DX 2535;
1.02	Secondary diabetes insipidus	Stage 1.01 AND pituitary or hypothalamic tumors [MRI report]	STAGE 1.01 + (DX 2250, 2273, 2370, 2375, 2397);
1.03	Vasopressinase induced diabetes insipidus	Stage 1.01 AND pregnancy OR vasopressinase positive [chemistry report]	STAGE 1.01-1.02 + (DX 64000-677, V270-V279, V220-V242);
1.04	Nephrogenic diabetes insipidus	Fluid restriction to > 1kg weight loss ≤ 24 hrs Elevated serum vasopressin [chemistry report]	DX 5881;
2.01	with hyponatremia	Stage 1.01-1.04 AND hyponatremia:	STAGE 1.01-1.03 + GROUP HYPONATREMIA;
2.02	with hypernatremia	Stage 1.01-2.01 AND hypernatremia:	STAGE 1.01-1.03 + GROUP HYPR_NATREM;
2.03	with azotemia or dehydration	Stage 1.01-2.02 AND azotemia: OR dehydration:	STAGE 1.01-2.02 + (DX 7906 OR GROUP DEHYDRATION) ;
3.01	with renal failure	Stage 1.01-2.03 AND renal failure:	STAGE 1.01-3.01 + (GROUP REN_FAIL_ACU);
3.02	with shock	Stage 1.01-3.01 AND shock:	STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 1.01-3.02 AND death	NO;

References:

Fitzgerald PA. Diabetes insipidus. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:1037-1039.

Fitzgerald PA. Diabetes insipidus. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:1037-1039.

Moses AM, Streeten DHP. Disorders of the neurohypophysis. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:2003-2012.

Singer I, Oster JR, Fishman LM. The management of diabetes insipidus in adults. Archives of Internal Medicine. 1997;157(12):1293-1301.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: END04

MultiStage: Yes

DXCat Label: Diabetes Mellitus Type 1

Specificity: A

Etiology: Metabolic

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Type 1 diabetes mellitus	Fasting plasma glucose \geq 126 mg/dl drawn \geq 8 hours after a meal AND \geq 24 hours later confirmation by repeat testing OR Casual plasma glucose \geq 200 mg/dl AND \geq 24 hours later confirmation by repeat testing OR 2 hour postprandial glucose \geq 200 mg/dl under the World Health Organization protocol for oral glucose tolerance test using 75g anhydrous glucose in water AND \geq 24 hours later confirmation by repeat testing OR History of Type 1 Diabetes mellitus	DX 25001, 7751;
1.02	Symptomatic diabetes mellitus	Stage 1.01 AND polyuria OR polydypsia OR polyphagia	DX 25003, 25081, 25083, 25091, 25093;
1.03	with history of ketoacidosis or pancreatic islet cell antibodies	Stage 1.01-1.02 AND history of ketoacidosis OR pancreatic islet cell antibodies [chemistry report]	NO;
2.01	with retinopathy	Stage 1.01-1.03 AND microaneurysms of retinal vessels [ophthalmoscopy report] OR retinal exudates [ophthalmoscopy report] OR retinal hemorrhages [ophthalmoscopy report] OR neovascularization of the retina [ophthalmoscopy report] OR neovascularization of the iris [ophthalmoscopy report] OR rhegmatogenous detachments [ophthalmoscopy report] OR nonrhegmatogenous detachments [ophthalmoscopy report]	DX 25051, 25053; (DX 25051, 25053) + (DX 36100-36107, 3612-3619, 36201-36207, 36214, 36216, 36281-36282, 36442);
2.02	with neuropathy	Stage 1.01-2.01 AND gastroparesis [nuclear or radiology contrast gastric emptying time] OR neuropathy [EMG report or physical examination]	DX 25061, 25063; (DX 25061, 25063) + (DX 3371, 3501-3569, 3572, 3581, 5363);
2.03	with glomerulosclerosis	Stage 1.01-2.02 AND glomerulosclerosis [operative/pathology report] OR Kimmelstiel-Wilson syndrome [operative/pathology report] OR proteinuria:	DX 25041, 25043; (DX 25041, 25043) + (DX 5811, 58181, 5821, 587, 7910);

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: END04

DXCat Label: Diabetes Mellitus Type 1

Etiology: Metabolic

MultiStage: Yes

Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
2.04	with vascular disease (peripheral, cardiovascular, or cerebral)	Stage 1.01-2.03 AND diminished arterial circulation [Doppler report or angiography report] OR foot ulcers OR hypertension: OR angina pectoris: OR cerebrovascular disease [angiography report or LT report or MRI report]	DX 25071, 25073; STAGE 1.02-2.03 + (DX 43300, 43310, 43320, 43330, 43380, 43390, 43400, 43410, 43490, 44381, 70714-70715, 4139 OR DXCAT CVS13) ; (DX 25071, 25073) + (DX 43300, 43320, 43330, 43380, 43390, 43400, 43490, 44381, 70714-70715, 4139 OR DXCAT CVS13);
2.05	with cellulitis	Stage 1.01-2.04 AND cellulitis: area of redness, induration, tenderness and heat with indistinct borders OR purulent skin effusion [skin culture reports showing growth of pathologic organisms]	STAGE 1.02-2.04 + (DX 37313, 37531, 38010-38016, 37601, 4572, 4781, 52800, 52809, 5283, 5285, 566, 6040, 6072, 6084, 6110, 6163-6164, 68100-683, 69589);
2.06	with pyelonephritis	Stage 1.01-2.05 AND pyelonephritis:	STAGE 1.02-2.05 + DX 59000-5909;
2.07	with gangrenous infection	Stage 1.01-2.06 AND gangrene [operative/pathology report]	(DX 25061, 25063, 25071, 25073, 25081, 25083) + DX 7854;
2.08	with osteomyelitis	Stage 1.01-2.07 AND osteomyelitis:	STAGE 1.01-2.07 + GROUP OSTEOMYELIT;
3.01	with renal failure	Stage 1.01-2.08 AND renal failure:	STAGE 1.02-2.08 + (GROUP REN_FAIL_ACU OR GROUP REN_FAIL_CHR);
3.02	with hyperosmolar state	Stage 1.01-3.01 AND serum osmolality \geq 305 mOsm/kg [chemistry report]	DX 25021, 25023;
3.03	with ketoacidosis	Stage 1.01-3.02 AND anion gap acidosis: OR acidosis: AND serum acetone \geq 1 mg/dl [chemistry report] OR b-hydroxybutyrate > 1.0 mg/dl [chemistry report] OR acetoacetate > 1 mg/dl [chemistry report] OR serum acetest positive at > 1:2 dilution [chemistry report]	DX 25011, 25013;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: END04

DXCat Label: Diabetes Mellitus Type 1

Etiology: Metabolic

MultiStage: Yes

Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.04	with acute myocardial infarction	Stage 2.04-3.03 AND acute myocardial infarction [EKG report] OR CPK-MB > normal [CPK isoenzyme report] OR LDH1/LDH2 ratio ≥ 1.0 [LDH isoenzyme report]	STAGE 2.04 + GROUP AMI;
3.05	with acute cerebral vascular accident	Stage 2.04-3.04 AND acute cerebral vascular accident:	(STAGE 2.04, 3.04) + (DX 430, 431, 4320-4321, 4329, 43301, 43311, 43321, 43331, 43381, 43391, 43401, 43411, 43491);
3.06	with sepsis	Stage 2.05-3.05 AND sepsis:	STAGE 1.02-3.05 + GROUP SEPSIS; DX 25081 + GROUP SEPSIS; DX 25083 + GROUP SEPSIS;
3.07	with coma	Stage 2.01-3.06 AND coma:	DX 25031, 25033;
3.08	with hyperosmolar coma	Stage 2.01-3.07 AND coma: AND unresponsive to tactile stimuli	STAGE 3.02 + GROUP COMA;
3.09	with shock	Stage 2.01-3.08 AND shock:	STAGE 3.01-3.08 + (GROUP SHOCKC OR GROUP SHOCKN) ; DX 25081 + (GROUP SHOCKC OR GROUP SHOCKN) ; DX 25083 + (GROUP SHOCKC OR GROUP SHOCKN);
4.00	with death	Stage 2.01-3.09 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: END04

MultiStage: Yes

DXCat Label: Diabetes Mellitus Type 1

Specificity: A

Etiology: Metabolic

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

Anonymous. Report of the Expert Committee on the Diagnosis and Classification of Diabetes Mellitus. <i>Diabetes Care</i> . 2003;26[1]Suppl 1]:S5-20.
Foster DW. Diabetes mellitus. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. <i>Harrison's Principles of Internal Medicine</i> . 14th ed. New York, NY: McGraw-Hill; 1998:2060-81.
Foster DW. Diabetes mellitus. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. <i>Harrison's Principles of Internal Medicine</i> . 14th ed. New York, NY: McGraw-Hill; 1998:2060-81.
Gallichan M. Self monitoring of glucose by people with diabetes: evidence based practice. <i>BMJ</i> . 1997;314(7085):964-947.
Grossman E, Messerli FH. Diabetic and hypertensive heart disease. <i>Annals of Internal Medicine</i> . 1996;125[4]:304-10.
Karam J. Diabetes mellitus and hypoglycemia. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. <i>Current Medical Diagnosis & Treatment</i> . Stamford, CT: Appleton & Lange; 1998:1095-1138.
Unger RH, Foster DW. Diabetes mellitus. In: Wilson JD, Foster DW, eds. <i>Williams Textbook of Endocrinology</i> . 8th ed. Philadelphia, PA: WB Saunders; 1992:1255.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: END05

MultiStage: Yes

DXCat Label: Diabetes Mellitus Type 2, Unspecified Types of Diabetes, and Hyperglycemic States

Specificity: A

Etiology: Metabolic

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Impaired fasting glucose	Glucose > 110 mg/dl and < 126 mg/dl drawn ≥ 8 hours after a meal	DX 79021, 79029;
1.02	Impaired glucose tolerance	2 hour post prandial glucose > 140 and < 200 mg/dl under the World Health Organization protocol for oral glucose tolerance test using 75g anhydrous glucose in water	DX 7902, 79022;
1.03	Asymptomatic diabetes mellitus	Fasting plasma glucose ≥ 126 mg/dl drawn ≥ 8 hours after a meal AND ≥ 24 hours later confirmation by repeat testing OR Casual plasma glucose ≥ 200 mg/dl AND ≥ 24 hours later confirmation by repeat testing OR 2 hour postprandial glucose ≥ 200 mg/dl under the World Health Organization protocol for oral glucose tolerance test using 75g anhydrous glucose in water AND ≥ 24 hours later confirmation by repeat testing OR History of Type 2 Diabetes mellitus	DX 25000, 24900;
1.04	Symptomatic diabetes mellitus	Stage 1.03 AND polyuria OR polydypsia OR polyphagia	DX 25002, 25080, 25082, 25090, 25092, 24901, 24980, 24981, 24990, 24991;
2.01	with retinopathy	Stage 1.03-1.04 AND microaneurysms of retinal vessels [ophthalmoscopy report] OR retinal exudates [ophthalmoscopy report] OR retinal hemorrhages [ophthalmoscopy report] OR neovascularization of the retina [ophthalmoscopy report] OR neovascularization of the iris [ophthalmoscopy report] OR rhegmatogenous detachments [ophthalmoscopy report] OR nonrhegmatogenous detachments [ophthalmoscopy report]	DX 25050, 25052, 24950, 24951; (DX 25050, 25052, 24950, 24951) + (DX 36100-36107, 3612-3619, 36201-36207, 36214, 36216, 36281-36282, 36242); DX 36201-36207, 36641;
2.02	with neuropathy	Stage 1.03-2.01 AND gastroparesis [nuclear or radiology contrast gastric emptying time] OR neuropathy [EMG report or physical examination]	DX 25060, 25062, 24960, 24961; (DX 25060, 25062, 24960, 24961) + (DX 3371, 3501-3569, 3572, 3581, 5363); DX 3572;
2.03	with glomerulosclerosis	Stage 1.03-2.02 Glomerulosclerosis [operative/pathology report] OR Kimmelstiel-Wilson syndrome [operative/pathology report] OR proteinuria:	DX 25040, 25042, 24940, 24941; (DX 25040, 25042, 24940, 24941) + (DX 5811, 58181, 5821, 587, 7910);

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: END05

MultiStage: Yes

DXCat Label: Diabetes Mellitus Type 2, Unspecified Types of Diabetes, and Hyperglycemic States

Specificity: A

Etiology: Metabolic

Stage	Description	Diagnostic findings	ICD-9-CM Codes
2.04	with vascular disease (peripheral, cardiovascular, or cerebral)	Stage 1.03-2.03 OR diminished arterial circulation [Doppler report or angiography report] OR foot ulcers OR hypertension: OR angina pectoris: OR cerebrovascular disease [angiography report or CT report or MRI report]	DX 25070, 25072, 24970, 24971; STAGE 1.04-2.03 + (DX 43300, 43310, 43320, 43330, 43380, 43390, 43400, 43410, 43490, 44381, 70714-70715, 4139 OR DXCAT CVS13) ; (DX 25070, 25072, 24970, 24971) + (DX 43300, 43310, 43320, 43330, 43380, 43390, 43400, 43410, 43490, 44381, 70714-70715, 4139 OR DXCAT CVS13);
2.05	with cellulitis	Stage 1.04-2.04 AND cellulitis: area of redness, induration, tenderness and heat with indistinct borders OR purulent skin effusion [skin culture reports showing growth of pathologic organisms]	STAGE 1.04-2.04 + (DX 37313, 37531, 38010-38016, 37601, 4572, 4781, 52800, 52809, 5283, 5285, 566, 6040, 6072, 6084, 6110, 6163-6164, 68100-6829, 683, 69589);
2.06	with pyelonephritis	Stage 1.03-2.05 AND pyelonephritis	STAGE 1.04-2.05 + DX 59000-5909;
2.07	with gangrenous infection	Stage 1.03-2.06 AND gangrene [operative/pathology report]	(DX 25060, 25062, 25070, 25072, 25080, 25082, 24960, 24961, 24970, 24971, 24980, 24981) + DX 7854;
2.08	with osteomyelitis	Stage 1.03-2.07 AND osteomyelitis:	STAGE 1.04-2.07 + GROUP OSTEOMYELIT;
3.01	with renal failure	Stage 1.03-2.08 AND renal failure:	STAGE 1.04-2.08 + (GROUP REN_FAIL_ACU OR GROUP REN_FAIL_CHR);
3.02	with hyperosmolar state	Stage 1.03-3.01 AND serum osmolality \geq 305 mOsm/kg [chemistry report]	DX 25020, 25022, 24920, 24921;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: END05

MultiStage: Yes

DXCat Label: Diabetes Mellitus Type 2, Unspecified Types of Diabetes, and Hyperglycemic States

Specificity: A

Etiology: Metabolic

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.03	with ketoacidosis	Stage 1.03-3.02 AND anion gap acidosis: OR acidosis: AND serum acetone ≥ 1 mg/dl [chemistry report] OR b-hydroxybutyrate > 1.0 mg/dl [chemistry report] OR acetoacetate > 1 mg/dl [chemistry report] OR serum acetest positive at > 1:2 dilution [chemistry report]	DX 25010, 25012, 24910, 24911;
3.04	with acute myocardial infarction	Stage 2.03-3.03 AND acute myocardial infarction [EKG report] OR CPK-MB > normal [CPK isoenzyme report] OR LDH1/LDH2 ratio ≥ 1.0 [LDH isoenzyme report]	STAGE 2.04 + GROUP AMI;
3.05	with acute cerebral vascular accident	Stage 2.04-3.04 AND AND new intracranial infarction [CT scan or MRI report] OR new intracranial hemorrhage [CT scan or MRI report]	(STAGE 2.04, 3.04) + (DX 430, 431, 4320-4321, 4329, 43301, 43311, 43321, 43331, 43381, 43391, 43401, 43411, 43491);
3.06	with sepsis	Stage 2.05-3.05 AND sepsis:	STAGE 1.04-3.05 + GROUP SEPSIS; DX 25080 + GROUP SEPSIS; DX 25082 + GROUP SEPSIS;
3.07	with coma	Stage 2.01-3.06 AND coma:	DX 25030, 25032, 24930, 24931;
3.08	with hyperosmolar coma	Stage 2.01-3.07 AND coma: AND unresponsive to tactile stimuli	STAGE 3.02 + GROUP COMA;
3.09	with shock	Stage 2.01-3.08 AND shock:	STAGE 3.01-3.08 + (GROUP SHOCKC OR GROUP SHOCKN) ; DX 25080 + (GROUP SHOCKC OR GROUP SHOCKN) ; DX 25082 + (GROUP SHOCKC OR GROUP SHOCKN);
4.00	with death	Stage 2.01-3.09 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: END05

MultiStage: Yes

DXCat Label: Diabetes Mellitus Type 2, Unspecified Types of Diabetes, and Hyperglycemic States

Specificity: A

Etiology: Metabolic

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

Anonymous. Report of the Expert Committee on the Diagnosis and Classification of Diabetes Mellitus. <i>Diabetes Care</i> . 2003;26[1]Suppl 1]:S5-20.
Foster DW. Diabetes mellitus. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. <i>Harrison's Principles of Internal Medicine</i> . 14th ed. New York, NY: McGraw-Hill; 1998:2060-81.
Gallichan M. Self monitoring of glucose by people with diabetes: evidence based practice. <i>BMJ</i> . 1997;314(7085):964-947.
Grossman E, Messerli FH. Diabetic and hypertensive heart disease. <i>Annals of Internal Medicine</i> . 1996;125[4]:304-10.
Karam J. Diabetes mellitus and hypoglycemia. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. <i>Current Medical Diagnosis & Treatment</i> . Stamford, CT: Appleton & Lange; 1998: 1095-1138.
Siperstein MD. Diabetic ketoacidosis and hyperosmolar coma. <i>Endocrinology & Metabolism Clinics of North America</i> . 1992;21(2):415-432.
Unger RH, Foster DW. Diabetes mellitus. In: Wilson JD, Foster DW, eds. <i>Williams Textbook of Endocrinology</i> . 8th ed. Philadelphia, PA: WB Saunders; 1992:1255.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: END06

MultiStage: No

DXCat Label: Goiter: Nontoxic or Euthyroid

Specificity: A

Etiology: Idiopathic

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Euthyroid goiter	Diffuse enlargement of the thyroid gland [thyroid scan report or physical examination] AND free thyroxine index \leq 456 [chemistry report] OR serum t3, triiodothyronine, \leq 256 ng/dl [chemistry report] OR serum t4, thyroxine, \leq 13 ug/dl [chemistry report] AND serum t4 \geq 4 ug/dl [chemistry report] AND serum t3 \geq 75 ng/dl [chemistry report] AND TSH \geq 0.4 uU/ml [chemistry report]	DX 2400-2410, 2419;
1.02	Multinodular goiter	Multinodular enlargement of the thyroid gland [thyroid scan report or physical examination] AND free thyroxine index \leq 456 [chemistry report] OR serum t3, triiodothyronine, \leq 256 ng/dl [chemistry report] OR serum t4, thyroxine, \leq 13 ug/dl [chemistry report] AND serum t4 \geq 4 ug/dl [chemistry report] AND serum t3 \geq 75 ng/dl [chemistry report] AND TSH \geq 0.4 uU/ml [chemistry report]	DX 2411;
2.01	with compression of the trachea or esophagus	Stage 1.01-1.02 AND dysphagia OR dysphonia OR dyspnea OR stridor	STAGE 1.01-1.02 + (DX 5191-51919, 5303, 78449, 78609, 7861, 7872-78729);
3.01	with respiratory failure	Stage 2.01 AND respiratory failure:	STAGE 1.01-2.01 + GROUP RESP_FAIL;
3.02	with shock	Stage 2.01-3.01 AND shock:	STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.01-3.02 AND death	NO;

References:

- Fitzgerald PA. The nodular thyroid. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:1046-1047.
- Larsen PR and Ingbar SH. The thyroid gland. In: Wilson JD, Foster DW, eds. Williams Textbook of Endocrinology. 8th ed. Philadelphia, PA: WB Saunders; 1992:357-488.
- Wartofsky L. Diseases of the thyroid. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:2012-2035.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: END07

DXCat Label: Hyperthyroidism

Etiology: Immune; Metabolic

MultiStage: No

Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Primary Hyperthyroidism	Hyperthyroidism, primary:	DX 24200, 24210, 24220, 24230, 24240, 24280, 24290, 7753;
1.02	Secondary Hyperthyroidism	Hyperthyroidism[nuclear thyroid scan] AND free thyroxine index \geq normal [chemistry report] OR serum free T3 (triiodothyronine) \geq normal [chemistry report] OR serum total T4 (thyroxine) \geq normal [chemistry report] OR serum free T4 \geq normal [chemistry report] AND TSH \geq normal [chemistry report] AND pituitary tumor [CT scan or operative/pathology report]	NO;
2.01	with infiltrating dermopathy	Stage 1.01 AND diffuse thyromegaly AND pretibial erythematous pruritic skin lesion OR increased skin collagen and glycosaminoglycans [biopsy report]	NO;
2.02	with infiltrating ophthalmopathy	Stage 1.01-2.01 AND exophthalmos OR diplopia OR lymphocytic infiltration of extraocular muscles [CT scan report or echography report] OR increased retro-orbital tissue [CT scan or ultrasound report] OR lid lag OR gaze limitation OR conjunctival edema OR corneal exposure	STAGE 1.01 + (DX 3682, 37122, 37273, 3739, 37441, 37863); DX 37621;
2.03	with compressive optic neuropathy	Stage 1.01-2.02 AND vision \leq 20/70 AND central scotomas AND reduced color sensation AND relative afferent pupillary defect	STAGE 1.01-2.02 + (DX 36841, 36851-36855, 36859, 36900-36925, 3694, 36960-3699); DX 37622;
2.04	with atrial fibrillation	Stage 1.01-2.03 AND atrial fibrillation [EKG report]	STAGE 1.01-2.03 + (GROUP ARHYTHM_AFIB OR GROUP ARHYTHM_AFLU);
3.01	with thyroid storm	Stage 1.01-2.04 AND temperature \geq 102°F orally or 102.5°F rectally AND disorientation:	DX 24201, 24211, 24221, 24231, 24241, 24281, 24291;
3.02	with congestive heart failure	Stage 1.01-3.01 AND congestive heart failure:	STAGE 1.01-3.02 + GROUP CHF_NON_HTN;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: END07

MultiStage: No

DXCat Label: Hyperthyroidism

Specificity: A

Etiology: Immune; Metabolic

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.03	with respiratory failure	Stage 3.01-3.02 AND respiratory failure:	STAGE 1.01-3.02 + GROUP RESP_FAIL;
3.04	with coma	Stage 3.01-3.03 AND coma:	STAGE 1.01-3.03 + GROUP COMA;
3.05	with shock	Stage 2.03-3.04 AND shock:	STAGE 1.01-3.04 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.03-3.05 AND death	NO;

References:

- Fitzgerald PA. Hyperthyroidism. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:1051-1057.
- Klein I, Becker DV, Levey GS. Treatment of hyperthyroid disease. Annals of Internal Medicine. 1994;121(4):281-288.
- Lazarus JH. Hyperthyroidism. Lancet. 1997;349(9048):339-343.
- Vanderpump MP, Ahlquist JA, Franklyn JA, Clayton RN. Consensus statement for good practice and audit measures in the management of hypothyroidism and hyperthyroidism. The Research Unit of the Royal College of Physicians of London, the Endocrinology and Diabetes Committee of the Royal College of Physicians of London, and the Society for Endocrinology. BMJ. 1996;313(7056):539-544.
- Wartofsky L. Diseases of the thyroid. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:2012-2035.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: END08

MultiStage: No

DXCat Label: Hypoglycemia

Specificity: B

Etiology: Metabolic; Toxicologic; Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Reactive or other hypoglycemia secondary to meals, abnormal nutrient metabolism, increased glucose utilization, chemicals or drugs, or deficient glucose production	Hypoglycemia AND postgastrectomy history OR idiopathic "functional" hypoglycemia OR late hypoglycemia of maturity onset diabetes mellitus	DX 2512, 7750;
1.02	Hypoglycemia secondary to increased glucose utilization	Hypoglycemia AND exercise induced hypoglycemia OR fever induced hypoglycemia OR pregnancy induced hypoglycemia	DX 2511; DX 2511-2512 + GROUP FEVER;
1.03	Reactive hypoglycemia secondary to abnormal nutrient metabolism	Hypoglycemia AND hereditary fructose intolerance OR fructose-1-phosphate aldolase deficiency OR galactosemia OR galactose-1-phosphate uridyl transferase deficiency OR leucine hypersensitivity OR branch chain ketonuria OR maple syrup urine disease	STAGE 1.01 + (DX 2703, 2711-2713, 2718-2719);
1.04	Reactive hypoglycemia secondary to chemicals or drugs	Hypoglycemia AND exogenous insulin administration OR exogenous insulin administration AND use of beta blocker drugs systemically OR use of oxytetracycline systemically OR use of ethylenediaminetetraacetic acid, systemically OR use of mebanazine systemically OR use of manganese systemically OR use of sulfonylurea systemically OR use of sulfonylurea systemically AND use of sulfisoxazole systemically OR use of dicumarol systemically OR use of phenylbutazone systemically OR use of ethyl alcohol systemically OR use of phenformin systemically OR use of pentamidine systemically OR use of disopyramide systemically OR use of quinine systemically	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: END08

MultiStage: No

DXCat Label: Hypoglycemia

Specificity: B

Etiology: Metabolic; Toxicologic; Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.05	Reactive hypoglycemia secondary to deficient glucose production	Hypoglycemia AND alcoholism OR Jamaican vomiting sickness OR use of salicylate systemically OR use of aminobenzoic acid systemically OR use of haloperidol systemically OR use of propoxyphene systemically OR use of chlorpromazine systemically	NO;
1.06	Hypoglycemia secondary to excessive glucose utilization	Hypoglycemia AND insulinoma (op/path report). OR glucagon deficiency OR cortisol deficiency OR growth hormone deficiency OR epinephrine deficiency OR hypothyroidism. OR neonatal hypoglycemia of diabetic mothers OR erythroblastosis fetalis OR renal glycosuria OR sarcoma induced hypoglycemia (op/path report)	STAGE 1.02 + (DX 1574, 2117, 2533, 2714, 7732, 7750, 7756, 7915 OR DXCAT END09);
1.07	Hypoglycemia secondary to deficient glucose production	Hypoglycemia AND hepatic necrosis (op/path report). OR hepatoma (op/path report). OR glycogen storage disease OR glucose-6-phosphatase deficiency OR fructose-1-6-diphosphatase deficiency OR deficient gluconeogenic substrate alanine OR neoplasm induced hypoglycemia	STAGE 1.02 + (DX 1550, 2115, 2710, 570);
2.01	Symptomatic hypoglycemia	Stage 1.01-1.07 AND feeling faint OR weakness OR tremulousness OR palpitations OR diaphoresis OR nervousness	STAGE 1.01-1.07 + (DX 7802, 78079-7808, 7810, 7851, 7992); STAGE 1.01 + (DX 33372, 33385); STAGE 1.04 + (DX 33372, 33385); STAGE 1.07 + (DX 1550, 2115) + DX 3383;
3.01	Hypoglycemia and loss of consciousness	Stage 2.01 AND loss of consciousness:	STAGE 1.01-2.01 + DX 78009;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: END08

MultiStage: No

DXCat Label: Hypoglycemia

Specificity: B

Etiology: Metabolic; Toxicologic; Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.02	Hypoglycemia and coma	Stage 2.01-3.01 AND coma:	DX 2510; STAGE 1.01-3.01 + GROUP COMA;
3.03	Hypoglycemia with shock	Stage 2.01-3.02 AND shock:	STAGE 1.01-3.02 + GROUP SHOCKA;
4.00	Hypoglycemia with death	Stage 2.01-3.03 AND death	NO;

References:

- Cryer PE. Diabetes mellitus and Hypoglycemia. In: Wilson JD, Foster DW, eds. Williams Textbook of Endocrinology, 8th Ed.
- Foster DW, Rubenstein AH " Hypoglycemia." In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine, 14th Ed. New York: McGraw-Hill, 1998:2081-87.
- Karam J. Diabetes Mellitus and Hypoglycemia. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange,. 1998: 1095-1138.
- Service FJ. Hypoglycemia. Medical Clinics of North America. 1995;79(1):1-8.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: END09

DXCat Label: Hypothyroidism

Etiology: Congenital; Immune

MultiStage: No

Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Asymptomatic primary hypothyroidism	Hypothyroidism:	DX 243, 2449;
1.02	Secondary hypothyroidism	Stage 1.01 TSH ≤ 0.4uU/ml [chemistry report] AND TRH stimulation test positive [TRH stimulation test reports no increase of serum TSH]	DX 2440-2448;
2.01	Symptomatic hypothyroidism	Stage 1.01-1.02 AND macroglossia OR cutaneous myxedema OR carpal tunnel syndrome OR bradycardia: OR periorbital edema OR coarse and dry skin OR personality changes OR hypothermia: OR anemia:	STAGE 1.01-1.02 + (DX 3540, 37633, 7011, 7018 OR GROUP BRADYCARDIA OR GROUP HYPOTHERMIA OR GROUP ANEM_OTH_CHR OR GROUP ANEM_DEF_OTH OR GROUP ANEM_OTH_UN);
2.02	Cretinism	Stage 1.01-2.01 AND Goitrous cretinism	DX 2461;
2.03	with abdominal effusion	Stage 1.01-2.02 AND abdominal effusion [sonogram or flat plate of abdomen report]	STAGE 1.01-2.02 + DX 56882;
2.04	with pericardial or pleural effusion	Stage 1.01-2.03 OR pleural effusion [sonogram or chest x-ray report] OR pericardial effusion [echocardiogram report]	STAGE 1.01-2.03 + (DX 42090, 4233, 4239, 51189-5119);
3.01	with congestive heart failure	Stage 1.01-2.04 AND congestive heart failure:	STAGE 1.01-2.04 + GROUP CHF_NON_HTN;
3.02	with respiratory failure	Stage 3.01 AND respiratory failure:	STAGE 1.01-3.01 + GROUP RESP_FAIL;
3.03	with myxedema madness	Stage 1.01-3.02 AND myxedema madness	STAGE 1.01-3.02 + (DX 2930, 2931, 2989);
3.04	with myxedema coma	Stage 1.01-3.03 AND myxedema coma OR hypothermia: AND seizures	STAGE 1.01-3.03 + GROUP COMA;
3.05	with shock	Stage 1.01-3.04 AND shock:	STAGE 1.01-3.04 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.01-3.03 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: END09

MultiStage: No

DXCat Label: Hypothyroidism

Specificity: A

Etiology: Congenital; Immune

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

Fitzgerald PA. Hypothyroidism and myxedema. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:1049-1051.

Lindsay RS, Toft AD. Hypothyroidism. Lancet. 1997;349(9049):413-417.

Wartofsky L. Diseases of the thyroid. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:2012-2035.

Weetman AP. Hypothyroidism: screening and subclinical disease. BMJ. 1997;314(7088):1175-1178.

Woeber KA. Subclinical thyroid dysfunction. Archives of Internal Medicine. 1997;157(10):1065-1068.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: END10

MultiStage: No

DXCat Label: Monotropic Hormone Deficiency

Specificity: A

Etiology:

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Monotropic hormone deficiency	FSH normal for sex and cycle[chemistry report] AND LH normal for sex and cycle[chemistry report] AND estrogen deficiency for sex [chemistry report] OR testosterone deficiency for sex [chemistry report] OR Serum ACTH < 35 pg/ml [chemistry report] AND serum a.m. cortisol ≤ 4 mg/dl [chemistry report] AND positive cosyntropin stimulation test: at ≥ 60 minute post infusion, serum cortisol is ≤ 2 times baseline serum cortisol level [chemistry report] OR TSH < 7.4uU/ml [chemistry report] AND free T4 ≤ 4 ug/dl [chemistry report] OR growth hormone concentration of < 10 ug/L after insulin induced hypoglycemia of 40 mg/dL [chemistry report]	DX 2537;
2.01	Hypopituitarism with pituitary adenoma	Stage 1.01 AND pituitary adenoma [operative/pathology report or CT scan report] OR Sheehan's syndrome OR empty sella syndrome	STAGE 1.01 + (DX 2273, 2538);
2.02	Hypopituitarism with bilateral hemianopsia	Stage 2.01 AND bilateral hemianopsia OR loss of lateral visual fields on both eyes	STAGE 2.01 + (DX 36846, 36847);
3.01	Panhypopituitarism	FSH normal for sex and cycle [chemistry report] AND LH normal for sex and cycle [chemistry report] AND estrogen deficiency for sex [chemistry report] OR testosterone deficiency for sex [chemistry report] AND Serum ACTH < 35 pg/ml [chemistry report] AND serum a.m. cortisol ≤ 4 mg/dl [chemistry report] AND positive cosyntropin stimulation test: at ≥ 60 minute post infusion, serum cortisol is ≤ 2 times baseline serum cortisol level [chemistry report] AND TSH < 7.4uU/ml [chemistry report] AND free T4 ≤ 4 ug/dl [chemistry report] AND growth hormone concentration of < 10 ug/L after insulin induced hypoglycemia of 40 mg/dL [chemistry report]	DX 2532-2533;
3.02	with shock	Stage 1.01-3.01 AND shock:	STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 1.01-3.02 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: END10

MultiStage: No

DXCat Label: Monotropic Hormone Deficiency

Specificity: A

Etiology:

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

Biller BM, Daniels GH. Neuroendocrine regulation and diseases of the anterior pituitary and hypothalamus. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1972-1999.

Fitzgerald PA. Hypopituitarism. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:1035-1037.

Van den Berghe G, de Zegher F. Anterior pituitary function during critical illness and dopamine treatment. Critical Care Medicine. 1996;24(9):1580-1590.

Vance ML. Hypopituitarism. N Engl J Med. 1994;330(23):1651-1662.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: END11

MultiStage: No

DXCat Label: Neoplasm, Benign: Acromegaly

Specificity: A

Etiology: Congenital; Neoplasm; Metabolic

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Acromegaly	Pituitary adenoma [CT scan, MRI or operative/pathology report] AND gigantism OR acromegaly OR oral glucose suppression test of 100gms shows growth hormone excess > 10ug/L OR serum insulin-like growth factor-1 level > normal for age [chemistry report] OR serum somatomedin C > normal for age[chemistry report]	DX 2530;
1.02	with osteoarthritis or carpal tunnel syndrome	Stage 1.01 AND osteoarthritis [joint x-ray report] OR carpal tunnel syndrome	STAGE 1.01 + (DXCAT MUS34 OR DX 3383, 3540);
2.01	with hypertension	Stage 1.01-1.02 AND hypertension:	STAGE 1.01-1.02 + DXCAT CVS13;
2.02	with diabetes mellitus	Stage 1.01-2.01 AND diabetes mellitus:	STAGE 1.01-2.01 + (DXCAT END04 OR DXCAT END05);
2.03	with thyroid dysfunction	Stage 1.01-2.02 AND hyperthyroidism: OR hypothyroidism:	STAGE 1.01-2.02 + (DXCAT END07 OR DXCAT END09);
3.01	with myocardial infarction	Stage 1.01-2.03 AND acute myocardial infarction:	STAGE 1.01-2.03 + GROUP AMI;
3.02	with congestive heart failure	Stage 1.01-3.01 AND congestive heart failure:	STAGE 1.01-3.01 + (GROUP CHF_HTNIVE OR GROUP CHF_NON_HTN);
3.03	with new cerebrovascular accident	Stage 1.01-3.02 AND new intracranial infarction [CT scan or MRI report] OR new intracranial hemorrhage [CT scan or MRI report]	STAGE 1.01-3.02 + (DX 430-4329, 43301, 43311, 43321, 43331, 43381, 43391, 43401, 43411, 43491, 436);
3.04	with sepsis	Stage 3.01-3.03 AND sepsis:	STAGE 3.03 + GROUP SEPSIS;
3.05	with respiratory failure	Stage 3.01-3.03 AND respiratory failure:	STAGE 1.01-3.04 + GROUP RESP_FAIL;
3.06	with shock	Stage 1.01-3.04 AND shock:	STAGE 1.01-3.05 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.1-3.5 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: END11

MultiStage: No

DXCat Label: Neoplasm, Benign: Acromegaly

Specificity: A

Etiology: Congenital; Neoplasm; Metabolic

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

- | |
|---|
| Anonymous. Consensus statement: benefits versus risks of medical therapy for acromegaly. Acromegaly Therapy Consensus Development Panel. American Journal of Medicine. 1994;97(5):468-473. |
| Biller BMK, Daniels GH. Neuroendocrine regulation and diseases of the anterior pituitary and hypothalamus. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1972-1999. |
| Fitzgerald PA. Acromegaly and gigantism. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:1039-1041. |
| Lamberts SW, van der Lely AJ, de Herder WW, Hofland LJ. Octreotide. N Engl J Med. 1996;334(4):246-254. |
| Melmed S, Ho K, Klibanski A, Reichlin S, Thorner M. Journal of Clinical Endocrinology & Metabolism. 1995;80(12):3395-4023. |
| Silverman BL, Friedlander JR. Is growth hormone good for the heart? Journal of Pediatrics. 1997;131(1 Pt 2):S70-S74. |

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: END12

MultiStage: No

DXCat Label: Neoplasm, Benign: Adenoma, Parathyroid, or Hyperparathyroidism

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Single parathyroid adenoma or hyperparathyroidism	Hypercalcemia: AND parathyroid hormone levels \geq than normal [chemistry report] OR parathyroid adenoma [thallium 201-technetium 99m subtraction scan or operative/pathology report]	DX 2271, 2520-25208;
1.02	Multiple parathyroid adenomas	More than one parathyroid adenoma [thallium 201-technetium 99m subtraction scan or operative/pathology report]	NO;
2.01	with clinical manifestations	Stage 1.01-1.02 AND hypertension: OR fatigue OR arthralgia OR epigastric pain OR constipation OR nausea OR polydypsia OR polyuria OR "clubbing" of fingers or toes OR nephrolithiasis [IVP or sonogram report] OR osteoporosis: OR hypercalciuria	STAGE 1.01 + (DX 3383, 52462, 56400, 56409, 5920, 71940-71949, 78079, 7815, 7835, 78701-78702, 78842, 78900-78907, 78909 OR GROUP HYPR_CALCUIR OR DXCAT MUS38);
3.01	with renal failure	Stage 1.01-2.01 AND renal failure:	STAGE 1.01-2.01 + GROUP REN_FAIL_ACU;
3.02	with coma	Stage 1.01-3.01 AND coma:	STAGE 1.01-3.01 + GROUP COMA;
3.03	with shock	Stage 2.01-3.02 AND shock:	STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.01-3.03 AND death	NO;

References:

al Zahrani A, Levine MA. Primary hyperparathyroidism. *Lancet*. 1997;349(9060):1233-1238.

Chan FK, Koberle LM, Thys-Jacobs S, Bilezikian JP. Differential diagnosis, causes, and management of hypercalcemia. *Current Problems in Surgery*. 1997;34(6):445-523.

Fitzgerald PA. Hyperparathyroidism. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. *Current Medical Diagnosis & Treatment*. Stamford, CT: Appleton & Lange; 1998:1064-1067.

Potts Jr JT. Diseases of the parathyroid gland and other hyper and hypocalcemic disorders. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. *Harrison's Principles of Internal Medicine*. 14th ed. New York, NY: McGraw-Hill; 1998:2227-2247.

Shen W, Duren M, Morita E, Higgins C, Duh QY, Siperstein AE, Clark OH. Reoperation for persistent or recurrent primary hyperparathyroidism. *Archives of Surgery*. 1996;131(8):861-7.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: END13

MultiStage: No

DXCat Label: Neoplasm, Benign: Primary Hyperaldosteronism

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Primary hyperaldosteronism or Conn's syndrome	Hyperaldosteronism: AND hyporeninemia: AND Adenoma of the adrenal cortex [iodocholesterol adrenal scan or operative/pathology report or CT scan of pelvis report or MRI of pelvis report] OR multiple hyperplasia of the adrenal cortex [iodocholesterol adrenal scan or operative/pathology report or CT scan of pelvis report or MRI of pelvis report] OR bilateral hyperplasia of the adrenal cortex [iodocholesterol adrenal scan or operative/pathology report or CT scan of pelvis report or MRI of pelvis report]	DX 2551-25512, 25514;
2.01	with hypernatremia or hyperchloremia or hypokalemia or alkalosis	Stage 1.01 AND hypernatremia: OR hyperchloremia: OR hypokalemia: OR alkalosis:	STAGE 1.01 + (GROUP HYPR_NATREM OR GROUP HYPR_CHLOREM OR GROUP HYPOKALEMIA OR GROUP ALKALOSIS); DX 25513;
2.02	with paresthesia or weakness	Stage 1.01-2.01 AND paresthesia OR weakness	STAGE 1.01-2.01 + (DX 3383, 78079, 7820);
2.03	with tetany	Stage 1.01-2.02 AND tetany	STAGE 1.01-2.02 + DX 7817;
2.04	with ventricular ectopy	Stage 1.01-2.03 AND ventricular ectopy [EKG report]	STAGE 1.01-2.03 + DX 42769;
3.01	with renal failure	Stage 2.01-2.04 AND renal failure:	STAGE 1.01-2.04 + GROUP REN_FAIL_ACU;
3.02	with shock	Stage 2.01-3.01 AND shock:	STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 1.01-3.02 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: END13

MultiStage: No

DXCat Label: Neoplasm, Benign: Primary Hyperaldosteronism

Specificity: A

Etiology: Neoplasm

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

Fitzgerald PA. Primary hyperaldosteronism. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:1079-1080.

Fitzgerald PA. Primary hyperaldosteronism. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:1079-1080.

Kaplan NM. Endocrine hypertension. In: Wilson JD, Foster DW, eds. Williams Textbook of Endocrinology. 8th ed. Philadelphia, PA: WB Saunders; 1992:707-732.

White PC. Disorders of aldosterone biosynthesis and action. N Engl J Med. 1994;331(4):250-258.

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Zimmerman RS. Hormonal and humeral considerations in hypertensive disease. Medical Clinics of North America. 1997;81(5):1213-1230.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: END14

MultiStage: No

DXCat Label: Neoplasm, Malignant: Thyroid

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	History of thyroid carcinoma		DX V1087;
1.01	Thyroid adenoma	Thyroid adenoma(s) [operative/pathology report]	DX 193;
1.02	Papillary thyroid carcinoma ≤ 1.05 cm in diameter	Papillary thyroid carcinoma ≤ 1.5 cm in diameter [operative/pathology report]	NO;
1.03	Papillary thyroid carcinoma > 1.05 cm in diameter	Papillary thyroid carcinoma > 1.5 cm in diameter [per operative/pathology report]	NO;
2.01	Follicular thyroid carcinoma	Follicular thyroid carcinoma [operative/pathology report]	NO;
2.02	Medullary carcinoma of the thyroid	Medullary carcinoma of the thyroid [operative/pathology report]	NO;
2.03	Anaplastic carcinoma of the thyroid	Anaplastic carcinoma of the thyroid [operative/pathology report]	NO;
2.04	with involvement of regional lymph nodes	Stage 1.02-1.05 AND carcinoma of the thyroid in lymph nodes of the neck [operative/pathology report]	STAGE 1.01 + DX 1960;
3.01	with distant metastasis	Stage 1.02-2.01 AND carcinoma of the thyroid beyond the confines of the neck [operative/pathology report]	STAGE 1.01-2.04 + (DX 3383, 1961, 1962, 1963, 1965, 1966, 1968, 1969, 1970-1991, 78951);
3.02	with shock	Stage 1.03-3.01 AND shock:	STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 1.02-3.02 AND death	NO;

References:

- Fitzgerald PA. Thyroid cancer. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:1057-1059.
- Giuffrida D, Gharib H. Controversies in the management of cold, hot, and occult thyroid nodules. American Journal of Medicine. 1995;99(6):642-650.
- Heshmati HM, Gharib H, van Heerden JA, Sizemore GW. Advances and controversies in the diagnosis and management of medullary thyroid carcinoma. American Journal of Medicine. 1997;103(1):60-69.
- Schlumberger MJ. Medical progress: papillary and follicular thyroid carcinoma. New Engl J Med. 1998;338(5):297-306.
- Wartofsky L. Diseases of the thyroid. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:2012-2035.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: END15

MultiStage: No

DXCat Label: Neoplasm: Pheochromocytoma

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Adrenal pheochromocytoma	Adrenal pheochromocytoma [operative/pathology report] <u>Presumptive Diagnostic Findings:</u> total urinary metanephrines \geq 2.2 ug/mg creatinine/24 hrs. OR urinary VMA \geq 5.5 ug/mg creatinine/24 hrs. OR pheochromocytoma [metaiodobenzylguanidine scintiscan report] AND paroxysmal headache OR paroxysmal palpitations OR paroxysmal profuse sweating	DX 1940;
1.02	Extra-adrenal pheochromocytoma	Celiac pheochromocytoma [operative/pathology report] OR superior mesenteric pheochromocytoma [operative/pathology report] OR inferior mesenteric pheochromocytoma [operative/pathology report] OR urinary bladder pheochromocytoma [operative/pathology report] OR sympathetic ganglia pheochromocytoma [operative/pathology report] OR extracranial branches of IX or X cranial nerve pheochromocytoma [operative/pathology report] <u>Presumptive Diagnostic Findings:</u> total urinary metanephrines \geq 2.2 ug/mg creatinine/24 hrs. OR urinary VMA \geq 5.5 ug/mg creatinine/24 hrs. OR pheochromocytoma [metaiodobenzylguanidine scintiscan report] AND paroxysmal headache OR paroxysmal palpitations OR paroxysmal profuse sweating	DX 1580-1588, 1710-1719;
1.03	with hypertension	Stage 1.01-1.02 AND hypertension:	STAGE 1.01-1.02 + GROUP HYPERTENSION;
2.01	with impaired glucose tolerance	Stage 1.01-1.02 AND impaired glucose tolerance OR 2 hour post prandial glucose > 140 and < 200 mg/dl under the World Health Organization protocol for oral glucose tolerance test using 75g anhydrous glucose in water	STAGE 1.01-1.03 + DX 7902-79029;
2.02	with bundle branch block	Stage 1.01-2.01 AND right bundle branch block [EKG report] OR left bundle branch block [EKG report] OR interventricular conduction defect [EKG report]	STAGE 1.01-2.01 + GROUP COND_BBBS;
2.03	with supraventricular tachyarrhythmias or ventricular ectopy	Stage 1.01-2.02 AND supraventricular tachyarrhythmias [EKG report] OR ventricular ectopy [EKG report]	STAGE 1.01-2.02 + (DX 4270-4272, 42741-42742, 42761, 42769);

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: END15

MultiStage: No

DXCat Label: Neoplasm: Pheochromocytoma

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
2.04	with angina pectoris	Stage 1.01-2.03 AND angina pectoris:	STAGE 1.01-2.03 + (DX 3383, 4111, 4139);
2.05	with cardiomyopathy	Stage 1.01-2.04 AND cardiomyopathy [EKG report]	STAGE 1.01-2.04 + (DX 4250-4254, 4257-4259);
3.01	with myocardial infarction	Stage 1.01-2.05 AND acute myocardial infarction:	STAGE 1.01-2.05 + GROUP AMI;
3.02	with congestive heart failure	Stage 1.01-3.01 AND congestive heart failure:	STAGE 1.01-3.01 + GROUP CHF_NON_HTN;
3.03	with shock	Stage 1.01-3.02 AND shock:	STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 1.01-3.03 AND death	NO;

References:

Eng C. Seminars in medicine of the Beth Israel Hospital, Boston. The RET proto-oncogene in multiple endocrine neoplasia type 2 and Hirschsprung's disease. N Engl J Med. 1996;335(13):943-951.

Fitzgerald PA. Pheochromocytoma. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:1080-1083.

Landsberg L, Young JB. "Pheochromocytoma. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:2057-2060.

Young WF Jr, Maddox DE. Spells: in search of a cause. Mayo Clinic Proceedings. 1995;70(8):757-765.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: END16

DXCat Label: Primary Amyloidosis

Etiology: Idiopathic

MultiStage: No

Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Amyloidosis	Primary amyloidosis [operative/pathology report]	DX 2773-27739;
2.01	with hepatosplenomegaly	Stage 1.01 AND hepatomegaly [physical examination or liver/spleen scan or CT scan or MRI report] OR splenomegaly [physical examination or liver/spleen scan or CT scan or MRI report]	STAGE 1.01 + (DX 5718, 7891-7892);
2.02	with nephrotic syndrome	Stage 1.01-2.01 AND hypoalbuminemia: AND urine protein > 3 gm/24 hrs [urine chemistry report]	STAGE 1.01-2.01 + DX 58381; STAGE 1.01-2.01 + GROUP HYPOALBUMIN + DX 7910;
2.03	with pulmonary involvement	Stage 1.01-2.02 AND pulmonary amyloidosis [operative/pathology report or biopsy report]	STAGE 1.01-2.02 + DX 5178;
2.04	with intestinal obstruction	Stage 1.01-2.03 AND large bowel obstruction [KUB x-ray report or operative/pathology report] OR small bowel obstruction [KUB x-ray report or operative/pathology report]	STAGE 1.01-2.03 + (DX 5373, 56089, 5609);
3.01	Amyloidosis of the heart	Stage 1.01-2.04 AND cardiac amyloidosis [echocardiogram report]	STAGE 1.01-2.04 + DX 4257;
3.02	with renal failure	Stage 2.01-3.01 AND renal failure:	STAGE 1.01-3.01 + GROUP REN_FAIL_ACU;
3.03	with congestive heart failure	Stage 3.01 AND congestive heart failure:	STAGE 1.01-3.02 + GROUP CHF_NON_HTN;
3.04	with respiratory failure	Stage 2.01-3.03 AND respiratory failure:	STAGE 1.01-3.03 + GROUP RESP_FAIL;
3.05	with shock	Stage 2.01-3.04 AND shock:	STAGE 1.01-3.04 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.01-3.05 AND death	NO;

References:

- Adelman DC, Terr A. Amyloidosis. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:750-751.
- Falk RH, Comenzo RL, Skinner M. The systemic amyloidoses. N Engl J Med. 1997;337(13):898-909.
- Kushwaha SS, Fallon JT, Fuster V. Restrictive cardiomyopathy. N Engl J Med. 1997;336(4):267-276.
- Sipe JD, Cohen AS. Amyloidosis. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1856-1860.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: END17
 DXCat Label: Thyroiditis
 Etiology: Immune; Infection

MultiStage: No
 Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Silent thyroiditis	Thyromegaly AND elevated erythrocyte sedimentation rate, ESR [hematology report] AND hyperthyroidism: AND low thyroid uptake of radioiodine [nuclear medicine report]	DX 2458-2459;
1.02	Subacute thyroiditis	Acute onset of neck pain or sore throat AND thyromegaly AND elevated erythrocyte sedimentation rate, ESR [hematology report] AND hyperthyroidism: AND low thyroid uptake of radioiodine [nuclear medicine report]	DX 2450-2451, 2454;
1.03	Hashimoto's thyroiditis or chronic lymphocytic thyroiditis	Lymphocytic infiltration of the thyroid [operative/pathology report] AND low thyroid uptake of radioiodine [nuclear medicine report] AND thyromegaly AND positive anti-thyroidglobin antibodies [serology report] OR positive anti-thyroid peroxidase antibodies [serology report] OR positive anti-thyroid microsomal antibodies [serology report]	DX 2452;
1.04	Thyroiditis with hypothyroidism	Stage 1.01-1.03 OR history of thyroiditis AND hypothyroidism:	STAGE 1.01-1.03 + DXCAT END15;
1.05	Riedel's thyroiditis	Stony hard thyromegaly AND dysphagia OR dyspnea OR hoarseness OR chronic fibrous thyroiditis [operative/pathology report]	DX 2453;

References:

Fitzgerald PA. Thyroiditis. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:344-353.

Walfish PG. Thyroiditis. Current Therapy in Endocrinology & Metabolism. 1997;6:117-122.

Wartofsky L. Diseases of the thyroid. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:2012-2035.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: END18

DXCat Label: Vitamin D Deficiency

Etiology: Metabolic; Nutritional

MultiStage: No

Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00			NO;
1.01	Vitamin D deficiency	25-(OH)D ₃ ≤ 21 ng/ml [chemistry report] OR 1,25-(OH) ₂ D ₃ < 14 ng/ml [chemistry report]	DX 2689;
2.01	with rickets or osteoporosis or osteomalacia	Stage 1.01 AND rickets [skeletal x-ray report] OR osteoporosis: OR osteomalacia [x -ray report]	DX 267, 2680, 2700; (STAGE 1.01 OR DX 267, 2680, 2700, 2753) + (DX 2682, 5790, 5880, 73300, 73302, 73309, 7564);
2.02	with pathologic fractures	Stage 1.01-2.01 AND fracture of bones without history of trauma	DX 2681; STAGE 1.01-2.01 + (DX 73310- 73316, 73319);
2.03	with hypocalcemia	Stage 1.01-2.02 AND hypocalcemia:	STAGE 1.01-2.02 + GROUP HYPOCALCEMIA;
2.04	with rachitic tetany	Stage 1.01-2.03 AND tetany OR Chvostek's sign OR Trousseau's sign	STAGE 1.01-2.03 + DX 7817;
3.01	with respiratory failure	Stage 1.01-2.04 AND respiratory failure:	STAGE 1.01-2.04 + GROUP RESP_FAIL;
3.02	with shock	Stage 2.01-3.01 AND shock:	STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.01-3.02 AND death	NO;

References:

Aurbach GD, Marx SJ, Spiegel AM. Parathyroid hormone, calcitonin and the calciferols. In: Williams Textbook of Endocrinology. Wilson JD, Foster DW, eds. 8th ed. Philadelphia, PA: WB Saunders; 1992:1397-1476.

Baron RB. Nutrition. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:1150-1180.

Krane SM, Holick MF. Metabolic bone disease. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:2247-2259.

Thomas MK, Lloyd-Jones DM, Thadhani RI, Shaw AC, Deraska DJ, Kitch BT, Vamvakas EC, Dick IM, Prince RL, Finkelstein JS. Hypovitaminosis D in medical inpatients. N Engl J Med. 1998; 338 (12) 777.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: END80

MultiStage: No

DXCat Label: Neoplasm, Benign: Other Endocrine System

Specificity: A

Etiology:

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Benign neoplasm of endocrine system		DX 226, 2270, 2273-2279, 2370-2374, 2397;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: END81

MultiStage: No

DXCat Label: Neoplasm, Malignant: Other Endocrine System

Specificity: A

Etiology:

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Primary malignant neoplasm of parathyroid, pituitary, pineal gland and other endocrine structures		DX 1941-1949, 20930;
2.01	with lymph node involvement		STAGE 1.01 + DX 1960-1969;
2.02	with anemia of neoplastic disease		STAGE 1.01-2.01 + DX 28522;
3.01	with distant metastases		STAGE 1.01-2.02 + DX 1970-1991;
3.02	with shock		STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: END82

MultiStage: No

DXCat Label: Other Endocrine Disorders

Specificity: C

Etiology:

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Other disorders of thyroid, parathyroid, pituitary and other endocrine functions		DX 2460, 2462-2469, 2513-2519, 2521-2529, 2531, 2534, 2536, 2538-2539, 2540-2549, 2553, 2556-2599, 7945-7946;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: ENT01

MultiStage: No

DXCat Label: Cholesteatoma

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Cholesteatoma localized to middle ear space	Cholesteatoma localized to middle ear space [operative/pathology report]	DX 38332, 38530, 38532;
1.02	Cholesteatoma lateral to ossicles	Cholesteatoma Lateral to ossicles [operative/pathology report]	NO;
1.03	Cholesteatoma medial to ossicles	Cholesteatoma medial to ossicles [operative/pathology report]	NO;
1.04	with erosion into attic	Cholesteatoma with erosion into the attic [operative/pathology report]	DX 38531;
1.05	with erosion into mastoid	Cholesteatoma with erosion into the mastoid [operative/pathology report]	DX 38533, 38535;
2.01	with facial nerve paralysis	Stage 1.01-1.05 AND paralysis of one or both sides of the face	STAGE 1.01-1.05 + DX 3510;
2.02	with labyrinthitis	Stage 1.01-2.01 AND spontaneous vertigo OR spontaneous nystagmus	STAGE 1.01-2.01 + DXCAT ENT08;

References:

Albino AP, Kimmelman CP, Parisier SC. Cholesteatoma: a molecular and cellular puzzle. *American Journal of Otology*. 1998;19(1):7-19.

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Durand M, Joseph M, Baker AS. Infections of the upper respiratory tract. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. *Harrison's Principles of Internal Medicine*. 14th ed. New York, NY: McGraw-Hill; 1998:179-185.

Durand M, Joseph M, Baker AS. Infections of the upper respiratory tract. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. *Harrison's Principles of Internal Medicine*. 14th ed. New York, NY: McGraw-Hill; 1998:179-185.

Jackler RK, Kaplan MJ. Ear, nose and throat. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. *Current Medical Diagnosis & Treatment*. Stamford, CT: Appleton & Lange; 1998:220-221.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: ENT02

MultiStage: No

DXCat Label: Deviated Nasal Septum

Specificity: A

Etiology: Congenital; Trauma

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Deviated nasal septum with mild obstruction of one nasal cavity	Deviated nasal septum with mild obstruction of one nasal cavity	DX 470, 7540;
1.02	with mild obstruction of both nasal cavities	with mild obstruction of both nasal cavities [nasal exam or CT scan report]	NO;
1.03	with moderate obstruction of both nasal cavities	with moderate obstruction of both nasal cavities [nasal exam or CT scan report]	NO;
1.04	severe obstruction of one nasal cavity	with severe obstruction of one nasal cavity [nasal exam or CT scan report]	NO;
1.05	severe obstruction of both nasal cavities	with severe obstruction of both nasal cavities [nasal exam or CT scan report]	NO;
1.06	with sinusitis*	Stage 1.01-1.05 AND mucopurulent rhinitis OR facial pressure	STAGE 1.01 + DXCAT ENT21;

References:

Bomer KV, Naclerio RM. Embryology, Anatomy, and Physiology of the Upper Airway. In Middleton: Allergy: Principles and Practice, 5th ed., 1998, Mosby-Year Book, Inc. p. 544-560.

Seidman, MD, Simpson GT, Khan MJ. Otolaryngology. In Noble: Textbook of Primary Care Medicine, 3rd ed., 2001 Mosby, Inc. p.1744-1753.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: ENT03

DXCat Label: Diphtheria

Etiology: Infection, Bacterial

MultiStage: No

Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	Screening for diphtheria		DX V743;
1.01	Carrier or suspected carrier state	Carrier or suspected carrier state of diphtheria	DX V024;
1.02	Cutaneous or nasal diphtheria	Deep punched out skin ulcers with fibrinopurulent membrane growing <i>Corynebacterium diphtheriae</i> [skin culture report] OR serosanguinous mucopurulent nasal discharge growing <i>Corynebacterium diphtheriae</i> [culture report] OR diphtheria conjunctivitis [conjunctival culture report]	DX 0322, 03281, 03285-0329;
2.01	of the pharynx or larynx or vagina or eye or bladder	Culture reports growth of <i>Corynebacterium diphtheriae</i> from cultured lesions [culture report] AND Tenacious gray membrane on tonsils and pharyngeal walls with narrow erythematous zone and wide edematous regions from pharynx or larynx OR vaginitis OR endophthalmitis	DX 0320-0321, 0323, 03284; STAGE 1.02 + (DX 36000-36001, 61610);
2.02	with toxic neuritis	Stage 1.02-2.01 AND ophthalmoplegia OR dysphagia OR diplopia OR generalized weakness OR dyspnea	STAGE 1.02-2.01 + (DX 3573, 36815, 3682, 37822, 37852, 37855-37856, 37872, 37881, 37886, 3789, 78079, 78609, 7872-78729);
2.03	with hypoxia and progressive laryngeal or pharyngeal edema	Stage 1.02-2.02 AND hypoxemia: OR laryngeal edema OR pharyngeal edema	STAGE 1.02-2.02 + (DX 47825, 4786 OR GROUP HYPOXEMIA);
2.04	with peritonitis	Stage 1.02-2.03 AND peritonitis	DX 03283;
3.01	with myocarditis	Stage 1.02-2.03 AND myocarditis:	DX 03282;
3.02	with congestive heart failure	Stage 1.02-3.01 AND congestive heart failure:	STAGE 1.02-3.01 + GROUP CHF_NON_HTN;
3.03	with respiratory failure	Stage 1.02-3.02 AND respiratory failure:	STAGE 1.02-3.02 + GROUP RESP_FAIL;
3.04	with shock	Stage 1.02-3.03 AND shock:	NO;
4.00	with death	Stage 2.01-3.03 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: ENT03

MultiStage: No

DXCat Label: Diphtheria

Specificity: A

Etiology: Infection, Bacterial

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

Begg N, Balraj V. Diphtheria: are we ready for it? Archives of Disease in Childhood. 1995;73(6):568-72.

Chambers, HF. Infectious diseases: bacterial and rickettsial/tetanus. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:1278-1279.

Hardy IR, Dittmann S, Sutter RW. Current situation and control strategies for resurgence of diphtheria in newly independent states of the former Soviet Union Lancet. 1996;347(9017):1739-44.

Holmes, RK. Diphtheria, other corynebacterial infections, and anthrax. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:892-899.

Long, SS. Diphtheria. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:775-779.

Ogle, JW. Infections: bacterial and spirochetal/diphtheria. In: Hay WW, Groosthous JR, Hayward AR, Levin MJ, eds. Current Pediatric Diagnosis and Treatment. 13th ed. Stamford, CT: Appleton & Lange; 1997:1024-1025.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: ENT04

MultiStage: No

DXCat Label: Foreign Body: Nasopharynx, Throat or Bronchus

Specificity: A

Etiology: Trauma

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Foreign body in larynx or trachea or bronchus	Foreign body in larynx or trachea or bronchus [laryngoscopy report or bronchoscopy report]	DX 931-9349, 9350;
1.02	with hoarseness	Stage 1.01 AND hoarseness	STAGE 1.01 + (DX 78449, 33811, 33821);
1.03	with wheezing	Stage 1.01-1.02 AND wheezing	STAGE 1.01-1.02 + DX 78607;
1.04	with bronchitis	Stage 1.01-1.03 AND bronchitis	STAGE 1.01-1.03 + (DX 4660, 490);
2.01	with atelectasis	Stage 1.01-1.04 AND atelectasis [chest x-ray report]	STAGE 1.01-1.04 + DX 5180;
2.02	with pulmonary abscess	Stage 1.01-2.01 AND pulmonary abscess [chest x-ray report or CT scan report]	STAGE 1.01-2.01 + DX 5130;
2.03	with hypoxemia	Stage 1.01-2.02 AND hypoxemia:	STAGE 1.01-2.02 + GROUP HYPOXEMIA;
2.04	with mediastinitis	Stage 1.01-2.04 AND mediastinitis [CT scan report]	STAGE 1.01-2.03 + DX 5192;
2.05	with stridor	Stage 1.01-2.04 AND stridor	STAGE 1.01-2.04 + DX 7861;
3.01	with respiratory failure	Stage 1.10-2.05 AND respiratory failure:	STAGE 1.01-2.05 + GROUP RESP_FAIL;
3.02	with sepsis	Stage 1.01-3.01 AND sepsis:	STAGE 1.02-3.01 + GROUP SEPSIS;
4.00	with death	Stage 1.01-3.02 AND death	NO;

References:

Seidman, MD, Simpson GT, Khan MJ. Otolaryngology. In Noble: Textbook of Primary Care Medicine, 3rd ed., 2001 Mosby, Inc. p.1750-1753.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: ENT05

MultiStage: No

DXCat Label: Hearing Loss due to Acoustic Trauma

Specificity: A

Etiology: Trauma

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Unilateral mild hearing loss secondary to acoustic trauma	Hearing threshold > 21dB [audiogram report] AND hearing threshold ≤ 40 dB [audiogram report]	DX 38810-38812;
1.02	Bilateral mild hearing loss secondary to acoustic trauma	Stage 1.01 AND involving both ears	STAGE 1.01 + DX 31534;
1.03	Mild hearing loss secondary to acoustic trauma with tinnitus	Stage 1.01-1.02 AND tinnitus	STAGE 1.01 + DX 38830-38832;
1.04	Moderate hearing loss secondary to acoustic trauma	Hearing threshold > 41dB [audiogram report] AND hearing threshold ≤ 56 dB [audiogram report]	NO;
1.05	Bilateral moderate hearing loss secondary to acoustic trauma with tinnitus	Stage 1.04 AND involving both ears	NO;
1.06	Moderate hearing loss secondary to acoustic trauma with tinnitus	Stage 1.04-1.05 AND tinnitus	NO;
1.07	Moderately severe hearing loss secondary to acoustic trauma	Hearing threshold > 56dB [audiogram report] AND hearing threshold ≤ 70 dB [audiogram report]	NO;
1.08	Bilateral moderately severe hearing loss secondary to acoustic trauma	Stage 1.07 AND involving both ears	NO;
1.09	Moderately severe hearing loss secondary to acoustic trauma with tinnitus	Stage 1.07-1.08 AND tinnitus	NO;
1.10	Severe hearing loss secondary to acoustic trauma	Hearing threshold > 71 [audiogram report] AND hearing threshold ≤ 90 dB [audiogram report]	NO;
1.11	Bilateral severe hearing loss secondary to acoustic trauma	Stage 1.10 AND involving both ears	NO;
1.12	Severe hearing loss secondary to acoustic trauma with tinnitus	Stage 1.10-1.11 AND tinnitus	NO;
1.13	Profound hearing loss secondary to acoustic trauma	Hearing threshold > 91 dB [audiogram report]	NO;
1.14	Bilateral profound hearing loss secondary to acoustic trauma	Stage 1.13 AND involving both ears	NO;
1.15	Profound hearing loss secondary to acoustic trauma with tinnitus	Stage 1.14-1.15 AND tinnitus	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: ENT05

MultiStage: No

DXCat Label: Hearing Loss due to Acoustic Trauma

Specificity: A

Etiology: Trauma

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

Callanan V, O'Connor AF. Otolaryngology. Making the deaf hear and the dumb speak. *Lancet*. 1996;348 Suppl 2:s1119.

Jackler RK, Kaplan MJ. Ear, nose and throat. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. *Current Medical Diagnosis & Treatment*. Stamford, CT: Appleton & Lange; 1998:1223:215-216.

Snow JB, Martin JB. Disorders of smell, taste, and hearing. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. *Harrison's Principles of Internal Medicine*. 14th ed. New York, NY: McGraw-Hill; 1998:173-179.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: ENT06

MultiStage: No

DXCat Label: Hearing Loss due to Aminoglycosides

Specificity: A

Etiology: Toxicologic

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	with minimum hearing loss	History of aminoglycoside use AND sensorineural hearing loss at 4 kHz [audiometry report]	(DX 31534, 38910-38922) + DX E9306;
1.02	with mild hearing loss	Stage 1.01 AND sensorineural hearing loss at 2 kHz and 8 kHz [audiometry report]	NO;
1.03	with tinnitus	Stage 1.01-1.02 AND tinnitus	STAGE 1.01 + DX 38830-38832;
2.01	with high frequency deafness	History of aminoglycoside use AND deaf at 4 kHz and 8 kHz [audiometry report]	NO;
2.02	with high and midrange frequency deafness	Stage 2.01 AND deaf at 2 kHz [audiometry report]	NO;
2.03	with high and midrange frequency deafness and tinnitus	Stage 2.02 AND tinnitus	NO;

References:

Minor LB. Gentamicin-induced bilateral vestibular hypofunction. *JAMA*. 1998;279(7):541-4, 1998.

Richard A, Jacobs RA, Guglielmo BJ. Anti-infective chemotherapeutic & antibiotic agents. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. *Current Medical Diagnosis & Treatment*. Stamford, CT: Appleton & Lange; 1998:1421-1424.

Snow JB, Martin JB. Disorders of smell, taste, and hearing. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. *Harrison's Principles of Internal Medicine*, 14th ed. New York, NY: McGraw-Hill; 1998:173-179.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: ENT07

MultiStage: No

DXCat Label: Hearing Loss due to Otosclerosis

Specificity: A

Etiology: Degenerative

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Otosclerosis	Ankylosis of the stapes by overgrowth of bone or otosclerosis [operative/pathology report] OR history of hearing loss beginning in third decade of life AND normal tympanic membrane AND conductive hearing loss [physical examination via Rinne's or Weber's test] OR threshold for conductive sound elevated \geq 30 dB [audiometry report]	DX 3870-3879;
1.02	with unilateral mild hearing loss	Hearing threshold $>$ 21dB [audiogram report] AND hearing threshold \leq 40 dB [audiogram report]	STAGE 1.01 + (DX 38900-38905, 38908, 38910, 38913, 38915, 38917, 38920-38921);
1.03	with bilateral mild hearing loss	Stage 1.01-1.02 AND involving both ears	STAGE 1.01-1.02 + (DX 38906, 38911-38912, 38914, 38916, 38918, 38922);
1.04	with mild hearing loss and tinnitus	Stage 1.01-1.03 AND tinnitus	STAGE 1.01-1.02 + DX 38830-38832;
1.05	with moderate hearing loss	Stage 1.01 AND hearing threshold $>$ 41dB [audiogram report] AND hearing threshold \leq 56 dB [audiogram report]	NO;
1.06	with bilateral moderate hearing loss	Stage 1.05 AND involving both ears	NO;
1.07	with moderate hearing loss and tinnitus	Stage 1.05-1.06 AND tinnitus	NO;
1.08	with moderately severe hearing loss	Stage 1.01 AND hearing threshold $>$ 56dB [audiogram report] AND hearing threshold \leq 70 dB [audiogram report]	NO;
1.09	with bilateral moderately severe hearing loss	Stage 1.08 AND involving both ears	NO;
1.10	with moderately severe hearing loss and tinnitus	Stage 1.08-1.09 AND tinnitus	NO;
1.11	with severe hearing loss	Stage 1.01 AND hearing threshold $>$ 71 [audiogram report] AND hearing threshold \leq 90 dB [audiogram report]	NO;
1.12	with bilateral severe hearing loss	Stage 1.11 AND involving both ears	NO;
1.13	with severe hearing loss and tinnitus	Stage 1.11-1.12 AND tinnitus	NO;
1.14	with profound hearing loss	Stage 1.01 AND hearing threshold $>$ 91 dB [audiogram report]	NO;
1.15	with bilateral profound hearing loss	Stage 1.14 AND involving both ears	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: ENT07

MultiStage: No

DXCat Label: Hearing Loss due to Otosclerosis

Specificity: A

Etiology: Degenerative

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.16	with profound hearing loss and tinnitus	Stage 1.14-1.15 AND tinnitus	NO;

References:

Jackler RK, Kaplan MJ. Ear, nose and throat. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:222-223.

Sedwick JD, Loudon CL, Shelton C. Stapedectomy vs stapedotomy. Do you really need a laser? Archives of Otolaryngology -- Head & Neck Surgery. 1997;123(2):177-80.

Snow JB, Martin JB. Disorders of smell, taste, and hearing. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:173-179

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: ENT08

MultiStage: No

DXCat Label: Labyrinthitis

Specificity: A

Etiology: Infection

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Labyrinthitis	History of Cholesteatoma or ear surgery AND vertigo AND hearing loss: AND positive caloric test	DX 38630, 38632, 38634;
1.02	Serous labyrinthitis	History of otitis media AND hearing loss: AND vertigo	DX 38631;
1.03	Purulent labyrinthitis	History of otitis media OR history of meningitis AND hearing loss: AND vertigo AND tinnitus	DX 38633;
2.01	with petrositis	Stage 1.03 AND cranial nerve V pain OR cranial nerve VI paresthesia OR facial weakness OR diplopia	STAGE 1.01-1.03 + DX 38320-38322;
2.02	with otic hydrocephalus	Stage 1.02 AND headache AND Cranial Nerve VI paralysis	STAGE 1.01-2.01 + DX 3314;
2.03	with lateral sinus thrombosis	Stage 1.01-2.03 AND headache AND fever: AND cranial Nerve IX deficit AND cranial XI deficit AND increase CSF pressure AND tender mastoid process	STAGE 1.01-2.02 + (DX 325, 37854 OR GROUP FEVER) ;
3.01	with meningitis	Stage 1.01-2.04 AND meningitis:	STAGE 1.01-2.03 + (GROUP MENGIT__BACT OR GROUP MENING__VIR);
3.02	with brain abscess or encephalitis	Stage 2.04-3.01 AND brain abscess or encephalitis [MRI report or CT Scan report] AND disorientation:	STAGE 1.01-3.01 + (DX 3230-3240, 3249 OR GROUP ENCEPHALO);
3.03	with sepsis	Stage 2.04-3.02 AND sepsis:	STAGE 1.02-3.02 + GROUP SEPSIS;
3.04	with shock	Stage 2.04-3.03 AND shock:	STAGE 1.02-3.03 + (GROUP SHOCKC OR GROUP SHOCKN) ;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: ENT08

MultiStage: No

DXCat Label: Labyrinthitis

Specificity: A

Etiology: Infection

Stage	Description	Diagnostic findings	ICD-9-CM Codes
4.00	with death	Stage 2.04-3.03 AND death	NO;

References:

Arenberg IK, Lemke C, Shambaugh GE Jr. Viral theory for Meniere's disease and endolymphatic hydrops: overview and new therapeutic options for viral labyrinthitis. *Annals of the New York Academy of Sciences*. 1997;830:306-13.

Daroff RB, Martin JB. Faintness, syncope, dizziness, and vertigo. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. *Harrison's Principles of Internal Medicine*, 14th ed. New York, NY: McGraw-Hill; 1998:100-107.

Jackler RK, Kaplan MJ. Ear, nose and throat. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. *Current Medical Diagnosis & Treatment*. Stamford, CT, Appleton & Lange; 1998:225.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: ENT09

MultiStage: No

DXCat Label: Meniere's Disease

Specificity: A

Etiology: Idiopathic

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Recurrent fluctuating vertiginous attacks with hearing loss and tinnitus	Vertigo AND horizontal or rotatory nystagmus OR hearing loss at affected ear during attacks AND history of recurrent vertigo with nystagmus or hearing loss AND tinnitus	DX 38600-38604; DX 38600-38604 + (DX 38900-38905, 38908, 38920-38921);
1.02	with increasing frequency	Stage 1.01 AND increasing frequency of attacks	NO;
1.03	with bilateral involvement	Stage 1.01-1.02 AND bilateral ear involvement	STAGE 1.01 + DX 38906;
2.01	with residual sensorineural hearing loss	Stage 1.01-1.02 AND hearing threshold for sound \geq 30 dB in affected ear [audiometry report]	STAGE 1.01 + (DX 38910, 38913, 38915, 38917);
2.02	with residual sensorineural hearing loss in both ears	Stage 2.01 AND bilateral ear involvement	STAGE 1.01-2.01 + (DX 38911-38912, 38914, 38916, 38918, 38922);

References:

Jackler RK, Kaplan MJ. Ear, nose and throat. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:224-227.

Martin JB, Beal MF. Disorders of the cranial nerves. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:796-801.

Saeed SR. Fortnightly review. Diagnosis and treatment of Meniere's disease. BMJ. 1998;316(7128):368-72.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: ENT10

MultiStage: No

DXCat Label: Neoplasm, Benign: Acoustic Neuroma

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Acoustic neuroma with hearing loss	Acoustic neuroma [operative/pathology report or CT scan report or MRI scan report] Presumptive Diagnostic Findings: Hearing threshold \geq 30 dB [audiometry report] AND impairment of speech discrimination AND marked tone decay [audiometry report] AND acoustic reflex decay [brainstem response audiometry report] AND absence of wave forms [brainstem response audiometry report] AND increased latency of 5th wave [brainstem response audiometry report] AND absence of caloric response testing or canal paresis	DX 2251; DX 2251 + DX 38900-38922;
1.02	with vertigo	Stage 1.01 AND vertigo:	STAGE 1.01 + (DX 38610-38619, 3869, 7804);
1.03	with ataxia	Stage 1.01-1.02 AND ataxia:	STAGE 1.01-1.02 + DX 7812- 7813;
2.01	with facial nerve involvement	Stage 1.01-1.03 AND paralysis of one side of the face:	STAGE 1.01-1.03 + DX 3510;
2.02	with involvement of other cranial nerves	Stage 1.01-2.01 AND cranial nerve palsy:	STAGE 1.01-2.01 + (DX 3509, 3519-3520, 3520-3526 , 36751, 37749, 37851-37855, 3885, 7675, 7811, 7820, 7872-78729, 9982); STAGE 1.01-2.01 + GROUP BLINDNESS;
3.01	with mental status changes	Stage 1.01-2.02 AND papilledema OR encephalopathy: OR persistent headache with nausea and vomiting	STAGE 1.01-2.02 + (DX 3383, 37700 OR GROUP ENCEPHALO OR (DX 7840 + DX 78701));
3.02	with respiratory failure	Stage 3.01 AND respiratory failure:	STAGE 1.01-3.01 + GROUP RESP_FAIL;
3.03	with coma	Stage 3.01-3.02 AND coma:	STAGE 1.01-3.02 + GROUP COMA;
3.04	with shock	Stage 3.01-3.03 AND shock:	STAGE 1.01-3.03 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.01-3.04 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: ENT10

MultiStage: No

DXCat Label: Neoplasm, Benign: Acoustic Neuroma

Specificity: A

Etiology: Neoplasm

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

Friedman RA, Brackmann DE, van Loveren HR, Hitselberger WE. Management of the contracted mastoid in the translabyrinthine removal of acoustic neuroma. Archives of Otolaryngology -- Head & Neck Surgery. 1997;123(3):342-4.

Jackler RK, Kaplan MJ. Ear, nose and throat. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:227.

Snow JB, Martin JB. Disorders of smell, taste, and hearing. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:173-179.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: ENT11

MultiStage: No

DXCat Label: Neoplasm, Benign: Larynx

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	with mild hoarseness	Hoarseness AND papilloma [laryngoscopy or operative/pathology report] OR papilloma [laryngoscopy or operative/pathology report] OR chondroma[laryngoscopy or operative/pathology report]	DX 2121, 2356;
1.02	with severe hoarseness	Stage 1.01 AND severe hoarseness	STAGE 1.01 + DX 78449;
2.01	with partial airway obstruction	Stage 1.01-1.02 AND stridor	STAGE 1.01-1.02 + (DX 3383, 5198, 7861);
3.01	with respiratory failure	Stage 1.01-2.01 AND respiratory failure:	STAGE 1.01-2.01 + GROUP RESP_FAIL;
4.00	with death	Stage 2.01-3.01 AND death	NO;

References:

Jackler RK, Kaplan MJ. Ear, nose, and throat. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:234-235, 244-245.

Jackler RK, Kaplan MJ. Ear, nose, and throat. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:234-235, 244-245.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: ENT12

MultiStage: No

DXCat Label: Neoplasm, Benign: Sinuses

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Squamous papillomas	Exophytic squamous papillomas of the sinuses [operative/pathology report]	DX 2120;
1.02	Retention cyst	Retention cyst of the sinuses [operative/pathology report]	DX 4710-4719;
1.03	Mucocele	Mucocele of the sinuses [operative/pathology report]	NO;
1.04	Osteoma	Osteoma of the sinuses[operative/pathology report]	DX 2130;
1.05	Fibrous dysplasia	Fibrous dysplasia of the sinuses [operative/pathology report]	DX 73329;
1.06	Inverting papilloma	Inverting papillomas of the sinuses [operative/pathology report or CT Scan or MRI report]	NO;
2.01	Benign neoplasms of the sinuses with bony involvement	Stage 1.01-1.06 AND involvement of the surrounding bone [operative/pathology report or CT Scan or MRI report]	STAGE 1.01-1.05 + DX 3383;
3.01	with sepsis	Stage 1.01-2.01 AND sepsis:	STAGE 1.01-1.05 + GROUP SEPSIS;
3.02	with shock	Stage 1.01-2.01 AND shock:	STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.02-3.01 AND death	NO;

References:

- Franchi A, Gallo O, Santucci M. Pathologic quiz case 1. Necrotizing sialometaplasia obscuring recurrent well-differentiated squamous cell carcinoma of the maxillary sinus. Archives of Otolaryngology -- Head & Neck Surgery. 1995;121(5):584-86.
- Jackler RK, Kaplan MJ. Ear, nose, and throat. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:234-235.
- Vokes EE. Head and neck cancer. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:549-552

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: ENT13

MultiStage: No

DXCat Label: Neoplasm, Malignant: Larynx, Glottis

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	History of glottic cancer		DX V1021;
1.01	tumor limited to vocal cords	Cancer of the glottis limited to the vocal cords [laryngoscopy report or operative/pathology report] OR American Joint Committee on Cancer Stage I	DX 1610, 1619, 2310;
2.01	with extension to the supraglottic or subglottic area with impaired vocal cord mobility	AND Stage 1.01 Glottic carcinoma extends to the supraglottic area [laryngoscopy report or operative/pathology report] AND Glottic carcinoma extends to the subglottic area [laryngoscopy report or operative/pathology report] OR American Joint Committee on Cancer Stage II	DX 1618;
2.02	with fixation of the vocal cords	Stage 1.01-2.01 AND Glottic carcinoma fixes to the vocal cords [laryngoscopy report or operative/pathology report] OR American Joint Committee on Cancer Stage III OR single metastatic node < 3cm in diameter [laryngoscopy report or operative/pathology report]	STAGE 0.00-2.01 + DX 4785;
2.03	with extension beyond the larynx	Stage 1.01-2.02 AND Glottic carcinoma extends beyond the larynx [laryngoscopy report or CT Scan or MRI report] OR Glottic carcinoma extends to the soft tissues of the neck [laryngoscopy report or CT Scan or MRI report] OR Glottic carcinoma extends to the thyroid cartilage [laryngoscopy report or CT Scan or MRI report]	DX 1613; STAGE 0.00-2.02 + (DX 3383, 1973);
2.04	with lymph node metastasis	Stage 1.01-2.03 AND any two metastatic nodes [laryngoscopy report or CT Scan or MRI report] OR lymph node > 6cm in diameter [laryngoscopy report or CT Scan or MRI report] OR American Joint Committee on Cancer Stage IV	STAGE 0.00-2.03 + DX 1960;
3.01	with distant metastasis	Stage 1.01-2.04 AND distant metastasis	STAGE 0.00-2.04 + (DX 1961-1972, 1974-1991, 78951);
3.02	with shock	Stage 1.01-3.01 AND shock:	STAGE 0.00-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 1.01-3.05 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: ENT13

MultiStage: No

DXCat Label: Neoplasm, Malignant: Larynx, Glottis

Specificity: A

Etiology: Neoplasm

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

Jackler RK, Kaplan MJ. Ear, nose, and throat. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:234-235, 244-245.

Vokes EE. Head and neck cancer. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:549-552.

Vokes EE. Head and neck cancer. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:549-552.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: ENT14

MultiStage: No

DXCat Label: Neoplasm, Malignant: Larynx, Subglottic

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	History of subglottic carcinoma		NO;
1.01	Subglottic carcinoma limited to one subsite without vocal cord fixation	Dysphonia AND Subglottic carcinoma without fixation of the vocal cords [operative/pathology report or laryngoscopy report or CT scan report] OR American Joint Committee on Cancer Stage	DX 1612;
2.01	more than one subsite with impaired mobility	Stage 1.01 AND more than one subsite with impaired mobility [operative/pathology report or laryngoscopy report or CT scan report] OR American Joint Committee on Cancer Stage II	STAGE 1.01 + DX 3383;
3.01	with fixation or one metastatic node or < 3cm in diameter	Dysphonia AND with fixation or one metastatic node of < 3 cm in diameter [operative/pathology report or laryngoscopy report or CT scan report] OR American Joint Committee on Cancer Stage III	STAGE 1.01 + (DX 1960, 4785);
3.02	with extension beyond the larynx or multiple non-fixed metastatic node	Stage 1.01-2.01 AND Subglottic carcinoma with extension beyond the larynx [laryngoscopy report or CT scan report] OR Subglottic carcinoma with extension to the soft tissues of the neck [laryngoscopy report or CT scan report] OR Subglottic carcinoma with extension to the thyroid cartilage [laryngoscopy report or CT scan report] OR multiple non-fixed metastatic nodes [operative/pathology report or laryngoscopy report or CT scan report] OR one fixed metastatic node [operative/pathology report or laryngoscopy report or CT scan report]	STAGE 1.01-3.01 + DX 1973;
3.03	with one cervical node > 3cm in diameter or one ipsilateral node < 6 cm in diameter or multiple ipsilateral nodes or contralateral nodes or any node > 6cm	Stage 1.01-3.02 AND cervical node > 3 cm. in diameter [operative/pathology report or laryngoscopy report or CT scan report] OR 1 ipsilateral node < 6 cm. in diameter [operative/pathology report or laryngoscopy report or CT scan report] OR multiple ipsilateral nodes [operative/pathology report or laryngoscopy report or CT scan report] OR contralateral nodes [operative/pathology report or laryngoscopy report or CT scanreport] OR any node > 6cm in diameter [operative/pathology report or laryngoscopy report or CT scan report] OR American Joint Committee on Cancer Stage IV	NO;
3.04	with distant metastasis	Stage 1.01-3.03 AND with distant metastasis [operative/pathology report or laryngoscopy report or CT scan	STAGE 1.01-3.02 + (DX 1961-1972, 1974-1991, 78951);

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: ENT14

MultiStage: No

DXCat Label: Neoplasm, Malignant: Larynx, Subglottic

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.05	with shock	Stage 2.01-3.04 AND shock:	STAGE 1.01-3.04 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.01-3.05 AND death	NO;

References:

Jackler RK, Kaplan MJ. Ear, nose, and throat. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:234-235, 244-245.

Vokes EE. Head and neck cancer. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:549-552.

Zbaren P, Becker M, Lang H. Pretherapeutic staging of hypopharyngeal carcinoma. Clinical findings, computed tomography, and magnetic resonance imaging compared with histopathologic evaluation. Archives of Otolaryngology -- Head & Neck Surgery. 1997;123(9):908-13.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: ENT15

MultiStage: No

DXCat Label: Neoplasm, Malignant: Larynx, Supraglottic

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	History of supraglottic or laryngeal carcinoma		NO;
1.01	Supraglottic carcinoma limited to one subsite without vocal cord fixation	Dysphonia AND supraglottic carcinoma without fixation of the vocal cords [operative/pathology report or laryngoscopy report or CT scan report] OR American Joint Committee on Cancer Stage I	DX 1611;
2.01	More than one subsite with impaired mobility	Stage 1.01 AND more than one subsite with impaired mobility [operative/pathology report or laryngoscopy report or CT scan report] OR American Joint Committee on Cancer Stage II	STAGE 1.01 + DX 3383;
3.01	with fixation or one metastatic node of < 3cm in diameter	Dysphonia AND with fixation or one metastatic node of < 3 cm in diameter[operative/pathology report or laryngoscopy report or CT scan report] OR American Joint Committee on Cancer Stage III	STAGE 1.01 + (DX 1960, 4785);
3.02	with extension beyond the larynx or multiple non-fixed metastatic nodes or one fixed metastatic node	Stage 1.01-2.01 AND supraglottic carcinoma with extension beyond the larynx [laryngoscopy report or CT scan report] OR supraglottic carcinoma with extension to the soft tissues of the neck [laryngoscopy report or CT scan report] OR supraglottic carcinoma with extension to the thyroid cartilage [laryngoscopy report or CT scan report] OR multiple non-fixed metastatic nodes [operative/pathology report or laryngoscopy report or CT scan report] OR one fixed metastatic node [operative/pathology report or laryngoscopy report	STAGE 1.01-3.01 + DX 1973;
3.03	Multiple ipsilateral nodes or contralateral nodes or any node > 6cm with nodal involvement	Stage 1.01-3.02 AND multiple ipsilateral nodes [operative/pathology report or laryngoscopy report or CT scan report] OR contralateral nodes [operative/pathology report or laryngoscopy report or CT scan report] OR any node > 6cm in diameter [operative/pathology report or laryngoscopy report or CT scan report] OR American Joint Committee on Cancer Stage IV	NO;
3.04	with distant metastasis	Stage 1.01-3.03 AND with distant metastasis [operative/pathology report or laryngoscopy report or CT scan report]	STAGE 1.01-3.02 + (DX 1961-1972, 1974-1991, 78951);
3.05	with shock	Stage 2.01-3.04 AND shock:	STAGE 1.01-3.04 + (GROUP SHOCKC OR GROUP SHOCKN) ;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: ENT15

MultiStage: No

DXCat Label: Neoplasm, Malignant: Larynx, Supraglottic

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
4.00	with death	Stage 2.01-3.05 AND death	NO;

References:

Jackler RK, Kaplan MJ. Ear, nose, and throat. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:234-235, 244-245.

Vokes EE. Head and neck cancer. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:549-552.

Zbaren P, Becker M, Lang H. Pretherapeutic staging of hypopharyngeal carcinoma. Clinical findings, computed tomography, and magnetic resonance imaging compared with histopathologic evaluation. Archives of Otolaryngology -- Head & Neck Surgery. 1997;123(9):908-13.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: ENT16

MultiStage: No

DXCat Label: Neoplasm, Malignant: Nasopharyngeal

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	History of nasopharyngeal carcinoma		NO;
1.01	confined to one site	TNM Classification Stage 1 OR primary neoplasm localized to one anatomic site [operative/pathology report] OR American Joint Committee on Cancer Stage I	DX 1470-1473, 1479;
2.01	involving two sites	TNM Classification Stage 2 OR primary neoplasm localized to two adjacent anatomic sites [operative/pathology report] OR American Joint Committee on Cancer Stage II	DX 1478;
2.02	with extension into nasal cavity or oropharynx	TNM Classification Stage 3 OR primary neoplasm involves nasal cavity or oropharynx [operative/pathology report] OR isolated neck metastasis ≤ 3 cm. in diameter [operative/pathology report] OR American Joint Committee on Cancer Stage III	STAGE 1.01-2.01 + DX 1973;
2.03	with invasion of skull base or cranial nerve involvement	Stage 1.01-2.02 TNM Classification Stage 4 OR invasion of the skull base [operative/pathology report or CT Scan or MRI report] OR extends beyond the confines of the nasopharynx [operative/pathology report or CT Scan or MRI report] OR isolated neck metastasis ≥ 3 cm. in diameter [operative/pathology report or CT Scan or MRI report] OR neck metastasis involving > 1 lymph node [operative/pathology report or CT Scan or MRI report] OR neck metastasis and fixated to surrounding soft tissue [operative/pathology report] OR cranial nerve palsy: OR American Joint Committee on Cancer Stage IV	STAGE 1.01-2.02 + (DX 1960, 3383 OR GROUP CRAN_NRV_PAL OR GROUP BLINDNESS);
3.01	with distant metastasis	Stage 1.01-2.03 AND distant metastasis [operative/pathology report or CT Scan or MRI report]	STAGE 1.01-2.03 + (DX 1961-1972, 1974-1991, 78951);
3.02	with shock	Stage 2.01-3.01 AND shock:	STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.01-3.02 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: ENT16

MultiStage: No

DXCat Label: Neoplasm, Malignant: Nasopharyngeal

Specificity: A

Etiology: Neoplasm

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

Jackler RK, Kaplan MJ. Ear, nose, and throat. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:234-235, 244-245.

Niedobitek G, Young LS. Epstein-Barr virus persistence and virus-associated tumours. Lancet. 1994;343(8893):333-5.

Vokes EE. Head and neck cancer. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:549-552.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: ENT17

MultiStage: No

DXCat Label: Neoplasm, Malignant: Sinuses

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	History of neoplasm of the sinuses		DX V1022;
1.01	Malignant neoplasms of the sinuses without bony erosion	Squamous cell carcinoma of the sinuses without bony erosion [operative/pathology report or CT Scan or MRI report] OR lymphoma of the sinuses without bony erosion [operative/pathology report or CT Scan or MRI report] OR adenoid cystic carcinoma of the sinuses without bony erosion [operative/pathology report or CT Scan or MRI report] OR mucoepidermoid carcinoma of the sinuses without bony erosion [operative/pathology report or CT Scan or MRI report] OR sarcomas of the sinuses without bony erosion [operative/pathology report or CT Scan or MRI report] OR adenocarcinomas of the sinuses without bony erosion [operative/pathology report or CT Scan or MRI report] OR Stage T1 for maxillary sinus carcinomas OR tumor confined to the inferior antrum [operative/pathology report or CT Scan or MRI report] OR tumor confined to the superior antrum [operative/pathology report or CT Scan or MRI report] OR American Joint Committee on Cancer Stage I	DX 1600-1609;
2.01	Malignant neoplasms of the sinuses with extension into hard palate and middle nasal meatus	Stage T2 for sinus carcinomas OR American Joint Committee on Cancer Stage II OR Stage T3 for sinus carcinomas OR Stage T4 for sinus carcinomas OR Stage 0.00-1.01 AND invasions of the surrounding bone or had palate	STAGE 0.00-1.01 + (DX 3383, 1608, 1984-1985);

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: ENT17

MultiStage: No

DXCat Label: Neoplasm, Malignant: Sinuses

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
2.02	Malignant neoplasms of the sinuses with extension to ethmoid sinuses or sphenoid sinuses or nasopharynx or pterygoid or cribriform plate or base of the skull	Stage 1.01-2.03 AND tumor with extension to anterior ethmoid sinus(es) [operative/pathology report or CT Scan or MRI report] OR with extension to pterygoid muscle [operative/pathology report or CT Scan or MRI report] OR with extension to cribriform plate [operative/pathology report or CT Scan or MRI report] OR with extension to posterior ethmoid sinus(es) [operative/pathology report or CT Scan or MRI report] OR with extension to sphenoid sinus(es) [operative/pathology report or CT Scan or MRI report] OR with extension to nasopharynx [operative/pathology report or CT Scan or MRI report] OR with extension to pterygoid plates [operative/pathology report or CT Scan or MRI report] OR with extension to base of the skull [operative/pathology report or CT Scan or MRI report]	STAGE 0.00-2.01 + DX 1973;
2.03	Malignant neoplasms of the sinuses with lymph node involvement	Stage 2.02-2.04 AND lymph node metastasis [operative/pathology report or CT Scan or MRI report] OR American Joint Committee on Cancer Stage III	STAGE 0.00-2.02 + DX 1960;
3.01	Malignant neoplasms of the sinuses with distant metastasis	Stage 1.01-2.05 AND extension of tumor beyond the confines of the skull [operative/pathology report or CT Scan or MRI report] OR American Joint Committee on Cancer Stage IV	STAGE 0.00-2.03 + (DX 1961-1972, 1974-1983, 1986-1991, 78951);
4.00	Malignant neoplasms of the sinuses with death	Stage 1.01-3.01 AND death	NO;

References:

Franchi A, Gallo O, Santucci M. Pathologic quiz case 1. Necrotizing sialometaplasia obscuring recurrent well-differentiated squamous cell carcinoma of the maxillary sinus. Archives of Otolaryngology -- Head & Neck Surgery. 1995;121(5):584-86

Jackler RK, Kaplan MJ. Ear, nose and throat. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:234-235.

Vokes EE. Head and neck cancer. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:549-552.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: ENT18
 DXCat Label: Otitis Media
 Etiology: Infection

MultiStage: No
 Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Otitis media with serous effusion	History of upper respiratory tract infection AND hearing loss: AND air/fluid level in ear drum OR serous effusion from middle ear	DX 38110-3814, 3829;
1.02	Acute otitis media	Stage 1.01 AND earache AND erythema of tympanic membrane AND decrease mobility of tympanic membrane	DX 38100-38106, 38200, 38202;
1.03	with persistent effusion	Stage 1.01-1.02 AND effusion persists > 12 weeks	NO;
1.04	Recurrent acute otitis media	Stage 1.01-1.02 AND acute otitis media episodes ≤ 6 months OR more than 4 acute otitis media episodes yearly	NO;
2.01	with spontaneous perforation	Stage 1.01-1.03 AND spontaneous perforation	DX 38201; STAGE 1.01-1.02 + DX 38420-38425;
2.02	Chronic suppurative otitis media	Stage 1.01-2.01 AND drainage or otorrhea from ear ≥ 6 week period	DX 3821-3824;
2.03	with cholesteatoma	Stage 1.01-2.02 AND cholesteatoma	STAGE 1.01-2.02 + DXCAT ENT01;
2.04	with labyrinthitis	Stage 1.01-2.03 AND nystagmus OR dizziness OR vertigo	STAGE 1.01-2.03 + DXCAT ENT08;
2.05	with mastoiditis	Stage 1.01-2.04 AND mastoiditis [operative/pathology report or mastoid air cells culture reports growth of pathologic organism(s) or CT scan or mastoid x-ray report]	STAGE 1.01-2.04 + DX 38300-3831;
2.06	with facial nerve paralysis	Stage 1.01-2.05 AND paralysis of one side of the face	STAGE 1.01-2.05 + DX 3510;
2.07	with petrositis	Stage 1.01-2.06 AND petrositis [operative/pathology report] OR growth of pathologic organism(s) [bone culture report] OR osteomyelitis [bone scan or MRI x-ray report]	STAGE 1.01-2.06 + DX 38320-38322;
3.01	with meningitis	Stage 1.01-2.07 AND meningitis:	STAGE 1.01-2.07 + (GROUP MENGI_T_BACT OR GROUP MENING__VIR);
3.02	with cavernous sinus thrombosis	Stage 1.01-3.01 AND thrombus in cranial sinus [operative/pathology report or MRI or CT scan of head or MRI report]	STAGE 1.01-3.01 + DX 325;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: ENT18

MultiStage: No

DXCat Label: Otitis Media

Specificity: A

Etiology: Infection

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.03	with subdural or intracranial abscess	Stage 1.01-3.02 AND intracranial abscess [operative/pathology report or MRI or CT scan report]	STAGE 1.01-3.02 + (DX 3240, 3249);
3.04	with sepsis	Stage 1.01-3.03 AND sepsis :	STAGE 1.01-3.03 + GROUP SEPSIS;
3.05	with shock	Stage 2.02-3.04 AND shock :	STAGE 1.01-3.04 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.02-3.05 AND death	NO;

References:

Arnold JE. Otitis media and its complications. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:1814-1824.

Berman S, Chan K. Otitis media. In: Hay WW, Groosthuss JR, Hayward AR, Levin MJ, eds. Current Pediatric Diagnosis and Treatment. 13th ed. Stamford, CT: Appleton & Lange; 1997:403-412.

Durand M, Joseph M, Baker AS. Infections of the upper respiratory tract. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:179-185.

Froom J, Culpepper L, Jacobs M. Antimicrobials for acute otitis media? A review from the International Primary Care Network. BMJ. 1997;315(7100):98-102.

Jackler RK, Kaplan MJ. Ear, nose and throat. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, Appleton & Lange; 1998:218-220.

Swanson JA, Hoecker JL. Concise review for primary-care physicians. Mayo Clinic Proceedings. 1996;71(2):179-83.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: ENT19

MultiStage: No

DXCat Label: Pharyngitis: Non-Streptococcal

Specificity: A

Etiology: Infection

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Pharyngitis or tonsillitis	Streptococcal infection of the pharynx [culture reports growth of pathologic organism(s)]	DX 462-463, 4650, 4721, 47400, 47402, 47410-47411;
2.01	with cervical suppurative adenitis	Stage 1.01 AND cervical suppurative adenitis	DX 47401, 47412; STAGE 1.01 + (DX 2891, 2893, 683);
2.02	with peritonsillar or retropharyngeal abscess	Stage 1.01-2.01 AND peritonsillar or retropharyngeal abscess	DX 475, 47821-47822, 47824, 47829;
2.03	with bronchopneumonia	Stage 1.01-2.02 AND bronchopneumonia [chest x-ray report]	STAGE 1.01-2.02 + (DX 4800-4809, 4820-4822, 4824-4870);
2.04	with pharyngeal edema	Stage 1.01-2.03 AND pharyngeal edema	STAGE 1.01-2.03 + DX 47825;
3.01	with meningitis	Stage 1.01-2.04 AND meningitis:	STAGE 1.01-2.04 + (DX 3201-3209 OR DXCAT NEU13);
3.02	with sepsis	Stage 1.01-3.01 AND sepsis:	STAGE 1.01-3.01 + DX 03810-0389;
3.03	with respiratory failure	Stage 2.04-3.02 AND respiratory failure:	STAGE 1.01-3.02 + GROUP RESP_FAIL;
3.04	with shock	Stage 1.01-3.03 AND shock:	STAGE 1.01-3.03 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.02-3.04 AND death	NO;

References:

Bisno AL. Acute pharyngitis: etiology and diagnosis. *Pediatrics*. 1996;97(6 Pt 2):949-54.

Chambers HF. Infectious diseases: bacterial and chlamydial. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. *Current Medical Diagnosis & Treatment*. Stamford, CT: Appleton & Lange; 1998:1267-1268.

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Little PS, Williamson I. Are antibiotics appropriate for sore throats? Costs outweigh the benefits. *BMJ*. 1994;309(6960):1010-1.

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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: ENT20

MultiStage: No

DXCat Label: Pharyngitis: Streptococcal

Specificity: A

Etiology: Infection, Bacterial

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Streptococcal pharyngitis or tonsillitis	Streptococcal infection of the pharynx [culture reports growth of pathologic organism(s)]	DX 0340;
2.01	with cervical suppurative adenitis	Stage 1.01 AND cervical suppurative adenitis	STAGE 1.01 + (DX 2891, 2893, 683);
2.02	with peritonsillar or retropharyngeal abscess	Stage 1.01-2.01 AND peritonsillar or retropharyngeal abscess	STAGE 1.01-2.01 + (DX 475, 47821-47824, 47829);
2.03	with bronchopneumonia	Stage 1.01-2.02 AND bronchopneumonia [chest x-ray report]	STAGE 1.01-2.02 + GROUP PNEUMONIA;
2.04	with pharyngeal edema	Stage 1.01-2.03 AND pharyngeal edema	STAGE 1.01-2.03 + DX 47825;
2.05	Streptococcal pharyngitis and scarlet fever	Stage 1.01-2.04 AND pink-red cutaneous flush that blanches on pressure; distributed on body, particularly abdomen, lateral chest, and skin folds	DX 0341;
3.01	Acute post-streptococcal glomerulonephritis	Stage 1.01-2.04 AND Acute poststreptococcal glomerulonephritis [operative/pathology report]	STAGE 1.01-2.04 + DX 5800;
3.02	with acute renal failure	Stage 3.01 AND renal failure:	STAGE 1.01-3.01 + GROUP REN_FAIL_ACU;
3.03	with meningitis	Stage 1.01-3.02 AND meningitis:	STAGE 1.01-3.02 + DX 3200;
3.04	with acute rheumatic fever	Stage 1.01-3.03 AND rheumatic fever [Aschoff lesions in myocardium or subcutaneous nodules in operative/pathology report] (any one of the following): OR carditis OR Sydenham's chorea OR subcutaneous nodules OR erythema marginatum OR polyarthrits OR (any one above and two of the following): fever: OR polyarthralgia OR EKG PR segment \geq .21 seconds [EKG report] OR antistreptolysin O titer \geq 250 units [chemistry report] AND antihyaluronidase titer \geq 1000 units [chemistry report] OR positive anti-DNAse B titer [chemistry report]	STAGE 1.01-3.03 + DX 390-3929;
3.05	with congestive heart failure	Stage 3.04 AND congestive heart failure:	STAGE 1.01-3.04 + GROUP CHF_NON_HTN;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: ENT20

MultiStage: No

DXCat Label: Pharyngitis: Streptococcal

Specificity: A

Etiology: Infection, Bacterial

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.06	with sepsis	Stage 1.01-3.05 AND sepsis:	STAGE 1.01-3.05 + DX 0380;
3.07	with respiratory failure	Stage 2.04-3.06 AND respiratory failure:	STAGE 1.01-3.06 + GROUP RESP_FAIL;
3.08	with shock	Stage 1.01-3.07 AND shock:	STAGE 1.01-3.07 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.02-3.08 AND death	NO;

References:

- Anonymous. Prevention of invasive group A streptococcal disease among household contacts of case-patients: is prophylaxis warranted? The Working Group on Prevention of Invasive Group A Streptococcal Infections. *JAMA*. 1998;279(15):1206-10.
- Bergstein JM. Acute poststreptococcal glomerulonephritis. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. *Nelson Textbook of Pediatrics*, 15th ed. Philadelphia, PA: WB Saunders; 1996:1487-1488.
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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: ENT21

DXCat Label: Sinusitis

Etiology: Immune; Infection

MultiStage: No

Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Acute sinusitis with one sinus involved	Tenderness over sinus area OR swelling over sinus area OR pain over sinus area AND rhinorrhea OR air/fluid levels or radiopaque densities or sclerotic bone in sinus [sinus x-ray report or CT scan or MRI report]	DX 4610-4613, 4619;
1.02	Multiple sinus involvement	Stage 1.01 AND involvement of > 1 sinus	DX 4618;
1.03	Chronic sinusitis	Chronic sinusitis OR history of recurrent episodes of acute sinusitis AND nasal congestion AND chronic discharge AND nasal injection AND facial pressure	DX 4730-4739; STAGE 1.01-1.02 + DX 78491; DX 4730-4739 + DX 78491;
2.01	with preseptal cellulitis or osteitis	Stage 1.01-1.03 AND preseptal cellulitis OR osteitis [operative/pathology report]	STAGE 1.01-1.03 + (DX 4781, 6820);
2.02	with osteomyelitis of surrounding bone	Stage 1.01-2.01 AND fever: AND edema of surrounding tissue OR osteomyelitis:	STAGE 1.01-2.01 + (DX 73300, 73302, 73309 OR GROUP FEVER);
2.03	with extension into the orbit	Stage 1.01-2.02 AND orbital abscess [operative/pathology report or MRI or CT scan report] OR orbital cellulitis OR subperiosteal abscess [operative/pathology report or MRI or CT scan report] OR optic neuritis [ophthalmology report] OR superior orbital fissure [MRI or CT scan report] OR cavernous sinus thrombosis [operative/pathology report or MRI or CT scan report]	STAGE 1.01-2.02 + (DX 37601, 37603, 37610, 37630);
2.04	with mucocele or pyocele	Stage 1.01-2.03 AND mucocele or pyocele	STAGE 1.01-2.03 + DX 37681;
3.01	with meningitis	Stage 1.01-2.04 AND meningitis:	STAGE 1.01-2.04 + (GROUP MENGIT_BACT OR GROUP MENING_VIR);
3.02	with intracranial abscess	Stage 1.01-3.01 AND brain abscess [CT scan report or MRI report] OR epidural abscess [CT scan report or MRI report] OR subdural abscess [CT scan report or MRI report]	STAGE 1.01-3.01 + (DX 3240, 3249);

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: ENT21

MultiStage: No

DXCat Label: Sinusitis

Specificity: A

Etiology: Immune; Infection

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.03	with venous or cavernous sinus thrombosis or cranial nerve palsy	Stage 1.01-3.02 AND cranial nerve palsy: OR venous or cavernous sinus thrombosis	STAGE 1.01-3.02 + (DX 325 OR GROUP CRAN_NRV_PAL OR GROUP BLINDNESS);
3.04	with sepsis	Stage 1.01-3.02 AND sepsis:	STAGE 1.01-3.03 + GROUP SEPSIS;
3.05	with shock	Stage 2.01-3.03 AND shock:	STAGE 1.01-3.04 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.01-3.04 AND death	NO;

References:

deShazo RD, Chapin K, Swain RE. Fungal sinusitis. N Engl J Med. 1997;337(4):254-9.

Durand M, Joseph M, Baker AS. Infections of the upper respiratory tract. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:179-85.

Guarderas JC. Rhinitis and sinusitis: office management. Mayo Clinic Proceedings. 1996;71(9):882-8.

Low DE, Desrosiers M, McSherry J, et al. A practical guide for the diagnosis and treatment of acute sinusitis. CMAJ. 1997;156 Suppl 6:S1-14.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: ENT80

MultiStage: No

DXCat Label: Neoplasm, Benign: Oral Cavity and Pharyngeal Structures

Specificity: A

Etiology:

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Benign neoplasm oral cavity and pharyngeal structures		DX 2100-2101, 2103-2109, 2300, 2350-2351;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: ENT81

MultiStage: No

DXCat Label: Other Ear, Nose and Throat Disorders

Specificity: C

Etiology:

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Other disorders of ear and mastoid, nose, and throat, chronic rhinitis, vocal cord polyps, congenital anomalies of ear, nose throat, pharynx, or sinuses		DX 38000-3809, 38050-3809, 38150-3819, 38300-38302, 3831-38331, 38333-38524, 38582-3859, 38610-3862, 38635-3869, 38800-38802, 3882-3899, 4720, 4722, 4742-4749, 4760-47819, 47820, 47825-47826, 47830-47879, 74400-7449, 7480-7483, 7500-75019, 75021-75029, 7841, 7847-78499, 79415-79416, V412-V413, V416;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: ENT82

MultiStage: No

DXCat Label: Other Ear, Nose, and Throat Infections

Specificity: C

Etiology:

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Laryngitis, tracheitis, epiglottitis, supraglottitis, upper respiratory infections without obstruction		(DX 4640-46400, 46410, 46430, 46450, 4658-4659) ; (AGE 11-124 + DX 46420);
2.01	with obstruction		(DX 46401, 46411, 46431, 46451); (AGE 11-124 + DX 46421);

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: EYE01

DXCat Label: Cataract

Etiology: Degenerative; Trauma

MultiStage: No

Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Lens opacities, nonsenile or traumatic cataract or congenital lens anomalies or after-cataract	Cortical spokes [slit lamp ophthalmoscopy report] OR nuclear sclerosis [slit lamp ophthalmoscopy report] OR posterior or anterior subscapular opacities [slit lamp ophthalmoscopy report]	DX 36600-36611, 36613-36616, 36619-36634, 36642-36645, 36650-3669, 74330-74339;
1.02	Senile immature cataract	Stage 1.01 AND fundus poorly visualized [indirect ophthalmoscopy report] AND visual acuity \leq 20/50	DX 36612;
1.03	Senile mature cataract	Stage 1.01-1.02 AND visual acuity \leq 20/400, Snellen notation, in either one or both eyes with cataract AND fundus not visualized	DX 36617-36618;
2.01	Cataract with intumescent lens and secondary glaucoma	Stage 1.01-1.03 AND swollen opaque lens [slit lamp ophthalmoscopy] AND chamber angle closed [slit lamp ophthalmoscopy] AND intraocular pressure \geq 21 mmHg [tonometer report]	STAGE 1.01-1.03 + DXCAT EYE13; STAGE 1.01-1.03 + (DX 36520-36524, 36551, 36560, 36589, 3659);
2.02	Hypermaturation lens with phacolytic uveitis	Stage 1.01-2.01 AND nucleus floats within lens [ophthalmoscopy report] AND lens capsule is wrinkled [ophthalmoscopy report] AND flare in anterior chamber [ophthalmoscopy report]	STAGE 1.01-2.01 + (DX 36404, 36423, 3643);

References:

Datiles III MB, Magno BV. Cataract: clinical types. In: Tasman W, Jaeger EA, eds. Duane's Ophthalmology. Philadelphia, PA: Lippincott-Raven; 1998.

Datiles III MB. Clinical evaluation of cataracts. In: Tasman W, Jaeger EA, eds. Duane's Ophthalmology. Philadelphia, PA: Lippincott-Raven; 1998.

Duke-Elder S. Diseases of the lens. System of Ophthalmology. Vol IX. Henry Kimpton. 1969.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: EYE02

MultiStage: No

DXCat Label: Conjunctivitis: Bacterial

Specificity: A

Etiology: Infection, Bacterial

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	Screening for bacterial conjunctivitis		DX V744;
1.01	Bacterial conjunctivitis	Bacterial conjunctivitis [conjunctival discharge culture reports growth of pathologic organism(s) or Gram stain shows organism(s)]	DX 37200-37204, 37210-37212, 37230, 37239;
1.02	Bacterial conjunctivitis with keratitis	Stage 1.01 AND corneal infiltrate [slit lamp report]	STAGE 1.01 + (DX 37044, 37055, 3709, 37120); DX 37044;
2.01	Bacterial conjunctivitis with preseptal cellulitis	Stage 1.01-1.02 AND preseptal cellulitis	STAGE 1.01-1.02 + DX 37313;

References:

Abbott RL, Abrams MA. Bacterial corneal ulcers. In: Duane TD, Jaeger EA, eds. Clinical Ophthalmology. Philadelphia, PA: Harper & Row; 1986:(4)18.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: EYE03

MultiStage: No

DXCat Label: Conjunctivitis: Chemical

Specificity: A

Etiology: Toxicologic

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Chemical keratoconjunctivitis	History of chemical exposure to eyes AND conjunctival injection AND corneal staining [slit lamp report]	DX 37034, 37040;
2.01	Chemical keratoconjunctivitis with diminished vision	Stage 1.01 AND conjunctival chemosis OR diffuse corneal staining [fluorescein dye staining report] OR anterior chamber cell, flare [slit lamp exam report] AND vision ≤ 20/40 after exposure	STAGE 1.01 + (DX 36920, 36923-3693, 36970-36976) ;
2.02	Chemical keratoconjunctivitis with vision ≤20/200	Stage 1.01-2.01 AND vision ≤ 20/200 after exposure	STAGE 1.01-2.01 + (DX 36900-36914, 36916-36918, 36921-36922, 3694, 36960-36969);

References:

Ralph RA. Chemical burns of the eye. In: Duane TD, Jaeger EA, eds. Clinical Ophthalmology. Philadelphia, PA: Harper & Row; 1978:(4)28.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: EYE04

MultiStage: No

DXCat Label: Conjunctivitis: Chlamydial Inclusion

Specificity: A

Etiology: Infection

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Adult inclusion conjunctivitis	History of sexual transmission AND upper tarsal follicles AND chlamydia trachomatis conjunctivitis [culture report serotype D,E,F,G,H,I,J,K] OR follicular conjunctivitis without scarring OR corneal micro vascularization	DX 0770;
1.02	Newborn inclusion conjunctivitis	Chlamydia trachomatis conjunctivitis [culture report serotype D,E,F,G,H,I,J,K] OR lid swelling OR infiltration of conjunctiva OR purulent discharge	NO;
2.01	Chronic inclusion conjunctivitis	Stage 1.01 AND tarsal conjunctival scarring OR corneal vascularization	STAGE 1.01-1.02 + (DX 37060-37064, 37212, 37264) ;

References:

Dawson CR, Schachter J. Ocular chlamydia infections. In: Tasman W, Jaeger EA, eds. Duane's Ophthalmology. Philadelphia, PA: Lippincott-Raving; 1998.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: EYE05

MultiStage: No

DXCat Label: Contusion or Ruptured Globe

Specificity: A

Etiology: Trauma

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Contusion of the globe	Ocular contusion OR subconjunctival hemorrhage AND history of trauma to the eye AND vision unchanged from baseline AND pupillary reactions unchanged from baseline	DX 9213;
2.01	with hyphema	Stage 1.01 AND vision changed from baseline OR pupillary reactions changed from baseline AND blood in anterior chamber [slit lamp examination] AND ocular pressure \geq 21 mmHg [tonometer report] AND corneal staining	NO;
2.02	with subluxation of the crystalline lens or retinal detachment or choroidal rupture or iridodialysis or angle recession	Stage 1.01-Stage 2.01 AND subluxation of the crystalline lens [ophthalmoscopy report] OR retinal detachment [ophthalmoscopy report] OR choroidal rupture [ophthalmoscopy report] OR iridodialysis [ophthalmoscopy report] OR angle recession [ophthalmoscopy report]	STAGE 1.01 + DXCAT EYE07; STAGE 1.01 + (DX 33811, 33821, 36363, 36476, 36477, 37932-37934);
2.03	Ruptured globe or injury to optic nerve	Stage 1.01-2.02 AND ruptured globe [operative/pathology report] OR loss of lens [operative/pathology report] OR loss of uvea [operative/pathology report] OR loss of vitreous [operative/pathology report] OR loss of retina [operative/pathology report] OR optic nerve injury [operative/pathology report]	DX 8711-8713, 9405, 9500;
2.04	with degenerated globe	No light perception AND shrunken globe OR opacified cornea OR opacified lens [ophthalmoscopy report] OR retinal detachment [ophthalmoscopy report]	STAGE 1.01-2.03 + DXCAT EYE01; STAGE 1.01-2.03 + (DX 36902-36904, 36906-36907, 36912-36913, 36916-36917, 3694, 36961-36966, 37100-37103);

References:

Berman W, Jeffers J. Blunt trauma. In: Tasman W, Jaeger EA, eds. Duane's Ophthalmology. Philadelphia, PA: Lippincott-Raven; 1998, Vol 3.
Deutsch TA, Feller DB. Paton and Goldberg's Management of Ocular Injuries. 2nd ed. Philadelphia, PA: WB Saunders; 1985.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: EYE06

MultiStage: No

DXCat Label: Dacryostenosis or Dacryocystitis

Specificity: A

Etiology: Congenital; Degenerative; Idiopathic

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Dacryostenosis	Dacryostenosis [operative/pathology report] OR chronic overflow of tears, epiphora AND history of chronic conjunctivitis OR history of chronic nasal infections OR history of nasal trauma or surgery AND reflux of material from lacrimal puncta	DX 37556, 74365;
1.02	Acute dacryocystitis	Infection of lacrimal sac [Gram stain report or culture reports growth of pathologic organism(s)] OR redness around lacrimal sac AND edema around lacrimal sac AND pain or tenderness around sac AND reflux of material from lacrimal puncta	DX 37530, 37532-37533;
1.03	Chronic or recurrent dacryocystitis	History of previous dacryocystitis AND redness around lacrimal sac AND edema around lacrimal sac AND reflux of material from lacrimal puncta	DX 37542-37543;
1.04	Canaliculitis	Infection of canalicular system [Gram stain report] OR redness of canaliculus AND pain/tenderness around canaliculus AND reflux of material from lacrimal puncta	DX 37531, 37541;
2.01	with cellulitis of the face	Stage 1.02-1.03 AND cellulitis of the face OR area of redness, induration, tenderness and heat with indistinct borders	STAGE 1.01-1.04 + (DX 37313, 6820);
3.01	with cellulitis of the face and sepsis	Stage 2.01 AND sepsis:	STAGE 1.01-2.01 + GROUP SEPSIS;
3.02	with shock	Stage 2.01-3.01 AND shock:	STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.1-3.2 AND death	NO;

References:

McCord Jr CD. The lacrimal drainage system. In: Duane TD, ed. Clinical Ophthalmology. Revised ed., Philadelphia, PA: JB Lippincott Co.; 1988:(4)13:6,14-15.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: EYE07

MultiStage: No

DXCat Label: Detachment of the Retina

Specificity: A

Etiology: Degenerative; Trauma

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Posterior vitreous detachment (PVD)	Posterior vitreous detachment [indirect ophthalmoscopy report]	DX 36106, 36189-3619, 37921;
1.02	Posterior vitreous detachment and breaks	Stage 1.01 AND retinal breaks [indirect ophthalmoscopy report] OR retinal tears [indirect ophthalmoscopy report] OR round holes [indirect ophthalmoscopy report] OR senile retinoschisis [indirect ophthalmoscopy report] OR dialysis [indirect ophthalmoscopy report] OR vitreous hemorrhage [indirect ophthalmoscopy report] AND pigmentation cells in vitreous [indirect ophthalmoscopy report]	DX 36100-36105, 36107, 36110-36112, 3612, 36130-36133;
1.03	Retinal detachment with subretinal fluid	Stage 1.01-1.02 AND subretinal fluid [ophthalmoscopy report]	NO;
2.01	Retinal detachment with proliferative retinopathy	Stage 1.01-1.03 AND preretinal fibrous scar tissue [indirect ophthalmoscopy report] OR subretinal fibrous scar tissue [indirect ophthalmoscopy report]report]	STAGE 1.01-1.02 + DX 36229;
2.02	Retinal detachment with phthisis bulbi	Stage 1.01-2.01 AND no light perception AND globe shrunken	STAGE 1.01-2.01 + (DX 33811, 33821, 36040, 36041 , 36901, 36903, 36906, 36907, 36912, 36916 , 3694, 36962, 36963);
2.03	PVD and macular hole	Stage 1.01 AND macular hole [ophthalmoscopy report]report]	STAGE 1.01-2.02 + DX 36254;

References:

Benson, W. Retinal detachment: diagnosis and management. Hagerstown, MD: Harper and Row; 1988.

The Retina Society Terminology Committee. The classification of retinal detachment with proliferative vitreoretinopathy. Ophthalmology. 1983;(90)121-125.

Vander, JF. In: Clinical Decisions in Medical Retinal Disease. Tasman, W, ed. St. Louis: Mosby, 1994.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: EYE08

MultiStage: No

DXCat Label: Ectropion or Entropion (Abnormal Lower Lid Position)

Specificity: A

Etiology: Degenerative; Trauma

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Looseness of lower lid with tearing or foreign body sensation, or entropion or ectropion	Intermittent or constant ectropion of lower lid AND lid laxity OR tearing (epiphora) OR cicatricial changes of skin OR cranial nerve VII palsy OR Intermittent or constant entropion of lower lid AND lid laxity AND over-riding preseptal orbicularis AND superficial punctate keratitis (with fluorescein staining of cornea)	DX 37400, 37410-37414;
2.01	with corneal vascularization, ulcer, ocular pemphigoid, or keratinization of palpebral conjunctiva	Ectropion AND corneal vascularization OR corneal ulcer OR keratinization of palpebral conjunctiva OR Entropion AND corneal ulcer OR corneal vascularization OR severe cicatricial conjunctival changes consistent with ocular pemphigoid or pseudopemphigoid	STAGE 1.01 + (DX 33811, 33821, 37000-37007, 37060-37064, 69461, 7011, 7028);

References:

Dortzback RK, McGetrick JJ. Industrial entropion of the lower eyelid. Adv. Ophthalm. Plastic Reconstructive Surgery. 1983;2:257.

Doxanas MT. Eyelid abnormalities: ectropion, entropion. In: Tasman W, Jaeger EA, eds. Duane's Ophthalmology. Philadelphia, PA: Lippincott-Raving; 1998:Vol. 5(73).

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: EYE09

MultiStage: No

DXCat Label: Endophthalmitis

Specificity: A

Etiology: Infection

Stage	Description	Diagnostic findings	ICD-9-CM Codes
2.01	Endophthalmitis	Conjunctival injection AND anterior chamber reaction [slit lamp or ophthalmoscopy report] AND vitreous reaction [slit lamp or ophthalmoscopy report] AND vitreous infection [culture reports growth of pathologic organism(s)]	DX 36000-36019;
2.02	with vision loss	Stage 2.01 AND visual acuity \leq 20/70 AND hazy retinal details	STAGE 2.01 + (DX 36920, 36923-3693, 36970-36999);
2.03	with marked vision loss	Stage 2.01-2.02 AND vision \leq 20/400 AND dense vitreous opacifications OR diffuse conjunctival injection AND corneal edema AND hypopyon	STAGE 2.01-2.02 + (DX 36900-36914, 36916-36918, 36921-36922, 3694, 36960-36969);
2.04	with retinal detachment or retinal infarction or optic nerve atrophy	Stage 2.01-2.03 AND retinal detachment [ophthalmoscopy report] OR retinal infarction [ophthalmoscopy report] OR optic nerve atrophy [ophthalmoscopy report]	STAGE 2.01-2.03 + (DX 36100-36107, 36181-3619, 36284, 37710-37712, 37715);
2.05	with shrunken globe	Stage 2.01 AND shrunken globe	STAGE 2.01-2.04 + (DX 36040, 36041);

References:

Forster RK. Endophthalmitis. In: Duane TD, Jaeger EA, eds. Clinical Ophthalmology. Philadelphia, PA: Harper & Row; 1987:(4)24.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: EYE10

MultiStage: No

DXCat Label: Foreign Body: Orbit

Specificity: A

Etiology: Trauma

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Corneal or conjunctival or lacrimal punctum foreign body	Corneal foreign body OR conjunctival foreign body OR lacrimal punctum foreign body	DX 9300-9302;
2.01	Foreign body in the anterior segment	Corneal penetration by foreign body OR foreign body in anterior segment [ophthalmoscopy report] OR foreign body in crystalline lens [ophthalmoscopy report]	DX 8715-8716;
2.02	Foreign body in the posterior segment	Stage 1.01-2.01 AND foreign body in posterior segment [ophthalmoscopy report]	NO;
2.03	Orbital foreign body without ocular injury	Orbital foreign body [physical examination or CT scan of head] AND vision unchanged from baseline AND pupillary reactions unchanged from baseline	DX 8704;
2.04	Orbital foreign body with injury to the optic nerve	Orbital foreign body [physical examination or CT scan of head] AND motility changed from baseline AND pupillary reactions changed from baseline AND vision markedly reduced from baseline	STAGE 1.01-2.03 + (DX 33811, 33821, 9500);

References:

Deutsch TA, Feller DB. Paton and Goldberg's Management of Ocular Injuries. 2nd ed. Philadelphia, PA: WB Saunders; 1985.

Iwamoto MA, Iliff NT. Management of orbital trauma. In: Tasman W, Jaeger EA, eds. Duane's Ophthalmology. Philadelphia, PA: Lippincott-Raven; 1998, Vol 3.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: EYE11

MultiStage: No

DXCat Label: Fracture: Orbit, Blow-Out

Specificity: A

Etiology: Trauma

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Blow-out fracture of the orbit with normal ocular alignment and normal motility and normal position	Blow-out fracture of the orbit [skull x-ray report or CT scan of head report] AND with normal ocular alignment AND normal motility AND normal position	DX 8026-8027;
2.01	with enophthalmos	Blow-out fracture of the orbit [skull x-ray report or CT scan of head report] AND ≥ 2 mm enophthalmos [exophthalmometer report]	STAGE 1.01 + (DX 37650, 37652);
2.02	with diplopia in primary gaze or down gaze or heterotropia or gaze restriction	Blow-out fracture of the orbit [skull x-ray report or CT scan of head] AND diplopia in primary gaze OR down gaze OR heterotropia OR gaze restriction	STAGE 1.01-2.01 + (DX 36815, 3682, 37820, 37830, 37831);
2.03	with traumatic optic neuropathy	Blow-out fracture [CT scan report] AND decreased vision AND afferent pupillary defect (APD)	STAGE 1.01-2.02 + (DX 33811, 33821, 37732, 37739);
2.04	with retrobulbar hemorrhage	Blow-out fracture [CT scan report] AND retrobulbar hemorrhage	STAGE 1.01-2.03 + DXCAT EYE33;

References:

Dortzbach RK, Elnor VM. Which orbital blowout fractures need surgery? Ophthalmology Plastic Reconstructive Surgery. 1987;(6)287.

Wilkins RB, Havins WE. Current treatment of blow-out fractures. Ophthalmology. 1982;(89)464-466.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: EYE12

MultiStage: No

DXCat Label: Fungal Infection of the Eye

Specificity: A

Etiology: Infection

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Peripheral fungal keratitis	Peripheral corneal ulcer AND fungal infection [corneal culture reports growth of fungi(us)]	DX 37005;
2.01	Central fungal keratitis	Central corneal ulcer OR hypopyon OR satellite lesions OR immune ring AND fungal infection [corneal culture reports growth of fungi(us)]	STAGE 1.01 + (DX 37003, 37004, 37114);
2.02	Fungal keratitis with glaucoma or corneal perforation	Stage 1.01-2.01 AND corneal perforation OR intraocular pressure \geq 21 mmHg tonometry report]	STAGE 1.01-2.01 + DXCAT EYE13;
2.03	End-stage fungal keratitis	Stage 1.01-2.02 AND vision limited to light perception OR corneal scar OR cataract AND shrunken globe	STAGE 1.01-2.02 + DXCAT EYE01; STAGE 1.01-2.02 + (DX 36040-36041, 37100);
2.04	Fungal endophthalmitis	White retinal infiltrates AND vitreous fungal infection [vitreous culture reports growth of fungi(us)] OR fungemia:	STAGE 1.01-2.03 + GROUP FUNGEMIA; STAGE 1.01-2.03 + (DX 36000-36001, 36003, 36011, 36013, 36019);
2.05	Fungal endophthalmitis with retinitis or vitreitis	Stage 2.04 AND corrected vision \leq 20/70 OR retinitis [ophthalmoscopy report] OR vitreitis [ophthalmoscopy report]	STAGE 1.01-2.04 + DX 36320;
2.06	Fungal endophthalmitis with vision loss	Stage 2.04-2.05 AND vision $<$ 20/400 OR retinal detachment [ophthalmoscopy report] OR retinal infarction [ophthalmoscopy report] OR optic nerve atrophy [ophthalmoscopy report] OR cataract formation [ophthalmoscopy report]	STAGE 1.01-2.05 + DXCAT EYE07; STAGE 1.01-2.05 + (DX 36284, 37710, 37712, 37715, 36901-3699);

References:

Clarkson JG, Green WR. Endogenous fungal endophthalmitis. In: Duane TD, Jaeger EA, eds. Clinical Ophthalmology. Philadelphia, PA: Harper & Row; 1979:(3)11.

Jones DB. Fungal infections. In: Duane TD, Jaeger EA, eds. Clinical Ophthalmology. Philadelphia, PA: Harper & Row; 1976:(4)21.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: EYE13

DXCat Label: Glaucoma

Etiology: Congenital; Genetic (or hereditary); Idiopathic

MultiStage: No

Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Ocular hypertension	Intraocular pressure \geq 21 mmHg [tonometer report] AND visual acuity \geq 20/20	DX 36500, 36503-36504, 36531-36532, 36551-36560, 36562-36569;
1.02	Glaucoma with scotoma or visual field defects	Stage 1.01 AND cup/disk ratio \geq 0.3 OR asymmetric cupping AND arcuate or paracentral scotoma AND visual acuity \leq 20/40	STAGE 1.01 + DX 36840-36847;
1.03	Open angle glaucoma	Normal ocular pressure AND open angle [gonioscopy report]	DX 36510-36515, 36501, 36561;
2.01	Moderate glaucoma	Stage 1.01 AND cup/disk ratio \geq 0.5 AND visual field shows nasal step AND visual acuity \leq 20/40	STAGE 1.01-1.03 + (DX 36920-36925, 3693, 36960-3699);
2.02	Severe glaucoma	Stage 1.01 AND cup/disk ratio \geq 0.8 AND visual field limited to central vision AND pale optic nerve head	NO;
2.03	Advanced glaucoma	Stage 1.01 AND cup/disk ratio \geq 0.8 [ophthalmoscopy report] OR central field \leq 20 degrees AND pale optic nerve head [ophthalmoscopy report] AND visual acuity \leq 20/200 in either one or both eyes	STAGE 1.01-2.02 + (DX 36900-36908, 36910-36918, 3694); DX 36042;
2.04	Angle closure glaucoma	Stage 1.03 AND closed or narrow angle AND increased IOP $>$ 21 mmHg [tonometer report] AND ocular pain OR nausea OR headache OR visual changes (halos)	DX 36520-36524, 36502;

References:

Hoskins HD, Hetherington J. Developmental glaucomas. In: Duane TD, Jaeger EA, eds. Clinical Ophthalmology. Philadelphia, PA: Harper & Row; 1979, Vol. 3.

Migdel C. Primary open angle glaucoma. In: Tasman W, Jaeger EA, eds. Duane's Ophthalmology. Philadelphia, PA: Lippencott-Raven; 1998.

Simons RB, Montenegro MH, Simons RJ, Migdel C. Primary angle closure glaucoma. In: Tasman W, Jaeger EA, eds. Duane's Ophthalmology. Philadelphia, PA: Lippencott-Raven; 1998.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: EYE14

MultiStage: No

DXCat Label: Herpes Virus Ocular Infection

Specificity: A

Etiology: Infection, Viral

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Herpes keratitis or dendritic keratitis	Herpes keratitis or dendritic keratitis [corneal culture reports growth of pathologic organism(s) or dendrites by fluorescein stain]	DX 05449;
1.02	with vision loss	Stage 1.01 AND visual acuity \leq 20/70 OR ciliary flush [ophthalmoscopy report]	STAGE 1.01 + (DX 3693, 3698, 3699);
2.01	with trophic ulcer	Stage 1.01-1.02 AND visual acuity \leq 20/100 AND epithelial ulceration OR stromal ulceration OR stromal infiltrate	STAGE 1.01-1.02 + (DX 36901-36918, 36921-36925, 3694, 36960-36976, 37301);
2.02	with stromal keratitis	Stage 1.01-2.01 AND corneal necrosis with thinning OR corneal perforation	STAGE 1.01-2.01 + (DX 37000, 37006, 37140);
2.03	with stromal scarring	Stage 1.01-2.02 AND stromal scarring [ophthalmoscopy report]	STAGE 1.01-2.02 + DX 37100;
2.04	Acute retinal necrosis syndrome	Stage 1.01 - 2.03 AND anterior retinal necrosis OR blurred vision AND anterior chamber reaction [ophthalmoscopy report] AND photophobia	STAGE 1.01-2.03 + (DX 3643, 3688) + DX 36813 + (DX 36403, 36405);
2.05	Acute retinal necrosis syndrome with vision loss	Stage 2.04 AND visual acuity \leq 20/70 OR vitritis [ophthalmoscopy report] AND patchy white retinal infiltrates [ophthalmoscopy report] OR retinal hemorrhages [ophthalmoscopy report] AND macular edema [ophthalmoscopy report] OR optic disk edema [ophthalmoscopy report]	STAGE 2.04 + DX 36901-36999; STAGE 2.04 + (DX 36229 + (DX 36260-36263, 36265-36266, 36281)) + (DX 36283, 37700, 37703);
2.06	Acute retinal necrosis syndrome with retinal detachment	Stage 2.04-2.05 AND retinal detachment [ophthalmoscopy report]	STAGE 2.04-2.05 + DXCAT EYE07;

References:

Fisher JP, Lewis ML, Blumenkrantz M, et al. The acute retinal necrosis syndrome. part I: clinical manifestations. *Ophthalmology*. 1982;(89)1309-1316.

O'Day DM, Jones BR. Herpes simplex keratitis. In: Duane TD, Jaeger EA, eds. *Clinical Ophthalmology*. Philadelphia, PA: Harper & Row; 1987:(4)19.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: EYE15

MultiStage: No

DXCat Label: Hypovitaminosis A

Specificity: A

Etiology: Nutritional

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Conjunctival xerosis	Conjunctival xerosis OR Bitot's spots on conjunctiva [slit lamp exam report] OR night blindness AND vitamin A level ≤ 10 ug/dl [chemistry report]	DX 2640-2641, 2645, 2647-2649;
1.02	Corneal xerosis	Haziness of inferior cornea OR keratinized corneal plaques [slit lamp exam report] OR white opacities in peripheral retina [ophthalmoscopy report] AND vitamin A level ≤ 10 ug/dl [chemistry report]	DX 2642, 2644, 2646;
2.01	Corneal ulceration	Stage 1.01-1.02 AND thinning of cornea [slit lamp examination report]	DX 2643;

References:

Bloch RS. Gastrointestinal and nutritional diseases. In: Duane TD, Jaeger EA, eds. Clinical Ophthalmology. Philadelphia, PA: Harper & Row; 1982:(3)30.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: EYE16

MultiStage: No

DXCat Label: Injury or Laceration: Eyelids, Periocular Area, Cornea, or Conjunctiva

Specificity: A

Etiology: Trauma

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Laceration or superficial injury of the eyelids, periocular area, cornea or conjunctiva	Laceration of the eyelids with separation of the skin [operative/pathology report] OR laceration of the eyelids with separation of the orbicularis oculi muscle [operative/pathology report] OR superficial injury of periocular area, cornea or conjunctiva	DX 8700, 8703, 8708-8709, 9180-9189, 9210-9212, 9219;
1.02	Full thickness laceration of the eyelids	Stage 1.01 AND laceration of the tarsus [operative/pathology report] AND laceration of the conjunctiva [operative/pathology report]	DX 8701;
2.01	Laceration of the eyelids with involvement of lacrimal canaliculi	Stage 1.01-1.02 AND laceration of the lacrimal canaliculi [operative/pathology report]	DX 8702;
2.02	Laceration of the eyelids with loss of tissue	Stage 1.01-2.01 AND loss of lacerated tissue [operative/pathology report]	NO;

References:

Wilkins RB, Havins WE. Current treatment of blow-out fractures. *Ophthalmology*. 1982;(89)464-466.
Wulc AE, Arterberry, JF. The pathogenesis of canalicular lacerations. *Ophthalmology*. 1991;98;1243.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: EYE17

MultiStage: No

DXCat Label: Injury: Eyes, Nonionizing Radiation

Specificity: A

Etiology: Trauma

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Ultraviolet keratoconjunctivitis	History of sun exposure OR history of ultraviolet light exposure AND conjunctival injection OR reduced vision from baseline develops \leq 1 day AND corneal punctate keratitis	DX 37024;
1.02	Solar retinopathy	History of sun exposure OR history of ultraviolet light exposure OR history of exposure to intense welder's arc light AND reduced vision from baseline develops \leq 1 month AND yellow discoloration in center of fovea [direct ophthalmoscopy report]	DX 36331;

References:

Deutsch TA, Feller DB. Paton and Goldberg's Management of Ocular Injuries. 2nd ed. Philadelphia, PA: WB Saunders; 1985.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: EYE18

DXCat Label: Injury: Eyes, Radiation

Etiology: Trauma

MultiStage: No

Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Radiation keratitis	History of ocular radiation exposure AND reduced tear film OR rose-bengal staining [slit lamp report]	(DX 37020-37024, 37050-37059, 3708-3709) + (DX E9260-E9261, E9263-E9269);
2.01	Radiation cataracts	History of radiation exposure AND posterior subcapsular cataract develops \geq 1 month post-exposure [slit lamp or direct ophthalmoscopy report]	DX 36646;
2.02	Radiation retinopathy	History of radiation exposure AND retinal hemorrhages develop \geq 1 month post-exposure [direct ophthalmoscopy report] OR cotton wool spots develop \geq 1 month post-exposure [direct ophthalmoscopy report] OR microaneurysms develop \geq 1 month post-exposure [direct ophthalmoscopy report] OR exudates develop \geq 1 month post-exposure [direct ophthalmoscopy report] OR retinal neovascularization [direct ophthalmoscopy report]	STAGE 1.01-2.01 + (DX 36210-36218, 36229);
2.03	Radiation optic neuropathy	History of radiation exposure AND optic disk edema develops \geq 1 month post-exposure [direct ophthalmoscopy report] OR optic disk pallor develops \geq 1 month post-exposure [direct ophthalmoscopy report]	STAGE 1.01-2.02 + (DX 33811, 33821, 37700-37703, 37715, 37734, 37739);

References:

Augsburger JJ. Radiation neuropathy. In: Clinical Decisions in Medical Retinal Disease. Tasman, W, ed. St. Louis, MO: Mosby; 1994.

Brown GC, Shields JA, Sanborn G, et al. Radiation optic neuropathy. Ophthalmology. 1982;(89)1489-1493.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: EYE19

MultiStage: No

DXCat Label: Keratitis, Acanthamoeba

Specificity: A

Etiology: Infection

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Acanthamoeba keratitis	History of ocular trauma OR history of contact lens wear AND dendriform epithelial lesions [slit lamp report] OR Acanthamoeba keratitis [calcufluor white stain or culture report]	DX 3708 + NOT (DX E9260-E9261, E9263-E9269);
2.01	with reduced vision	Stage 1.01 AND corrected vision \leq 20/70 OR central infiltrate [ophthalmoscopy report] OR ring infiltrate [ophthalmoscopy report] AND conjunctival chemosis	STAGE 1.01 + (DX 36920, 36923-36925, 3693, 36970-3699, 37120, 37173);
2.02	with corneal thinning or corneal perforation or visual loss	Stage 1.01-2.01 AND vision \leq 20/200 OR corneal thinning OR corneal perforation	STAGE 1.01-2.01 + (DX 36901-36918, 36921-36922, 3694, 36960-36969, 37000, 37006);

References:

Moore MD, McCulley JP. Acanthamoeba keratitis: a growing problem in soft and hard contact lens wearers. Ophthalmology. 1987;(94)1654-1661.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: EYE20

MultiStage: No

DXCat Label: Keratitis, Adenovirus

Specificity: A

Etiology: Infection, Viral

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Adenovirus keratitis	Epidemic keratoconjunctivitis OR adenovirus keratitis [corneal culture reports growth of pathologic organism(s)]	DX 0771;
1.02	with vision loss	Stage 1.01 AND visual acuity \leq 20/70 OR conjunctival edema OR eyelid edema	STAGE 1.01 + (DX 36901-36918, 36921-36999);
2.01	with subepithelial infiltrates	Stage 1.02 AND subepithelial infiltrates [slit lamp exam report]	STAGE 1.01-1.02 + DX 37120;

References:

Dawson CR. Follicular conjunctivitis. In: Duane TD, Jaeger EA, eds. Clinical Ophthalmology. Philadelphia, PA: Harper & Row; 1986:(4)7.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: EYE21

DXCat Label: Keratitis, Bacterial

Etiology: Infection, Bacterial

MultiStage: No

Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Bacterial keratitis	Bacterial keratitis [corneal culture reports growth of pathologic organism(s) or Gram stain shows organism(s)] OR conjunctival injection [slit lamp report] AND epithelial infiltrate OR corneal ulcer	(DX 37020, 3709) + NOT (DX E9260-E9261, E9263-E9269);
2.01	Bacterial keratitis with intraocular inflammation	Stage 1.01 AND visual acuity \leq 20/70 OR corneal stroma involvement OR corneal thinning [slit lamp report] OR hypopyon	DX 37050-37059 + NOT (DX E9260-E9261, E9263-E9269); STAGE 1.01 + (DX 36920, 36923, 36925, 3693-3694, 36970, 36974-3699, 37004-37005);
2.02	Bacterial keratitis with vision loss	Stage 1.01-2.01 AND visual acuity \leq 20/400 OR corneal perforation [slit lamp report] OR scleritis [slit lamp report] OR corneal scar [slit lamp report]	STAGE 1.01-2.01 + (DX 36911, 36921, 36924, 36971-36973, 37000-37003, 37006, 37900-37904, 37906-37909);
2.03	Bacterial keratitis with endophthalmitis	Stage 1.01-2.02 AND visual acuity \leq 5/200 OR corneal opacification OR vitritis [slit lamp or echography report] OR hypopyon	STAGE 1.01-2.02 + (DX 36000-36001, 36019, 36900-36908, 36912-36918, 3694, 36960-36969);
2.04	Phthisis bulbi or degenerate globe	Stage 1.01-2.03 AND no light perception AND shrunken globe	STAGE 1.01-2.03 + (DX 36040-36041);

References:

Krohel GB, Krauss HR, Winnick J. Orbital abscess, presentation, diagnosis, therapy, and equalae. Ophthalmology. 1982;(89)492-498.

Watters EC, Wallar PH, Hiles DA, Michaels RH. Acute orbital cellulitis. Arch Ophthalmol. 1976;(94)785-788.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: EYE22

MultiStage: No

DXCat Label: Laceration: Cornea

Specificity: A

Etiology: Trauma

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Superficial laceration of cornea or conjunctiva	History of trauma AND laceration of cornea or conjunctiva without globe penetration	DX 8710, 8714, 8717, 8719;
2.01	Full thickness corneal, and/or scleral laceration	Stage 1.01 AND penetrating injury history AND shallow anterior chamber OR uveal prolapse	NO;

References:

Brackup AB, Carter KD, et al. Long term follow-up of severely injured eyes following globe rupture. *Ophthalmology Plastic and Reconstructive Surgery*. 1991;(7)194.

Cullom Jr RD, Chang B. *The Wills Eye Manual*. Philadelphia, PA: J.B. Lippincott Co.; 1994.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: EYE23

MultiStage: No

DXCat Label: Macular Degeneration

Specificity: A

Etiology: Degenerative

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Macular degeneration with drusen	Visual acuity \geq 20/50 AND drusen [ophthalmoscopy report]	DX 36250, 36255-36257;
1.02	with pigment epithelial atrophy	Visual acuity \geq 20/50 AND pigment epithelial atrophy [ophthalmoscopy report]	NO;
2.01	with serous detachment of retinal pigment epithelium	Visual acuity \leq 20/50 AND subretinal fluid or hemorrhage or exudate [ophthalmoscopy report] AND neovascularization [fluorescein angiography report]	STAGE 1.01 + (DX 3612, 36216, 36281, 36282); DX 36251-36254;
2.02	with fibrotic subretinal or disciform scar	Visual acuity \leq 10/200 AND white subretinal scar [ophthalmoscopy report]	STAGE 1.01-2.01 + (DX 36330-36335);
2.03	with vitreous or suprachoroidal hemorrhage	Visual acuity \leq 5/200 AND diffuse hemorrhage obscuring fundus [ophthalmoscopy report]	STAGE 1.01-2.02 + DX 37923;

References:

Maguire JI, Annesly, Jr WH. Age related macular degeneration. In: Clinical Decisions in Medical Retinal Disease. Tasman, W, ed. St. Louis, MO: Mosby; 1994.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: EYE24

MultiStage: No

DXCat Label: Neoplasm, Benign: Pterygium

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Limbal mass	Flat mass in the horizontal meridian AND with no active borders AND no staining of the cornea	DX 37992;
1.02	Inactive pterygium	Flat mass in the horizontal meridian with borders on the corneal limbus onto the superficial cornea AND with no active borders AND no staining of the cornea	DX 37240-37241;
1.03	Active pterygium	Flat mass in the horizontal meridian with borders on the corneal limbus onto the superficial cornea AND active borders AND staining of the cornea	DX 37242;
1.04	Advanced pterygium	Flat mass in the horizontal meridian with borders grown past the apex of the cornea AND active borders AND staining of the cornea	DX 37243-37245;

References:

Grayson M. Degenerations, dystrophies and edema of the cornea. In: Duane TD, ed. Clinical Ophthalmology. Hagerstown, MD: Harper & Row, 1979.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: EYE25

MultiStage: No

DXCat Label: Neoplasm, Malignant: Ocular Melanoma

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	History of ocular melanoma or benign choroidal nevus	Choroidal nevus [ophthalmoscopy report] OR ciliary body nevus [ophthalmoscopy report] AND minimal elevation of mass [ophthalmoscopy report]	DX V1084, 2240;
1.01	Ocular melanoma confined to uvea	Elevated choroid mass with growth over ≥ 1 month [ophthalmoscopy report] OR elevated ciliary body mass with growth over ≥ 1 month [ophthalmoscopy report] OR serous retinal detachment AND low internal reflectivity [A-scan echography report]	DX 1900;
2.01	Ocular melanoma penetrating Bruch's membrane	Choroidal melanoma penetrating Bruch's membrane [ophthalmoscopy report or echography report]	DX 1906;
2.02	with periocular extension	Stage 2.01-2.02 AND extrascleral spread confined to orbit [echography or operative/pathology report or CT scan report] OR proptosis	STAGE 0.00-2.01 + (DX 1901, 3383);
2.03			NO;
3.01	with metastasis	Stage 2.01-2.03 OR history of ocular melanoma AND liver metastasis [CT scan report] or biopsy report] OR brain metastasis [CT scan report] or MRI report] OR lung metastasis [CT scan report] or MRI report]	(STAGE 0.00, 2.01-2.03) + (DX 1960-1991, 78951);
3.02	with shock	Stage 3.01 AND shock:	STAGE 1.01-3.01 + GROUP SHOCKN;
4.00	with death	Stage 3.01-3.02 AND death	NO;

References:

Shields JA. Tumors of the uveal tract. In: Duane TD, Jaeger EA, eds. Clinical Ophthalmology. Philadelphia, PA: Harper & Row; 1981:(4)67.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: EYE26

MultiStage: No

DXCat Label: Neoplasm, Malignant: Retinoblastoma

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	History of retinoblastoma		NO;
1.01	Retinoblastoma	Retinal tumor with telangiectatic vessels [ophthalmoscopy report] AND retinal calcifications [CT scan of orbit report] OR retinoblastoma [operative/pathology report]	DX 1905;
2.01	Retinoblastoma with reduced vision	Stage 1.01 AND vision \leq 20/70 OR vitreous seeding [ophthalmoscopy report] OR vitreous hemorrhage [ophthalmoscopy report] OR intraocular pressure \geq 21 mmHg [tonometer report] OR retinal detachment [ophthalmoscopy report]	STAGE 1.01 + DXCAT EYE07; STAGE 1.01 + (DX 36901-36918, 36921-36999, 37923);
2.02	Retinoblastoma with extension to the optic nerve	Stage 1.01-2.01 AND retinoblastoma of the optic nerve [operative/pathology report]	STAGE 1.01-2.01 + DX 3383;
3.01	Retinoblastoma with metastasis	Stage 1.01-2.02 AND meningeal tumor [CT scan report or operative/pathology report] OR brain metastasis [CT scan report] OR lymph node retinoblastoma [operative/pathology report]	STAGE 1.01-2.01 + (DX 1960- 1991, 78951);
3.02	with shock	Stage 3.01 AND shock:	STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 3.01-3.02 AND death	NO;

References:

Ellsworth RM. Retinoblastoma. In: Duane TD, Jaeger EA, eds. Clinical Ophthalmology. Philadelphia, PA: Harper & Row; 1979:(3)35.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: EYE27

MultiStage: No

DXCat Label: Neoplasm: Eyelid

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	History of Basal Cell Carcinoma or Squamous Cell Carcinoma of lids		NO;
1.01	In-situ Basal Cell Carcinoma or Sebaceous Adenocarcinoma or Squamous Cell Carcinoma of lids	Basal cell carcinoma or squamous cell carcinoma limited to skin of lids [operative/pathology report] OR sebaceous adenocarcinoma limited to conjunctiva of lids or globe without spread as found on map biopsy [operative/pathology report]	DX 1731, 2321;
2.01	with involvement of lacrimal system	Stage 1.01 AND involvement of the lacrimal system [operative/pathology report]	DX 1902;
2.02	with involvement of orbit	Stage 2.01 AND extension into orbital fat [operative/pathology report] OR extension into extraocular muscles [operative/pathology report] OR diplopia	DX 1901;
2.03	with blepharoconjunctivitis	Stage 2.01-2.02 AND widespread involvement of lid and globe conjunctiva [operative/pathology report]	STAGE 1.01-2.02 + (DX 3383, 37220-37222);
3.01	with brain invasion or sinus invasion	Stage 2.01-2.03 AND Extension into brain or sinus [CT or MRI report]	STAGE 1.01-2.03 + DX 1983;
3.02	Malignant tumor with distant metastasis	Stage 2.01-3.01 AND metastasis to lymph nodes [operative/pathology report] OR metastasis to distant site	STAGE 1.01-3.01 + (DX 1960-1982, 1984-1991, 78951);
4.00	Death	Stage 3.01-3.02 AND death	NO;

References:

Crawford JB. Neoplastic and inflammatory tumors of the eyelids. In: Tasman W, Jaeger EA, eds. Duane's Ophthalmology. Philadelphia, PA: Lippincott-Raving; 1998:Vol 5(73).

Kersten RC, Ewing-Chow D. Accuracy of clinical diagnosis of cutaneous eyelid tumors. Ophthalmology. 1997;104:479.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: EYE28

MultiStage: No

DXCat Label: Ocular Onchocerciasis

Specificity: A

Etiology: Infection

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Ocular onchocerciasis	Microfilariae in anterior chamber [slit lamp report] AND skin-snip test shows onchocerciasis [operative/pathology report]	DX 1253 + DX 36013;
1.02	with punctate keratitis	Stage 1.01 AND punctate white corneal opacities [slit lamp report]	DX 1253 + DX 37021;
2.01	with keratitis or uveitis or chorioretinitis	Stage 1.01-1.02 AND sclerosing keratitis [ophthalmoscopy report] OR anterior uveitis [ophthalmoscopy report] OR chorioretinitis [ophthalmoscopy report]	DX 1253 + (DX 36320, 36403, 37054);
2.02	with retinal epithelial pigment atrophy	Stage 1.01-2.01 AND retinal pigment epithelial atrophy [ophthalmoscopy report] OR optic nerve atrophy [ophthalmoscopy report]	DX 1253 + (DX 36260, 37710, 37712, 37713);

References:

Taylor HR. Onchocerciasis. In: Duane TD, Jaeger EA, eds. Clinical Ophthalmology. Philadelphia, PA: Harper & Row; 1984:(5)62.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: EYE29

DXCat Label: Orbital Infection

Etiology: Infection

MultiStage: No

Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Preseptal cellulitis or chalazion or blepharitis or hordeolum	Lid area of cellulitis OR chalazion OR blepharitis OR hordeolum	DX 37300-3732, 37610-37613, 37630-37631, 37633;
1.02	Advanced preseptal cellulitis	Stage 1.01 AND fever: OR leukocytosis:	STAGE 1.01 + (GROUP FEVER OR GROUP LEUKOCYTOSIS) ;
2.01	Orbital cellulitis	Orbital cellulitis AND proptosis AND reduced ocular motility AND sinusitis	DX 37600-37601, 37604, 37613, 3734-3735;
2.02	Orbital cellulitis with subperiosteal abscess	Stage 2.01 AND subperiosteal abscess [CT scan of head report] OR abscess [culture reports growth of pathologic organism(s)] AND sinusitis	DX 37602; STAGE 2.01 + (DX 4739, 73008);
2.03	Orbital cellulitis with orbital abscess	Stage 2.01-2.02 AND orbital abscess [CT scan of head report or ultrasound of orbit report or MRI of head report]	DX 37603;
3.01	Orbital cellulitis with meningitis	Stage 2.01-2.03 AND meningitis:	STAGE 1.01-2.02 + DXCAT NEU13;
3.02	Orbital cellulitis with sepsis	Stage 1.02-3.01 AND sepsis:	STAGE 1.01-3.01 + GROUP SEPSIS;
3.03	Orbital cellulitis with coma	Stage 1.02-3.02 AND coma:	STAGE 1.01-3.02 + (GROUP COMA);
3.04	Orbital cellulitis with shock	Stage 2.01-3.03 AND shock:	STAGE 1.01-3.03 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	Orbital cellulitis with death	Stage 2.01-3.04 AND death	NO;

References:

Krohel GB, Krauss HR, Winnick J. Orbital abscess, presentation, diagnosis, therapy, and equalae. Ophthalmology. 1982;(89)492-498.

Watters EC, Wallar PH, Hiles DA, Michaels RH. Acute orbital cellulitis. Arch Ophthalmology. 1976;(94)785-788.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: EYE30

MultiStage: No

DXCat Label: Orbital Mucormycosis

Specificity: A

Etiology: Infection

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Orbital mucormycosis	Orbital mucormycosis [biopsy report] AND change in vision ≤ 24 hrs. AND facial pain OR ocular pain OR lid edema AND corneal hypesthesia OR proptosis OR internal ophthalmoplegia OR external ophthalmoplegia AND sinus opacification [orbital x-ray report]	NO;
2.01	with loss of vision	Stage 1.01 AND visual acuity ≤ 20/70	NO;
2.02	with apex syndrome	Stage 2.01 AND proptosis AND sinus opacification [orbital x-ray report]	NO;
3.01	with cerebral mucormycosis	Stage 2.02 AND cerebral mucormycosis [MRI or CT scan brain] OR disorientation:	NO;
3.02	with coma	Stage 3.01 AND coma:	NO;
3.03	with shock	Stage 3.01-3.02 AND shock:	NO;
4.00	with death	Stage 3.01 AND death	NO;

References:

Fisher JP, Lewis ML, Blumenkrantz M, et al. The acute retinal necrosis syndrome. part I: clinical manifestations. Ophthalmology. 1982;(89)1309-1316.

O'Day DM, Jones BR. Herpes simplex keratitis. In: Duane TD, Jaeger EA, eds. Clinical Ophthalmology. Philadelphia, PA: Harper & Row; 1987:(4)19.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: EYE31

MultiStage: No

DXCat Label: Prematurity: Retinopathy

Specificity: A

Etiology: Congenital

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Demarcation line separating vascular from avascular retina	Demarcation line separating vascular from avascular retina [indirect ophthalmoscopy report] OR Stage 0 or I retinopathy of prematurity	DX 36220-36223, 36274;
1.02	Elevated retinal ridge	Elevated retinal ridge [indirect ophthalmoscopy report] OR Stage II retinopathy of prematurity	DX 36224;
2.01	Retinal ridge with extraretinal fibrovascular proliferation	Stage 1.02 AND retinal ridge with extraretinal fibrovascular proliferation [indirect ophthalmoscopy report] OR Stage III retinopathy of prematurity	DX 36225;
2.02	Subtotal traction detachment of retinopathy of prematurity	Stage 1.01-2.01 AND subtotal traction retinal detachment [indirect ophthalmoscopy report] OR Stage IV retinopathy of prematurity	DX 36181, 36226;
2.03	Total traction detachment of retinopathy of prematurity	Stage 1.01-2.01 AND total traction retinal detachment [indirect ophthalmoscopy report] OR Stage V retinopathy of prematurity	DX 36227;
2.04	Retinopathy of prematurity with total blindness or cataract or glaucoma	Stage 1.01-2.02 AND vision limited to light perception OR cataract [slit lamp report or operative/pathology report] OR intraocular pressure \geq 21 mmHg tonometer report]	STAGE 1.01-2.02 + (DXCAT EYE01 OR DXCAT EYE13);

References:

Committee for the Classification of Retinopathy of Prematurity. An international classification of retinopathy of prematurity, Arch Ophthalmology. 1984; 102:1130-1134.

International Committee for the Classification of the Late Stages of Retinopathy of Prematurity, II. The classification of retinal detachment. Arch Ophthalmology. 1987;105:906-912.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: EYE32

MultiStage: No

DXCat Label: Ptosis of Upper Lid

Specificity: A

Etiology: Congenital; Degenerative; Trauma

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Ptosis of upper lid, acquired	Unilateral or bilateral drooping of upper lid	DX 37430-37433;
1.02	Ptosis of upper lid, congenital	Stage 1.01 AND decreased function of levator palpebrae muscle AND congenital	DX 74361;
1.03	Ptosis of upper lid, acquired with systemic disease	Stage 1.01 AND history of Myasthenia gravis OR muscular dystrophy	STAGE 1.01 + (DXCAT MUS32 OR DXCAT NEU17);
2.01	Ptosis of upper lid with visual field defect	Stages 1.01-1.03 AND decreased superior visual field to less than 30 degrees vertically [automated visual field testing]	STAGE 1.01-1.03 + (DX 36840, 36843, 36844, 36846 , 36847);
2.02	Ptosis of upper lid, congenital with amblyopia or abnormal head position	Stage 1.02 AND decreased visual function due to occlusion OR elevated chin position	STAGE 1.02 + DX 36800;

References:

Cliff WJ, Pacheco EM. Ptosis sSurgery. In: Tasman W, Jaeger EA, eds. Duane's Ophthalmology. Philadelphia, PA: Lippencott-Raven; 1998.

McCulloch DL, Wright KW. Unilateral congenital ptosis: compensatory head posturing and amblyopia. Ophthalm Plast and Reconstr Surg. 1996;9:196.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: EYE33

MultiStage: No

DXCat Label: Retrobulbar Orbital Hemorrhage

Specificity: A

Etiology: Trauma

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Orbital hemorrhage	Orbital hemorrhage AND normal motility AND normal pupillary reactions AND intraocular pressure unchanged from baseline OR intraocular pressure ≤ 21 mmHg [tonometer report] AND ≤ 2 mm proptosis [exophthalmometer report]	DX 37632;
2.01	with proptosis	Stage 1.01 AND ≥ 2 mm proptosis [exophthalmometer report]	STAGE 1.01 + DX 37630;
2.02	Orbital hemorrhage with optic nerve compression	Orbital hemorrhage AND vision changed from baseline OR limitation of ocular motility OR intraocular pressure changed from baseline OR intraocular pressure ≥ 21 mmHg [per tonometer report]report OR ≥ 2 mm proptosis [per exophthalmometer report]report OR afferent pupillary defect	STAGE 1.01-2.01 + (DX 33811, 33821, 37749);
2.03	Blindness	Blindness:	STAGE 1.01-2.03 + GROUP BLINDNESS;

References:

Deutsch TA, Feller DB. Paton and Goldberg's Management of Ocular Injuries. 2nd ed. Philadelphia, PA: WB Saunders; 1985.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: EYE34
 DXCat Label: Strabismus
 Etiology: Congenital

MultiStage: No
 Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Phoria or latent strabismus	Absence of double vision AND convergent deviation from orthotropia of both eyes, esophoria OR divergent deviation from orthotropia of both eyes, exophoria OR high vertical divergence deviation from orthotropia of both eyes, hyperphoria OR low vertical divergence deviation from orthotropia of both eyes, hypophoria	DX 37840-37845;
1.02	Periodic strabismus	Periodic double vision AND intermittent horizontal or vertical deviation from orthotropia	DX 37820-37824;
1.03	Strabismus	Convergent deviation from orthotropia of both eyes, esotropia OR divergent deviation from orthotropia of both eyes, exotropia OR high vertical divergence deviation from orthotropia of both eyes, hypertropia OR low vertical divergence deviation from orthotropia of both eyes, hypotropia	DX 37800-37818, 37830-37835, 37850-3789;
2.01	Amblyopia	Stage 1.03 AND dimness of vision OR amblyopia	DX 36800-36803;

References:

Parks MM. Eye movements and positions. In: Tasman W, Jaeger EA, eds. Duane's Ophthalmology. Philadelphia, PA: Lippencott-Raven; 1998.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: EYE35
 DXCat Label: Trachoma
 Etiology: Infection

MultiStage: No
 Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	Screening exam for trachoma		DX V736;
1.01	Trachoma with immature tarsal conjunctiva follicles	Immature follicles on upper tarsal conjunctiva without scarring OR diffuse punctate keratitis OR corneal neovascularization AND Chlamydia trachomatis conjunctivitis [conjunctiva culture reports serotype A,B,Ba or C] OR granular cytoplasmic inclusion bodies [Giemsa stain epithelial conjunctival scraping report] OR MacCallan Stage I trachoma	DX 0760, 0769;
1.02	with mature tarsal conjunctiva follicles	Mature follicles on upper tarsal conjunctiva without scarring AND Chlamydia trachomatis conjunctivitis [conjunctiva culture report] OR granular cytoplasmic inclusion bodies [Giemsa stain epithelial conjunctival scraping report] OR MacCallan Stage IIa trachoma	DX 0761;
1.03	with papillary hypertrophy	Stage 1.01-1.02 AND papillary hypertrophy OR MacCallan Stage IIb trachoma	STAGE 1.01-1.02 + DX 37430;
2.01	with tarsal conjunctival scarring	Stage 1.01-1.03 AND tarsal conjunctival scarring OR Herbert's pits OR MacCallan Stage III trachoma with follicles - superior scarring OR MacCallan Stage IV trachoma without follicles - extensive scarring	STAGE 1.01-1.03 + DX 37264;
2.02	with reduced vision or corneal scars or trichiasis or entropion	Stage 1.01-2.01 AND vision \leq 20/200 OR corneal scars OR trichiasis OR entropion	STAGE 1.01-2.01 + (DX 36900-36918, 36921-36922, 3693-36969, 36970-36973, 37100-37104, 37400-37405); DX 1391;

References:

Dawson CR. Follicular conjunctivitis. In: Duane TD, Jaeger EA, eds. Clinical Ophthalmology. Philadelphia, PA: Harper & Row; 1979:(4)9.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: EYE36

MultiStage: No

DXCat Label: Glaucoma, Congenital

Specificity: A

Etiology: Congenital; Genetic (or hereditary)

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Congenital glaucoma	Stage 1.01 AND cup/disk ratio \geq 0.3 OR asymmetric cupping AND arcuate or paracentral scotoma AND visual acuity \leq 20/40	DX 36541-36544, 74320-74322;
2.01	Moderate congenital glaucoma	Stage 1.01 AND cup/disk ratio \geq 0.5 AND visual field shows nasal step AND visual acuity \leq 20/40	STAGE 1.01 + (DX 36920-36925, 3693, 36960-3699);
2.02	Severe congenital glaucoma	Stage 1.01 AND cup/disk ratio \geq 0.8 AND visual field limited to central vision AND pale optic nerve head	NO;
2.03	Advanced congenital glaucoma	Stage 1.01 AND cup/disk ratio \geq 0.8 [ophthalmoscopy report] OR central field \leq 20 degrees AND pale optic nerve head [ophthalmoscopy report] AND visual acuity \leq 20/200 in either one or both eyes	STAGE 1.01-2.01 + (DX 36900-36908, 36910-36918, 3694);

References:

Hoskins HD, Hetherington J. Developmental glaucomas. In: Duane TD, Jaeger EA, eds. Clinical Ophthalmology. Philadelphia, PA: Harper & Row; 1979, Vol. 3.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: EYE80

MultiStage: No

DXCat Label: Neoplasm, Benign: Eye

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Benign neoplasm of eye structures		DX 2241-2249, 22803;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: EYE81

MultiStage: No

DXCat Label: Neoplasm, Malignant: Other Eye and Periocular

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Primary malignant neoplasm of conjunctiva, cornea, lacrimal duct and other eye areas		DX 1903-1904, 1907-1909, 2340;
2.01	with lymph node involvement		STAGE 1.01 + DX 1960;
2.02	with anemia of neoplastic disease		STAGE 1.01-2.01 + (DX 28522, 3383);
3.01	with distant metastases		STAGE 1.01-2.02 + (DX 1961-1991, 78951);
3.02	with shock		STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: EYE82

MultiStage: No

DXCat Label: Other Eye Disorders

Specificity: C

Etiology:

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	Eye exam or screening for eye conditions	Added stage 5/8/06 cb	DX V720, V802;
1.01	Minor disorder of globe, cysts, foreign body in eye, other visual problems		DX 36050-36069, 36089-3609, 36461-36464, 36482, 3649, 3670-3679, 36810-36845, 36851-3689, 3698-37004, 37006-37007, 37021-37023, 37031-37033, 37035, 37044-37049, 37060-37064, 37100-3719, 37205, 37213-37215, 37222, 37231-37234, 37250-3729, 37331-3739, 37401-37405, 37420-37423, 37434-37522, 37551-37555, 37557-3759, 37634-3769, 37721-37724, 37743, 3779, 37940-37991, 37993-37999, 74300-74312, 74341-74359, 74362-74364, 74366-7439, 79411-79414, 9308-9309, V410-V411;
2.01	Degenerative globe, hypotony, retinal cysts, retinopathy, blindness		DX 36020-36041, 36043-36044, 36081, 36113-36119, 36210, 36212-36218, 36229-36243, 36260-36273, 36275-36330, 36332-36460, 36470-36489, 36846-36847, 36900-36976, 37220-37221, 37700-37716, 37730-37775, 37900-37919, 37922-37939;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GEN01

DXCat Label: Down's Syndrome

Etiology: Genetic (or hereditary)

MultiStage: No

Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Mosaic Down's syndrome	Genotype: 46/47 with trisomy 21 [cytogenetics report]	DX 7580;
1.02	Down's syndrome	Trisomy 21 [cytogenetics report] OR mongolism	NO;
2.01	with mental retardation	Stage 1.01-1.02 AND mental retardation:	STAGE 1.01 + DXCAT NEU15;
2.02	with atlantoaxial instability	Stage 1.01-2.01 AND with atlantoaxial instability [x-ray report]	STAGE 1.01-2.01 + DX 7249;
2.03	with duodenal atresia	Stage 1.01-2.02 AND duodenal atresia [UGI report]	STAGE 1.01-2.02 + DX 7511;
2.04	with cardiac malformation	Stage 1.01-2.03 AND ventricular septal defect [cardiac catheterization report] OR atrial septal defect [cardiac catheterization report] OR atrioventricular defect [cardiac catheterization report]	STAGE 1.01-2.03 + DX 7453-7459;
2.05	with leukemia	Stage 1.01-2.04 AND leukemia [peripheral smear, or bone marrow aspiration report or bone marrow biopsy]	STAGE 1.01-2.04 + (DXCAT HEM18 OR DXCAT HEM19 OR DXCAT HEM20 OR DXCAT HEM21);
3.01	with endocarditis	Stage 1.01-2.05 AND endocarditis:	STAGE 1.01-2.05 + GROUP ENDOCARDITIS;
3.02	with congestive heart failure	Stage 1.01-3.03 AND congestive heart failure:	STAGE 1.01-3.01 + GROUP CHF_NON_HTN;
3.03	with sepsis	Stage 1.01-3.01 AND sepsis:	STAGE 1.01-3.02 + GROUP SEPSIS;
3.04	with shock	Stage 1.01-3.04 AND shock:	STAGE 1.01-3.03 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 1.01-3.04 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GEN01

MultiStage: No

DXCat Label: Down's Syndrome

Specificity: A

Etiology: Genetic (or hereditary)

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

Cuckle H. Rational Down syndrome screening policy. *American Journal of Public Health.* 1998;88(4):558-9.

German J. Cytogenetic aspects of human disease. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. *Harrison's Principles of Internal Medicine.* 14th ed. New York, NY: McGraw-Hill; 1998:395-403.

Pyeritz RE. Medical genetics. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. *Current Medical Diagnosis & Treatment.* Stamford, CT: Appleton & Lange; 1998:1496-1518.

State MW, King BH, Dykens E. Mental retardation: a review of the past 10 years. Part II. *Journal of the American Academy of Child & Adolescent Psychiatry.* 36(12):1664-71, 1997 Dec.

Thompson GH, Scoles PV. Atlantoaxial instability. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. *Nelson Textbook of Pediatrics,* 15th ed. Philadelphia, PA: WB Saunders; 1996:1950-1951.

Tolmie JL. Down syndrome and other autosomal trisomies. In: Rimoin DL, Conner JM and Pyeritz, eds. *Principles and Practice of Medical Genetics.* 3rd Ed. New York, NY: Churchill Livingstone; 1997:925-971.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GEN02

MultiStage: No

DXCat Label: Klinefelter's Syndrome

Specificity: A

Etiology: Genetic (or hereditary)

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Mosaic Klinefelter's syndrome	Genotype: 46 XY, 47 XXY [cytogenetics report] OR genotype: 46 XX, 47 XXY [cytogenetics report] OR genotype: 46 XXY, 48 XXYY [cytogenetics report] OR genotype: 46 XY/47 XXY, 48 XXYY [cytogenetics report]	DX 7587;
1.02	Klinefelter's syndrome	Genotype: 47 XXY [cytogenetics report] OR leukocyte RNA X-inactive specific transcriptase, XIST [PCR chemistry report] OR small firm testis AND gynecomastia AND < 20 million sperm/ml [semen analysis report] AND mental retardation:	STAGE 1.01 + (DX 6111 OR GROUP MENT_RETARD);
1.03	Klinefelter's syndrome with three X chromosomes	Genotype: 47 XXXY [cytogenetics report]	NO;
1.04	Klinefelter's syndrome with four X chromosomes	Genotype: 47 XXXXY [cytogenetics report]	NO;
1.05	Klinefelter's syndrome with five X chromosomes	Genotype: 47 XXXXXY [cytogenetics report]	NO;
2.01	with obesity	Stage 1.01-1.05 AND obesity:	STAGE 1.01-1.02 + DXCAT NUT02;
2.02	with hypothyroidism or hyperthyroidism	Stage 1.01-2.01 AND hypothyroidism: OR hyperthyroidism:	STAGE 1.01-2.01 + (DXCAT END07 OR DXCAT END09);
2.03	with diabetes mellitus	Stage 1.01-2.02 AND diabetes mellitus:	STAGE 1.01-2.02 + (DXCAT END04 OR DXCAT END05);
2.04	with breast carcinoma	Stage 1.01-2.03 AND carcinoma of the breast [operative/pathology report]	STAGE 1.01-2.03 + (DXCAT GYN19 OR DXCAT MGS04);

References:

New MI. Steroid 21-hydroxylase deficiency (congenital adrenal hyperplasia). American Journal of Medicine. 1995;98(1A):2S-8S.

Orth DN, Kovacs WJ, DeBold CR. The adrenal cortex. In: Wilson JD, Foster DW, eds. Williams Textbook of Endocrinology. 8th ed. Philadelphia, PA: WB Saunders; 1992:489-620.

White PC. Inherited forms of mineralocorticoid hypertension. Hypertension. 1996;28(6):927-936.

Wilson JD, Griffin JE. Disorders of sexual differentiation. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:2119-2131.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GEN03

MultiStage: No

DXCat Label: Turner's or Noonan's Syndrome

Specificity: A

Etiology: Genetic (or hereditary)

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Mosaic Turner's syndrome	Genotype: 45 X/46 XX [cytogenetics report] OR genotype: 45 X/46 XY [cytogenetics report] OR genotype: 45 X/46 X, fragment plus [cytogenetics report]	DX 7586;
1.02	Noonan's syndrome	Genotype 46 XX [cytogenetics report] OR genotype 46 XY [cytogenetics report] AND height < 3rd percentile OR growth velocity < 4 cm/yr. OR bone age > 2 yrs. behind chronological age AND webbed neck AND ptosis AND low hairline on the back of neck AND wide chest with broadly spaced nipples AND multiple pigmented nevi AND short 4th metacarpal AND hypoplasia of nails AND amenorrhea AND failure of breast development AND juvenile external genitalia	NO;
1.03	Turner's syndrome	Genotype 45 X [cytogenetics report] AND height < 3rd percentile OR growth velocity < 4 cm/yr OR bone age > 2 yrs. behind chronological age AND webbed neck AND ptosis AND low hairline on the back of the neck AND wide chest with broadly spaced nipples AND multiple pigmented nevi AND short 4th metacarpal AND hypoplasia of nails AND amenorrhea AND failure of breast development AND juvenile external genitalia	NO;
1.04	with mental retardation	Stage 1.01-1.03 AND mental retardation:	STAGE 1.01 + GROUP MENT_RETARD;
2.01	with gastrointestinal telangiectasias	Stage 1.01-1.04 AND guaiac positive stools [hemocult test] OR gastrointestinal telangiectasias [operative/pathology or endoscopy report]	STAGE 1.01-1.04 + DX 4489;
2.02	with gonadoblastoma	Stage 1.01-2.01 AND gonadoblastoma [operative/pathology report]	STAGE 1.01-2.01 + (DX 2362, 2364);

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GEN03

MultiStage: No

DXCat Label: Turner's or Noonan's Syndrome

Specificity: A

Etiology: Genetic (or hereditary)

Stage	Description	Diagnostic findings	ICD-9-CM Codes
2.03	with renal tumor	Stage 1.01-2.01 AND renal tumor [sonogram or CT scan report]	STAGE 1.01-2.02 + (DX 1890-1892, 20924, 2230-2232, 23691);
2.04	with acute gastrointestinal bleeding	Stage 2.01 AND bleeding:	STAGE 1.01-2.03 + (DX 5780, 5781, 5789);
2.05	with cardiovascular malformations	Stage 1.01-2.04 AND coarctation of the aorta [cardiac catheterization report] OR pulmonic stenosis [cardiac catheterization report] OR atrial septal defect [cardiac catheterization report]	STAGE 1.01-2.04 + (DX 7453-7459, 74710, 74711, 7473);
3.01	with renal failure	Stage 2.03 AND renal failure:	STAGE 1.01-2.05 + (GROUP REN_FAIL_ACU OR GROUP REN_FAIL_CHR);
3.02	with congestive heart failure	Stage 2.05 AND congestive heart failure:	STAGE 1.01-3.01 + GROUP CHF_NON_HTN;
3.03	with respiratory failure	Stage 2.01-3.02 AND respiratory failure:	STAGE 1.01-3.02 + GROUP RESP_FAIL;
3.04	with shock	Stage 2.01-3.03 AND shock:	STAGE 1.01-3.03 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.01-3.03 AND death	NO;

References:

- Carr BR. Disorders of the ovaries and female reproductive tract. In: Wilson JD, Foster DW, eds. Williams Textbook of Endocrinology. 8th ed. Philadelphia, PA: WB Saunders; 1992:733-798
- Chu CE, Connor JM. Molecular biology of Turner's syndrome. Archives of Disease in Childhood. 1995;72(4):285-286.
- Fitzgerald PA. Turner's syndrome. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:1090-1091.
- Noonan JA. Noonan syndrome. An update and review for the primary pediatrician. Clinical Pediatrics. 1994;33(9):548-55.
- Saenger P. Turner's syndrome. N Engl J Med. 1996;335(23):1749-1754.
- Wilson JD, Griffin JE. Disorders of sexual differentiation. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:2119-2131.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GEN80

MultiStage: No

DXCat Label: Other Chromosomal Anomalies

Specificity: C

Etiology: Genetic (or hereditary)

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	Other genetic carrier state		DX 7952, V8389;
1.01	Anomalies of spleen, endocrine system, or hamartoses, Patau's, Edward's, Marfan's Fragile X, or Prader-Willi syndrome, situs inversus, conjoined twins, and other chromosomal anomalies		DX 7581-7585, 75881-7589, 7590-7594, 7596-7599;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: G1S01

MultiStage: No

DXCat Label: Alpha 1-Antitrypsin Deficiency

Specificity: A

Etiology: Genetic (or hereditary)

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Heterozygous alpha-1-antitrypsin deficiency	Serum alpha-1-antitrypsin < 50 mg/dl [chemistry report] AND serum alpha-1-antitrypsin ≤ 250 mg/dl [chemistry report]	DX 2734, 2776;
1.02	Homozygous alpha-1-antitrypsin deficiency	Serum alpha-1-antitrypsin < 50 mg/dl [chemistry report]	NO;
1.03	Alpha-1-antitrypsin deficiency with panniculitis	Stage 1.01-1.02 AND panniculitis or fat necrosis [operative/pathology report]	STAGE 1.01 + (DX 72930, 7236);
2.01	with hepatitis	Stage 1.01-1.03 AND hepatitis:	STAGE 1.01-1.03 + DXCAT HEP10;
2.02	with COPD	Stage 1.01-2.01 AND COPD:	STAGE 1.01-2.01 + DXCAT RES05;
2.03	with cirrhosis	Stage 1.01-2.02 AND cirrhosis [biopsy report or sonogram report or liver/spleen scan report]	STAGE 1.01-2.02 + (DX 5715-5716, 5761);
2.04	with coagulation defects	Stage 1.01-2.03 AND coagulation defect:	STAGE 1.01-2.03 + GROUP COAG_DEFECT;
3.01	with renal failure	Stage 1.01-2.04 AND renal failure:	STAGE 1.01-2.04 + (GROUP REN_FAIL_ACU OR GROUP REN_FAIL_CHR);
3.02	with respiratory failure	Stage 1.01-3.01 AND respiratory failure:	STAGE 1.01-3.01 + GROUP RESP_FAIL;
3.03	with coma	Stage 1.01-3.02 AND coma:	STAGE 1.01-3.02 + GROUP COMA;
3.04	with shock	Stage 1.01-3.03 AND shock:	STAGE 1.01-3.03 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 1.01-3.04 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GIS01

MultiStage: No

DXCat Label: Alpha 1-Antitrypsin Deficiency

Specificity: A

Etiology: Genetic (or hereditary)

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

- Beaudet AL. Genetics and disease. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:365-395.
- Honig EG, Ingram Jr RH. Chronic bronchitis, emphysema, and airway obstruction. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1451-1460.
- Isselbacher KJ, Podolsky DK. Infiltrative and metabolic diseases affecting the liver. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1717-1721.
- Mahadeva R, Lomas DA. Genetics and respiratory disease. 2. Alpha 1-antitrypsin deficiency, cirrhosis and emphysema. Thorax. 1998;53(6):501-5.
- Orenstein DM. Alpha-1-antitrypsin deficiency and emphysema. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics, 15th ed. Philadelphia, PA: WB Saunders; 1996:1228-1229.
- Sokol RJ, Narkewicz. Alpha-1-antitrypsin deficiency liver disease. In: Hay WW, Groosthous JR, Hayward AR, Levin MJ, eds. Current Pediatric Diagnosis and Treatment. 13th ed. Stamford, CT: Appleton & Lange; 1997:577-587.
- Stoller JK. Clinical features and natural history of severe alpha 1-antitrypsin deficiency. Roger S. Mitchell Lecture. Chest. 1997;111(6 Suppl):123S-128S.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: G1S02

DXCat Label: Amebiasis

Etiology: Infection

MultiStage: No

Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Asymptomatic Entamoeba histolytica carrier	Entamoeba histolytica cysts in stool [stool examination report]	DX V022;
2.01	Entamoeba histolytica colitis	Diarrhea with blood OR guaiac positive stools AND Entamoeba histolytica cysts or trophozoites in stool [stool examination report] OR amebiasis [serology test report]	DX 0060-0062, 0068-0069;
2.02	Entamoeba histolytica dermatitis	Stage 2.01 AND Entamoeba histolytica cysts or trophozoites in skin lesions [slide examination report]	DX 0066;
2.03	Entamoeba histolytica hepatic abscess	Stage 2.01-2.02 AND jaundice: AND liver abscess [operative/pathology report or sonogram or MRI report or CT scan report or liver/spleen scan report] OR amoebic liver abscess [operative/pathology report]	DX 0063;
2.04	Entamoeba histolytica lung abscess	Stage 2.01-2.03 AND lung abscess [operative/pathology report or sonogram or CT scan report or chest x-ray report or bronchoscopy report] OR amoebic lung abscess [operative/pathology report]	DX 0064;
2.05	with bowel obstruction	Stage 2.01-2.04 AND large bowel obstruction [plain abdomen x-ray report or operative/pathology report] OR amoeboma [operative/pathology report or barium enema report]	STAGE 2.01-2.04 + DX 56089-5609;
2.06	with perforation or peritonitis	Stage 2.01-2.05 AND intestinal perforation [plain abdomen x-ray or operative/pathology report] OR peritonitis per operative/pathology report	STAGE 2.01-2.05 + (DX 5672-5679, 56983);
3.01	with meningitis or brain abscess	Stage 2.01-3.01 AND meningitis: OR brain abscess [CT scan report or MRI report or operative/pathology report]	DX 0065;
3.02	with sepsis	Stage 2.01-2.06 AND sepsis:	STAGE 2.01-3.01 + GROUP SEPSIS;
3.03	with shock	Stage 2.01-3.02 AND shock:	STAGE 2.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.01-3.03 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: G1S02

MultiStage: No

DXCat Label: Amebiasis

Specificity: A

Etiology: Infection

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: G1S03

MultiStage: No

DXCat Label: Anal Fissure

Specificity: A

Etiology: Trauma

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Chronic anal fissure	Anal ulcer AND hypertrophic papillae [proctoscopy report] AND sentinel pile	DX 5650, 56943;
1.02	Acute anal fissure	Anal ulcer per proctoscopy report AND history of rectal bleeding related to defecation	DX 5693, 56941;

References:

Dozois R. Disorders of the anal canal. In: Sabiston Jr DC. Textbook of Surgery. 1st ed. Philadelphia, PA: WB Saunders; 1997:1032-1044.

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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GI S04

MultiStage: No

DXCat Label: Anorectal Suppuration

Specificity: A

Etiology: Infection

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Proctitis	Proctitis [proctoscopy report or sigmoidoscopy report]	DX 56944-56949;
2.01	Fistula in ano	Fistula in ano [anoscopy report or sigmoidoscopy report]	DX 5651, 5961, 6191;
2.02	Anorectal abscess	Anorectal abscess [operative/pathology report] OR perianal abscess [operative/pathology report] OR pararectal abscess [operative/pathology report] OR intermuscular abscess [operative/pathology report]	DX 566;
2.03	Ischiorectal abscess or supralelevator abscess	Ischiorectal abscess [operative/pathology report] OR supralelevator abscess [operative/pathology report]	NO;
2.04	Pelvirectal abscess	Pelvirectal abscess [operative/pathology report]	STAGE 1.01-2.03 + (DX 5670-5679, 56983);
3.01	Anorectal suppuration with sepsis	Stage 1.01-2.04 AND sepsis:	STAGE 1.01-2.04 + GROUP SEPSIS;
3.02	Anorectal suppuration with shock	Stage 1.01-3.01 AND shock:	STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	Anorectal suppuration with death	Stage 2.01-3.02 AND death	NO;

References:

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- Mackeigan MJ, Cataldo AP. Disorders of the anorectum. In: DiManino JA, Benjamin BS, Al-Kawas HF, Baillie J, Conn M, Hawesh R, Eds. Gastrointestinal Disease: An Endoscopic Approach. Blackwell-Science, Inc. 1997:707-729.
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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: G1S05

DXCat Label: Appendicitis

Etiology: Idiopathic

MultiStage: No

Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Appendicitis	Appendicitis [operative/pathology report]	DX 5409-542;
2.01	with localized peritonitis or abscess	Stage 1.01 AND localized peritonitis [operative/pathology report] OR abscess [operative/pathology report]	DX 5401;
2.02	and intestinal obstruction	Stage 1.01-2.01 AND small bowel obstruction or large bowel obstruction [operative/pathology report or KUB x-ray report]	STAGE 1.01-2.01 + (DX 5373, 5609);
2.03	with perforation and generalized peritonitis	Stage 1.01-2.02 AND perforation and generalized peritonitis [operative/pathology report] OR peritonitis (peritoneal fluid culture reports growth of pathologic organisms)	DX 5400; STAGE 1.01-2.02 + DX 56983;
2.04	with pylephlebitis or liver abscess	Stage 1.01-2.03 AND pylephlebitis or liver abscess [operative/pathology report]	STAGE 1.01-2.03 + DX 5720;
3.01	with sepsis	Stage 1.01-2.04 AND sepsis:	STAGE 1.01-2.04 + GROUP SEPSIS;
3.02	with shock	Stage 1.01-3.01 AND shock:	STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 1.01-3.02 AND death	NO;

References:

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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: G1S06

DXCat Label: Celiac Disease

Etiology: Metabolic

MultiStage: No

Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Celiac disease or gluten enteropathy	History of diet containing gluten AND absence of jejunal villi [operative/pathology report or biopsy report] AND jejunal crypt hyperplasia	DX 5790;
1.02	with malnutrition	Stage 1.01 AND body weight ≤ 85% of ideal body weight OR hypoalbuminemia:	STAGE 1.01 + DX 260-2639;
2.01	with anemia	Stage 1.01-1.02 AND anemia:	STAGE 1.01-1.02 + (GROUP ANEM_CON_HEM OR GROUP ANEM_APLAST OR GROUP ANEM_DEF_B12 OR GROUP ANEM_DEF_FE OR GROUP ANEM_DEF_FOL OR GROUP ANEM_DEF_OTH OR GROUP ANEM_ESRD OR GROUP ANEM_HEM_ACQ OR GROUP ANEM_NEOPL OR GROUP ANEM_OTH_CHR OR GROUP ANEM_OTH_UN);
2.02	with non-Hodgkin's lymphoma or esophageal Ca	Stage 1.01-2.01 AND non-Hodgkin's lymphoma [operative/pathology report or biopsy report] OR esophageal carcinoma [operative/pathology report or biopsy report]	STAGE 1.01-2.01 + (DXCAT G1S28 OR DXCAT HEM23 OR DXCAT HEM24 OR DXCAT HEM27 OR DXCAT HEM29 OR DXCAT HEM31 OR DXCAT HEM22);
2.03	with intestinal obstruction	Stage 1.01-2.02 AND small bowel obstruction [KUB x-ray report]	STAGE 1.01-2.02 + (DX 5373, 5609);
3.01	with CHF	Stage 1.01-2.03 AND congestive heart failure:	STAGE 1.01-2.03 + GROUP CHF_NON_HTN;
3.02	with shock	Stage 1.01-3.01 AND shock:	STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 1.01-3.02 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: G1S06

MultiStage: No

DXCat Label: Celiac Disease

Specificity: A

Etiology: Metabolic

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

- | |
|---|
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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: G1S07

MultiStage: No

DXCat Label: Cholera

Specificity: A

Etiology: Infection, Bacterial

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	Contact with or exposure to cholera	Added stage 5/8/06 cb	DX V010, V740;
1.01	Cholera carrier state	Vibrio cholerae in stools [stool culture report]	DX 0010-0019, V020;
1.02	with mild dehydration	Stage 1.01 AND estimated loss of \geq 5% of ideal body weight in children \leq 12 years old in 24 hours OR estimated loss of \geq 3% of ideal body weight in adults/adolescents in 24 hours	STAGE 1.01 + GROUP DEHYDRATION;
2.01	with moderate dehydration	Stage 1.01 AND estimated loss of \geq 10% of ideal body weight in children \leq 12 years old in 24 hours OR estimated loss of \geq 5% of ideal body weight in adults/adolescents in 24 hours	NO;
3.01	with severe dehydration	Stage 1.01 AND estimated loss of \geq 15% of ideal body weight in children \leq 12 years old in 24 hours OR estimated loss of \geq 7% of ideal body weight in adults/adolescents in 24 hours	NO;
3.02	with renal failure	Stage 2.01-3.01 AND renal failure:	STAGE 1.01-1.02 + GROUP REN_FAIL_ACU;
3.03	with shock	Stage 2.01-3.02 AND shock:	STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.01-3.04 AND death	NO;

References:

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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: G1S08

DXCat Label: Clostridium difficile Colitis

Etiology: Infection, Bacterial

MultiStage: No

Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Asymptomatic Clostridium difficile	Clostridium difficile toxin [stool examination report]	DX 00845;
2.01	Clostridium difficile colitis with bleeding	Stage 1.01 AND diarrhea with blood OR guaiac positive stools	STAGE 1.01 + (DX 5693, 5781-5789);
2.02	with bowel obstruction	Stage 2.01 AND large bowel obstruction [plain abdomen x-ray report or operative/pathology report] OR amoeboma [operative/pathology report or barium enema report]	STAGE 1.01-2.01 + (DX 5373, 56089-5609);
2.03	with perforation or peritonitis	Stage 2.01-2.02 AND intestinal perforation [plain abdomen x-ray or operative/pathology report] OR peritonitis per operative/pathology report	STAGE 1.01-2.02 + (DX 5672-5679, 56983);
3.01	with sepsis	Stage 2.01-2.03 AND sepsis:	STAGE 1.01-2.03 + (DX 0383, 0388-0389);
3.02	with shock	Stage 2.01-3.01 AND shock:	STAGE 2.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.01-3.03 AND death	NO;

References:

Fekety R, et al. Diagnosis and treatment of Clostridium difficile colitis. JAMA. 1993;269-271.

Shim J, Johnson S, et al. Primary symptomless colonization by Clostridium difficile and decreased risk of subsequent diarrhea. Lancet. 1998;351:633-636.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GIS09

MultiStage: No

DXCat Label: Crohn's Disease

Specificity: A

Etiology: Idiopathic

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Crohn's disease	<p>Crohn's Disease [operative/pathology report] OR patchy mucosal 'aphthoid' ulcerations with underlying nodules of lymphoid tissue or granulomas later developing submucosal edema and further lymphoid infiltration which eventually involve the entire bowel wall. There is lymphedema and thickening of the surrounding mesentery and hypertrophy of local lymph nodes. Inevitably, involved areas fibrose and are sharply demarcated from normal areas [operative/pathology report]</p> <p><u>Presumptive Diagnostic Findings:</u> Irregularity, thickening, nodularity and narrowing lumen of the bowel wall [barium enema report or colonoscopy report or UGI series report]</p>	DX 5550-5559;
2.01	with arthritis or involvement of the eyes or involvement of the mouth or erythema nodosum or pyoderma gangrenosum or anemia or hypoproteinemia or growth retardation or hypertrophic osteoarthropathy	<p>Stage 1.01 AND stomatitis</p> <p>OR arthritis: OR ankylosing spondylitis [chest x-ray report] OR uveitis [ophthalmologist's report] OR episcleritis [ophthalmologist's report] OR erythema nodosum OR red, tender nodules on the anterior tibial surface OR pyoderma gangrenosum (rapidly evolving cutaneous ulcer(s) with markedly undermined borders) OR hypertrophic osteoarthropathy</p> <p>OR anemia: OR growth retardation OR hypoproteinemia:</p>	STAGE 1.01 + (DX 2632, 36400-36404, 36410-36411, 3643, 37900, 37909, 68601, 6952, 70712-70719, 7078-7079, 7200, 7312, 7822, 78343 OR GROUP ANEM_DEF_B12 OR GROUP ANEM_DEF_FE OR GROUP ANEM_DEF_FOL OR GROUP ANEM_DEF_OTH OR GROUP ANEM_OTH_CHR OR GROUP ANEM_OTH_UN OR GROUP ARTHR_OTH OR GROUP HYPOPROTEIN);
2.02	with obstructive uropathy or biliary tract stones	<p>Stage 1.01-2.01 AND obstructive uropathy [IVP report or nuclear renogram report or sonogram reports dilated ureters or hydronephrosis] OR cholelithiasis or choledocholithiasis [oral cholecystogram report or HIDA scan report or sonogram report or endoscopic retrograde cholangiopancreatography report or CT scan report]</p>	STAGE 1.01-2.01 + (DX 57400-57491, 591, 5934-5935, 5996-59969);
2.03	with enteroenteric or enterovesical or enterovaginal or enterocutaneous fistula	<p>Stage 1.01-2.02 AND enteroenteric fistula [barium enema report or UGI series report] OR enterovesical fistula [barium enema report or urinalysis reports fecaluria] OR enterovaginal fistula [barium enema report or feces and flatus per vagina] OR enterocutaneous fistula [barium enema report or feces and flatus per sinus tract]</p>	STAGE 1.01-2.02 + (DX 56981, 5961, 6191);
2.04	with acute gastrointestinal bleed	<p>Stage 1.01-2.03 AND hematochezia AND bleeding:</p>	STAGE 1.01-2.03 + (DX 5693, 5781-5789);

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: G1S09
 DXCat Label: Crohn's Disease
 Etiology: Idiopathic

MultiStage: No
 Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
2.05	with intestinal obstruction	Stage 1.01-2.04 AND intestinal obstruction [KUB x-ray reports small bowel or large bowel obstruction]	STAGE 1.01-2.04 + (DX 5373, 56089-5609);
2.06	with intra-abdominal abscess	Stage 1.01-2.05 AND intra-abdominal abscess [sonogram report or CT scan report or gallium scan report or operative/pathology report]	STAGE 1.01-2.05 + DX 5672-5679;
2.07	with perforation of bowel or peritonitis	Stage 1.01-2.06 AND free air within peritoneal cavity [KUB x-ray report or chest x-ray report] OR perforation of the bowel [barium enema report or UGI series reports spilling of barium into the peritoneal cavity] OR peritonitis [operative/pathology report]	STAGE 1.01-2.06 + DX 56983;
2.08	with renal or hepatic amyloidosis	Stage 1.01-2.07 AND renal amyloidosis [operative/pathology report] OR hepatic amyloidosis [operative/pathology report]	STAGE 1.01-2.07 + DX 2773; STAGE 1.01-2.07 + DX 2773-27739 + DX 58381 ;
2.09	with sclerosing cholangitis or cirrhosis of the liver	Stage 1.01-2.08 AND sclerosing cholangitis: fibrosing inflammation of the intrahepatic or extrahepatic bile ducts [liver biopsy operative/pathology reports sclerosing cholangitis] OR primary biliary cirrhosis: inflammation of the medium sized bile ducts or portal triad progressing to periportal fibrosis [liver biopsy operative/pathology reports primary biliary cirrhosis] OR micronodular cirrhosis: thin bands of connective tissue within the hepatic parenchyma with no delineation of hepatic veins or portal spaces [liver biopsy operative/pathology reports micronodular cirrhosis] OR macronodular cirrhosis: bands of connective tissue within the hepatic parenchyma which contain hepatic veins or portal spaces [liver biopsy operative/pathology reports macronodular cirrhosis] OR mixed cirrhosis: bands of connective tissue within the hepatic parenchyma with areas with and without hepatic veins or portal spaces [liver biopsy operative/pathology reports mixed cirrhosis] OR cirrhosis: [sonogram report or liver/spleen scan report]	STAGE 1.01-2.08 + (DX 5715-5716, 5761);
3.01	with sepsis	Stage 1.01-2.09 AND sepsis:	STAGE 1.01-2.09 + GROUP SEPSIS;
3.02	with shock	Stage 1.01-3.01 AND shock:	STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 1.01-3.02 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: G1S09

MultiStage: No

DXCat Label: Crohn's Disease

Specificity: A

Etiology: Idiopathic

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: G1S10

MultiStage: No

DXCat Label: Diverticular Disease

Specificity: A

Etiology: Degenerative

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Diverticulosis	Diverticulosis [operative/pathology report or barium enema report or colonoscopy report or CT scan report]	DX 56200, 56210;
1.02	Diverticulitis	Stage 1.01 AND diverticulitis [operative/pathology report or barium enema report or colonoscopy report]	DX 56201, 56211;
2.01	with lower gastrointestinal bleeding	Stage 1.01-1.02 AND bleeding diverticulum [colonoscopy report or bleeding scan or angiography report or operative/pathology report] OR bleeding:	DX 56202-56203, 56212-56213; STAGE 1.01-1.02 + (DX 5693, 5781-5789);
2.02	with fistula	Stage 1.01-2.01 AND fistula from diverticulum [colonoscopy report or barium enema report]	STAGE 1.01-2.01 + DX 56981;
2.03	with obstruction	Stage 1.01-2.02 AND large bowel obstruction [operative/pathology report or KUB x-ray report]	STAGE 1.01-2.02 + (DX 5373, 56089-5609);
2.04	with intra-abdominal abscess	Stage 1.01-2.03 AND diverticular disease and intra-abdominal abscess operative/pathology report or CT scan report]	STAGE 1.01-2.03 + DX 5672-5679;
2.05	with generalized peritonitis or gross perforation	Stage 1.01-2.04 AND generalized peritonitis or gross perforation [operative/pathology report or peritoneal effusion culture reports growth of pathologic organism(s)]	STAGE 1.01-2.04 + DX 56983;
3.01	with sepsis	Stage 1.01-2.05 AND sepsis:	STAGE 1.01-2.05 + GROUP SEPSIS;
3.02	with shock	Stage 1.01-3.01 AND shock:	STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 1.01-3.02 AND death	NO;

References:

Elliott TB, Yego S, Irvin TT. Five-year audit of the acute complications of diverticular disease. *British Journal of Surgery*. 1997;84(4):535-539.

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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GIS11

MultiStage: No

DXCat Label: Food Poisoning: C. perfringens

Specificity: A

Etiology: Infection, Bacterial

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Food poisoning due to C. perfringens	Clostridium perfringens isolated from contaminated food [food culture reports]	DX 0052-0053;
1.02	with mild dehydration	Stage 1.01 AND estimated loss of \geq 5% of ideal body weight in children \leq 12 years old in 24 hours OR estimated loss of \geq 3% of ideal body weight in adults/adolescents in 24 hours	STAGE 1.01 + GROUP DEHYDRATION;
2.01	with moderate dehydration	Stage 1.01 AND estimated loss of \geq 10% of ideal body weight in children \leq 12 years old in 24 hours OR estimated loss of \geq 5% of ideal body weight in adults/adolescents in 24 hours	NO;
3.01	with severe dehydration	Stage 1.01 AND estimated loss of \geq 15% of ideal body weight in children \leq 12 years old in 24 hours OR estimated loss of \geq 7% of ideal body weight in adults/adolescents in 24 hours	NO;
3.02	with enteritis necroticans or bloody diarrhea	Stage 1.01-3.01 AND gross blood in diarrhea fluid OR Clostridium perfringens type C isolated from contaminated food [food culture reports] OR enteritis necroticans [operative/pathology report or biopsy report]	STAGE 1.01-1.02 + (DX 5693, 5781-5789);
3.03	with renal failure	Stage 2.01-3.02 AND renal failure:	STAGE 1.01-3.02 + GROUP REN_FAIL_ACU;
3.04	with central nervous system involvement	Stage 2.01-3.03 AND disorientation: OR coma:	STAGE 1.01-3.03 + (GROUP COMA OR GROUP DISORIENT);
3.05	with shock	Stage 2.01-3.04 AND shock:	STAGE 1.01-3.04 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.01-3.05 AND death	NO;

References:

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- Stephenson J. New approaches for detecting and curtailing foodborne microbial infections. JAMA. 1997;277(17):1337, 1339-1340.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GIS12

MultiStage: No

DXCat Label: Food Poisoning: Other Organisms

Specificity: A

Etiology:

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Food poisoning	Bacillus cereus isolated from contaminated food [food culture reports] OR Clostridium perfringens isolated from contaminated food [food culture reports] OR Campylobacter fetus isolated from contaminated food [food culture reports] OR E. coli isolated from contaminated food [food culture reports] OR Staphylococcus aureus isolated from contaminated food [food culture reports] OR Vibrio cholerae isolated from contaminated food [food culture reports] OR Vibrio parahaemolyticus isolated from contaminated food [food culture reports] OR Yersinia enterocolitica isolated from contaminated food [food culture reports]	DX 0054-0059, 00800-0083, 00842-00844, 00846-0085;
1.02	with mild dehydration	Stage 1.01 AND estimated loss of $\geq 5\%$ of ideal body weight in children ≤ 12 years old in 24 hours. OR estimated loss of $\geq 3\%$ of ideal body weight in adults/adolescents in 24 hours	STAGE 1.01 + GROUP DEHYDRATION;
2.01	with moderate dehydration	Stage 1.01 AND estimated loss of $\geq 10\%$ of ideal body weight in children ≤ 12 years old in 24 hours OR estimated loss of $\geq 5\%$ of ideal body weight in adults/adolescents in 24 hours	NO;
2.02	with bloody diarrhea	Stage 1.01-3.01 AND gross blood in diarrhea fluid OR enteritis necroticans [operative/pathology report or biopsy report]	STAGE 1.01-1.02 + (DX 5693, 5781-5789);
3.01	with severe dehydration	Stage 1.01 AND estimated loss of $\geq 15\%$ of ideal body weight in children ≤ 12 years old in 24 hours OR estimated loss of $\geq 7\%$ of ideal body weight in adults/adolescents in 24 hours	NO;
3.02	with renal failure	Stage 2.01-3.02 AND renal failure:	STAGE 1.01-2.02 + GROUP REN_FAIL_ACU;
3.03	with central nervous system involvement	Stage 2.01-3.03 AND disorientation: OR coma:	STAGE 1.01-3.02 + (GROUP COMA OR GROUP DISORIENT);
3.04	with shock	Stage 2.01-3.04 AND shock:	STAGE 1.01-3.03 + (GROUP SHOCKC OR GROUP SHOCKN);
4.00	with death	Stage 2.01-3.05 AND death	NO;

References:

Anonymous. From the Centers for Disease Control and Prevention. Foodborne Diseases Active Surveillance Network, 1996. JAMA. 1997;277(17):1344-1345.

Butterton JR, Calderwood SB. Acute infectious diarrheal diseases and bacterial food poisoning. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:796-801.

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Stephenson J. New approaches for detecting and curtailing foodborne microbial infections. JAMA. 1997;277(17):1337, 1339-1340.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GIS13

MultiStage: No

DXCat Label: Food Poisoning: S. aureus

Specificity: A

Etiology: Infection, Bacterial

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Food poisoning due to Staphylococcus aureus enterotoxin	Staphylococcus aureus isolated from contaminated food [food culture reports]	DX 0050, 00841;
1.02	with mild dehydration	Stage 1.01 AND estimated loss of \geq 5% of ideal body weight in children \leq 12 years old in 24 hours OR estimated loss of \geq 3% of ideal body weight in adults/adolescents in 24 hours	STAGE 1.01 + GROUP DEHYDRATION;
2.01	with moderate dehydration	Stage 1.01 AND estimated loss of \geq 10% of ideal body weight in children \leq 12 years old in 24 hours OR estimated loss of \geq 5% of ideal body weight in adults/adolescents in 24 hours	NO;
3.01	with severe dehydration	Stage 1.01 AND estimated loss of \geq 15% of ideal body weight in children \leq 12 years old in 24 hours OR estimated loss of \geq 7% of ideal body weight in adults/adolescents in 24 hours	NO;
3.02	with renal failure	Stage 2.01-3.01 AND renal failure:	STAGE 1.01-1.02 + GROUP REN_FAIL_ACU;
3.03	with disorientation or coma	Stage 2.01-3.02 AND disorientation: OR coma:	STAGE 1.01-3.02 + (GROUP COMA OR GROUP DISORIENT);
3.04	with shock	Stage 2.01-3.03 AND shock:	STAGE 1.01-3.03 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.01-3.04 AND death	NO;

References:

Anonymous. From the Centers for Disease Control and Prevention. Foodborne Diseases Active Surveillance Network, 1996. JAMA. 1997;277(17):1344-1345.

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Stephenson J. New approaches for detecting and curtailing foodborne microbial infections. JAMA. 1997;277(17):1337, 1339-1340.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GIS14

MultiStage: No

DXCat Label: Foreign Body: Digestive Tract

Specificity: A

Etiology: Trauma

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Foreign body in stomach or intestine or anus or rectum and digestive system unspecified	Foreign body in esophagus OR foreign body in stomach OR foreign body in intestine OR foreign body in anus OR foreign body in rectum OR foreign body in unspecified digestive system	DX 9352-938;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: G1S15

MultiStage: No

DXCat Label: Foreign Body: Esophagus

Specificity: A

Etiology: Trauma

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Foreign body in esophagus	Foreign body in esophagus [laryngoscopy report or upper endoscopy report]	DX 9351;
1.02	with mild dysphagia	Stage 1.01 AND mild dysphagia	STAGE 1.01 + (DX 33811, 33821, 5305, 7872-78729) ;
2.01	with severe dysphagia	Stage 1.01-1.02 AND severe dysphagia	NO;
2.02	with esophagitis	Stage 1.01-2.01 AND esophagitis [barium swallow report or CT scan report]	STAGE 1.01-1.02 + (DX 53010, 53012-53019);
2.03	with esophageal perforation	Stage 1.01-2.02 AND esophageal perforation [CT scan with Hypaque swallow report]	STAGE 1.01-2.02 + DX 5304;
2.04	with mediastinitis	Stage 1.01-2.03 AND mediastinitis [CT scan report]	STAGE 1.01-2.03 + DX 5192;
3.01	with sepsis	Stage 1.01-3.02 AND sepsis:	STAGE 1.01-2.04 + GROUP SEPSIS;
3.02	with shock	Stage 1.01-3.01 AND shock:	STAGE 1.01-3.01 + GROUP SHOCKA;
4.00	with death	Stage 1.01-3.03 AND death	NO;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: G1S16

MultiStage: No

DXCat Label: Functional Digestive Disorders

Specificity: A

Etiology: Idiopathic

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Constipation or impaction of the large intestine or functional diarrhea or pylorospasm or achalasia or diffuse esophageal spasm or dysphagia	Constipation OR impaction of the large intestine [barium enema report or endoscopy report] OR functional diarrhea OR pylorospasm [UGI series report or endoscopy report] OR achalasia [esophageal manometry report or UGI series report or endoscopy report] OR diffuse esophageal spasm [esophageal manometry report or UGI series report or endoscopy report] OR dysphagia	DX 5300, 5305, 53781, 56030, 56039, 5640-56409, 5642-5649, 7505, 7518, 7872-78729;

References:

Goyal RK. Diseases of the esophagus. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:796-801.

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McQuaid KR. Irritable bowel syndrome. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:602-605.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GIS17

MultiStage: No

DXCat Label: Gastritis

Specificity: A

Etiology: Idiopathic; Infection; Toxicologic

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Chronic erosive gastritis	Numerous punctate or aphthous gastric erosions [operative/pathology report or gastroscopy report]	DX 53540, 53550, 53570;
1.02	Nonerosive gastritis	Superficial gastritis: patchy mucosal inflammation with round cell and plasma cell infiltration [operative/pathology report] OR deep gastritis: patchy mucosal inflammation with round cell and plasma cell infiltration extending to the muscularis layer [operative/pathology report] OR atrophic gastritis: diminished gastric glands in size and number [operative/pathology report] OR Helicobacter pylori gastritis [H. pylori stain report or rapid urease positivity by gastric biopsy report]	DX 53510;
1.03	Gastric hyperplasia	Ménétrier's Disease: enlargement of the gastric mucosal folds with thickened mucosa and hyperplasia of the mucous cells with loss of parietal and chief cells and infiltration of the lamina propria with lymphocytes [operative/pathology report]	DX 53520;
2.01	Acute erosive gastritis	Petechiae or ecchymoses on the mucosal surface progressing to irregular erosions [operative/pathology report] AND history of alcoholic beverage abuse within 5 days of event OR history of severe trauma or stress within 5 days of event.	DX 53500;
2.02	with hemorrhage	Stage 1.01-2.01 AND bleeding:	DX 53501, 53511, 53521, 53541, 53551, 53571; STAGE 1.01-2.01 + DX 5780-5789;
3.01	with hypotension	Stage 2.02 AND hypotension:	STAGE 1.01-2.02 + GROUP HYPOTENSION;
3.02	with shock	Stage 1.01-3.01 AND shock:	STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.01-3.03 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: G1S17

MultiStage: No

DXCat Label: Gastritis

Specificity: A

Etiology: Idiopathic; Infection; Toxicologic

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

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Friedman LS, Peterson WL. Peptic ulcer and related disorders. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. <i>Harrison's Principles of Internal Medicine</i> . 14th ed. New York, NY: McGraw-Hill; 1998:1596-1616.
Goodgame RW, Genta RM, Go M, Graham DY. Infectious gastritis. In: Surawecz, Owen, eds. <i>Gastrointestinal and Hepatic Infections</i> . Philadelphia, PA: WB Saunders; 1995:47-72.
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Yardley JH, Hendrix TR. "Gastritis, duodenitis and associated ulcerative lesions. In: Yamada, Alpers, Owyang, Powell, Silverstein, eds. <i>Textbook of Gastroenterology</i> , 2nd ed. Lippincott; 1995:1456-1493.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: G1S18

DXCat Label: Hemorrhoids

Etiology: Idiopathic

MultiStage: No

Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Internal hemorrhoids	Hemorrhoidal tissue [proctoscopy report] OR Stage 1 Hemorrhoids	DX 4550, 4556, 4559;
1.02	Spontaneously reducible external hemorrhoids	Spontaneously reducible hemorrhoidal tissue in rectum with defecation or tenesmus OR Stage 2 Hemorrhoids	DX 4553;
1.03	Prolapsed external hemorrhoids	Manually reducible hemorrhoidal tissue in rectum with defecation or tenesmus OR Stage 3 Hemorrhoids	DX 4552, 4555, 4558;
1.04	Non-reducible external hemorrhoids	Non-reducible Hemorrhoidal tissue in rectum with defecation or tenesmus	NO;
2.01	Thrombosed hemorrhoids	Stage 1.01-1.04 AND tenderness of hemorrhoids AND erythema of hemorrhoids	DX 4551, 4554, 4557;
2.02	Ulcerated hemorrhoids	Stage 1.01-2.01 AND ulceration of hemorrhoids	NO;
2.03	Hemorrhoids with hemorrhage or anemia	Stage 1.01-2.02 AND anemia: OR bleeding:	STAGE 1.01-2.01 + (DX 5693, 5781-5789 OR GROUP ANEM_DEF_FE OR GROUP ANEM_OTH_UN);

References:

Barnett LJ, Raper ES. Anorectal diseases. In: Yamada T, Alpers HD, Owyang C, Powell WD, Silverstein EF, eds. Textbook of Gastroenterology. 2nd ed. JP Lippincott & Company. 1995:2027-2050.

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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GIS19

MultiStage: No

DXCat Label: Hernia, External

Specificity: A

Etiology: Congenital; Degenerative

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Spontaneously reducible external hernia	Spontaneously reducible external hernia AND inguinal hernia OR femoral hernia OR epigastric hernia OR umbilical hernia OR spigelian hernia OR lumbar hernia OR pelvic hernia	DX 55090-55093, 55300-55303, 5531-55329, 5538-5539;
1.02	External hernia reducible only by pressure	Spontaneously reducible external hernia AND inguinal hernia OR femoral hernia OR epigastric hernia OR umbilical hernia OR spigelian hernia OR lumbar hernia OR pelvic hernia	NO;
1.03	Irreducible external hernia	External hernia not reducible by pressure AND inguinal hernia OR femoral hernia OR epigastric hernia OR umbilical hernia OR spigelian hernia OR lumbar hernia OR pelvic hernia	DX 55010-55013, 55200-55203, 5521-55229, 5528-5529;
2.01	Irreducible external hernia with intestinal obstruction	Stage 1.03 AND small bowel obstruction or large bowel obstruction [operative/pathology report or KUB x-ray report]	NO;
2.02	Strangulated external hernia	Stage 1.03-2.01 AND strangulated herniated segment [operative/pathology report]	NO;
2.03	Strangulated hernia with gangrene	Stage 1.03-2.02 AND gangrene of herniated segment [operative/pathology report]	DX 55000-55003, 55100-55103, 5511-55129, 5518-5519;
2.04	Strangulated hernia with perforation	Stage 1.03-2.03 AND strangulated hernia with perforation [operative/pathology report]	STAGE 1.01-2.03 + DX 56983;
2.05	Strangulated hernia with peritonitis	Stage 1.03-2.04 AND strangulated hernia with peritonitis [operative/pathology report or peritoneal effusion culture reports growth of pathologic organisms]	STAGE 1.01-2.04 + DX 5672- 5679;
3.01	Strangulated hernia with sepsis	Stage 1.03-2.05 AND sepsis:	STAGE 1.01-2.05 + GROUP SEPSIS;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GIS19

MultiStage: No

DXCat Label: Hernia, External

Specificity: A

Etiology: Congenital; Degenerative

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.02	Strangulated hernia with shock	Stage 1.03-3.01 AND shock:	STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	Strangulated hernia with death	Stage 2.01-3.02 AND death	NO;

References:

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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: G1S20

MultiStage: No

DXCat Label: Hernia, Hiatal or Reflux Esophagitis

Specificity: A

Etiology: Congenital; Degenerative; Idiopathic

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Hiatal hernia	Hiatal hernia [chest x-ray or barium swallow report]	DX 5533, 7506, 7566;
1.02	Reflux esophagitis	Reflux esophagitis [Bernstein's acid perfusion test or biopsy or esophagoscopy report or esophageal pH monitoring]	DX 53011, 53081;
1.03	Reflux esophagitis with chronic hoarseness or asthma or bronchospasm or chronic cough	Stage 1.03 AND chronic hoarseness OR asthma: OR bronchospasm OR chronic cough	STAGE 1.02 + (DX 5191-51919, 78449, 7862 OR DXCAT RES02);
2.01	with iron deficiency anemia	Stage 1.02 AND iron deficiency anemia:	STAGE 1.01-1.03 + GROUP ANEM_DEF_FE;
2.02	with Barrett's metaplasia	Stage 1.02-2.01 AND Barrett's metaplasia [biopsy report]	DX 5302-53020, 53085;
2.03	with stricture	Stage 1.02-2.02 AND esophageal stricture [esophagoscopy report]	DX 5303;
2.04	Hiatal hernia with incarceration	Incarcerated hiatal hernia [operative/pathology report]	DX 5523;
2.05	with acute hemorrhage	Stage 1.02-2.04 AND bleeding:	DX 53021, 53082; STAGE 1.01-2.04 + (DX 5780, 5790);
2.06	with aspiration pneumonia	Stage 1.02-2.05 AND aspiration pneumonia	STAGE 1.01-2.05 + DX 5070;
2.07	with perforation	Stage 1.2-2.6 AND perforation of the esophagus [chest-x-ray reports free air in the mediastium or abdominal x-ray reports free air in the diaphragm]	DX 5513; STAGE 1.01-2.06 + DX 5304;
3.01	with sepsis	Stage 2.06-2.08 AND sepsis:	STAGE 1.01-2.07 + GROUP SEPSIS;
3.02	with respiratory failure	Stage 2.06-3.01 AND respiratory failure:	STAGE 1.01-3.01 + GROUP RESP_FAIL;
3.03	with shock	Stage 2.03-3.02 AND shock:	STAGE 1.01-3.02 + GROUP SHOCKA;
4.00	with death	Stage 2.04-3.03 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: G1S20

MultiStage: No

DXCat Label: Hernia, Hiatal or Reflux Esophagitis

Specificity: A

Etiology: Congenital; Degenerative; Idiopathic

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GIS21

MultiStage: No

DXCat Label: Hookworm Disease

Specificity: A

Etiology: Infection

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Hookworm disease	Hookworm eggs in stool [stool exam report]	DX 1260-1269;
2.01	with skin invasion or ground itch	Stage 1.01 AND pruritic maculopapular rash	STAGE 1.01 + (DX 7098, 7821);
2.02	with anemia	Stage 2.01 AND anemia:	STAGE 1.01-2.01 + GROUP ANEM_DEF_FE;
2.03	with hypoalbuminemia	Stage 2.01-2.02 AND hypoalbuminemia:	STAGE 1.01-2.02 + GROUP HYPOALBUMIN;
2.04	with anasarca	Stage 2.01-2.03 AND anasarca:	STAGE 1.01-2.03 + (DX 260, 262, 7823);
2.05	with growth retardation	Stage 2.01-2.04 AND height ≤ 3rd percentile for age	STAGE 1.01-2.05 + (DX 2632, 78343);
2.06	with pneumonia	Stage 2.01-2.05 AND pneumonia:	STAGE 1.01-2.05 + (DXCAT RES15 OR DXCAT RES17 OR DXCAT RES19);
3.01	with congestive heart failure	Stage 2.01-2.06 AND congestive heart failure:	STAGE 1.01-2.06 + GROUP CHF_NON_HTN;
3.02	with shock	Stage 2.01-3.01 AND shock:	STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.01-3.02 AND death	NO;

References:

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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GI S22

MultiStage: No

DXCat Label: Intussusception

Specificity: A

Etiology: Idiopathic

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Intussusception	Intussusception [ultrasound report or barium enema report or operative/pathology report] <u>Presumptive Diagnostic Findings:</u> currant jelly stools AND soft abdominal mass AND vomiting	DX 5600;
2.01	with dehydration	Stage 1.01 AND loss of \geq 3% of body weight	STAGE 1.01 + GROUP DEHYDRATION;
2.02	with bowel obstruction	Stage 1.01-2.01 AND large bowel obstruction [KUB x-ray report or operative/pathology report]	STAGE 1.01-2.01 + DX 5609;
2.03	with gangrene of the bowel	Stage 1.01-2.02 AND gangrene of the bowel [operative/pathology report]	STAGE 1.01-2.02 + DX 5570;
2.04	with peritonitis or perforation	Stage 1.01-2.03 AND peritonitis [operative/pathology report] OR perforation [KUB x-ray reports air under the diaphragm or perforation]	STAGE 1.01-2.03 + (DX 5672-5679, 56983);
3.01	with sepsis	Stage 1.01-2.04 AND sepsis:	STAGE 1.01-2.04 + GROUP SEPSIS;
3.02	with shock	Stage 1.01-3.01 AND shock:	STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 1.01-3.02 AND death	NO;

References:

- Begos DG, Sandor A, Modlin IM. The diagnosis and management of adult intussusception. *American Journal of Surgery*. 1997;173(2):88-94.
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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GI S23

MultiStage: No

DXCat Label: Irritable Bowel Syndrome

Specificity: A

Etiology: Idiopathic

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Irritable bowel syndrome	Stage 1.01 AND irritable bowel syndrome OR abdominal pain relieved by defecation AND stool frequency > 3 day OR stool frequency < 3 per week AND changed in stool form from baseline AND altered stool passage AND bloating AND abdominal distention OR spastic colitis OR mucous colitis	DX 5641;

References:

Friedman LS. Irritable bowel syndrome. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1646-1648.

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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: G1S24

MultiStage: No

DXCat Label: Malabsorption from Blind Loop Syndrome

Specificity: A

Etiology: Mechanical

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Blind loop syndrome	Bacterial overgrowth [quantitative intestinal aspirates which have $\geq 10^6$ cfu/ml] AND positive breath test report OR carbohydrate absorption deficiency [D-xylose tolerance test report]	DX 5792;
2.01	with anemia	Stage 1.01 AND anemia:	STAGE 1.01 + (GROUP ANEM_DEF_B12 OR GROUP ANEM_DEF_FOL);
2.02	with malnutrition	Stage 1.01-2.01 AND body weight \geq 85% of ideal weight	STAGE 1.01-2.01 + (DX 2630-2631, 2638-2639);
2.03	with hypoalbuminemia	Stage 1.01-2.02 AND hypoalbuminemia:	STAGE 1.01-2.02 + GROUP HYPOALBUMIN;
2.04	with peripheral neuropathy or tetany or night blindness or hypocalcemia or dermatitis	Stage 1.01-2.03 AND peripheral neuropathy OR tetanus OR hypocalcemia: OR night blindness OR dermatitis	STAGE 1.01-2.03 + (DX 2645, 3568-3569, 3574, 3578-3579, 6908, 7817 OR GROUP HYPOCALCEMIA);
2.05	with hepatitis	Stage 1.01-2.04 AND hepatitis:	STAGE 1.01-2.04 + DXCAT HEP10;
3.01	with renal failure	Stage 1.01-2.05 AND renal failure:	STAGE 1.01-2.05 + (GROUP REN_FAIL_ACU OR GROUP REN_FAIL_CHR);
3.02	with wasting	Stage 1.01-2.03 AND body weight \leq 75% of ideal weight	STAGE 1.01-3.01 + DX 260-262;
3.03	with congestive heart failure	Stage 1.01-3.01 AND congestive heart failure:	STAGE 1.01-3.02 + GROUP CHF_NON_HTN;
3.04	with shock	Stage 1.01-3.02 AND shock:	STAGE 1.01-3.03 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 1.01-3.03 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: G1S24

MultiStage: No

DXCat Label: Malabsorption from Blind Loop Syndrome

Specificity: A

Etiology: Mechanical

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

Cooperstock M. Indigenous flora in host economy and pathogenesis. In: Geigin, Cherry, eds. Textbook of Pediatric Infectious Diseases. 3rd ed. Philadelphia, PA: WB Saunders; 1992:91-118.

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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GIS25

MultiStage: No

DXCat Label: Neoplasm, Benign: Adenomatous Polyps, Colon

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Hyperplastic polyps	Hyperplastic polyps [operative/pathology report]	DX 2113-2114;
1.02	Small tubular adenoma or benign carcinoid tumor	Adenomatous polyp ≤ 15 mm. in diameter [operative/pathology report]	DX 20950-20957;
1.03	Tubular adenoma	Tubular adenomas > 15 mm. in diameter [operative/pathology report]	NO;
1.04	Tubulovillous adenoma	Stage 1.03 AND > 20% villous glands in polyp [operative/pathology report]	NO;
1.05	Villous adenoma	Stage 1.01-1.03 AND villous adenoma [operative/pathology report] OR > 50% villous glands in polyp [operative/pathology report]	DX 2352;
2.01	with rectal bleeding	Stage 1.01-1.05 AND guaiac positive stools OR bleeding:	STAGE 1.01-1.05 + (DX 5693, 5781-5789);
2.02	Villous adenomas with hypokalemia	Stage 1.05 AND hypokalemia:	STAGE 1.01-2.01 + GROUP HYPOKALEMIA;
2.03	Familial polyposis	History of polyps among members of the family AND > 100 colonic polyps [operative/pathology report] OR Peutz-Jeghers syndrome OR Turcot's syndrome	NO;
2.04	with carcinoma or Gardner's syndrome	Stage 1.01-2.03 AND adenocarcinoma [operative/pathology report] OR Gardner's syndrome	STAGE 1.01-2.02 + DXCAT GIS27;
2.05	with intestinal or colonic obstruction	Stage 1.01-2.04 AND large bowel obstruction [KUB x-ray report or operative/pathology report]	STAGE 1.01-2.05 + (DX 56089-5609, 3383);
2.06	with peritonitis	Stage 1.01-2.05 AND peritonitis [operative/pathology report]	STAGE 1.01-2.05 + (DX 5672-5679, 56983);
3.01	with sepsis	Stage 1.01-2.06 AND sepsis:	STAGE 1.01-2.06 + GROUP SEPSIS;
3.02	with shock	Stage 2.01-3.01 AND shock:	STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.01-3.02 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: G1S25

MultiStage: No

DXCat Label: Neoplasm, Benign: Adenomatous Polyps, Colon

Specificity: A

Etiology: Neoplasm

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

Bond JH. Polyp guideline: diagnosis, treatment, and surveillance for patients with nonfamilial colorectal polyps. The Practice Parameters Committee of the American College of Gastroenterology. <i>Ann Intern Med.</i> 1993;119(8):836-843.
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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: G1S26

MultiStage: No

DXCat Label: Neoplasm, Benign: Small Bowel

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Benign tumors small bowel	Adenomatous polyps [operative/pathology report] AND leiomyomas [operative/pathology report] OR fibromas [operative/pathology report] OR fibromyomas [operative/pathology report] OR neurofibromas [operative/pathology report] OR lipomas [operative/pathology report] OR hemangiomas [operative/pathology report] OR arteriovenous malformations [operative/pathology report]	DX 2112, 20940-20943;
2.01	with bleeding	Stage 1.01 AND guaiac positive stools OR bleeding:	STAGE 1.01 + DX 5781-5789;
2.02	with intestinal obstruction	Stage 1.01-2.01 AND small bowel obstruction [KUB x-ray report or operative/pathology report]	STAGE 1.01-2.01 + (DX 3383, 5373, 5609);
2.03	with peritonitis	Stage 1.01-2.02 AND peritonitis [operative/pathology report]	STAGE 1.01-2.02 + (DX 5672-5679, 56983);
3.01	with sepsis	Stage 1.01-2.03 AND sepsis:	STAGE 1.01-2.03 + GROUP SEPSIS;
3.02	with shock	Stage 1.01-3.01 AND shock:	STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.01-3.02 AND death	NO;

References:

Burke CA, Van-Stolk RU. Benign tumors of the small bowel. In: Snape WJ, ed. Consultations in Gastroenterology. Philadelphia, PA: WB Saunders; 1996:414-424.

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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: G1S27

MultiStage: No

DXCat Label: Neoplasm, Malignant: Colon and Rectum

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	History of colon or rectal carcinoma		DX V1005-V1006;
1.01	Colon or rectal carcinoma in situ or limited to the mucosa and submucosa	Colorectal carcinoma limited to mucosa and submucosa AND carcinoma in situ OR American Joint Committee on Cancer Stage 0 OR Duke's classification for colorectal cancer Stage A [operative/pathology report]	DX 2303-2306, 79676;
2.01	Colon or rectal carcinoma extending to muscularis or serosa	Colorectal carcinoma limited to muscularis or serosa AND Duke's classification for colorectal cancer Stage B1 [operative/pathology report] OR American Joint Committee on Cancer Stage 1	DX 1530-1548, 20910-20917; DX 1530-1548 + DX 28522; DX 20910-20917 + DX 28522; STAGE 0.00-1.01 + DX 28522;
2.02	with localized peritonitis or intra-abdominal abscess or extending to the subserosa or nonperitoneal tissue	Stage 1.01-2.01 AND localized peritonitis [operative/pathology report] OR intra-abdominal abscess [operative/pathology report or sonogram report or CT scan report] OR Duke's classification for colorectal cancer Stage B2 [operative/pathology report] OR American Joint Committee on Cancer Stage 2	STAGE 1.01-2.01 + (DX 5672-5679, 3383);
2.03	with acute bleeding	Stage 1.01-3.01 AND bleeding:	STAGE 1.01-2.02 + DX 5780-5789;
2.04	with intestinal obstruction	Stage 1.01-2.03 AND intestinal obstruction [KUB x-ray reports small or large bowel obstruction]	STAGE 1.01-2.03 + (DX 5373, 5609);
2.05	with intususception or volvulus	Stage 1.01-2.04 AND intussusception or volvulus [operative/pathology report]	STAGE 1.01-2.04 + (DX 5602 OR DXCAT G1S22);
2.06	with fistula formation	Stage 1.01-2.05 AND enteroenteric fistula [barium enema report or UGI series report] OR enterovesical fistula [barium enema report or urinalysis reports fecaluria] OR enterovaginal fistula [barium enema report or feces and flatus per vagina] OR enterocutaneous fistula [barium enema report or feces and flatus per sinus tract]	STAGE 1.01-2.05 + (DX 5651, 56981, 5961, 6191);
2.07	with gross perforation and peritonitis	Stage 1.01-2.06 AND free air within peritoneal cavity [KUB x-ray report or chest x-ray report] OR perforation of bowel [barium enema or chest x-ray report] OR peritonitis [perative/pathology report or peritoneal fluid culture reports growth of pathologic organism(s)]	STAGE 1.01-2.06 + DX 56983;
3.01	extending to regional lymph nodes	Colorectal carcinoma limited to lymph nodes draining the colon and rectum AND Duke's classification for colorectal cancer Stage C [operative/pathology report] OR American Joint Committee on Cancer Stage 3	STAGE 0.00-2.07 + (DX 1962, 1966);

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GIS27

DXCat Label: Neoplasm, Malignant: Colon and Rectum

Etiology: Neoplasm

MultiStage: No

Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.02	with metastasis to extracolonic sites	Stage 1.01-3.01 AND mass lesion(s) in liver [CT scan report or MRI report or liver/spleen scan report] OR same carcinoma type present in liver [operative/pathology report] OR mass lesion(s) in bones [CT scan or bone scan report] OR same carcinoma type present in bones [operative/pathology report] OR mass lesion(s) in lungs [CT scan or MRI report or chest x-ray report] OR same carcinoma type present in lungs [operative/pathology report] OR mass lesion(s) in sites other than the colon or rectum [operative/pathology report or CT scan report] OR Duke's classification for colorectal cancer Stage D [operative/pathology report] OR American Joint Committee on Cancer Stage 4	STAGE 0.00-3.01 + (DX 1960-1961, 1963-1965, 1968-1991, 78951);
3.03	with shock	Stage 1.01-3.02 AND shock:	STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 1.01-3.03 AND death	NO;

References:

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Sandler RS. Colorectal cancer. In: Johanson JF, ed. Gastrointestinal Diseases. Lippincott-Raven. 1997:235-253.

Turner D, Berkel HJ. Nonsteroidal anti-inflammatory drugs for the prevention of colon cancer. CMAJ. 1993;149(5):595-602.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: G1S28

MultiStage: No

DXCat Label: Neoplasm, Malignant: Esophagus

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	History of esophageal carcinoma		DX V1003;
1.01	Esophageal carcinoma in situ	Esophageal carcinoma in situ [operative/pathology report] AND Stage TIS N0 M0 OR American Joint Committee on Cancer Stage 0	DX 2301;
1.02	Localized esophageal carcinoma	Esophageal carcinoma involves < 5 cm. of esophageal length [operative/pathology report] AND Stage T1 N0 M0 OR American Joint Committee on Cancer Stage 1	DX 1500-1509; DX 1500-1509 + DX 28522; STAGE 0.00-1.01 + DX 28522;
2.01	Extensive esophageal carcinoma	Esophageal carcinoma involves ≥ 5 cm. of esophageal length [operative/pathology report] AND esophageal carcinoma produces obstruction [operative/pathology report] OR circumferential involvement [operative/pathology report]	NO;
2.02	with nodal involvement	Stage 1.02-2.01 AND movable unilateral nodes [operative/pathology report] OR movable bilateral nodes [operative/pathology report] OR Stage T1 N1/N2 M0 OR America Joint Committee on Cancer Stage 2	STAGE 0.00-1.02 + DX 1961-1963;
3.01	with regional metastasis	Esophageal carcinoma involves nonesophageal tissues [operative/pathology report] AND involvement of recurrent laryngeal nerve [operative/pathology report] OR involvement of phrenic nerve [operative/pathology report] OR fixed lymph nodes [operative/pathology report] OR tracheal invasion [operative/pathology report] OR vena caval invasion [operative/pathology report] OR azygos vein invasion [operative/pathology report] OR Stage T3 OR Stage N3 OR American Joint Committee on Cancer Stage 3	STAGE 0.00-2.02 + (DX 3383, 1970-1973, 1984);
3.02	with distant metastasis	Esophageal carcinoma tissue involves organs/tissue beyond the confines of the thoracic cavity [operative/pathology report] AND Stage M1 OR American Joint Committee on Cancer Stage 4	STAGE 0.00-3.01 + (DX 1960, 1965-1969, 1974-1983, 1985-1991, 78951);
3.03	with shock	Stage 2.01-3.02 AND shock:	STAGE 1.02-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.01-3.03 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: G1S28

MultiStage: No

DXCat Label: Neoplasm, Malignant: Esophagus

Specificity: A

Etiology: Neoplasm

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: G1S29

MultiStage: No

DXCat Label: Neoplasm, Malignant: Small Bowel

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	History of malignant tumor of the small bowel.		NO;
1.01	Malignant small bowel tumors	Adenocarcinoma [operative/pathology report] AND carcinoid tumors [operative/pathology report] OR sarcomas [operative/pathology report]	DX 1520-1529, 1590, 20900-20903, 2307;
2.01	with bleeding	Stage 1.01 AND guaiac positive stools OR bleeding:	STAGE 1.01 + DX 5781-5789;
2.02	with intestinal obstruction	Stage 1.01-2.01 AND small bowel obstruction [x-ray report or operative/pathology report]	STAGE 1.01-2.01 + (DX 3383, 5609, 5373);
2.03	with peritonitis	Stage 1.01-2.02 AND peritonitis [operative/pathology report]	STAGE 1.01-2.02 + (DX 5672-5679, 56983);
3.01	with sepsis	Stage 1.01-2.03 AND sepsis:	STAGE 1.01-2.03 + GROUP SEPSIS;
3.02	with distant mets	Stage 1.01-3.01 AND adenocarcinoma of the small intestine [operative/pathology report] OR carcinoid tumor beyond the small intestine [operative/pathology report] OR sarcomas [operative/pathology report]	STAGE 1.01-3.01 + (DX 1960-1991, 78951);
3.03	with shock	Stage 1.01-3.02 AND shock:	STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.01-3.03 AND death	NO;

References:

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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: G1S30

MultiStage: No

DXCat Label: Neoplasm, Malignant: Stomach

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	History of gastric carcinoma		DX V1004;
1.01	Limited gastric carcinoma	Gastric carcinoma limited to the mucosa without penetration of the lamina propria [operative/pathology report] OR Stage T1S N0 M0 OR American Joint Committee on Cancer Stage 0	DX 2302;
1.02	Mucosal gastric carcinoma	Gastric carcinoma limited to the mucosa and submucosa [operative/pathology report] OR Stage T1 N0 M0 OR Stage T1 N1 M0 OR Stage T2 N0 M0 OR American Joint Committee on Cancer Stage 1	DX 1510-1519, 20923; DX 1510-1519 + DX 28522; DX 20923 + DX 28522; STAGE 0.00-1.01 + DX 28522;
2.01	Extensive gastric carcinoma	Gastric carcinoma involving the muscularis mucosa [operative/pathology report] OR Stage T1 N2 M0 OR Stage T2 N1 M0 OR American Joint Committee on Cancer Stage 2	NO;
2.02	invading beyond the serosa	Gastric carcinoma penetrates the serosa [operative/pathology report] OR Stage T3 N0 M0	NO;
3.01	with nodal involvement < 3 cm from primary tumor	Gastric carcinoma of the perigastric lymph node < 3 cm of the primary tumor along the greater or lesser curvature of the stomach [operative/pathology report] OR Stage T2 N2 M0 OR Stage T3 N1 M0 OR Stage T4 N0 M0 OR Stage T3 N2 M0 OR Stage T4 N1 M0 OR American Joint Committee on Cancer Stage 3	STAGE 0.00-2.01 + (DX 1962, 1966);
3.02	with nodal involvement ≥3 cm from primary tumor	Gastric carcinoma of the perigastric lymph node ≥ 3 cm from primary tumor along the greater or lesser curvature of the stomach [operative/pathology report]	NO;
3.03	involves adjacent tissue structures	Gastric carcinoma involving the lesser omentum [operative/pathology report] OR gastric carcinoma involving the perigastric fat [operative/pathology report] OR gastric carcinoma involving the regional ligaments [operative/pathology report] OR gastric carcinoma involving the greater omentum [operative/pathology report] OR gastric carcinoma involving the transverse colon [operative/pathology report] OR gastric carcinoma involving the spleen [operative/pathology report] OR gastric carcinoma involving the esophagus [operative/pathology report] OR gastric carcinoma involving the duodenum [operative/pathology report]	STAGE 0.00-3.01 + (DX 3383, 1974-1975, 1978);
3.04	with involvement of distant lymph nodes	Gastric carcinoma involving the para-aortic lymph nodes [operative/pathology report] OR gastric carcinoma involving the hepatoduodenal lymph nodes [operative/pathology report] OR gastric carcinoma involving the retropancreatic lymph nodes [operative/pathology report] OR gastric carcinoma involving the mesenteric lymph nodes [operative/pathology report]	STAGE 0.00-3.03 + (DX 1960-1961, 1963-1965, 1968-1969);

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: G1S30

MultiStage: No

DXCat Label: Neoplasm, Malignant: Stomach

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.05	with extensive peritoneal tissue invasion	Gastric carcinoma involving the liver [operative/pathology report] OR gastric carcinoma involving the diaphragm [operative/pathology report] OR gastric carcinoma involving the pancreas [operative/pathology report] OR gastric carcinoma involving the abdominal wall [operative/pathology report] OR gastric carcinoma involving the adrenal glands [operative/pathology report] OR gastric carcinoma involving the kidneys [operative/pathology report] OR gastric carcinoma involving the retroperitoneum [operative/pathology report] OR gastric carcinoma involving the small intestine [operative/pathology report]	STAGE 0.00-3.04 + DX 1976;
3.06	with distant metastasis	Gastric carcinoma involving tissues beyond confines of the abdominal cavity [operative/pathology report or CT scan or MRI report] OR Stage M1 OR Stage T4 N2 M0 OR American Joint Committee on Cancer Stage 4	STAGE 0.00-3.05 + (DX 1970-1973, 1977, 1980-1991 , 78951);
3.07	with shock	Stage 2.01-3.06 AND shock:	STAGE 1.02-3.06 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.01-3.07 AND death	NO;

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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GI S31

MultiStage: No

DXCat Label: Peptic Ulcer Disease

Specificity: A

Etiology: Idiopathic; Infection, Bacterial

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Peptic ulcer without complications	Peptic ulcer [endoscopy report or UGI series report] OR Helicobacter pylori infection [breath test report or pathology report]	DX 04186, 53130, 53170, 53190, 53230, 53270, 53290, 53330, 53370, 53390, 53430, 53470, 53490, 5356, 56982;
2.01	with chronic bleeding	Stage 1.01 AND anemia: AND guaiac positive stools	DX 53140, 53240, 53340, 53440; STAGE 1.01 + (GROUP ANEM_DEF_B12 OR GROUP ANEM_DEF_FE OR GROUP ANEM_DEF_FOL OR GROUP ANEM_DEF_OTH OR GROUP ANEM_OTH_CHR OR GROUP ANEM_OTH_UN);
2.02	with obstruction	Stage 1.01-2.01 AND gastric outlet obstruction [endoscopy report or UGI series report] OR peptic ulcer with obstruction [operative/pathology report]	DX 53131, 53141, 53171, 53191, 53231, 53241, 53271, 53291, 53331, 53341, 53371, 53391, 53431, 53441, 53471, 53491;
2.03	with fistula formation	Stage 1.01-2.02 AND peptic ulcers with fistula formation [operative/pathology report or EGD report]	STAGE 1.01-2.02 + (DX 5374, 56981);
2.04	with free perforation or acute hemorrhage	Stage 1.01-2.03 AND peptic ulcers with perforation [operative/pathology report or UGI series report or KUB reports free air under diaphragm] OR acute hemorrhage [endoscopy report or angiography report] OR bleeding:	DX 53100-53101, 53110-53111, 53120-53121, 53150-53151, 53160-53161, 53200-53201, 53210-53211, 53220-53221, 53250-53251, 53260-53261, 53300-53301, 53310-53311, 53320-53321, 53350-53351, 53360-53361, 53400-53401, 53410-53411, 53420-53421, 53450-53451, 53460-53461; STAGE 1.01-2.03 + DX 5780-5789;
2.05	with generalized peritonitis	Stage 1.01-2.04 AND generalized peritonitis [operative or pathology report]	STAGE 1.01-2.04 + (DX 5672-5679, 56983);

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: G1S31

MultiStage: No

DXCat Label: Peptic Ulcer Disease

Specificity: A

Etiology: Idiopathic; Infection, Bacterial

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.01	with hypotension	Stage 1.01-2.05 AND hypotension:	STAGE 1.01-2.05 + GROUP HYPOTENSION;
3.02	with sepsis	Stage 1.01-2.05 AND sepsis:	STAGE 1.01-3.01 + GROUP SEPSIS;
3.03	with shock	Stage 1.01-3.02 AND shock:	STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.02-3.03 AND death	NO;

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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: G1S32

DXCat Label: Salmonellosis

Etiology: Infection, Bacterial

MultiStage: No

Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Salmonellosis	Salmonella spp. isolated from stools [stool culture reports]	DX 0030, 00320, 00323, 00329-0039;
2.01	Salmonellosis of the liver or bile ducts	Stage 1.01 AND jaundice: OR acute cholecystitis [operative/pathology report or sonogram report or HIDA scan report or oral cholecystogram report] OR liver abscess [operative/pathology report or sonogram report or liver/spleen scan report]	STAGE 1.01 + (DX 5720, 7824 OR DXCAT HEP01);
2.02	with intestinal complications	Stage 1.01-2.01 AND small bowel or large bowel abscess [operative/pathology report] OR small bowel or large bowel hemorrhage [bleeding scan report or operative/pathology report]	STAGE 1.01-2.01 + (DX 5693, 5695, 5781-5789);
2.03	with peritonitis	Stage 1.01-2.02 AND peritonitis [operative/pathology report]	STAGE 1.01-2.02 + (DX 5672-5679, 56983);
2.04	with pneumonia	Stage 1.01-2.03 AND pneumonia:	DX 00322;
3.01	with sepsis	Stage 1.01-2.04 AND sepsis:	DX 0031;
3.02	Salmonellosis of genitourinary tract	Stage 1.01-3.01 AND Salmonella pelvic abscess [operative/pathology report or sonogram or CT scan report] OR Salmonella UTI: OR Salmonella renal abscess [operative/pathology report or sonogram or CT scan report]	STAGE 1.01-3.01 + (DX 5902, 5990, 6143-6144);
3.03	Salmonella endocarditis or pericarditis	Stage 1.01-3.02 AND endocarditis: OR pericarditis:	STAGE 1.01-3.02 + (DX 4200-42090, 42099 OR GROUP ENDOCARDITIS);
3.04	Salmonella meningitis	Stage 1.01-3.04 AND meningitis:	DX 00321, 00324;
3.05	with shock	Stage 2.01-3.05 AND shock:	STAGE 1.01-3.04 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	Salmonellosis with death	Stage 2.01-3.06 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: G1S32

MultiStage: No

DXCat Label: Salmonellosis

Specificity: A

Etiology: Infection, Bacterial

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GI S33

DXCat Label: Shigellosis

Etiology: Infection, Bacterial

MultiStage: No

Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Shigella gastroenteritis	Shigella spp. isolated from stools [stool culture report or serology report]	DX 0040-0049;
1.02	with mild dehydration	Stage 1.01 AND estimated loss of \geq 5% of ideal body weight in children \leq 12 years old in 24 hours OR estimated loss of \geq 3% of ideal body weight in adults/adolescents in 24 hours	STAGE 1.01 + GROUP DEHYDRATION;
2.01	with moderate dehydration	Stage 1.01 AND estimated loss of \geq 10% of ideal body weight in children \leq 12 years old in 24 hours OR estimated loss of \geq 5% of ideal body weight in adults/adolescents in 24 hours	NO;
3.01	with severe dehydration	Stage 1.01 AND estimated loss of \geq 15% of ideal body weight in children \leq 12 years old in 24 hours OR estimated loss of \geq 7% of ideal body weight in adults/adolescents in 24 hours	NO;
3.02	with renal failure	Stage 2.01-3.01 AND renal failure:	STAGE 1.01-1.02 + GROUP REN_FAIL_ACU;
3.03	with intestinal perforation	Stage 2.01-3.01 AND free air in the abdomen [flat plate x-ray report or CT scan report]	STAGE 1.01-3.02 + (DX 5672-5679, 56983);
3.04	with sepsis	Stage 2.01-3.03 AND sepsis:	STAGE 1.01-3.03 + (DX 03840, 03849-0389);
3.05	with disorientation or coma	Stage 2.01-3.04 AND disorientation: OR coma:	STAGE 1.01-3.04 + (GROUP DISORIENT OR GROUP COMA);
3.06	with shock	Stage 2.01-3.05 AND shock:	STAGE 1.01-3.05 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.01-3.06 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GI S33

MultiStage: No

DXCat Label: Shigellosis

Specificity: A

Etiology: Infection, Bacterial

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

Anonymous. From the Centers for Disease Control and Prevention. Foodborne Diseases Active Surveillance Network, 1996. <i>JAMA</i> . 1997;277(17):1344-1345.
Butterton JR, Calderwood SB. Acute infectious diarrheal diseases and bacterial food poisoning. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. <i>Harrison's Principles of Internal Medicine</i> . 14th ed. New York, NY: McGraw-Hill; 1998:796-801.
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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GI S34
 DXCat Label: Trichinosis
 Etiology: Infection

MultiStage: No
 Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Trichinosis	Trichinella spp. myositis [muscle biopsy reports cysts or larvae] OR trichinosis [ELISA serologic test or complement fixation or fluorescent antibody or bentonite flocculation test show acute/convalescent titers \geq fourfold increase] <u>Presumptive Diagnostic Findings:</u> history of ingestion of inadequately cooked pork products or bear or walrus meat within 48 hours AND bowel movements \geq 5 times a day AND edema of eyelids OR generalized muscle pain AND eosinophilia: AND CK > 300 iu/l AND LDH > 250 iu/l AND SGOT (AST) > 60 iu/l	DX 124;
2.01	with retinal hemorrhages	Stage 1.01 AND retinal hemorrhages	STAGE 1.01 + DX 36281;
2.02	with pneumonia	Stage 1.01-2.01 AND pneumonia:	STAGE 1.01-2.01 + DXCAT RES15;
3.01	with myocarditis	Stage 1.01-2.02 AND myocarditis:	STAGE 1.01-2.02 + GROUP MYOCARDITIS;
3.02	with meningitis or encephalitis	Stage 1.01-3.01 AND meningitis:	STAGE 1.01-3.01 + (DX 3234 OR DXCAT NEU13);
3.03	with congestive heart failure	Stage 1.01-3.02 AND congestive heart failure:	STAGE 1.01-3.02 + GROUP CHF_NON_HTN;
3.04	with respiratory failure	Stage 1.01-3.03 AND respiratory failure:	STAGE 1.01-3.03 + GROUP RESP_FAIL;
3.05	with shock	Stage 1.01-3.04 AND shock:	STAGE 1.01-3.04 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 1.01-3.05 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: G1S34

MultiStage: No

DXCat Label: Trichinosis

Specificity: A

Etiology: Infection

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: G1S35

MultiStage: No

DXCat Label: Tropical Sprue

Specificity: A

Etiology: Idiopathic

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Tropical sprue	History of residence in tropics AND tropical sprue [jejunal biopsy reports absence of villi and lymphocytic infiltrate in lamina propria] AND pancreatic insufficiency: Presumptive Diagnostic Findings: History of residence in tropics AND sore tongue AND history of ≥ 5 bowel movements a day AND ≥ 5 lbs. weight loss per week for > 4 weeks	DX 5791;
1.02	with macrocytic anemia	Stage 1.01 AND macrocytosis: AND anemia: AND serum folate ≤ 2 ng/ml [chemistry report] OR serum B ₁₂ ≤ 200 pg/ml [chemistry report]	STAGE 1.01 + (GROUP ANEM_DEF_B12 OR GROUP ANEM_DEF_FOL OR GROUP ANEM_OTH_UN OR GROUP ANEM_OTH_CHR OR GROUP MACROCYT_EY);
2.01	with moderate malnutrition	Stage 1.01-1.02 AND body weight < 85% of ideal weight	STAGE 1.01-1.02 + (DX 260, 2630-2631, 2638-2639) ;
2.02	with severe malnutrition	Stage 1.01-2.01 AND body weight ≥ 75% of ideal weight OR anasarca	STAGE 1.01-2.01 + DX 261-262;
3.01	with congestive heart failure	Stage 1.01-2.02 AND congestive heart failure:	STAGE 1.01-2.02 + GROUP CHF_NON_HTN;
3.02	with shock	Stage 1.01-3.01 AND shock:	STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 1.01-3.02 AND death	NO;

References:

Cook GC. Tropical sprue: some early investigators favoured an infective cause, but was a coccidian protozoan involved?. Gut. 1997;40(3):428-429.

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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: G1S36

MultiStage: No

DXCat Label: Typhoid Fever

Specificity: A

Etiology: Infection

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Typhoid carrier state	History of gastroenteritis within 14 days AND Salmonella typhi in stools [stool culture report]	DX V021;
1.02	Typhoid gastroenteritis	Salmonella typhi in stools [stool culture report] AND generalized abdominal pain AND bowel movements \geq 5 times a day	DX 0020-0029;
2.01	Typhoid fever	Temperature \geq 103 degrees orally or 103.5 degrees rectally AND 'rose spots' rash OR typhoid bacteremia [blood culture reports growth of Salmonella typhi] OR Salmonella typhi infection [Widal agglutination reaction or O/H antibody titers 2 weeks apart show \geq fourfold increase in titers]	NO;
2.02	Typhoid hepatitis or leukopenia or anemia	Stage 2.01 AND jaundice: OR leukopenia: OR anemia:	STAGE 1.02 + (DX 5732, 2880-28809, 7824 OR GROUP HEPATITIS OR GROUP ANEM_OTH_CHR OR GROUP ANEM_OTH_UN OR GROUP ANEM_HEM_ACQ OR GROUP ANEM_DEF_FE OR GROUP LEUKOPENIA);
2.03	with gastrointestinal bleeding	Stage 2.01-2.02 AND bleeding:	STAGE 1.02-2.02 + (DX 5693, 5780-5789);
2.04	Typhoid fever with hepatomegaly or splenomegaly or cholecystitis	Stage 2.01-2.03 AND splenomegaly [physical examination or liver/spleen scan report or sonogram report or CT scan report or MRI report] OR hepatomegaly [physical examination or liver/spleen scan report or sonogram report or CT scan report or MRI report] OR acute cholecystitis [operative/pathology report or sonogram report or HIDA scan report] AND Salmonella typhi cholecystitis [biopsy culture reports growth of Salmonella typhi]	STAGE 1.02-2.03 + (DX 57400-57401, 57430-57431, 57460-57461, 57480-57481, 5750, 57512, 7891-7892);
2.05	with peritonitis	Stage 2.01-2.04 AND air under diaphragm [KUB x-ray report] OR peritonitis [operative/pathology report]	STAGE 1.02-2.04 + (DX 5672-5679, 56983);
2.06	Typhoid arthritis	Stage 2.01-2.05 AND Salmonella spp. arthritis [culture reports growth of pathologic organism(s)]	STAGE 1.02-2.05 + (DX 71100-71199, 73080-73089);
2.07	Typhoid osteomyelitis	Stage 2.01-2.06 AND osteomyelitis:	STAGE 1.02-2.06 + DXCAT MUS25;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: G1S36

DXCat Label: Typhoid Fever

Etiology: Infection

MultiStage: No

Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
2.08	Typhoid urinary pyelonephritis or renal abscess or nephritis	Stage 2.01-2.07 AND pyelonephritis OR renal abscess [ultrasonography report or CT scan report or MRI report] OR nephritis	STAGE 1.02-2.07 + (DX 58381-5839, 59010-5902, 59080-5909);
2.09	Typhoid pneumonitis	Stage 2.01-2.08 AND pneumonia:	STAGE 1.02-2.08 + DXCAT RES15;
3.01	Typhoid endocarditis	Stage 2.01-2.09 AND endocarditis:	STAGE 1.02-2.09 + GROUP ENDOCARDITIS;
3.02	Typhoid meningitis	Stage 2.01-3.01 AND meningitis:	STAGE 1.02-3.01 + GROUP MENGIT_BACT;
3.03	with sepsis	Stage 2.01-3.02 AND sepsis:	STAGE 1.02-3.02 + GROUP SEPSIS;
3.04	with shock	Stage 2.1-3.3 AND shock:	STAGE 1.02-3.03 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	Typhoid with death	Stage 2.01-3.04 AND death	NO;

References:

Anonymous. From the Centers for Disease Control and Prevention. Foodborne Diseases Active Surveillance Network, 1996. JAMA. 1997;277(17):1344-1345.

Butterton JR, Calderwood SB. Acute infectious diarrheal diseases and bacterial food poisoning. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:796-801.

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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: G1S37

MultiStage: No

DXCat Label: Ulcerative Colitis

Specificity: A

Etiology:

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Ulcerative colitis without complications	<p>Ulcerative colitis [operative/pathology report] OR Ulcerative colitis: A spectrum of colonic mucosal changes from finely granular and friable mucosa with scattered hemorrhagic areas to zones of spongy red blood and pus filled ulcerations; areas may extend into muscular layer; there are infiltrates of polymorphonuclear and lymphoid inflammatory cells around affected regions [operative/pathology report]</p> <p><u>Presumptive Diagnostic Findings:</u> Ulcerations, loss of haustrations and marginal spiculations with or without colonic pseudopolyposis [barium enema report or colonoscopy report]</p>	DX 5560-5569;
2.01	with arthritis or uveitis or stomatitis or erythema nodosum or pyoderma gangrenosum or anemia or hypoproteinemia	<p>Stage 1.01 AND arthritis: OR ankylosing spondylitis [chest x-ray report] OR sacroiliitis [pelvic x-ray report] OR erythema nodosum OR red, tender nodules on the anterior tibial surface OR uveitis [ophthalmologist's report] OR stomatitis OR pyoderma gangrenosum OR rapidly evolving cutaneous ulcer(s) with markedly undermined borders OR anemia: OR hypoproteinemia:</p>	<p>STAGE 1.01 + (DX 36400, 36402-36404, 36410-36411, 3643, 5280-5283, 68601, 6952, 70712-70715, 7078-7079, 7200, 7202, 7822 OR GROUP ARTHR_OTH OR GROUP ANEM_DEF_FE OR GROUP ANEM_DEF_B12 OR GROUP ANEM_DEF_FOL OR GROUP ANEM_DEF_OTH OR GROUP HYPOPROTEIN);</p>
2.02	with hepatitis	<p>Stage 1.01-2.01 AND hepatitis:</p>	<p>STAGE 1.01-2.01 + DXCAT HEP10;</p>
2.03	with cirrhosis of the liver or sclerosing cholangitis	<p>Stage 1.01-2.02 AND sclerosing cholangitis: fibrosing inflammation of the intrahepatic or extrahepatic bile ducts [liver biopsy operative/pathology reports sclerosing cholangitis] OR primary biliary cirrhosis: inflammation of the medium sized bile ducts or portal triad progressing to periportal fibrosis [liver biopsy operative/pathology reports primary biliary cirrhosis] OR micronodular cirrhosis: thin bands of connective tissue within the hepatic parenchyma with no delineation of hepatic veins or portal spaces [liver biopsy operative/pathology reports micronodular cirrhosis] OR macronodular cirrhosis: bands of connective tissue within the hepatic parenchyma which contain hepatic veins or portal spaces [liver biopsy operative/pathology reports macronodular cirrhosis] OR mixed cirrhosis: bands of connective tissue within the hepatic parenchyma with areas with and without hepatic veins or portal spaces [liver biopsy operative/pathology reports mixed cirrhosis] OR cirrhosis [sonogram report or liver/spleen scan report]</p>	<p>STAGE 1.01-2.02 + (DX 5715-5716, 5761);</p>

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GIS37

MultiStage: No

DXCat Label: Ulcerative Colitis

Specificity: A

Etiology:

Stage	Description	Diagnostic findings	ICD-9-CM Codes
2.04	with acute bleeding	Stage 1.01-2.03 AND hematochezia AND bleeding:	STAGE 1.01-2.03 + DX 5781-5789;
2.05	with toxic megacolon	Stage 1.01-2.04 AND diameter of colon \geq 6cm. [KUB x-ray report or barium enema report]	STAGE 1.01-2.03 + (DX 5600-56030, 56039-5609);
2.06	with colonic perforation	Stage 1.01-2.05 AND free air under diaphragm [chest x-ray report or KUB report OR contrast within peritoneal cavity [barium enema report]	STAGE 1.01-2.04 + DX 56983;
2.07	with peritonitis	Stage 1.01-2.06 AND peritonitis [operative/pathology report or peritoneal effusion culture reports growth of pathologic organism(s)]	STAGE 1.01-2.06 + DX 5672-5679;
2.08	with deep vein thrombosis	Stage 1.01-2.07 AND DVT:	STAGE 1.01-2.07 + GROUP DVT;
3.01	with sepsis	Stage 1.01-2.08 AND sepsis:	STAGE 1.01-2.08 + GROUP SEPSIS;
3.02	with shock	Stage 1.01-3.01 AND shock:	STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 1.01-3.02 AND death	NO;

References:

Bitton A, Peppercorn AM. Medical management of ulcerative colitis and other colitis syndromes. In: Friedman G, Jacobson DE, McCallum RW, eds. *Gastrointestinal Pharmacology and Therapeutics*. Philadelphia, PA: Lippincott-Raven; 1997:367-373.

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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: G1S38

MultiStage: No

DXCat Label: Vascular Insufficiency of the Bowels

Specificity: A

Etiology:

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Intestinal angina or claudication	Celiac artery stenosis [angiography report] OR mesenteric artery stenosis [angiography report]	DX 5571-5579;
2.01	Intestinal infarction	Superior mesenteric artery occlusion [angiography report] AND superior mesenteric vein thromboembolism [angiography report] OR celiac artery occlusion [angiography report] Presumptive Diagnostic Findings: mesenteric artery occlusion [doppler ultrasonography report] OR celiac artery occlusion [doppler ultrasonography report] OR pneumatosis intestinalis [KUB x-ray report] AND ileus pattern of small and large intestine [KUB x-ray report] OR thumb printing of the intestine [KUB or Barium enema report]	DX 5570;
2.02	with gangrene of the bowels	Stage 2.01 AND gangrene of the bowels [operative/pathology report]	NO;
2.03	with perforation of the bowels or peritonitis	Stage 2.01-2.02 AND air under the diaphragm [KUB x-ray report] OR peritonitis [operative/pathology report]	STAGE 1.01-2.01 + (DX 5670-5679, 56983);
3.01	with sepsis	Stage 1.01-2.03 AND sepsis:	STAGE 1.01-2.03 + GROUP SEPSIS;
3.02	with shock	Stage 2.01-3.01 AND shock:	STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.01-3.02 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: G1S38

MultiStage: No

DXCat Label: Vascular Insufficiency of the Bowels

Specificity: A

Etiology:

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

Eldrup-Jorgensen J, Hawkins RE, Bredenberg CE. Abdominal vascular catastrophes. <i>Surgical Clinics of North America</i> . 1997;77(6):1305-1320.
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Rogers AL, David S. Intestinal blood flow and disease of vascular impairment. In: Havbrich, Schaffner, Berk, eds. <i>Bockus Gastroenterology</i> . 5th ed. Philadelphia, PA: WB Saunders; 1995:1212-1234.
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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GIS80

MultiStage: No

DXCat Label: Complications of Gastrointestinal Treatment

Specificity: C

Etiology:

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Mechanical complications of gastrostomy, colostomy; post GI surgery syndrome, postop malabsorption, vomiting, or functional disorder		DX 53640, 53642-53649, 56960, 56962-56969, 5793;
2.01	Infection of gastrostomy, colostomy, radiation gastroenteritis		DX 53641, 56961, 5581;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: G1S81

MultiStage: No

DXCat Label: Gastroenteritis

Specificity: B

Etiology:

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Gastroenteritis with or without mild dehydration		DX 0070-0079, 0086-0093, 0402, 538, 5582, 5589, 55841-55842;
2.01	with moderate dehydration		STAGE 1.01 + GROUP DEHYDRATION;
3.01	with severe dehydration		NO;
3.02	with severe dehydration and renal failure		STAGE 1.01-2.01 + (DX 5845-5849, 586, 78791);

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GIS82

MultiStage: No

DXCat Label: Neoplasm, Benign: Other Gastrointestinal System

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Benign neoplasm gastrointestinal system		DX 2110-2111, 2118-2119, 2354-2355, 2390, 20963, 20965-20967;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: G1S83

MultiStage: No

DXCat Label: Neoplasm, Malignant: Other Gastrointestinal System

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	History of other gastrointestinal malignancy		DX V1000-V1001, V1009;
1.01	Primary malignant neoplasm of peritoneum or other gastrointestinal or intra-abdominal site		DX 1589, 1598-1599, 1763, 2309, 20925-20927;
2.01	with abdominal or peritoneal lymph node involvement		STAGE 0.00-1.01 + (DX 3383, 1962, 1966);
2.02	with anemia of neoplastic disease		STAGE 0.00-2.01 + DX 28522;
3.01	with distant metastases		STAGE 0.00-2.01 + (DX 1960-1961, 1963-1965, 1968-1991, 78951);
3.02	with shock		STAGE 0.00-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: G1S84

MultiStage: No

DXCat Label: Other Diseases of Esophagus, Stomach, and Duodenum

Specificity: C

Etiology:

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Esophagitis, duodenitis, dilation of stomach		DX 53010, 53012-53019, 5306, 53083-53084, 5309, 53560, 5360-5363, 5368-5369, 5371-5372, 5375, 53782, 53789-5379, 5430-5439, V473;
2.01	with hemorrhage, obstruction or fistula		DX 53561, 5370, 5373-5374, 5376, 53783-53784;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: G1S85

MultiStage: No

DXCat Label: Other Gastrointestinal Disorders

Specificity: C

Etiology:

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Peritoneal adhesions, rectal prolapse, angiodysplasia, malabsorption		DX 5680, 56889-5692, 56942, 56984, 56989-5699, 5794, 5798-5799;
2.01	Paralytic ileus, volvulus, or other intestinal obstruction, hemoperitoneum, effusion, fistula, GI hemorrhage with or without blood loss anemia		DX 5601-5602, 56081-5609, 56881-56882, 56981, 56985-56986; DX 5780-5789 + NOT (DX 2800, 2851); DX 5780-5789 + (DX 2800, 2851);

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GIS86

MultiStage: No

DXCat Label: Other Gastrointestinal Infections

Specificity: C

Etiology:

Stage	Description	Diagnostic findings	ICD-9-CM Codes
2.01	Pneumococcal or other peritonitis, intestinal abscess		DX 5670-5679, 5695, 56983;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GIS87

MultiStage: No

DXCat Label: Other Gastrointestinal or Abdominal Symptoms

Specificity: C

Etiology:

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Nausea, vomiting, heartburn, abnormal bowel sounds, diarrhea		DX 78701-7871, 7873-78799, 78900-7895, 78959-7899, 7934;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GUS01

MultiStage: No

DXCat Label: Bladder Disorders

Specificity: C

Etiology: Degenerative; Trauma; Metabolic

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Irradiation cystitis or chronic cystitis or calcified bladder or contracted bladder or hypertonic bladder or atonic bladder or diverticulum of bladder	Irradiation cystitis [operative/pathology report or cystography report or cystoscopy report or intravenous urography report or CT scan report] OR calcified bladder [operative/pathology report or cystography report or cystoscopy report or intravenous urography report or CT scan report] OR contracted bladder [operative/pathology report or cystography report or cystoscopy report or intravenous urography report or scan report] OR hypertonic bladder [operative/pathology report or cystography report or cystoscopy report or intravenous urography report or CT scan report] OR atonic bladder [operative/pathology report or cystography report or cystoscopy report or intravenous urography report or CT scan report] OR diverticulum of bladder [operative/pathology report or cystography report or cystoscopy report or intravenous urography report or CT scan report]	DX 5951, 5952, 59581, 59582, 5959, 5963, 5964, 59651, 5968;
1.02	Bladder neck obstruction	Bladder neck obstruction [operative/pathology report or cystography report or cystoscopy report or intravenous urography report or CT scan report]	DX 5960;
2.01	Bladder fistula	Bladder fistula [operative/pathology report or cystography report or cystoscopy report or intravenous urography report or CT scan report]	DX 5962;
2.02	Enterovesical fistula	Enterovesical fistula [operative/pathology report or cystography report or cystoscopy report or intravenous urography report or CT scan report]	NO;
2.03	Hemorrhage into bladder wall	Hemorrhage into bladder [operative/pathology report or cystography report or cystoscopy report or intravenous urography report or CT scan report]	DX 5967;
2.04	Rupture of the bladder	Rupture of the bladder [operative/pathology report or cystography report or cystoscopy report or intravenous urography report or CT scan report]	DX 5966;
2.05	with chronic renal failure	Stage 1.01-2.04 AND chronic renal failure:	STAGE 1.01-2.04 + GROUP REN_FAIL_CHR;
3.01	with acute renal failure	Stage 1.01-2.05 AND acute renal failure:	STAGE 1.01-2.05 + GROUP REN_FAIL_ACU;
3.02	with sepsis	Stage 1.01-3.01 AND sepsis:	STAGE 1.01-3.01 + GROUP SEPSIS;
3.03	with shock	Stage 3.01-3.02 AND shock:	STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 3.01-3.03 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GUS01

MultiStage: No

DXCat Label: Bladder Disorders

Specificity: C

Etiology: Degenerative; Trauma; Metabolic

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

Coe FL, Brenner BM. Approach to the patient with diseases of the kidneys and urinary tract. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1495-1498.

Dawson C, Whitfield H. ABC of urology. Urological trauma and bladder reconstruction. BMJ. 1996;312(7042):1352-4.

Presti Jr JC, Stoller ML, Carroll PR. Urology. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:878-916.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GUS02

MultiStage: No

DXCat Label: Calculus of the Urinary Tract

Specificity: A

Etiology: Metabolic

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Nephrolithiasis	Nephrolithiasis [KUB x-ray report or sonogram report or intravenous pyelogram report]	DX 5920-5929, 5940-5949;
2.01	with urinary tract infection	Stage 1.01 AND UTI:	STAGE 1.01 + DXCAT GUS10;
2.02	with hydronephrosis	Stage 1.01-2.01 AND hydronephrosis [operative/pathology report or sonogram report or intravenous pyelogram report]	STAGE 1.01-2.01 + DX 591;
2.03	with azotemia	Stage 1.01-2.02 AND azotemia:	STAGE 1.01-2.02 + DX 7906;
2.04	with chronic renal failure	Stage 1.01-2.03 AND chronic renal failure:	STAGE 1.01-2.03 + GROUP REN_FAIL_CHR;
3.01	with acute renal failure	Stage 1.01-2.04 AND acute renal failure:	STAGE 1.01-2.04 + GROUP REN_FAIL_ACU;
3.02	with sepsis	Stage 2.01-3.01 AND sepsis:	STAGE 1.01-3.01 + GROUP SEPSIS;
3.03	with shock	Stage 2.02-3.02 AND shock:	STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.01-3.03 AND death	NO;

References:

- Asplin JR, Coe FL. Hereditary tubular disorders. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1562-1569.
- Morrison G. Kidney. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:850-878.
- Pak CY. Kidney stones. Lancet. 1998;351(9118):1797-801.
- Presti Jr JC, Stoller ML, Carroll PR. Urology. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:878-916.
- Wickham JE. Treatment of urinary tract stones. BMJ. 1993;307(6916):1414-7.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GUS03

MultiStage: No

DXCat Label: Glomerulonephritis, Acute

Specificity: B

Etiology: Infection; Metabolic; Toxicologic

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Focal Glomerulonephritis	Glomerular hematuria AND Berger's disease [renal biopsy report] OR IgA mesangial nephropathy [renal biopsy report] OR idiopathic focal glomerulonephritis [renal biopsy report]	DX 5804, 5824, 5839, 58381;
2.01	Glomerulonephritis	Red blood cell casts [urinalysis report] OR anti-glomerular basement membrane disease [renal biopsy report] OR Goodpasture's syndrome [renal biopsy report] OR membranoproliferative glomerulonephritis [renal biopsy report] OR immune complex glomerulonephritis [renal biopsy report] OR idiopathic glomerulonephritis [renal biopsy report] OR rapidly progressive glomerulonephritis [renal biopsy report] AND positive p-ANCA [chemistry report] OR positive c-ANCA [chemistry report] OR history of rheumatic fever ≤ 6 weeks AND hematuria: AND oliguria: OR ASO titer ≥ 250 u/l [chemistry report] OR antihyaluronidase titer ≥ 1000 u/l [chemistry report] AND serum complement C3 ≤ 48 mg/dl [chemistry report]	STAGE 1.01 + DXCAT INF23; DX 5800, 58081-5809, 5820-5822, 58281-5829, 5832-5834, 58381, 5830-5831, 5836-5837, 58389;
2.02	with hypertension	Stage 1.01-2.01 AND hypertension:	STAGE 1.01-2.01 + (DX 40501, 40511, 40591);
2.03	with nephrotic syndrome	Stage 1.01-2.02 AND urine protein excretion > 3.5 g/1.73 m ² per 24 hours [urine chemistry report] AND serum albumin ≤ 3.0 g/dl [chemistry report]	STAGE 1.01-2.02 + DX 5810-5819;
3.01	with renal failure	Stage 1.01-2.03 AND acute renal failure:	STAGE 1.01-2.03 + (GROUP REN_FAIL_ACU OR GROUP REN_FAIL_CHR);
3.02	with congestive heart failure	Stage 1.01-3.01 AND congestive heart failure:	STAGE 1.01-3.01 + (GROUP CHF_HTNIVE OR GROUP CHF_NON_HTN);
3.03	with respiratory failure	Stage 1.01-3.02 AND respiratory failure:	STAGE 1.01-3.02 + GROUP RESP_FAIL;
3.04	with coma	Stage 1.01-3.03 AND coma:	STAGE 1.01-3.03 + GROUP COMA;
3.05	with shock	Stage 1.01-3.04 AND shock:	STAGE 1.01-3.04 + (GROUP SHOCKC OR GROUP SHOCKN);

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GUS03

MultiStage: No

DXCat Label: Glomerulonephritis, Acute

Specificity: B

Etiology: Infection; Metabolic; Toxicologic

Stage	Description	Diagnostic findings	ICD-9-CM Codes
4.00	with death	Stage 2.02-3.05 AND death	NO;

References:

- Brady HR, O'Meara YM, Brenner BM. The major glomerulopathies. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1536-1545.
- Hricik DE, Chung-Park M, Sedor JR. Glomerulonephritis. N Engl J Med. 1998;339(13):888-99.
- Mason PD, Pusey CD. Glomerulonephritis: diagnosis and treatment. BMJ. 1994;309(6968):1557-63.
- Morrison G. Kidney." In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:850-878.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GUS04

DXCat Label: Injury: Urinary Tract

Etiology: Trauma

MultiStage: No

Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Trauma of urethra	History of trauma AND trauma of the urethra [operative/pathology report or cystoscopy report or physical examination]	DX 8670-8671;
1.02	Trauma of the bladder	History of trauma AND trauma of the bladder [cystography report or operative/pathology report or cystoscopy report]	NO;
1.03	Trauma of the ureters	History of trauma AND trauma of the ureter [excretory or retrograde urogram, sonogram or operative or pathology report]	DX 8672-8673;
1.04	Trauma of the kidney	History of trauma AND trauma of the kidney [CT scan report or KUB x-ray report]	DX 86600-86603, 86610-86613;
2.01	with hemorrhage	Stage 1.01-1.04 AND bleeding:	STAGE 1.01-1.04 + (DX 59381, 5997-59972, 59984, 5968);
2.02	with obstruction	Stage 1.01-2.01 AND urinary tract obstruction [excretory urogram report]	STAGE 1.01-2.01 + (DX 33811, 33821, 591, 5934, 59389, 5960, 5996-59969);
3.01	with acute renal failure	Stage 1.01-2.03 AND acute renal failure:	STAGE 1.01-2.02 + GROUP REN_FAIL_ACU;
3.02	with sepsis	Stage 1.01-3.01 AND sepsis:	STAGE 1.01-3.01 + GROUP SEPSIS;
3.03	with shock	Stage 2.01-3.02 AND shock:	STAGE 1.01-3.02 + GROUP SHOCKA;
4.00	with death	Stage 2.01-3.03 AND death	NO;

References:

Coe FL, Brenner BM. Approach to the patient with diseases of the kidneys and urinary tract. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1495-1498.

Dawson C, Whitfield H. ABC of urology. Urological trauma and bladder reconstruction. BMJ. 1996;312(7042):1352-4.

Presti Jr JC, Stoller ML, Carroll PR. Urology. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:878-916.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GUS05

MultiStage: No

DXCat Label: Neoplasm, Malignant: Bladder, Urinary

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	History of carcinoma of the bladder		DX V1051;
1.01	Carcinoma of the bladder in situ or papillary noninvasive bladder carcinoma	Carcinoma of the bladder in situ [operative/pathology report] OR papillary bladder carcinoma [operative/pathology report]	DX 1880-1889, 2337;
1.02	within the mucosa	Carcinoma of the bladder without microscopic invasion beyond the lamina propria [operative/pathology report] OR Stage 1 of the American Joint Committee of Cancer OR Stage T1	NO;
2.01	with invasion of the superficial muscle layer of the bladder	Carcinoma of the bladder with microscopic invasion of the superficial muscle of the bladder [operative/pathology report] OR carcinoma of the bladder extending through muscle to both edges of the resected specimen [operative/pathology report] OR Stage 2 of the American Joint Committee of Cancer OR Stage T2 OR Stage T3a	NO;
3.01	with invasion of deep muscles	Carcinoma of the bladder with microscopic invasion of deep bladder muscle [operative/pathology report] OR carcinoma of the bladder invasion of perivesical fat [operative/pathology report] OR Stage 3 of the American Joint Committee of Cancer	NO;
3.02	with local invasion	Carcinoma of the bladder invades neighboring organs [operative/pathology report] OR carcinoma of the bladder invades the prostate [operative/pathology report] OR carcinoma of the bladder invades the uterus [operative/pathology report] OR carcinoma of the bladder invades the vagina [operative/pathology report] OR carcinoma of the bladder fixed to the pelvic wall [operative/pathology report] OR carcinoma of the bladder infiltrates the abdominal wall [operative/pathology report] OR carcinoma of the bladder infiltrates the abdominal wall [operative/pathology report] OR Stage T4 OR Stage T4a OR Stage T4b	STAGE 0.00-1.01 + (DX 3383, 1974-1976, 1980-1981, 19882);
3.03	with nodal involvement	Involvement of any homolateral regional node [operative/pathology report] OR involvement of bilateral regional nodes [operative/pathology report] OR involvement of contralateral regional nodes [operative/pathology report] OR Stage N1 OR Stage N2 OR Stage N3	STAGE 0.00-3.02 + (DX 1962, 1966);
3.04	with distant metastasis	Stage 1.01-3.03 AND carcinoma of the bladder beyond the confines of the pelvic cavity [operative/pathology report] OR Stage 4 American Joint Committee on Cancer	STAGE 0.00-3.03 + (DX 1960-1961, 1963, 1965, 1968-1973, 1977-1978, 1982-19881, 19889-1991, 78951);

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GUS05

MultiStage: No

DXCat Label: Neoplasm, Malignant: Bladder, Urinary

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.05	with shock	Stage 2.01-3.04 AND shock:	STAGE 0.00-3.04 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.01-3.05 AND death	NO;

References:

Cornella JL, Larson TR, Lee RA, Magrina JF, Kammerer-Doak D. Leiomyoma of the female urethra and bladder: report of twenty-three patients and review of the literature. American Journal of Obstetrics & Gynecology. 1997;176(6):1278-85.

Hall RR. Superficial bladder cancer. BMJ. 1994;308(6933):910-3.

Presti Jr JC, Stoller ML, Carroll PR. Urology. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:878-916.

Scher HI, Motzer RJ. Bladder and renal cell cancer. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:592-596.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GUS06

MultiStage: No

DXCat Label: Neoplasm, Malignant: Kidneys

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	History of cancer of the kidneys		DX V1052-V1053;
1.01	Cancer confined to the kidney	Cancer confined to the kidney [operative/pathology report] OR Robeson stage I	DX 1890-1891, 20924;
2.01	Cancer extends through the renal capsule but is confined by Gerota's fascia	Cancer extends through the renal capsule but is confined by Gerota's fascia [operative/pathology report]	NO;
2.02	Cancer invading renal vein or cancer extending into vena cava	Cancer extending into renal vein [operative/pathology report] OR cancer extending into vena cava [operative/pathology report] OR Robeson Stage IIIA	NO;
3.01	Cancer extending to hilar lymph nodes	Cancer extending to hilar lymph nodes [operative/pathology report] OR Robeson Stage IIIB	STAGE 0.00-1.01 + DX 1962;
3.02	Cancer of the kidneys with distant metastasis	Cancer of the kidneys beyond the confines of the abdominal cavity [operative/pathology report] OR Robeson Stage 4	STAGE 0.00-3.01 + (DX 3383, 1960-1961, 1963-1991, 78951);
4.00	Cancer of the kidneys and death	Stage 2.01-3.03 AND death	NO;

References:

Motzer RJ, Bander NH, Nanus DM. Renal-cell carcinoma. *N Engl J Med.* 1996;335(12):865-75.

Presti Jr JC, Stoller ML, Carroll PR. Urology. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. *Current Medical Diagnosis & Treatment.* Stamford, CT: Appleton & Lange; 1998:878-916.

Scher HI, Motzer RJ. Bladder and renal cell cancer. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. *Harrison's Principles of Internal Medicine.* 14th ed. New York, NY: McGraw-Hill; 1998:592-596.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GUS07

MultiStage: No

DXCat Label: Nephrotic Syndrome

Specificity: B

Etiology: Genetic (or hereditary); Immune; Metabolic; Toxicologic

Stage	Description	Diagnostic findings	ICD-9-CM Codes
2.01	Nephrotic syndrome	Urine protein excretion > 3.5 g/1.73 m ² per 24 hours [urine chemistry report] AND serum albumin ≤ 3.0 g/dl [chemistry report]	DX 5810-5819;
2.02	with hypercholesteremia	Stage 2.01 AND total serum cholesterol ≥ 200 mg/dl [chemistry report]	STAGE 2.01 + GROUP HYPR_CHOLEST;
2.03	with hypertension	Stage 2.01-2.02 AND hypertension:	STAGE 2.01-2.02 + (DX 40501, 40511, 40591);
2.04	with deep vein thrombosis	Stage 2.01-2.03 AND DVT:	STAGE 2.01-2.03 + GROUP DVT;
2.05	with renal vein thrombosis	Stage 2.01-2.04 AND renal vein thrombosis [renal vein Doppler or MRA or Angiogram report]	STAGE 2.01-2.04 + DX 4533;
2.06	with peritonitis	Stage 2.01-2.05 AND peritonitis [operative/pathology report]	STAGE 2.01-2.05 + (DX 5672, 5678, 5679, 56983, 6143-6146);
2.07	with chronic renal failure	Stage 2.01-2.06 AND chronic renal failure:	STAGE 2.01-2.06 + GROUP REN_FAIL_CHR;
3.01	with acute renal failure	Stage 2.01-2.07 AND acute renal failure:	STAGE 2.01-2.07 + GROUP REN_FAIL_ACU;
3.02	with sepsis	Stage 2.04-3.01 AND sepsis:	STAGE 2.01-3.01 + GROUP SEPSIS;
3.03	with shock	Stage 2.01-3.02 AND shock:	STAGE 2.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.01-3.03 AND death	NO;

References:

Brater DC. Diuretic therapy. N Engl J Med. 1998;339(6):387-95.

Coe FL, Brenner BM. Approach to the patient with diseases of the kidneys and urinary tract. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1495-1498.

Morrison G. Kidney. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:850-878.

Orth SR, Ritz E. The nephrotic syndrome. N Engl J Med. 1998;338(17):1202-11.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GUS08
 DXCat Label: Renal Failure
 Etiology: Idiopathic

MultiStage: No
 Specificity: B

Stage	Description	Diagnostic findings	ICD-9-CM Codes
2.01	Azotemia	Azotemia:	DX 5851-5852;
2.02	Azotemia with hypertension	Stage 2.01 AND hypertension:	NO;
2.03	Azotemia with oliguria	Stage 2.01-2.02 AND oliguria:	DX 7885, 5853;
2.04	Chronic renal failure	Chronic renal failure:	DX 585, 28521, 5854-586;
3.01	Acute renal failure	Acute renal failure:	DX 5845-5849;
3.02	with pericarditis	Stage 3.01 AND pericarditis:	STAGE 3.01 + DX 4200-42099;
3.03	with coagulation defect	Stage 3.02 AND coagulation defect:	STAGE 3.01-3.02 + GROUP COAG_DEFECT;
3.04	with acute congestive heart failure	Stage 3.01-3.03 AND congestive heart failure:	STAGE 3.01-3.03 + (GROUP CHF_HTNIVE OR GROUP CHF_NON_HTN);
3.05	with pulmonary edema	Stage 3.01-3.04 AND pulmonary edema [chest x-ray report]	STAGE 3.01-3.04 + (DX 514, 5184);
3.06	with shock or ventricular fibrillation or ventricular flutter	Stage 3.01-3.05 AND shock: OR ventricular fibrillation [EKG report] OR ventricular flutter [EKG report]	STAGE 3.01-3.05 + (GROUP SHOCKC OR GROUP SHOCKN OR GROUP ARHTHYM_VFIB);
4.00	with death	Stage 3.01-3.06 AND death	NO;

References:

Abuelo JG. Diagnosing vascular causes of renal failure. *Annals of Internal Medicine*. 1995;123(8):601-14.

Brady HR, Brenner BM. Acute renal failure. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. *Harrison's Principles of Internal Medicine*. 14th ed. New York, NY: McGraw-Hill; 1998:1504-1513.

Brady HR, Singer GG. Acute renal failure. *Lancet*. 1995;346(8989):1533-40.

Carpenter CB, Lazarus JM. Dialysis and transplantation in the treatment of renal failure. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. *Harrison's Principles of Internal Medicine*. 14th ed. New York, NY: McGraw-Hill; 1998:1520-1529.

Lazarus JM, Brenner BM. Chronic renal failure. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. *Harrison's Principles of Internal Medicine*. 14th ed. New York, NY: McGraw-Hill; 1998:1513-1520.

Morrison G. Kidney. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. *Current Medical Diagnosis & Treatment*. Stamford, CT: Appleton & Lange; 1998:850-878.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GUS09
 DXCat Label: Urethritis
 Etiology: Infection

MultiStage: No
 Specificity: B

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Urethritis	Dysuria AND UTI:	DX 0993, 09940, 09949, 13102, 59780, 59789;
1.02	with cystitis	Stage 1.01 AND cystitis (cystoscopy report)	DX 5990 + DX 5959; STAGE 1.01 + (DX 5950, 5953-5954, 59589, 5997-59972);
1.03	with chronic or recurrent prostatitis	Stage 1.01-1.02 AND prostatitis: AND history of prior prostatitis	STAGE 1.01-1.02 + (DX 13103, 6011, 6013, 6014, 6018, 6019);
1.04	with epididymitis	Stage 1.01-1.03 AND inguinal pain OR spermatic cord pain OR edema of scrotum AND erythema of scrotum AND tenderness of scrotum	STAGE 1.01-1.03 + DX 6040-60499;
1.05	with acute prostatitis	Stage 1.01-1.04 AND prostatitis:	STAGE 1.01-1.04 + (DX 6010, 6012);
1.06	Urethral abscess	Urethral abscess [by pelvic ultrasound or urologist report]	DX 5970;
2.01	with obstruction	Stage 1.01-1.05 AND urinary tract obstruction [excretory urogram report]	STAGE 1.01-1.06 + (DX 591, 5934, 59389, 5960, 5996-59969);
3.01	with renal failure	Stage 1.01-2.01 AND renal failure:	STAGE 1.01-2.01 + (GROUP REN_FAIL_ACU OR GROUP REN_FAIL_CHR);
3.02	with sepsis	Stage 1.01-3.01 AND sepsis:	STAGE 1.01-3.01 + GROUP SEPSIS;
3.03	with shock	Stage 2.01-3.02 AND shock:	STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.01-3.03 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GUS09

MultiStage: No

DXCat Label: Urethritis

Specificity: B

Etiology: Infection

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

Morrison G. Kidney. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:850-878.

Presti Jr JC, Stoller ML, Carroll PR. Urology. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:878-916.

Schmid GP, Fontanarosa PB. Evolving strategies for management of the nongonococcal urethritis syndrome. JAMA. 1995;274(7):577-9.

Stamm WE, Hicks CB, Martin DH, et al. Azithromycin for empirical treatment of the nongonococcal urethritis syndrome in men. A randomized double-blind study. JAMA. 1995;274(7):545-9.

Stamm WE. Urinary tract infections and pyelonephritis. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:817-824.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GUS10

MultiStage: No

DXCat Label: Urinary Tract Infections

Specificity: B

Etiology: Infection

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Urinary tract infection	UTI:	DX 5990;
1.02	Acute cystitis	Stage 1.01 AND hematuria:	STAGE 1.01 + DX 5997-59972; DX 5950, 5953, 5954, 59589;
2.01	Acute pyelonephritis	UTI: AND flank pain OR costovertebral tenderness OR kidney punch positive	DX 59010-59011, 59080-5909;
2.02	with bacteremia	Stage 1.01-2.01 AND bacteremia:	STAGE 1.01-2.01 + GROUP BACTEREMIA;
2.03	Acute pyelonephritis with obstruction	Stage 2.01-2.02 AND hydronephrosis or dilated ureters [sonography report or CT scan report or KUB x-ray report]	STAGE 1.01-2.02 + (DX 591, 5934, 59389, 5960, 5996-59969);
2.04	with perinephric abscess	Stage 1.01-2.03 AND perinephric abscess [operative/pathology report or sonogram or CT scan report]	DX 5902;
2.05	with necrotizing papillitis	Stage 1.01-2.04 AND necrotizing papillitis [operative/pathology report]	STAGE 1.01-2.04 + DX 5847;
3.01	with renal failure	Stage 1.01-2.06 AND acute or chronic renal failure:	STAGE 1.01-2.05 + (DX 5845- 5846, 5848-5849, 585, 5859);
3.02	with sepsis	Stage 1.01-3.01 AND sepsis:	STAGE 1.01-3.01 + GROUP SEPSIS;
3.03	with shock	Stage 1.01-3.01 AND shock:	STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.01-3.03 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GUS10

MultiStage: No

DXCat Label: Urinary Tract Infections

Specificity: B

Etiology: Infection

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

Coe FL, Brenner BM. Approach to the patient with diseases of the kidneys and urinary tract. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1495-1498.

Dawson C, Whitfield H. ABC of urology. Urinary incontinence and urinary infection. BMJ. 1996;312(7036):961-4.

Presti Jr JC, Stoller ML, Carroll PR. Urology. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:878-916.

Seifter JL, Brenner BM. Urinary tract obstruction. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine, 14th 3d. New York, NY: McGraw-Hill; 1998:1574-1579.

Stamm WE, Hooton TM. Management of urinary tract infections in adults. N Engl J Med. 1993;329(18):1328-34.

Stamm WE. Urinary tract infections and pyelonephritis. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:817-824.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GUS80

MultiStage: No

DXCat Label: Neoplasm, Benign: Urinary Tract

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Benign neoplasm of urinary tract		DX 2230-2239, 2367-23699, 2394, 20964;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GUS81

MultiStage: No

DXCat Label: Neoplasm, Malignant: Other Genitourinary System

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	History of malignant neoplasm of other urinary sites		DX V1050, V1059;
1.01	Primary malignant neoplasm of ureter, urethra, and other urinary sites		DX 1892-1899, 2339;
2.01	with lymph node involvement		STAGE 0.00-1.01 + DX 1965-1966;
2.02	with anemia of neoplastic disease		STAGE 0.00-2.01 + DX 28522;
3.01	with distant metastases		STAGE 0.00-2.02 + (DX 3383, 1960-1963, 1968-1991 , 78951);
3.02	with shock		STAGE 0.00-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GUS83

MultiStage: No

DXCat Label: Other Disorders of Kidney or Ureter

Specificity: B

Etiology:

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Impaired renal function, small kidney, hydronephrosis, nephroptosis, stricture or obstruction of ureter		DX 5888-5899, 591, 5930-59370, 59381-5939, 59652-59659, 5969, 59800-5989, 5991-5999;
2.01	Renal sclerosis, osteodystrophy, chronic pyelonephritis, vesicoureteral reflux with nephropathy, urethral syndrome		DX 587, 5880, 59000-59001, 5903, 59371-59373, 59781, 59081;
3.01	with acute renal failure		STAGE 1.01-2.01 + GROUP REN_FAIL_ACU;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GUS84

MultiStage: No

DXCat Label: Other Urinary Symptoms

Specificity: C

Etiology:

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Dysuria, urinary retention, incontinence, polyuria, discharge, extravasation of urine		DX 7881-78843, 7886-78899, 7935, 7944, V474;
1.02	Renal colic		DX 7880;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN01
 DXCat Label: Abortion: Elective
 Etiology: Pregnancy

MultiStage: No
 Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Elective abortion	Voluntary dilation and evacuation of uterus AND pregnancy of < 12 weeks	DX 63540-63542, 63570-63592, 63640-63642, 63670-63692, 63740-63742, 63770-63792, 6384, 6387-6389, 6394;
1.02	Elective abortion of uterus ≥ 12 weeks gestation	Voluntary dilation and evacuation of uterus OR Voluntary pharmaceutical evacuation of uterus AND pregnancy of ≥ 12 weeks	NO;
2.01	Perforation of uterus	Stage 1.01-1.02 AND perforation of the uterus [operative/pathology report]	DX 63520-63522, 63620-63622, 63720-63722, 6382 ; STAGE 1.01 + DX 6392;
2.02	with laceration of bladder	Stage 1.01-2.01 AND laceration of bladder [operative/pathology report]	NO;
2.03	with perforation of the bowels	Stage 1.01-2.02 AND free air under the diaphragm [KUB upright x-ray report] OR perforation of bowels [operative/pathology report]	NO;
2.04	with peritonitis	Stage 1.01-2.03 AND peritonitis [operative/pathology report]	DX 63500-63502, 63600-63602, 63700-63702, 6380 ; STAGE 1.01-2.01 + DX 6390;
2.05	with laceration of pelvic arteries and mesenteric arteries	Stage 1.01-2.04 AND laceration of pelvic arteries [operative/pathology report] OR laceration of mesenteric arteries [operative/pathology report]	DX 63510-63512, 63610-63612, 63710-63712, 6381 ; STAGE 1.01-2.04 + DX 6391;
3.01	with pulmonary embolism	Stage 1.01-2.05 AND pulmonary embolism:	DX 63560-63562, 63660-63662, 63760-63762, 6386 ; STAGE 1.01-2.05 + (DX 6396 OR GROUP PULMEMB);
3.02	with renal failure	Stage 1.01-3.01 AND renal failure:	DX 63530-63532, 63630-63632, 63730-63732, 6383 ; STAGE 1.01-3.01 + (DX 6393 OR GROUP REN_FAIL_ACU);
3.03	with sepsis	Stage 2.02-3.02 AND sepsis:	STAGE 1.01-3.02 + GROUP SEPSIS;
3.04	with shock	Stage 2.01-3.03 AND shock:	DX 63550-63552, 63650-63652, 63750-63752, 6385 ; STAGE 1.01-3.03 + (DX 6395 OR GROUP SHOCKC OR GROUP SHOCKN);

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN01

MultiStage: No

DXCat Label: Abortion: Elective

Specificity: A

Etiology: Pregnancy

Stage	Description	Diagnostic findings	ICD-9-CM Codes
4.00	with death	Stage 2.01-3.04 AND death	NO;

References:

Creasy R, Resnik R. Maternal Fetal Medicine. 4th ed. Saunders. 1999.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN02

MultiStage: No

DXCat Label: Abortion: Spontaneous

Specificity: A

Etiology: Pregnancy

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Threatened abortion	Bleeding per cervix AND dilation of the cervix < 1 cm. AND pregnancy of ≤ 20 weeks	DX 64000, 64003;
1.02	Inevitable abortion	Cervix dilated ≥ 1 cm. AND bleeding per cervix AND pregnancy of ≤ 20 weeks	NO;
1.03	Incomplete abortion	Incomplete passage of products of conception AND pregnancy of ≤ 20 weeks AND cervix ≥ 1cm OR products of conception within uterus on ultrasound	DX 63441, 63471, 63481, 63491;
1.04	Missed abortion	Pregnancy of ≤ 20 weeks AND no yolk sac when gestational sac average diameter ≥ 5 mm [transvaginal ultrasound report] AND no embryo when gestational sac average diameter ≥ 16mm [transvaginal ultrasound report]	DX 632;
1.05	Complete abortion	Products of conception AND passage of membranes AND passage of decidual lining AND pregnancy of ≤ 20 weeks AND dilatation of cervix < 1cm OR no products of conception [ultrasound report]	DX 63440, 63442, 63470, 63472, 63480, 63482, 63490, 63492, 6398, 6399;
2.01	with hemorrhage	Stage 1.01-1.05 AND bleeding:	DX 63410-63412, 63420-63422, 6391-6392;
2.02	with chorioamnionitis or endometritis	Stage 1.01-2.01 AND chorioamnionitis [culture reports growth of pathologic organism(s)] OR antepartum fever and uterine tenderness OR endometritis [culture reports growth of pathologic organism(s)] OR postpartum fever and uterine tenderness	DX 63400-63402, 6390; STAGE 1.01-2.01 + GROUP FEVER;
3.01	with disseminated intravascular coagulation	Stage 1.05-2.02 AND DIC:	STAGE 1.01-2.02 + DX 2866;
3.02	with pulmonary embolism	Stage 1.01-3.01 AND pulmonary embolism:	DX 63460-63462, 6396; STAGE 1.01-3.01 + GROUP PULMEMB;
3.03	with renal failure	Stage 1.01-3.02 AND renal failure:	DX 63430-63432, 6393; STAGE 1.01-3.02 + GROUP REN_FAIL_ACU;
3.04	with sepsis	Stage 1.01-3.03 AND sepsis:	STAGE 1.01-3.03 + GROUP SEPSIS;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN02

MultiStage: No

DXCat Label: Abortion: Spontaneous

Specificity: A

Etiology: Pregnancy

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.05	with shock	Stage 2.01-3.04 AND shock:	DX 63450-63452, 6395; STAGE 1.01-3.04 + (GROUP SHOCKC OR GROUP SHOCKN);
4.00	with death	Stage 2.01-3.05 AND death	NO;

References:

Creasy R, Resnik R. Maternal Fetal Medicine. 4th ed. Saunders. 1999.

Cunningham FG, MacDonald PC, Gant NF, Larena K, Gilstrap LC, eds. Williams Obstetrics. 19th ed. Norwalk, CT: Appleton & Lange; 1994.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN03

MultiStage: No

DXCat Label: Abruptio Placentae

Specificity: A

Etiology: Pregnancy

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Localized abruptio placentae, grade I	Localized abruptio placentae [sonogram or physical/pathologic findings] OR placenta post delivery Grade 1 OR mild bleeding AND normal blood pressure AND normal fetal heart rate AND no DIC:	DX 64120-64123;
2.01	Moderate abruptio placentae or grade II	Stage 1.01 AND localized uterine pain AND moderate vaginal bleeding OR concealed bleeding [sonogram report] OR fetal tachycardia/distress OR fibrinogen < 250 mg/dl [chemistry report]	STAGE 1.01 + DX 65630-65633;
2.02	Severe abruptio placentae, grade III	Stage 1.01-2.01 AND board-like rigidity of the uterus AND diffuse abdominal pain AND hypotension AND fibrogen < 150 mg/dl [chemistry report] OR fetal death	STAGE 1.01-2.01 + (DX 65640-65643, 66920-66924);
3.01	with disseminated intravascular coagulation	Stage 1.01-2.03 AND DIC:	STAGE 1.01-2.02 + (DX 2866, 64130-64133, 66630-66634);
3.02	with renal failure	Stage 1.01-3.01 AND renal failure:	STAGE 1.01-3.01 + (DX 66930-66934 OR GROUP REN_FAIL_ACU);
3.03	with shock	Stage 2.01-3.02 AND shock:	STAGE 1.01-3.02 + (DX 66910-66914 OR GROUP SHOCKC OR GROUP SHOCKN);
4.00	with death	Stage 2.01-3.03 AND death	NO;

References:

Creasy R, Resnik R. Maternal Fetal Medicine. 4th ed. Saunders. 1999.

Cunningham FG, MacDonald PC, Gant NF, Lareno K, Gilstrap LC, eds. Williams Obstetrics. 19th ed. Norwalk, CT: Appleton & Lange; 1994.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN04

MultiStage: No

DXCat Label: Anomaly: External Female Genitalia

Specificity: A

Etiology: Congenital

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Agglutination of the labia or labial fusion	Adherence of the labia at the midline	DX 75240-75241, 75249;
1.02	Imperforate hymen	Imperforate hymen	DX 75242;
1.03	Septate vagina or double vagina	Septum running longitudinally through the length of the entire vagina OR septum running longitudinally through the length of part of the vagina	NO;
1.04	Transverse vaginal septum	Transverse vaginal septum	NO;
1.05	Cloaca	Common opening for the vaginal and urethra OR urogenital sinus	DX 7515;
2.01	Congenital absence of the vagina	Absence of the upper third of the vagina	NO;
2.02	Female pseudohermaphroditism or total absence of vagina	Masculinization of the external female genitalia OR pseudohermaphroditism OR obliteration of vagina in female genotype	DX 7527 + FEMALE;

References:

Mackay HT. Gynecology. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:691-724.

Wentz AC. Congenital anomalies and intersexuality. In: Jones III HW, Wentz AC, Burnett LS, eds. Novak's Textbook of Gynecology. 11th ed. Baltimore, MD: Williams & Wilkins; 1988:140-188.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN05
 DXCat Label: Anomaly: Uterus
 Etiology: Congenital

MultiStage: No
 Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Arcuate uterus	Arcuate uterus [operative/pathology report]	DX 7523;
1.02	Septate uterus	Septate uterus [hysteroscopy or hysterosalpingography or operative/pathology report]	DX 7522;
1.03	Uterus bicornuate	One vagina AND one cervix AND two-horned uterus [hysteroscopy or hysterosalpingography or operative/pathology report]	NO;
1.04	Uterus bicornuate bicollis	Single vagina OR double vagina AND double cervix AND two-horned noncommunicating uterus [hysteroscopy or hysterosalpingography or operative/pathology report]	NO;
1.05	Uterus didelphys	Double vagina AND double cervix AND two-horned noncommunicating uteri with a common wall [operative/pathology report]	NO;
1.06	Asymmetrical double uterus	Stage 1.01-1.04 AND asymmetry of the double uterus	NO;
1.07	Unicornuate uterus	Unicornuate uterus [hysteroscopy or hysterosalpingography or operative/pathology report]	NO;
1.08	Rudimentary uterine horn	Stage 1.01-1.06 AND rudimentary uterine horn [hysteroscopy or hysterosalpingography or operative/pathology report]	NO;
1.09	Blind uterine horn	Stage 1.01-1.06 AND one horn does not communicate with either horn or vagina [hysteroscopy or hysterosalpingography or operative/pathology report]	NO;
1.10	Absence of the uterus	Absence of the uterus [hysteroscopy or hysterosalpingography or operative/pathology report]	NO;

References:

Mackay HT. Gynecology. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:691-724.
 Wentz AC. Congenital anomalies and intersexuality. In: Jones III HW, Wentz AC, Burnett LS, eds. Novak's Textbook of Gynecology. 11th ed. Baltimore, MD: Williams & Wilkins; 1988:140-188.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN06

MultiStage: No

DXCat Label: Ante- and Postpartum Complications

Specificity: A

Etiology: Pregnancy

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Pregnancy with hyperemesis gravidarum	Pregnancy AND hyperemesis gravidarum OR vomiting AND dehydration: AND ketosis [chemistry report]	DX 64200-64224, 64290-64294, 64001, 64300-64393, 64700-64794, 64500-64523, 64600-64614, 64630-64644, 64670-64693, 64800-64894, 65100-65193, 65500-65593, 65600-65803, 65880-65893, 65920-65923, 65940-65993, 66400, 66404, 66440, 66444, 66480, 66484, 66490, 66494, 66820-66904, 66920-66924, 66940-66970, 66980-66994, 67100-67124, 67180-67194, 67200-67204, 67400-67404, 67420-67494, 67500-67694, 677, V220-V242, V7242, 62989, 64900-64964, 67800-67803, 67900-67904, 67910-67914;
1.02	with malpresentation	Pregnancy AND breech presentation [sonogram or physical examination] OR face presentation [sonogram or physical examination] OR brow presentation [sonogram or physical examination] OR transverse lie [sonogram or physical examination]	DX 65200, 65203-65210, 65213-65220, 65223-65230, 65233-65240, 65243-65250, 65253-65260, 65263-65270, 65273-65280, 65283-65290, 65293, 66300-66393;
1.03	with bacteriuria or abnormal finding of amniotic fluid	Pregnancy AND bacteriuria [microbiology report or urinalysis report] OR abnormal amniotic fluid	DX 64650-64654, 7923;
1.04	with vaginal bleeding	Pregnancy AND vaginal bleeding	DX 64080-64093, 64130-64133, 64180-64193, 66410, 66414, 66510-66594, 66610-66624, 66710-66714, 66630-66634;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN06

MultiStage: No

DXCat Label: Ante- and Postpartum Complications

Specificity: A

Etiology: Pregnancy

Stage	Description	Diagnostic findings	ICD-9-CM Codes
2.01	with preterm labor	Pregnancy AND Preterm labor OR gestational age \geq 20 weeks AND gestational age $<$ 36 weeks AND documented uterine contractions $>$ 8/hour AND Rupture membrane OR Intact membranes AND documented cervical change OR Cervical effacement \geq 80% OR Cervical dilatation \geq 2 cm	DX 64400-64421, 65810-65833, 66420, 66424, 66460, 66464, 66500-66503;
2.02	with chorioamnionitis	Pregnancy AND chorioamnionitis [amniotic fluid culture reports growth of pathologic organism(s)] OR fever: AND uterine tenderness	DX 64660, 64663-64664, 65840-65843, 66430, 66434, 66450, 66454; STAGE 1.01-2.01 + GROUP FEVER;
2.03	with deep vein thrombosis	Pregnancy AND DVT:	DX 67130-67144, 67150, 67153-67154, 67410, 67414 ; STAGE 1.01-2.02 + GROUP DVT;
3.01	with pulmonary embolism	Pregnancy AND pulmonary embolism:	(DX 66800, 66803-66804, 67300, 67303-67310, 67313-67320, 67323-67330, 67333-67380, 67383-67384); STAGE 1.01-2.03 + GROUP PULMEMB;
3.02	with renal failure	Pregnancy AND renal failure:	DX 64620, 64623-64624, 66930, 66934; STAGE 1.01-3.01 + GROUP REN_FAIL_ACU;
3.03	with congestive heart failure	Pregnancy AND congestive heart failure:	DX 66810, 66813-66814; STAGE 1.01-3.02 + GROUP CHF_NON_HTN;
3.04	with sepsis	Stage 3.01-3.03 AND sepsis:	DX 65930, 65933, 67000, 67004; STAGE 1.01-3.02 + (GROUP SEPSIS OR DX 67000, 67004);

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN06

MultiStage: No

DXCat Label: Ante- and Postpartum Complications

Specificity: A

Etiology: Pregnancy

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.05	with shock	Stage 3.01-3.04 AND shock:	DX 66910, 66913-66914; STAGE 1.01-3.04 + (GROUP SHOCKC OR GROUP SHOCKN);
4.00	with death	Stage 3.01-3.04 AND death	NO;

References:

Creasy R, Resnik R. Maternal Fetal Medicine. 4th ed. Saunders. 1999.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN07

MultiStage: No

DXCat Label: Bartholinitis

Specificity: A

Etiology: Infection

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Bartholin's gland cyst	Non-tender swelling of Bartholin's gland	DX 6162;
1.02	Bartholinitis	Area of redness, induration, tenderness, and heat around Bartholin's gland OR bartholinitis [culture reports growth of pathologic organism(s)]	DX 6168;
1.03	with abscess formation	Stage 1.02 AND abscess formation [operative/pathology report] OR abscess	DX 6163;

References:

Holmes KK, Morse SA. Gonococcal infections. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:915-922.

Jones III HW. Benign diseases of the vulva and vagina. In: Jones III HW, Wentz AC, Burnett LS, eds. Novak's Textbook of Gynecology. 11th ed. Baltimore, MD: Williams & Wilkins; 1988:589-590.

MacKay HT. Gynecology. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:691-724.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN09

MultiStage: No

DXCat Label: Delivery, Cesarean Section

Specificity: A

Etiology: Pregnancy

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Cesarean section without complications	Delivery AND Cesarean section [operative/pathology report]	GROUP C_SECT OR DX 66971;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN09

DXCat Label: Delivery, Cesarean Section

Etiology: Pregnancy

MultiStage: No

Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.02	with wound hematoma or other minor complications	Stage 1.01 AND wound hematoma/seroma	(DX 64001, 64081, 64091, 64101, 64111, 64121, 64131, 64181, 64191, 64201-64202, 64211-64212, 64221-64222, 64231-64232, 64241-64242, 64251-64252, 64261-64262, 64271-64272, 64291-64292, 64301, 64311, 64321, 64381, 64391, 64421, 64651-64652, 64701-64702, 64711-64712, 64721-64722, 64731-64732, 64741-64742, 64751-64752, 64761-64762, 64781-64782, 64791-64792, 64801-64802, 64811-64812, 64821-64822, 64831-64832, 64841-64842, 64851-64852, 64861-64862, 64871-64872, 64881-64882, 64891-64892, 64901-64902, 64911-64912, 64921-64922, 64931-64932, 64941-64942, 64951, 64961-64962, 65101, 65111, 65121, 65131, 65141, 65151, 65161, 65171, 65181, 65191, 65201, 65211, 65221, 65231, 65241, 65251, 65261, 65271, 65281, 65291, 65301, 65311, 65321, 65331, 65341, 65351, 65361, 65371, 65381, 65391, 65401-65402, 65411-65412, 65421, 65431-65432, 65441-65442, 65451-65452, 65461-65462, 65471-65472, 65481-65482, 65491-65492, 65501, 65511, 65521, 65531, 65541, 65551, 65561, 65571, 65581, 65591, 65601, 65611, 65621, 65631, 65641, 65651, 65661, 65671, 65681, 65691, 65701, 65801, 65811, 65821, 65831, 65841, 65881, 65891, 65901, 65911, 65921, 65941, 65951, 65961, 65971, 65981, 65991,

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN09

DXCat Label: Delivery, Cesarean Section

Etiology: Pregnancy

MultiStage: No

Specificity: A

Stage Description

Diagnostic findings

ICD-9-CM Codes

Stage Description

Diagnostic findings

ICD-9-CM Codes
66001, 66011, 66021, 66031, 66041, 66051, 66061, 66071, 66081, 66091, 66101, 66111, 66121, 66131, 66141, 66191, 66201, 66211, 66221, 66231, 66301, 66311, 66321, 66331, 66341, 66351, 66361, 66381, 66391, 66401, 66411, 66421, 66441, 66451, 66461, 66481, 66491, 66632, 66702, 66712, 66821-66822, 66881-66882, 66891-66892, 66901-66902, 66921-66922, 66941-66942, 66951, 66961, 66981-66982, 66991-66992, 67101-67102, 67111-67112, 67121-67122, 67181-67182, 67191-67192, 67202, 67401-67402, 67422, 67432, 67442, 67451-67452, 64501, 64511, 64521, 64601, 64611-64612, 64631, 64641-64642, 64671, 64681-64682, 64691, 67482, 67492, 67501-67502, 67511-67512, 67521-67522, 67581-67582, 67591-67592, 67601-67602, 67611-67612, 67621-67622, 67631-67632, 67641-67642, 67651-67652, 67661-67662, 67681-67682, 67691-67692, 67801, 64971, 67811, 67901-67902, 67911-67912, V270-V279) + (GROUP C_SECT OR DX 66971); (DX 67420, 67424, 67430, 67434) + (GROUP C_SECT OR DX 66971);

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN09

DXCat Label: Delivery, Cesarean Section

Etiology: Pregnancy

MultiStage: No

Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.03	with superficial abscess of incision area or cellulitis	Stage 1.02 AND superficial abscess formation of incision area OR cellulitis of incision area[s]	STAGE 1.01-1.02 + (DX 68100-6829, 99859);
1.04	with endometritis	Stage 1.01 AND fever: AND uterine tenderness	(GROUP FEVER OR DX 64661-64662) + (GROUP C_SECT OR DX 66971);
2.01	with incision area dehiscence	Stage 1.02-1.03 AND dehiscence of incision area AND serous drainage OR sanguinous drainage	(DX 67410-67414) + (GROUP C_SECT OR DX 66971); DX 67412;
2.02	with deep abscess or necrotizing fasciitis	Stage 1.02-2.01 AND infection of incision area fat, muscle <u>and</u> fascia [operative/pathology report] OR necrotizing fasciitis [operative/pathology report]	STAGE 1.01-2.01 + DX 72886; DX 66431 + (GROUP C_SECT OR DX 66971, 67412);
2.03	with peritonitis	Stage 1.02-2.02 AND peritonitis [operative/pathology report] OR purulent abdominal drainage [(effusion culture reports growth of pathologic organism(s))]	STAGE 1.01-2.02 + (DX 67000, 67004); DX 67002 + (GROUP C_SECT OR DX 66971, 67412);
2.04	with rupture of the uterus	Stage 1.01-2.03 AND rupture of the uterus [operative/pathology report]	(DX 66501, 66511, 66522, 66531, 66541, 66551, 66561, 66571-66572, 66581-66582, 66591-66592, 66602, 66612, 66622, 67131, 67142) + (GROUP C_SECT OR DX 66971, 67412) ;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN09

DXCat Label: Delivery, Cesarean Section

Etiology: Pregnancy

MultiStage: No

Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.01	with pulmonary embolism	Stage 1.02-2.04 AND pulmonary embolism:	(DX 67151-67152, 67301-67302, 67311-67312, 67321-67322, 67331-67332, 67381-67382, 66801-66802) + (GROUP C_SECT OR DX 66971, 67412);
3.02	with renal failure	Stage 1.01-3.01 AND renal failure:	(DX 64621-64622, 66932) + (GROUP C_SECT OR DX 66971, 67412); STAGE 1.01-3.01 + GROUP REN_FAIL_ACU;
3.03	with congestive heart failure	Stage 1.01-3.02 AND congestive heart failure:	STAGE 1.01-3.02 + GROUP CHF_NON_HTN; DX 66811-66812 + (GROUP C_SECT OR DX 66971 , 67412);
3.04	with sepsis	Stage 1.01-3.03 AND sepsis:	DX 65931 + (GROUP C_SECT OR DX 66971, 67412); STAGE 1.01-3.03 + (DX 65930, 65933 OR GROUP SEPSIS);
3.05	with respiratory failure	Stage 1.01-3.04 AND respiratory failure:	STAGE 1.01-3.04 + GROUP RESP_FAIL;
3.06	with shock	Stage 1.02-3.05 AND shock:	STAGE 1.01-3.05 + (GROUP SHOCKC OR GROUP SHOCKN) ; DX 66911-66912 + (GROUP C_SECT OR DX 66971 , 67412);
4.00	with death	Stage 1.02-3.06 AND death	NO;

References:

Creasy R, Resnik R. Maternal Fetal Medicine. 4th ed. Saunders. 1999.

Cunningham FG, MacDonald PC, Gant NF, Larena K, Gilstrap LC, eds. Williams Obstetrics. 19th ed. Norwalk, CT: Appleton & Lange; 1994.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN10
 DXCat Label: Delivery, Vaginal
 Etiology: Pregnancy

MultiStage: No
 Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Vaginal delivery with no complications or minor complications or delivery with first degree laceration	Delivery AND laceration of the vaginal mucosa OR laceration of the vulvar skin OR no complications OR minor complications	(DX 64001, 64101, 64201-64202, 64211-64212, 64221-64222, 64231-64232, 64241-64242, 64251-64252, 64261-64262, 64271-64272, 64291-64292, 64301, 64311, 64321, 64381, 64391, 64501, 64511, 64521, 64601, 64611-64612, 64631, 64641-64642, 64651-64652, 64671, 64681-64682, 64691, 64701-64702, 64711-64712, 64721-64722, 64731-64732, 64741-64742, 64751-64752, 64761-64762, 64781-64782, 64791-64792, 64801-64802, 64811-64812, 64821-64822, 64831-64832, 64841-64842, 64851-64852, 64861-64862, 64871-64872, 64881-64882, 64891-64892, 64901-64902, 64911-64912, 64921-64922, 64931-64932, 64941-64942, 64951, 64961-64962, 650, 65101, 65111, 65121, 65131, 65141, 65151, 65161, 65171, 65181, 65191, 65201, 65211, 65221, 65231, 65241, 65251, 65261, 65271, 65281, 65291, 65301, 65311, 65321, 65331, 65341, 65351, 65361, 65371, 65381, 65391, 65401-65402, 65411-65412, 65421, 65431-65432, 65441-65442, 65451-65452, 65461-65462, 65471-65472, 65481-65482, 65491-65492, 65501, 65511, 65521, 65531, 65541, 65551, 65561, 65571, 65581, 65591, 65601, 65611, 65621, 65631, 65641, 65651, 65661, 65671, 65681, 65691, 65701, 65801, 65811, 65821, 65831, 65841, 65881, 65891, 65901, 65911, 65921,

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN10
 DXCat Label: Delivery, Vaginal
 Etiology: Pregnancy

MultiStage: No
 Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
			65941, 65951, 65961, 65971, 65981, 65991, 66061, 66071, 66131, 66141, 66191, 66301, 66311, 66321, 66331, 66341, 66351, 66361, 66381, 66391, 66401, 66441, 66481, 66491, 66821-66822, 66881-66882, 66891-66892, 66901-66902, 66921-66922, 66941-66942, 66951, 66961, 66981-66982, 66991-66992, 67101-67102, 67111-67112, 67121-67122, 67181-67182, 67191-67192, 67202, 67401-67402, 67432, 67442, 67451-67452, 67482, 67492, 67501-67502, 67511-67512, 67521-67522, 67581-67582, 67591-67592, 67601-67602, 67611-67612, 67621-67622, 67631-67632, 67641-67642, 67651-67652, 67661-67662, 67681-67682, 67691-67692, 67801, 64971, 67811, 67901-67902, 67911-67912, V270-V279) + NOT (GROUP C_SECT OR DX 66971, 67412);

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN10

DXCat Label: Delivery, Vaginal

Etiology: Pregnancy

MultiStage: No

Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.02	with second degree laceration or uterine atony with bleeding or retained placental fragments	Delivery AND laceration of the perineal musculature OR laceration of deep perimucosal vaginal tissue OR laceration of vaginal musculature OR uterine atony with bleeding < 500cc OR retained placental fragments	(DX 64131, 66001, 66011, 66021, 66031, 66041, 66051, 66081, 66091, 66101, 66111, 66121, 66201, 66211, 66221, 66231, 66411, 66451, 66632, 66702, 66712, 67422) + NOT (GROUP C_SECT OR DX 66971, 67412);
2.01	with third degree laceration	Delivery AND laceration of the anal sphincter OR laceration of the pelvic floor musculature	DX 66421 + NOT (DX 66971, 67412 OR GROUP C_SECT) ; DX 66461 + NOT (DX 66971, 67412 OR GROUP C_SECT);
2.02	with fourth degree laceration	Delivery AND laceration of the anal mucosa OR laceration of the rectal mucosa	DX 66431 + NOT (GROUP C_SECT OR DX 66971, 67412) ;
2.03	with laceration of the cervix or vaginal sulcus	Delivery AND laceration of the cervix OR laceration of the vaginal sulcus	(DX 66531, 66541) + NOT (GROUP C_SECT OR DX 66971, 67412);
2.04	with marked hemorrhage	Delivery AND > 500 cc. estimated total blood loss	(DX 64081, 64091, 64111, 64121, 64181, 64191, 66602, 66612, 66622) + NOT (GROUP C_SECT OR DX 66971, 67412);
2.05	with laceration of the bladder or urethra	Delivery AND laceration of the bladder [operative/pathology report or methylene blue test] OR laceration of the urethra [operative/pathology report or methylene blue test]	(DX 64661-64662, 66551) + NOT (GROUP C_SECT OR DX 66971, 67412);
2.06	with deep vein thrombosis	Stage 1.01-2.05 AND DVT:	(DX 67131, 67142, 67151-67152) + NOT (GROUP C_SECT OR DX 66971, 67412);
2.07	with inversion of the uterus	Stage 1.01-2.06 AND inversion of the uterus	DX 66522 + NOT (GROUP C_SECT OR DX 66971, 67412) ;
2.08	with rupture of the uterus	Stage 1.01-2.07 AND rupture of the uterus [operative/pathology report]	(DX 66501, 66511, 66561, 66571-66572, 66581-66582, 66591-66592) + NOT (GROUP C_SECT OR DX 66971, 67412);

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN10
 DXCat Label: Delivery, Vaginal
 Etiology: Pregnancy

MultiStage: No
 Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.01	with pulmonary embolism	Stage 1.01-2.08 AND pulmonary embolism:	(DX 67301-67302, 67311-67312, 67321-67322, 67331-67332, 67381-67382, 66801-66802) + NOT (GROUP C_SECT OR DX 66971, 67412);
3.02	with renal failure	Stage 1.01-3.01 AND renal failure:	(DX 64621-64622, 66932) + NOT (GROUP C_SECT OR DX 66971, 67412); STAGE 1.01-3.01 + GROUP REN_FAIL_ACU + NOT (GROUP C_SECT OR DX 66971, 67412);
3.03	with congestive heart failure	Stage 1.01-3.02 AND congestive heart failure:	DX 66811-66812 + NOT (GROUP C_SECT OR DX 66971, 67412); STAGE 1.01-3.02 + GROUP CHF_NON_HTN + NOT (GROUP C_SECT OR DX 66971, 67412);
3.04	with sepsis	Stage 1.01-3.03 AND sepsis:	(DX 65931, 67002) + NOT (GROUP C_SECT OR DX 66971, 67412); STAGE 1.01-3.03 + (DX 65930, 65933, 67000, 67002, 67004 OR GROUP SEPSIS);
3.05	with respiratory failure	Stage 1.01-3.04 AND respiratory failure:	STAGE 1.01-3.04 + GROUP RESP_FAIL;
3.06	with shock	Stage 1.01-3.05 AND shock:	STAGE 1.01-3.05 + (DX 66910, 66913-66914 OR GROUP SHOCKC OR GROUP SHOCKN); DX 66911-66912 + NOT (GROUP C_SECT OR DX 66971, 67412);
4.00	with death	Stage 2.03-3.06 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN10

MultiStage: No

DXCat Label: Delivery, Vaginal

Specificity: A

Etiology: Pregnancy

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

Creasy R, Resnik R. Maternal Fetal Medicine. 4th ed. Saunders. 1999.

Cunningham FG, MacDonald PC, Gant NF, Lareno K, Gilstrap LC, eds. Williams Obstetrics. 19th ed. Norwalk, CT: Appleton & Lange; 1994.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN11

MultiStage: No

DXCat Label: Dysfunctional Uterine Bleeding

Specificity: A

Etiology: Metabolic

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Hypomenorrhea, puberty bleeding, ovulation bleeding or metrorrhagia	Hypomenorrhea OR puberty bleeding OR ovulation bleeding OR metrorrhagia	DX 6260-6261, 6263, 6265, 6266, 6268, 6269, 6270 ;
1.02	Hypermenorrhea or polymenorrhea	Increase in the frequency of menses OR increase in the flow of menses OR increase in the duration of menses AND normal endometrium [operative/pathology report]	DX 6262; STAGE 1.01 + (GROUP ANEM_DEF_B12 OR GROUP ANEM_DEF_FE OR GROUP ANEM_DEF_FOL OR GROUP ANEM_DEF_OTH OR GROUP ANEM_OTH_UN);
2.01	Dysfunctional uterine bleeding and anemia	Increase in the frequency of menses OR increase in the flow of menses OR increase in the duration of menses AND normal endometrium [operative/pathology report] AND anemia:	STAGE 1.01-1.02 + (GROUP ANEM_DEF_FE OR GROUP ANEM_DEF_OTH OR GROUP ANEM_OTH_UN);
2.02	Dysfunctional uterine bleeding and marked anemia	Stage 2.01 AND hemoglobin < 8 gm/dl	NO;

References:

Carr BR, Bradshaw KD. Disorders of the ovary and female reproductive tract. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:2097-2115.

Mackay HT. Gynecology. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:691-724.

Wentz AC. Abnormal uterine bleeding. In: Jones III HW, Wentz AC, Burnett LS, eds. Novak's Textbook of Gynecology. 11th ed. Baltimore, MD: Williams & Wilkins; 1988:378-396.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN12
 DXCat Label: Ectopic Pregnancy
 Etiology: Pregnancy

MultiStage: No
 Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Tubal pregnancy	Ectopic pregnancy [operative/pathology/sonogram report]	DX 6331-63311, 6332-63321, 6338-63381, 6339-63391;
2.01	Ruptured tubal pregnancy	Stage 1.01 AND blood in peritoneal cavity [operative/pathology report]	NO;
3.01	Abdominal pregnancy	Stage 1.01 AND Abdominal pregnancy [operative/pathology or sonogram report]	DX 6330-63301;
3.02	with shock	Stage 1.01-2.01 AND shock:	STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	Ectopic pregnancy with death	Stage 2.01-3.02 AND death	NO;

References:

Creasy R, Resnik R. Maternal Fetal Medicine, 4th Ed., Saunders, 1999.

Cunningham FG, MacDonald PC, Gant NF, Lareno K, Gilstrap LC, eds. Williams Obstetrics, 19th Ed. Norwalk: Appleton & Lange, 1994.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN13

MultiStage: No

DXCat Label: Endometriosis

Specificity: A

Etiology: Idiopathic

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Endometriosis interna	Endometriosis interna [laparoscopy or operative/pathology report] OR adenomyosis [laparoscopy or operative/pathology report]	DX 6170, 6178-6179;
1.02	Endometriosis externa, mild	Endometriosis externa [operative/pathology report]	NO;
2.01	Endometriosis externa	Stage 1.01 AND endometrial implants [laparoscopy or operative/pathology report] OR endometrioma [operative/path report] OR chocolate cysts [operative/pathology] OR endometriosis, distant site [operative/pathology report] AND dense adhesions [laparoscopy or operative/pathology report] OR ovarian enclosure [laparoscopy or operative/pathology report] OR tubal enclosure [laparoscopy or operative/pathology report]	DX 6171-6176;
2.02	with ureteral obstruction or hydronephrosis	Stage 1.01 AND endometrial implants [laparoscopy or operative/pathology report] OR endometrioma [operative/path report] OR chocolate cysts [operative/pathology] OR endometriosis, distant site [operative/pathology report] AND dense adhesions [laparoscopy or operative/pathology report] OR ovarian enclosure [laparoscopy or operative/pathology report] OR tubal enclosure [laparoscopy or operative/pathology report]	STAGE 1.01-2.01 + (DX 591, 5934, 5935);
2.03	with intestinal obstruction	Stage 1.01-2.02 AND large bowel obstruction [KUB x-ray or operative/pathology report] OR small bowel obstruction [KUB x-ray or operative/pathology report]	STAGE 1.01-2.02 + (DX 56081, 56089, 5609);
2.04	with peritonitis	Stage 1.01-2.03 AND peritonitis [operative/pathology report]	STAGE 1.01-2.03 + (DX 5670-5679, 6145, 6147-6149);
3.01	with renal failure	Stage 2.02-2.04 AND renal failure:	STAGE 1.01-2.04 + GROUP REN_FAIL_ACU;
3.02	with sepsis	Stage 1.01-3.01 AND sepsis:	STAGE 1.01-3.01 + GROUP SEPSIS;
3.03	with shock	Stage 2.01-3.02 AND shock:	STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.01-3.03 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN13

MultiStage: No

DXCat Label: Endometriosis

Specificity: A

Etiology: Idiopathic

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

American College of Obstetrics and Gynecology. Endometriosis. ACOG Technical Bulletin 184. Washington, DC: ACOG 1993.

Carr BR, Bradshaw KD. Disorders of the ovary and female reproductive tract. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:2097-2115.

Mackay HT. Gynecology. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:691-724.

Wentz AC. Endometriosis. In: Jones III HW, Wentz AC, Burnett LS, eds. Novak's Textbook of Gynecology. 11th ed. Baltimore, MD: Williams & Wilkins; 1988:303-327.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN14

DXCat Label: Gonorrhea: Female

Etiology: Infection, Bacterial

MultiStage: No

Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Carrier or suspected carrier of gonorrhea		DX V027 + FEMALE;
1.02	Gonococcal endocervicitis or gonococcal infection of Skene's glands or gonococcal infection of Bartholin's glands or gonococcal pharyngitis or gonococcal conjunctivitis or gonococcal vulvovaginitis or gonococcal urethritis or gonococcal proctitis	Gonococci in exudates [gram stain of exudates report gram negative diplococci] OR gonococcal infection [culture reports growth of Neisseria gonorrhoeae] OR gonococcal conjunctivitis [gram stain of exudates report gram negative diplococci] OR gonococcal pharyngitis [gram stain of exudates report gram negative diplococci] OR gonococcal proctitis [gram stain of exudates report gram negative diplococci]	(DX 0980, 09810, 09811, 09815, 09819, 0982, 09830, 09831, 09835, 09839, 09841-09849, 0986, 0987) + FEMALE; DX 09840 + AGE 1-124 + FEMALE;
2.01	Gonococcal pelvic inflammatory disease	Stage 1.02 AND pain on cervical motion AND adnexal pain	DX 09816, 09817, 09836 OR DX 09837 + FEMALE;
2.02	with dermatitis	Stage 1.02-2.01 AND gonococcal dermatitis [skin wound culture reports growth of Neisseria gonorrhoeae]	DX 09881 + FEMALE;
2.03	with peritonitis	Stage 1.02-2.02 AND peritonitis [operative/pathology report]	DX 09886 + FEMALE;
3.01	with septic arthritis	Stage 1.02-2.03 AND infectious arthritis: OR gonococcal arthritis [culture reports growth of Neisseria gonorrhoeae]	DX 09850-09859 + FEMALE;
3.02	Gonococcal endocarditis or gonococcal pericarditis	Stage 1.02-3.01 AND endocarditis: OR pericarditis:	DX 09883-09885 + FEMALE;
3.03	Gonococcal meningitis	Stage 1.02-3.02 AND meningitis:	DX 09882 + FEMALE;
3.04	with congestive heart failure	Stage 3.01-3.03 AND congestive heart failure:	STAGE 3.01-3.03 + GROUP CHF_NON_HTN;
3.05	with sepsis	Stage 1.02-3.04 AND sepsis:	DX 09889 + FEMALE; STAGE 1.02-3.04 + (DX 03840, 03849, 0388, 0389, 41512, 449);
3.06	with shock	Stage 2.02-3.05 AND shock:	STAGE 2.02-3.05 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.02-3.06 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN14

MultiStage: No

DXCat Label: Gonorrhea: Female

Specificity: A

Etiology: Infection, Bacterial

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

Eschenbach DA. Pelvic infections and sexually transmitted diseases. In: Scott JR, Disaia PJ, Hammond CB, Spellacy WN, eds. Danforth's Obstetrics and Gynecology. 6th ed. Philadelphia, PA: JB Lippincott; 1990:944-947.

Feigin RD, Sugerman R. Gonococcal infections. In: Behrman RE, Kliegman RM, Vaughan III VC, Nelson WE, eds. Nelson Textbook of Pediatrics. 14th ed. Philadelphia, PA: WB Saunders; 1992:716-720.

Holmes KK, Morse SA. Gonococcal infections. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:915-922.

Mackay HT. Gynecology. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:691-724.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN15
 DXCat Label: Mastitis
 Etiology: Infection

MultiStage: No
 Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Acute mastitis	Infected nipple discharge [nipple discharge culture reports growth of pathologic organism(s)] OR pus from nipple AND tenderness of breast AND erythema of breast	DX 6110;
2.01	with abscess formation	Stage 1.01 AND abscess formation [operative/pathology report]	NO;
3.01	with sepsis	Stage 1.01-2.01 AND sepsis:	STAGE 1.01 + GROUP SEPSIS;
3.02	with shock	Stage 1.01-3.01 AND shock:	STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.01-3.02 AND death	NO;

References:

Giuliano AE. Breast. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:666-689.
 O'Hara RJ, Dexter SP, Fox JN. Conservative management of infective mastitis and breast abscesses after ultrasonographic assessment. British Journal of Surgery 1996;83(10):1413-4.
 Schein M. Subareolar breast abscesses. Surgery 1996;120:902.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN16

MultiStage: No

DXCat Label: Neoplasm, Benign: Breast

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Contusion of the breast	Contusion of breast OR bruise of breast	DX 9220;
1.02	Hematoma of the breast	Hematoma of the breast [operative/pathology report or physical examination]	NO;
1.03	Fat necrosis of the breast	Fat necrosis of the breast [operative/pathology report or physical examination]	DX 6113, 6111;
1.04	Fibroadenoma of the breast	Fibroadenoma of the breast [operative/pathology report]	DX 217, 2383, 2393;
1.05	Fibrocystic disease of the breast or chronic cystic mastitis or solitary cyst or benign mammary dysplasia	Fibrocystic disease of the breast [operative/pathology report] OR chronic cystic mastitis [operative/pathology report] OR solitary cyst [operative/pathology report] OR benign mammary dysplasia [operative/pathology report]	DX 6100-6109;
2.01	Intraductal papilloma	Intraductal papilloma [operative/pathology report]	NO;

References:

Colditz GA et al: The use of estrogens and progestins and the risk of breast cancer in postmenopausal women. *N Engl J Med* 1995;332:1589.

Dixon JM, McDonald C, Elton RA, Miller WR. Breast cancer risk with cyst type in cystic disease of the breast. Larger study found no association between cyst type and breast cancer. *BMJ* 1997;315(7107):545-6.

Fiorica JV. Fibrocystic changes. *Obstet Gynecol Clin North Am* 1994;12:4

Giuliano AE. Breast. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. *Current Medical Diagnosis & Treatment*. Stamford, CT: Appleton & Lange; 1998:666-689.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN17

MultiStage: No

DXCat Label: Neoplasm, Benign: Ovary

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Follicle cysts or corpus luteum cysts	Follicle cysts [operative/pathology report] OR corpus luteum cysts [operative/pathology report]	DX 6200-6201;
1.02	Dermoid cysts	Dermoid cysts [operative/pathology report or pelvic x-ray report or pelvic sonogram report]	DX 220;
1.03	Serous cystic tumors	Serous tumors [operative/pathology report]	NO;
1.04	Endometrioid tumors or mucinous cystic tumors	Endometrioid tumors [operative/pathology report] OR mucinous cystic tumors [operative/pathology report]	DX 2362 OR (DX 2395 + FEMALE);
1.05	Benign ovarian tumors and abdominal distention or symptoms of pressure on surrounding organs	Stage 1.01-1.04 AND abdominal distention OR nausea OR vomiting OR diffuse abdominal pain	STAGE 1.01-1.04 + (DX 3383, 78701-78703, 7873, 78900-78909);
1.06	Benign ovarian tumors and torsion of the ovaries	Stage 1.01-1.05 AND abdominal distention OR nausea OR vomiting OR diffuse abdominal pain	STAGE 1.01-1.05 + DX 6205;
2.01	Benign ovarian tumors with rupture	Stage 1.01-1.06 AND ruptured benign tumor [operative/pathology report or sonogram report]	STAGE 1.01-1.06 + DX 6208;
2.02	Benign ovarian tumors with peritonitis	Stage 1.01-2.01 AND peritonitis [operative/pathology report]	STAGE 1.01-2.01 + (DX 5670-5679, 6145, 6147-6149);
3.01	Benign ovarian tumors with sepsis	Stage 2.01-2.02 AND sepsis:	STAGE 1.01-2.02 + GROUP SEPSIS;
3.02	Benign ovarian tumors with shock	Stage 2.01-3.01 AND shock:	STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	Benign ovarian tumors with death	Stage 2.01-3.02 AND death	NO;

References:

- Crombleholme WR. Obstetrics. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:724-748.
- Jones III HW. Ovarian cysts and tumors. In: Jones III HW, Wentz AC, Burnett LS, eds. Novak's Textbook of Gynecology. 11th ed. Baltimore, MD: Williams & Wilkins; 1988:782-791.
- MacKay HT. Gynecology. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:691-724.
- Young RC. Gynecologic malignancies. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:605-611.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN18

MultiStage: No

DXCat Label: Neoplasm, Benign: Uterus (Leiomyomas)

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Uterine leiomyomas	Uterine leiomyomas [operative/pathology report or sonogram report or CT scan or MRI report]	DX 2180-2189;
2.01	with anemia	Stage 1.01 AND anemia:	STAGE 1.01-1.02 + (GROUP ANEM_DEF_FE OR GROUP ANEM_NEOPL);
2.02	with pressure on bladder or rectum or bowels	Stage 1.01-2.01 AND frequency of urination OR abdominal distention OR lower abdominal distention OR constipation	STAGE 1.01-2.01 + (DX 3383, 56400, 56409, 7873, 78841);
2.03	with urinary retention	Stage 1.01-2.02 AND post-voiding residual urine \geq 100 cc	STAGE 1.01-2.02 + (DX 78820-78829);
2.04	with hydronephrosis or hydroureter	Stage 1.01-2.03 Hydronephrosis [IVP or sonogram report] OR hydroureter [IVP report or sonogram report]	STAGE 1.01-2.03 + (DX 591, 5935);
2.05	with intestinal obstruction	Stage 1.01-2.04 AND large bowel obstruction [KUB x-ray or operative/pathology report] OR small bowel obstruction [KUB x-ray or operative/pathology report]	STAGE 1.01-2.04 + (DX 5373, 56089, 5609);
2.06	with peritonitis	Stage 2.02-2.05 AND peritonitis [operative/pathology report]	STAGE 1.01-2.05 + (DX 5670-5679, 6145, 6147-6149);
3.01	with renal failure	Stage 2.02-2.06 AND renal failure:	STAGE 1.01-2.06 + GROUP REN_FAIL_ACU;
3.02	with sepsis	Stage 2.02-3.01 AND sepsis:	STAGE 1.01-3.01 + GROUP SEPSIS;
3.03	with shock	Stage 2.02-3.02 AND shock:	STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.02-3.03 AND death	NO;

References:

- Crombleholme WR. Obstetrics. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:724-748.
- Jones III HW. Ovarian cysts and tumors. In: Jones III HW, Wentz AC, Burnett LS, eds. Novak's Textbook of Gynecology. 11th ed. Baltimore, MD: Williams & Wilkins; 1988:782-791.
- Mackay HT. Gynecology. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:691-724
- Young RC. Gynecologic malignancies. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:605-611.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN19

MultiStage: No

DXCat Label: Neoplasm, Malignant: Breast, Female

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	History of carcinoma of the breast		DX V103 + FEMALE;
1.01	in situ	Carcinoma of the breast in situ [operative/pathology report] OR American Joint Committee on Cancer Stage 0	DX 2330 + FEMALE;
1.02	Malignant neoplasm of the breast of unspecified size or malignant cysosarcoma phyllodes	Malignant neoplasm of the breast of unspecified size or malignant cysosarcoma phyllodes [operative/pathology report]	DX 1740-1749 + FEMALE;
1.03	≤ 2cm in diameter	Carcinoma of the breast ≤ 2.0 cm in diameter [operative/pathology report] AND no lymph node involved [operative/pathology report] OR American Joint Committee on Cancer Stage 1	NO;
1.04	> 2cm and ≤ 5cm in diameter or single ipsilateral node involved	Carcinoma of the breast > 2 and ≤ 5.0 cm in diameter [operative/pathology report] OR single ipsilateral lymph node involved [operative/pathology report] OR American Joint Committee Stage 2a	STAGE 0.00-1.02 + DX 1963;
2.01	> 5cm in diameter	Carcinoma of the breast > 5.0 cm in diameter [operative/pathology report] OR American Joint Committee Stage 2b	NO;
3.01	Nodal involvement with fixation	Cancer of the breast AND more than 1 ipsilateral node with fixation [operative/pathology report] OR American Joint Committee Stage 3a	NO;
3.02	tumor extension to skin or tumor extension to chest or internal mammary node involvement	Tumor extension to skin [operative/pathology report] OR tumor extension to chest [operative/pathology report] OR internal mammary node involvement [operative/pathology report] OR American Joint Committee Stage 3b	STAGE 0.00-1.04 + (DX 1961, 1970-1972, 1982);
3.03	with metastasis	Carcinoma of the breast involving the lungs [operative/pathology report or chest x-ray or CT scan] OR carcinoma of the breast involving the liver [operative/pathology report or CT scan or liver/spleen scan] OR carcinoma of the breast involving the skeletal system [operative/pathology report or bone scan or x-ray] OR American Joint Committee Stage 4	STAGE 0.00-3.02 + (DX 3383, 1960, 1962, 1965-1966, 1968-1969, 1973-1981, 1983-1991, 78951);
4.00	with death	Stage 1.02-3.03 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN19

MultiStage: No

DXCat Label: Neoplasm, Malignant: Breast, Female

Specificity: A

Etiology: Neoplasm

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

American Joint Committee on Cancer. Manual for Staging of Cancer. Lippincott, 1992.

Berg JW, Hutter RVP. Breast cancer. Cancer 1995;75:257.

Giuliano AE. Breast. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:666-689.

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Piccirillo JF, Feinstein AR. Clinical symptoms and co-morbidity: significance for the prognostic classification of cancer. Cancer 1996;77:834.

Silverstein MJ. Recent advances. Diagnosis and treatment of early breast cancer. BMJ. 1997;314(7096):1736-9.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN20

MultiStage: No

DXCat Label: Neoplasm, Malignant: Cervix Uteri

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	History of cervical carcinoma		DX V1041;
1.01	Minimal cervical dysplasia	Dysplastic cells involve lower one-third of the cervical epithelium [operative/pathology/cytology report] OR Stage CIN I OR Low grade squamous intraepithelial lesion	DX 6221-62211, 79503;
1.02	Severe cervical dysplasia	Dysplastic cells involve lower two-thirds of the cervical epithelium [operative/pathology/cytology report] OR Stage CIN II OR Low grade squamous intraepithelial lesion	DX 62212;
1.03	Carcinoma in situ or intraepithelial carcinoma	Dysplastic cells or carcinoma cells involve the full thickness of the cervical epithelium [operative/pathology/cytology report] OR International Federation of Gynecology and Obstetrics Stage 0 OR CIN III OR High risk squamous intraepithelial lesion	DX 2331, 79504, 79506;
1.04	Microinvasive carcinoma or minimal stromal invasion	Atypical cells or dysplastic cells or carcinoma cells involve the basement membrane and/or minimal stromal (< 7mm horizontally and < 5mm vertically) invasion [operative/pathology/cytology report] OR International Federation of Gynecology and Obstetrics Stage IA	DX 1800-1809;
2.01	Macroscopic cervical carcinoma < 4cm confined to the cervix	Stage 1.04 AND Macroscopic carcinoma confined to the cervix < 4cm in size [operative/pathology report] OR International Federation of Gynecology and Obstetrics Stage IB1	NO;
2.02	Macroscopic cervical carcinoma ≥ 4cm confined to the cervix	Stage 1.04-2.01 AND Macroscopic carcinoma ≥ 4cm in size confined to the cervix [operative/pathology report] OR International Federation of Gynecology and Obstetrics Stage IB2	NO;
2.03	with extension to upper third of vagina	Stage 1.04-2.02 AND Cervical carcinoma with extension to upper third of vagina [operative/pathology report] OR International Federation of Gynecology and Obstetrics Stage IIA	STAGE 0.00 + DX 19882; STAGE 1.03-1.04 + DX 19882;
2.04	with parametrial involvement	Stage 1.04-2.03 AND Cervical carcinoma with parametrial involvement [operative/pathology report] OR International Federation of Gynecology and Obstetrics Stage IIB	STAGE 0.00 + DX 1986; STAGE 1.03-2.03 + DX 1986;
3.01	involves lower third of the vagina	Stage 1.04-2.04 AND Cervical carcinoma involves lower third of vagina [operative/pathology report] OR International Federation of Gynecology and Obstetrics Stage IIIA	NO;
3.02	with extension to the pelvic wall or renal involvement	Stage 1.04-2.04 AND Cervical carcinoma extending to the pelvic wall [operative/pathology report] OR hydronephrosis [intravenous pyelography or CT scan or nuclear renogram or sonography] OR nonfunctioning kidney [intravenous pyelography or nuclear renogram] OR International Federation of Gynecology and Obstetrics Stage IIIB	STAGE 0.00 + (DX 3383, 1976, 1980); STAGE 1.03-2.04 + (DX 3383, 1976, 1980);

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN20

MultiStage: No

DXCat Label: Neoplasm, Malignant: Cervix Uteri

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.03	with involvement of the bladder or rectum	Cervical carcinoma with extension into the urinary bladder [operative/pathology report] OR cervical carcinoma with extension into the rectum [operative/pathology report] OR International Federation of Gynecology and Obstetrics Stage IVA	STAGE 0.00 + (DX 1975, 1981); STAGE 1.03-3.02 + (DX 1975, 1981);
3.04	with distant organ involvement	Cervical carcinoma involves abdominal lymph nodes above the renal arteries [operative/pathology report] OR cervical carcinoma involves the liver [operative/pathology report] OR cervical carcinoma involves the large or small intestines [operative/pathology report] OR cervical carcinoma with growth beyond the peritoneal cavity [operative/pathology report] OR International Federation of Gynecology and Obstetrics Stage IVB	STAGE 0.00 + (DX 1960-1974, 1977-1978, 1982-1985, 1987, 19881, 19889-1991, 78951); STAGE 1.03-3.03 + (DX 1960-1974, 1977-1978, 1982-1985, 1987, 19881, 19889-1991, 78951);
4.00	with death	Stage 1.03-3.04 AND death	NO;

References:

American College of Obstetricians and Gynecologists. Classification and staging of gynecologic malignancies. ACOG Technical Bulletin 155. Washington, DC: ACOG 1991.
Elkas JC, Farias-Eisner R, Berek JS. Cervix, Vulva, and Vagina. In: Abeloff: Clinical Oncology, 2nd ed., Churchill Livingstone, Inc; 2000: 1946-1966
MacKay HT. Gynecology. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:691-724.
Sheets EE. The Cervix. In: Ryan: Kistner's Gynecology & Women's Health, 7th ed., Mosby, Inc; 1999: 100-118.
Young RC. Gynecologic malignancies. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:605-611.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN22

MultiStage: No

DXCat Label: Neoplasm, Malignant: Endometrium

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	History of endometrial carcinoma		DX V1042;
1.01	Endometrial carcinoma in situ	Endometrial carcinoma in situ [operative/pathology report] OR International Federation of Gynecology and Obstetrics Stage 0	DX 2332;
1.02	Confined to the corpus uteri mucosa	Endometrial carcinoma limited to the corpus uteri mucosa [operative/pathology report] OR International Federation of Gynecology and Obstetrics Stage IA	DX 1820-1828, 179;
1.03	Confined to <50% of corpus uteri myometrial invasion	Stage 1.02 AND Endometrial carcinoma limited to <50% of corpus uteri myometrial invasion OR International Federation of Gynecology and Obstetrics Stage IB	NO;
1.04	Confined to corpus uteri with >50% myometrial invasion	Stage 1.01-1.03 AND Endometrial carcinoma with >50% myometrial invasion of corpus uteri OR International Federation of Gynecology and Obstetrics Stage IC	NO;
2.01	Involving the inguinal nodes	Stage 1.01-1.04 AND Endometrial carcinoma involving the cervical glands [operative/pathology report] OR International Federation of Gynecology and Obstetrics Stage II A	STAGE 0.00-1.02 + DX 1965;
2.02	Involving the cervical stroma	Stage 1.01-2.01 AND Endometrial carcinoma involving the cervical stroma [operative/pathology report] OR International Federation of Gynecology and Obstetrics Stage II B	STAGE 0.00-2.01 + DX 19882;
3.01	Extending to uterine serosa, adnexa or peritoneal cytology	Stage 1.01-2.02 AND Endometrial carcinoma extending to uterine serosa, adnexa or peritoneal cytology [operative/pathology report] OR International Federation of Gynecology and Obstetrics Stage III A	STAGE 0.00-2.02 + DX 1976;
3.02	Extending to vagina	Stage 1.01-3.01 AND Endometrial carcinoma extending to vagina [operative/pathology report] OR International Federation of Gynecology and Obstetrics Stage III B	NO;
3.03	Extending to pelvic and paraaortic lymph nodes	Stage 1.01-3.02 AND Endometrial carcinoma extending to pelvic and paraaortic lymph nodes [operative/pathology report] OR International Federation of Gynecology and Obstetrics Stage III C	STAGE 0.00-3.01 + (DX 3383, 1962, 1966);
3.04	Extending to bladder or rectal mucosa	Stage 1.01-3.03 AND Endometrial carcinoma extending to bladder or rectal mucosa [operative/pathology report] OR International Federation of Gynecology and Obstetrics Stage IV A	STAGE 0.00-3.03 + (DX 1975, 1981);
3.05	Extending to distant organs or inguinal lymph nodes	Stage 1.01-3.04 AND Endometrial carcinoma extending to distant organs or inguinal lymph nodes [operative/pathology report] OR International Federation of Gynecology and Obstetrics Stage IV B	STAGE 0.00-3.04 + (DX 1960-1961, 1963, 1968-1974, 1977-1980, 1982-19881, 19889-1991, 78951);
3.06	with shock	Stage 1.01-3.05 AND shock:	STAGE 0.00-3.05 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 1.01-3.06 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN22

MultiStage: No

DXCat Label: Neoplasm, Malignant: Endometrium

Specificity: A

Etiology: Neoplasm

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

American College of Obstetricians and Gynecologists. Classification and staging of gynecologic malignancies. ACOG Technical Bulletin 155. Washington, DC: ACOG 1991.
Jones III HW. Ovarian cysts and tumors. In: Jones III HW, Wentz AC, Burnett LS, eds. Novak's Textbook of Gynecology. 11th ed. Baltimore, MD: Williams & Wilkins; 1988:782-791.
Mackay HT. Gynecology. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:691-724.
Young RC. Gynecologic malignancies. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:605-611.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN23

MultiStage: No

DXCat Label: Neoplasm, Malignant: Ovaries

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	History of ovarian carcinoma		DX V1043;
1.01	Ovarian carcinoma limited to one ovary with intact ovarian capsule	Carcinoma limited to one ovary and intact capsule [operative/pathology report] OR International Federation of Gynecology and Obstetrics Stage IA	DX 1830;
1.02	Limited to both ovaries with intact ovarian capsule	Stage 1.01 AND carcinoma limited to both ovaries and intact capsule [operative/pathology report] OR International Federation of Gynecology and Obstetrics Stage IB	NO;
1.03	with ascites or malignant cells in peritoneal washings or rupture of ovarian capsule or spilling or external surface of ovary with carcinoma	Stage 1.01-1.02 AND ovarian carcinoma with ascites or malignant cells in peritoneal washings or rupture of ovarian capsule or spilling or external surface of ovary with carcinoma [operative/pathology report] OR International Federation of Gynecology and Obstetrics Stage IC[report]	NO;
2.01	with extension to the uterus or fallopian tubes	Stage 1.01-1.03 AND ovarian carcinoma growth or metastasis to the uterus or fallopian tubes [operative/pathology report] OR International Federation of Gynecology and Obstetrics Stage IIA	STAGE 0.00-1.01 + DX 19882;
2.02	with extension to other pelvic structures	Stage 1.01-2.01 AND ovarian carcinoma involving the parametrium [operative/pathology report] OR ovarian carcinoma involving the rectum [operative/pathology report] OR ovarian carcinoma involving the urinary bladder [operative/pathology report] OR International Federation of Gynecology and Obstetrics Stage IIB	STAGE 0.00-2.01 + (DX 3383, 1986, 1980);
2.03	with pelvic extension and ascites	Stage 2.01-2.02 AND ascites [operative/pathology report] OR ovarian carcinoma cells in pelvic washings [operative/pathology report] OR International Federation of Gynecology and Obstetrics Stage IIC	STAGE 0.00-2.02 + (DX 7895-78959, 1976, 78951);
3.01	with peritoneal micro-metastasis	Stage 1.01-2.03 AND ovarian carcinoma with peritoneal microscopic metastasis lymph nodes [operative/pathology report] OR International Federation of Gynecology and Obstetrics Stage IIIA	NO;
3.02	with visible peritoneal/abdominal metastasis < 2cm in greatest dimension	Stage 1.01-3.01 AND ovarian carcinoma with a visible peritoneal/abdominal metastasis < 2cm in greatest dimension [operative/pathology report] OR International Federation of Gynecology and Obstetrics Stage IIIB	NO;
3.03	with visible peritoneal/abdominal metastasis =2cm in dimension and/or pelvic/abdominal lymph nodes	Stage 1.01-3.02 AND ovarian carcinoma with visible peritoneal/abdominal metastasis > or = 2cm in dimension and/or pelvic/abdominal lymph nodes [operative/pathology report] OR International Federation of Gynecology and Obstetrics Stage IIC	STAGE 0.00-2.03 + (DX 1962, 1966);

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN23

MultiStage: No

DXCat Label: Neoplasm, Malignant: Ovaries

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.04	with distant metastasis or liver parenchymal involvement or positive pleural cytology	Ovarian carcinoma with growth or metastasis beyond the peritoneal cavity [operative/pathology report] OR ovarian carcinoma with metastasis to the liver parenchyma [operative/pathology report] OR positive pleural cytology [cytology report] OR International Federation of Gynecology and Obstetrics Stage V	STAGE 0.00-3.03 + (DX 1960-1961, 1963-1965, 1968-1975, 1977-1978, 1981-1985, 1987-19881, 19889-1991);
4.00	with death	Stage 2.01-3.02 AND death	NO;

References:

American College of Obstetricians and Gynecologists. Classification and staging of gynecologic malignancies. ACOG Technical Bulletin 155. Washington, DC: ACOG 1991.

Jones III HW. Ovarian cysts and tumors. In: Jones III HW, Wentz AC, Burnett LS, eds. Novak's Textbook of Gynecology. 11th ed. Baltimore, MD: Williams & Wilkins; 1988:782-791.

MacKay HT. Gynecology. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:691-724.

Young RC. Gynecologic malignancies. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:605-611.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN24

MultiStage: No

DXCat Label: Neoplasm, Malignant: Vagina

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	History of carcinoma of the vagina		NO;
1.01	Carcinoma of the vagina in situ	Carcinoma of the vagina in situ [operative/pathology report] OR intraepithelial carcinoma of the vagina [operative/pathology report] OR International Federation of Gynecology and Obstetrics Stage 0	DX 23331, 79516;
1.02	limited to the vaginal mucosa	Carcinoma of the vagina limited to the vaginal mucosa [operative/pathology report] OR International Federation of Gynecology and Obstetrics Stage I	DX 1840;
2.01	with involvement of the subvaginal tissue	Carcinoma of the vagina with involvement of the submucosa and/or parametrial [operative/pathology report] AND carcinoma of the vagina does not extend to the pelvic wall [operative/pathology report] OR International Federation of Gynecology and Obstetrics Stage II	STAGE 1.02 + DX 19882;
3.01	with extension to the pelvic side wall	Carcinoma of the vagina with extension to the pelvic side wall [operative/pathology report] OR International Federation of Gynecology and Obstetrics Stage III	STAGE 1.02-2.01 + DX 19889;
3.02	with extension beyond the true pelvis	Carcinoma of the vagina with extension beyond the true pelvis [operative/pathology report] OR carcinoma of the vagina with extension into the rectal mucosa [operative/pathology report] OR carcinoma of the vagina with extension into the bladder mucosa [operative/pathology report]	STAGE 1.01-3.01 + (DX 3383, 1960-19881, 1990-1991, 78951);
3.03	with shock	Stage 2.01-3.02 AND shock:	STAGE 1.02-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.01-3.03 AND death	NO;

References:

American College of Obstetricians and Gynecologists. Classification and staging of gynecologic malignancies. ACOG Technical Bulletin 155. Washington, DC: ACOG 1991.

Jones III HW. Ovarian cysts and tumors. In: Jones III HW, Wentz AC, Burnett LS, eds. Novak's Textbook of Gynecology. 11th ed. Baltimore, MD: Williams & Wilkins; 1988:782-791.

MacKay HT. Gynecology. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:691-724.

Young RC. Gynecologic malignancies. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:605-611.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN25

MultiStage: No

DXCat Label: Neoplasm, Malignant: Vulva

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	History of carcinoma of the vulva		NO;
1.01	Carcinoma in situ of the vulva	In situ cancer of the vulva [operative/pathology report] OR International Federation of Gynecology and Obstetrics Stage 0	DX 23332;
1.02	Confined to the vulva and ≤ 2cm in diameter	Cancer of the vulva confined to the vulva [operative/pathology report] AND cancer of the vulva ≤ 2 cm in diameter [operative/pathology report] AND nonpalpable lymph nodes in either groin OR palpable but mobile lymph nodes in either groin OR normal lymph nodes [operative/pathology report] OR International Federation of Gynecology and Obstetrics Stage I	DX 1841-1844;
2.01	Confined to the vulva but >2cm in diameter	Cancer of the vulva confined to the vulva [operative/pathology report] AND cancer of the vulva > 2 cm in diameter [operative/pathology report] OR nonpalpable lymph nodes in either groin OR normal lymph nodes [operative/pathology report] OR International Federation of Gynecology and Obstetrics Stage II	NO;
3.01	with spread to adjacent organs	Cancer of the vulva with extension into the urethra [operative/pathology report] OR cancer of the vulva with extension into the anus [operative/pathology report] OR cancer of the vulva with extension into the perineum [operative/pathology report] OR cancer of the vulva with extension into the vagina [operative/pathology report] OR palpable lymph nodes in either groin OR enlarged and firm mobile lymph nodes in either groin OR cancer of the vulva in lymph nodes [operative/pathology report] OR International Federation of Gynecology and Obstetrics Stage III	STAGE 1.02 + (DX 1965, 19882);
3.02	Invading the bladder or rectum or distant organs	Cancer of the vulva with extension into the urethra [operative/pathology report] OR cancer of the vulva with extension into the anus [operative/pathology report] OR cancer of the vulva with extension into the perineum [operative/pathology report] OR cancer of the vulva with extension into the vagina [operative/pathology report] OR palpable lymph nodes in either groin OR enlarged and firm mobile lymph nodes in either groin OR cancer of the vulva in lymph nodes [operative/pathology report] OR International Federation of Gynecology and Obstetrics Stage III	STAGE 1.02-3.01 + (DX 3383, 1960-1963, 1966-19881, 19889-1991, 78951);
3.03	with shock	Stage 2.01-3.02 AND shock :	STAGE 1.02-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.01-3.03 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN25

MultiStage: No

DXCat Label: Neoplasm, Malignant: Vulva

Specificity: A

Etiology: Neoplasm

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

American College of Obstetricians and Gynecologists. Classification and staging of gynecologic malignancies. ACOG Technical Bulletin 155. Washington, DC: ACOG 1991.
Jones III HW. Ovarian cysts and tumors. In: Jones III HW, Wentz AC, Burnett LS, eds. Novak's Textbook of Gynecology. 11th ed. Baltimore, MD: Williams & Wilkins; 1988:782-791.
Mackay HT. Gynecology. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:691-724.
Young RC. Gynecologic malignancies. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:605-611.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN26

MultiStage: No

DXCat Label: Neoplasm: Trophoblastic Disease

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Hydatidiform mole	Hydatidiform mole [operative/pathology or biopsy or sonogram report]	DX 630-631;
2.01	Hydatidiform mole with pre-eclampsia	Stage 1.01 AND pre-eclampsia: blood pressure \geq 140/90 mmHg on \geq 2 occasions > 6 hrs apart AND urinary protein > 300 mg/24 hours or 1 plus on dip stick	STAGE 1.01 + DXCAT GYN30;
2.02	Trophoblastic disease with hyperthyroidism	Stage 1.01-2.01 AND hyperthyroidism:	STAGE 1.01-2.01 + DXCAT END07;
2.03	Trophoblastic disease with endometritis or myometritis	Stage 1.01-2.02 AND endometritis [endometrial culture reports growth of pathologic organism(s)] OR myometritis [myometrial culture reports growth of pathologic organism(s)]	STAGE 1.01-2.02 + (DX 3383, 6390, 64660, 64663-64664);
2.04	Persistent trophoblastic disease	Stage 1.01-2.03 AND persistent or rising baseline beta-HCG levels after uterine evacuation	NO;
2.05	Trophoblastic disease with uterine hemorrhage	Stage 1.01 AND blood per vagina AND bleeding:	STAGE 1.01-2.03 + (DX 6391, 64130, 64133, 66630, 66634);
2.06	Invasive mole	Local invasion of the myometrium by the trophoblastic tissue [operative/pathology report]	DX 2361;
2.07	Trophoblastic disease with choriocarcinoma	Hydatidiform mole [operative/pathology report] AND recent pregnancy AND choriocarcinoma [operative/pathology report]	DX 181;
2.08	Trophoblastic disease with disseminated intravascular coagulation	Stage 1.01-2.07 AND DIC:	STAGE 1.01-2.07 + GROUP DIC;
3.01	Trophoblastic disease with metastasis	Stage 2.06-2.08 AND choriocarcinoma beyond the confines of the uterus [CT scan or operative/pathology report]	STAGE 2.06-2.08 + (DX 1960-1991, 8951);
3.02	Trophoblastic disease with pulmonary embolism	Stage 1.01-3.01 AND pulmonary embolism [nuclear ventilation/perfusion scan or pulmonary angiogram report]	STAGE 1.01-3.01 + (DX 6396, 67300, 67303-67310, 67313-67320, 67323-67330, 67333-67380, 67383-67384 OR GROUP PULMEMB);
3.03	Trophoblastic disease with sepsis	Stage 2.03-3.02 AND sepsis:	STAGE 1.01-3.02 + (DX 6395, 65930, 65933, 67000, 67004 OR GROUP SEPSIS);
3.04	Trophoblastic disease with respiratory failure	Stage 2.05-3.03 AND respiratory failure:	STAGE 1.01-3.03 + GROUP RESP_FAIL;
3.05	Trophoblastic disease with shock	Stage 2.01-3.04 AND shock:	STAGE 1.01-3.04 + (DX 66910, 66913-66914 OR GROUP SHOCKN OR GROUP SHOCKC);

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN26

MultiStage: No

DXCat Label: Neoplasm: Trophoblastic Disease

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
4.00	Trophoblastic disease with death	Stage 2.01-3.05 AND death	NO;

References:

American College of Obstetrics and Gynecology. Management of gestational trophoblastic disease. Technical Bulletin 178. Washington, DC: ACOG 1993.
Crombleholme WR. Obstetrics. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:724-748.
Mackay HT. Gynecology. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:691-724.
Young RC. Gynecologic malignancies. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:605-611.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN27

DXCat Label: Obstructed Labor

Etiology: Pregnancy

MultiStage: No

Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Failed induction	Induction of labor AND cervix < 4cm AND adequate contractions OR > 200 Montevideo units AND no dilation > 4 hrs OR no descent > 2 hrs	DX 65900-65913;
1.02	Failure to dilate or descend	Cervix ≥ 4cm dilated and adequate contractions AND No dilation > 2 hrs OR No descent > 2 hrs	DX 65400-65494, 66060-66093, 66100-66193, 66200-66233, 64970-64973;
2.01	Malposition of the fetus	Stage 1.01-1.02 AND malposition of the fetus	DX 66000-66033, 66050-66053;
2.02	Macrosomia of the fetus	Delivery AND large for gestational age fetus OR infant >90th percentile for gestational age OR Conjoined twins	DX 65300-65393, 67810-67813;
2.03	Shoulder dystocia	Delivery AND impacted shoulder girdles of fetus	DX 66040-66043;
3.01	with sepsis	Stage 1.01-2.03 AND sepsis:	STAGE 1.01-2.03 + (DX 65930- 65933, 67000-67004 OR GROUP SEPSIS);
3.02	with shock	Stage 3.01 AND shock:	STAGE 1.01-3.01 + (DX 66910- 66914 OR GROUP SHOCKC OR GROUP SHOCKN);
4.00	with death	Stage 1.01-3.02 AND death	NO;

References:

Creasy R, Resnik R. Maternal Fetal Medicine. 4th ed. Saunders. 1999.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN28

MultiStage: No

DXCat Label: Pelvic Inflammatory Disease

Specificity: A

Etiology: Infection

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Pelvic inflammatory disease	Acute salpingitis [operative/pathology report] <u>Presumptive Diagnostic Findings:</u> Adnexal pain on examination AND pain on cervical motion AND fever:	DX 6140-6142; DX 6140-6142 + GROUP FEVER;
2.01	with pelvic abscess	Stage 1.01 AND pelvic abscess [operative/pathology report] <u>Presumptive Diagnostic Findings:</u> Stage 1.01 AND adnexal mass [sonogram report]	DX 6143, 6144;
2.02	with generalized peritonitis	Stage 1.01-2.02 AND peritonitis [operative/pathology report]	DX 6145, 6147-6149;
3.01	with renal failure	Stage 1.01-2.03 AND renal failure:	STAGE 1.01-2.02 + GROUP REN_FAIL_ACU;
3.02	with sepsis	Stage 1.01-3.01 AND sepsis:	STAGE 1.01-3.01 + GROUP SEPSIS;
3.03	with shock	Stage 1.01-3.02 AND shock:	STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 1.01-3.03 AND death	NO;

References:

Cartwright PS. Pelvic inflammatory disease. In: Jones III HW, Wentz AC, Burnett LS, eds. Novak's Textbook of Gynecology. 11th ed. Baltimore, MD: Williams & Wilkins; 1988:507-525.

Holmes KK. Pelvic inflammatory disease. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:812-817.

MacKay HT. Gynecology. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:691-724.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN29

DXCat Label: Placenta Previa

Etiology: Pregnancy

MultiStage: No

Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Marginal placenta previa	Pregnancy ≥ second trimester AND marginal placenta previa [sonogram report placenta encroaches on the cervical os]	DX 64100-64103;
1.02	Partial placenta previa	Pregnancy ≥ second trimester AND partial placenta previa [placenta incompletely covers cervical os per sonogram report]	NO;
2.01	Complete placenta previa	Pregnancy ≥ second trimester AND complete placenta previa [placenta completely covers cervical os per sonogram report]	NO;
2.02	with hemorrhage	Stage 1.01-2.01 AND bleeding:	DX 64110-64113;
2.03	with chorioamnionitis or endometritis	Stage 1.01-2.02 AND endometritis [culture reports growth of pathologic organism(s)] OR postpartum fever AND uterine tenderness OR chorioamnionitis [culture reports growth of pathologic organism(s)] OR antepartum fever AND uterine tenderness	STAGE 1.01-2.02 + (DX 65840-65843, 64660-64664 OR GROUP FEVER);
2.04	with placenta accreta	Stage 1.01-2.03 AND Invasion of trophoblast beyond Nitabuch's fibrinoid layer [pathology report]	DX 66600, 66604, 66700, 66704;
2.05	with placenta increta	Stage 1.01-2.04 AND Invasion of trophoblast into myometrium [pathology report]	NO;
2.06	with placental percreta	Stage 1.01-2.05 AND Invasion of trophoblast beyond uterine serosa [pathology report]	NO;
3.01	with sepsis	Stage 2.03-2.06 AND sepsis:	STAGE 1.01-2.06 + (DX 65930-65933, 67000-67004 OR GROUP SEPSIS);
3.02	with shock	Stage 2.03-3.01 AND shock:	STAGE 1.01-3.01 + (DX 66910-66914 OR GROUP SHOCKN OR GROUP SHOCKC);
4.00	with death	Stage 2.03-3.02 AND death	NO;

References:

Creasy R, Resnik R. Maternal Fetal Medicine. 4th ed. Saunders. 1999.

Cunningham FG, MacDonald PC, Gant NF, Larena K, Gilstrap LC, eds. Williams Obstetrics. 19th ed. Norwalk, CT: Appleton & Lange; 1994.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN30

MultiStage: No

DXCat Label: Pregnancy-Induced Hypertension

Specificity: A

Etiology: Pregnancy

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Pre-eclampsia	Pregnancy AND blood pressure \geq 140/90 mmHg on \geq 2 occasions \geq 6 hrs. apart AND urinary protein \geq 300 mg/24 hrs. or $>$ 1 plus on dip stick [urinalysis report]	DX 64230-64244, 64270-64274;
2.01	Severe pre-eclampsia	Stage 1.01 AND blood pressure \geq 160/110 mmHg \geq 2 occasions \geq 6 hrs. apart OR urinary protein \geq 5 gms/24 hrs [urinalysis report] OR urine output \leq 500 cc/24 hrs. OR CNS symptoms (headache, visual changes) OR epigastric pain OR HELLP syndrome (hemolysis, AST $>$ 70 iu/L, platelets $<$ 100,000/mm ³) OR eclampsia	DX 64250-64264;
2.02	with abruptio placentae	Stage 1.02-2.01 AND infection of incision area fat, muscle and fascia [operative/pathology report] OR necrotizing fasciitis [operative/pathology report]	STAGE 1.01-2.01 + DXCAT GYN03;
2.03	with disseminated intravascular coagulation	Stage 1.01-2.02 AND DIC:	STAGE 1.01-2.02 + (DX 64130-64133, 66630-66634, 2866);
3.01	with renal failure	Stage 1.01-2.03 AND renal failure:	STAGE 1.01-2.03 + (DX 66930-66934 OR GROUP REN_FAIL_ACU);
3.02	with congestive heart failure	Stage 1.01-3.01 AND congestive heart failure:	STAGE 1.01-3.01 + (DX 66811-66812 OR GROUP CHF_NON_HTN);
3.03	with intracerebral hemorrhage	Stage 1.01-3.02 AND intracerebral hemorrhage [CT scan or MRI report]	STAGE 1.01-3.02 + (DX 67400-67404);
3.04	with shock	Stage 1.01-3.03 AND shock:	STAGE 1.01-3.03 + (DX 66910-66914 OR GROUP SHOCKC OR GROUP SHOCKN);
4.00	with death	Stage 1.01-3.04 AND death	NO;

References:

Creasy R, Resnik R. Maternal Fetal Medicine. 4th ed. Saunders. 1999.

Cunningham FG, MacDonald PC, Gant NF, Larena K, Gilstrap LC, eds. Williams Obstetrics. 19th ed. Norwalk, CT: Appleton & Lange; 1994.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN31
 DXCat Label: Toxic Shock Syndrome
 Etiology: Idiopathic

MultiStage: No
 Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
2.01	Toxic shock syndrome	Fever: AND diffuse erythroderma AND Staphylococcus aureus bacteremia [blood culture reports growth of pathologic organism(s)] OR conjunctivitis OR pharyngitis [pharyngeal culture reports growth of pathologic organism(s)] OR vaginitis [vaginal culture reports growth of pathologic organism(s)] OR history of tampon use AND diarrhea AND lethargy	DX 04082; DX 04082 + GROUP FEVER;
2.02	with hepatitis	Stage 2.01 AND hepatitis:	STAGE 2.01 + DXCAT HEP10;
3.01	with renal failure	Stage 2.01-2.02 AND renal failure:	STAGE 2.01-2.02 + GROUP REN_FAIL_ACU;
3.02	with encephalopathy	Stage 2.01-3.01 AND disorientation:	STAGE 2.01-3.01 + GROUP DISORIENT;
3.03	with respiratory failure	Stage 2.01-3.02 AND respiratory failure:	STAGE 2.01-3.02 + GROUP RESP_FAIL;
3.04	with shock	Stage 2.01-3.03 AND shock:	STAGE 2.01-3.03 + (GROUP SHOCKC OR GROUP SHOCKN) ;
3.05	with coma	Stage 2.01-3.04 AND coma:	STAGE 2.01-3.04 + GROUP COMA;
4.00	with death	Stage 2.01-3.05 AND death	NO;

References:

MacKay HT. Gynecology. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:691-724.

Wessels MR. Streptococcal and enterococcal infections. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:885-892.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN32

MultiStage: No

DXCat Label: Uterine Infection

Specificity: A

Etiology: Infection

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Endometritis or myometritis	Endometritis [endometrial culture reports growth of pathologic organism(s)] OR myometritis [myometrial culture reports growth of pathologic organism(s)]	DX 6150-6159;
2.01	with perforation of the uterus	Stage 1.01 AND perforation of the uterus [operative/pathology report]	STAGE 1.01 + DX 6218;
2.02	with peritonitis	Stage 1.01-2.01 AND peritonitis [operative/pathology report]	STAGE 1.01-2.01 + (DX 5670-5679, 6145, 6147-6149);
3.01	with disseminated intravascular coagulation	Stage 2.01-2.02 AND DIC:	STAGE 1.01-2.02 + GROUP DIC;
3.02	with sepsis	Stage 1.01-3.01 AND sepsis:	STAGE 1.01-3.01 + GROUP SEPSIS;
3.03	with shock	Stage 1.01-3.02 AND shock:	STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.01-3.03 AND death	NO;

References:

Holmes KK. Pelvic inflammatory disease. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:812-817.

Mackay HT. Gynecology. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:691-724.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN33

DXCat Label: Uterovaginal Prolapse

Etiology: Degenerative; Trauma

MultiStage: No

Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Relaxation of the vagina	Urethrocele prolapse of the vagina	DX 6180-61809, 6185, 6187-6189;
1.02	First grade prolapse of the uterus	Cervix of the uterus is within the vagina AND not in anatomical location AND before the ischial spine OR first grade prolapse of the uterus	DX 6181, 61884;
1.03	Second grade prolapse of the uterus	Stage 1.02 AND cervix of the uterus is between the vaginal introitus and the ischial spine OR second grade prolapse of the uterus	NO;
2.01	Prolapse of the uterus with rectocele or cystocele	Stage 1.02-1.03 AND rectocele OR cystocele	DX 6182-6184; STAGE 1.01-1.03 + (DX 33811, 33821, 6256, 78830-78839);
2.02	Prolapse of the uterus with enterocele	Stage 1.02-1.03 AND herniation of the cul-de-sac of Douglas	DX 6186;
2.03	Third grade prolapse of the uterus	Stage 1.02-1.03 AND cervix is at the hymen OR third grade prolapse of the uterus	NO;
2.04	Prolapse of the uterus with ulceration of the cervix	Stage 1.02-2.03 AND ulceration of the cervix	STAGE 1.02-2.02 + (DX 6160, 6220);
2.05	Prolapse of the uterus with procidentia	Stage 1.02-2.04 AND cervix is through the hymen OR fourth grade prolapse of the uterus	STAGE 1.02-2.04 + DX 5691;

References:

American College of Obstetricians and Gynecologists. Pelvic organ prolapse. ACOG Technical Bulletin 214. Washington, DC: ACOG 1995.

Burnett LS. Relaxations, malpositions, fistulas, and incontinence. In: Jones III HW, Wentz AC, Burnett LS, eds. Novak's Textbook of Gynecology. 11th ed. Baltimore, MD: Williams & Wilkins; 1988:456-458, 461.

Kistner RW. Gynecology: Principles and Practice. 4th ed. Chicago, IL: Year Book Medical Publishers. 1986:184-188.

Mackay HT. Gynecology. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:691-724.

Wentz AC. Abnormal uterine bleeding. In: Jones III HW, Wentz AC, Burnett LS, eds. Novak's Textbook of Gynecology. 11th ed. Baltimore, MD: Williams & Wilkins; 1988:378-396.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN34

MultiStage: No

DXCat Label: Vulvovaginitis

Specificity: A

Etiology: Infection

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Vulvovaginitis	Vulvovaginitis [gram stain, wet mount, or culture report growth of pathologic organism(s) from vaginal smears or wet mount identification	DX 13101, 61610-61611, 6169;
1.02	Symptomatic vulvovaginitis	Stage 1.01 AND symptomatic vaginal itching OR complains of vaginal discharge with foul odor OR complains of vaginal burning OR complains of vaginal pain OR complains of vaginal ulceration	DX 6164, 61650, 61651;
2.01	with urinary retention	Stage 1.01-1.02 AND residual bladder urine > 100 cc	STAGE 1.01-1.02 + (DX 78820-78829, 78838);
2.02	with urinary tract infection	Stage 1.01-2.01 AND UTI:	STAGE 1.01-2.01 + DXCAT GUS10;
2.03	with pyelonephritis	Stage 2.02 AND pyelonephritis:	STAGE 1.01-2.02 + (DX 59010-59011);
3.01	with sepsis	Stage 1.01-2.03 AND sepsis:	STAGE 1.01-2.03 + GROUP SEPSIS;
3.02	with shock	Stage 2.01-3.01 AND shock:	STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.01-3.02 AND death	NO;

References:

Holmes KK, Handsfield HH. Sexually transmitted diseases: overview and clinical approach. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:801-812.

Jones III HW. Benign disease of the vulva and vagina. In: Jones III HW, Wentz AC, Burnett LS, eds. Novak's Textbook of Gynecology. 11th ed. Baltimore, MD: Williams & Wilkins; 1988:570-598.

MacKay HT. Gynecology. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:691-724.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN80

MultiStage: No

DXCat Label: Neoplasm, Benign: Other Female Reproductive System

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Benign neoplasm of female reproductive sites		DX 2190-2199, 2210-2219, 2360, 2363;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN81

MultiStage: No

DXCat Label: Neoplasm, Malignant: Other Female Genitalia

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	History of other malignant neoplasm of female genitalia		DX V1040, V1044;
1.01	Primary malignant neoplasm of other uterine site or adnexa		DX 1832-1839, 2333-23330, 23339;
2.01	with lymph node involvement		STAGE 0.00-1.01 + (DX 1961-1962, 1965-1966);
2.02	with anemia of neoplastic disease		STAGE 0.00-2.01 + DX 28522;
3.01	with distant metastases		STAGE 0.00-2.02 + (DX 3383, 1960, 1963, 1968-1991, 78951);
3.02	with shock		STAGE 0.00-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN82

MultiStage: No

DXCat Label: Other Breast Disorders

Specificity: C

Etiology:

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Galactocele, mastodynia, lump or mass in breast or abnormal mammogram		DX 6112, 6114-61189, 6119-6121, 79380-79389;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: GYN83

MultiStage: No

DXCat Label: Other Disorders of Female Genital System

Specificity: C

Etiology:

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	Encounter for postmenopausal hormone replacement therapy or abnormal Pap smear		DX 7950-79502, 79505, 79507-79509, 79510-79514, V074;
1.01	Cervicitis, ovarian cyst, uterine malposition, polyp, menstrual irregularities, infertility, condyloma acuminatum, VIN		(DX 6160, 61681-61689, 6202-6203, 6207-6220, 6222-6259, 6264, 6267, 6271-62981, 79510-79515, 79518-79519); DX 6299 OR (DX 07811 + FEMALE); (DX 79679 + FEMALE); (DX 79675 + FEMALE);
2.01	Female genital fistula, broad ligament laceration syndrome, pelvic peritoneal adhesions, prolapse or torsion of ovary, anomalies of ovaries, Fallopian tubes, broad ligament or adnexa		DX 6146, 6190, 6192-6199, 6204-6206, 7520-75219;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM01

MultiStage: No

DXCat Label: Agranulocytosis

Specificity: A

Etiology: Idiopathic; Toxicologic

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Neutropenia	Neutropenia:	DX 2880-28809;
1.02	Moderate neutropenia	Absolute neutrophil count \leq 1,000 cells/mm ³ [hematology report]	NO;
2.01	Severe neutropenia	Absolute neutrophil count \leq 500 cells/mm ³ [hematology report]	NO;
2.02	with oral or anal ulcerations	Stage 1.01-2.01 AND oral ulcers OR anal ulcers	STAGE 1.01 + (DX 52802, 5289, 56941);
2.03	with thrombocytopenia	Stage 1.01-2.02 AND thrombocytopenia:	STAGE 1.02-2.02 + GROUP THRMBCYTPEN;
3.01	with meningitis or endocarditis	Stage 1.01-2.03 AND meningitis: OR endocarditis:	STAGE 1.01-2.03 + (GROUP MENGIT__BACT OR GROUP ENDOCARDITIS);
3.02	with sepsis	Stage 1.01-3.01 AND sepsis:	STAGE 1.01-3.01 + GROUP SEPSIS;
3.03	with shock	Stage 1.01-3.02 AND shock:	STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 1.01-3.03 AND death	NO;

References:

- Baehner RL. Neutropenia. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:587-591.
- Dinuer MC. The phagocytic system and disorders of granulopoiesis and granulocyte function. In: Nathan DG and Orkin SH, eds. Nathan and Oski's Hematology of Infancy and Childhood. 5th ed. Philadelphia, PA: WB Saunders; 1998:889-967.
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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM02

MultiStage: No

DXCat Label: Anemia: Aplastic, Acquired

Specificity: A

Etiology: Idiopathic; Toxicologic

Stage	Description	Diagnostic findings	ICD-9-CM Codes
2.01	Early aplastic anemia	Leukopenia: AND thrombocytopenia: AND anemia: AND bone marrow cellularity < 20%[bone marrow biopsy report] AND reticulocytes < 1% [CBC report]	DX 2840-2842, 2848-28489, 2849;
2.02	Advanced aplastic anemia	Bone marrow cellularity < 20%[bone marrow biopsy report] AND total WBC count < 1,000 cells/mm ³ [complete blood count report] AND platelet count < 50,000 cells/mm ³ [hematology report] AND hemoglobin < 8 gm/dl [hematology report] AND reticulocytes < 1% [CBC report]	NO;
3.01	Severe aplastic anemia	Bone marrow cellularity < 20%[bone marrow biopsy report] AND total WBC count ≤ 500 cells/mm ³ [complete blood count report] AND platelet count < 20,000 cells/mm ³ [hematology report] AND hemoglobin ≤ 6 gm/dl [hematology report] AND reticulocytes < 1% [CBC report]	NO;
3.02	with intracranial hemorrhage	Stage 2.01-3.01 AND intracranial hemorrhage [CT scan or MRI scan report]	STAGE 2.01 + (DX 430, 431, 4320-4321, 4329, 43301, 43311, 43321, 43331, 43381, 43391, 43401, 43411, 43491, 436);
3.03	with sepsis	Stage 2.01-3.02 AND sepsis:	STAGE 1.01-3.02 + GROUP SEPSIS;
4.00	with death	Stage 2.01-3.03 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM02

MultiStage: No

DXCat Label: Anemia: Aplastic, Acquired

Specificity: A

Etiology: Idiopathic; Toxicologic

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

- | |
|--|
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| Castro-Malaspina H, O'Reilly RJ. Aplastic anemia and myelodysplasia. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:672-679. |
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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM03

MultiStage: No

DXCat Label: Anemia: Folic Acid Deficiency

Specificity: A

Etiology: Nutritional

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Anemia secondary to folic acid deficiency	Anemia: AND macrocytosis: AND A red blood cell folate < 150 ng/mL [hematology report] OR serum folic acid levels ≤ 6 ng/ml [chemistry report]	DX 2812;
2.01	with moderate anemia	Stage 1.01 AND hemoglobin ≤ 8 gm/dl [hematology report]	NO;
3.01	with congestive heart failure	Stage 1.01-2.01 AND congestive heart failure:	STAGE 1.01 + GROUP CHF__NON_HTN;
3.02	with shock	Stage 2.01-3.01 AND shock:	STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.01-3.02 AND death	NO;

References:

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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM04

MultiStage: No

DXCat Label: Anemia: Hemolytic

Specificity: A

Etiology: Genetic (or hereditary); Toxicologic; Trauma

Stage	Description	Diagnostic findings	ICD-9-CM Codes
2.01	Hemolytic anemia	Hemolysis: AND anemia:	DX 2820, 2821, 2823, 2827, 2828, 2829, 2830, 28310, 28311, 28319, 2832, 2839;
2.02	Moderate anemia	Stage 2.01 AND hemoglobin \leq 8 gm/dl [hematology report]	NO;
2.03	with gallstones	Stage 2.01-2.02 AND Stones in gallbladder [ultrasound report]	STAGE 2.01 + DXCAT HEP01;
2.04	Hemolytic crisis	Stage 2.01-2.03 AND bleeding: AND hemoglobinuria [urinalysis report] OR jaundice:	STAGE 2.01-2.03 + (DX 4590 + GROUP HYPERBILI); DX 7740;
3.01	with aplastic crisis	Stage 2.01-2.04 AND rapidly falling hemoglobin AND reticulocytopenia [hematology report] OR euthyroid bone marrow failure [pathology report]	STAGE 2.01-2.04 + GROUP ANEM_APLAST;
3.02	with pulmonary embolism	Stage 2.01-3.01 AND pulmonary embolism:	STAGE 2.01-3.01 + GROUP PULMEMB;
3.03	with congestive heart failure	Stage 2.01-3.02 AND congestive heart failure:	STAGE 2.01-3.02 + GROUP CHF_NON_HTN;
3.04	with respiratory failure	Stage 2.01-3.03 AND respiratory failure:	STAGE 2.01-3.03 + GROUP RESP_FAIL;
3.05	with shock	Stage 2.01-3.04 AND shock:	STAGE 2.01-3.04 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.01-3.05 AND death	NO;

References:

Lane PA, Nuss R, Ambruso DR. Hematologic disorders. In: Hay WW, Groosthus JR, Hayward AR, Levin MJ, eds. Current Pediatric Diagnosis and Treatment. 13th ed. Stamford, CT: Appleton & Lange; 1997:732-780.

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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM05

MultiStage: No

DXCat Label: Anemia: Iron Deficiency

Specificity: A

Etiology: Nutritional

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Iron-deficiency anemia	Iron-deficiency anemia:	DX 2800, 2801, 2808, 2809;
2.01	with moderate anemia	Stage 1.01 AND hemoglobin > 5 g [CBC report] AND ≤ 8 gm/dl [CBC report]	NO;
2.02	with severe anemia	Stage 1.01 AND hemoglobin ≤ 5 gm/dl [CBC report]	NO;
3.01	with congestive heart failure	Stage 2.01-2.02 AND congestive heart failure:	STAGE 1.01 + GROUP CHF__NON_HTN;
4.00	with death	Stage 2.01-3.01 AND death	NO;

References:

- Andrews NC, Bridges KR. Disorders of iron metabolism and sideroblastic anemia. In: Nathan DG and Orkin SH, eds. Nathan and Oski's Hematology of Infancy and Childhood. 5th ed. Philadelphia, PA: WB Saunders; 1998:423-461.
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- Lane PA, Nuss R, Ambruso DR. Hematologic disorders. In: Hay WW, Groosthius JR, Hayward AR, Levin MJ, eds. Current Pediatric Diagnosis and Treatment. 13th ed. Stamford, CT: Appleton & Lange; 1997:732-780.
- Linker CA. Blood. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:479-534.
- Schwartz, E. Iron deficiency anemia. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:1387-1389.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM06
 DXCat Label: Anemia: Sickle Cell
 Etiology: Genetic (or hereditary)

MultiStage: No
 Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Sickle cell trait	Hemoglobin S 32-45% [hemoglobin electrophoresis report] AND hemoglobin A 52-65% [hemoglobin electrophoresis report]	DX 2825;
1.02	Sickle cell trait with hematuria or hyposthenuria	Stage 1.01 AND urine red blood cells > 2/hpf [urinalysis report] OR specific gravity < 1.0005 [urinalysis report]	STAGE 1.01 + (DX 59389, 5997-59972);
2.01	Sickle beta+ thalassemia	Anemia: AND Hemoglobin S 5-85%, hemoglobin A 10-30% [hemoglobin electrophoresis report] AND Hemoglobin F 5-10% [hemoglobin electrophoresis report]	DX 28241, 28268; STAGE 1.01-1.02 + DX 2824;
2.02	Hemoglobin SC disease	Anemia: AND Hemoglobin S 45-50%, Hemoglobin C 45-50% [hemoglobin electrophoresis report]	DX 28263;
2.03	Sickle cell anemia or sickle beta0 thalassemia	Anemia: AND Hemoglobin S 80-95% [hemoglobin electrophoresis report] AND Hemoglobin F 2-20% [hemoglobin electrophoresis report] OR Hemoglobin S 75-90% [hemoglobin electrophoresis report] AND Hemoglobin F 5-25% [hemoglobin electrophoresis report]	DX 28260, 28261, 28269;
2.04	with skin ulcers or vitreous hemorrhage	Stage 2.01-2.03 AND skin ulcerations OR vitreous hemorrhage [fundoscopy report]	STAGE 1.01-2.03 + (DX 37923, 70710-70715, 70719, 7078, 7079);
2.05	with priapism	Stage 2.01-2.04 AND priapism	STAGE 1.01-2.04 + DX 6073;
2.06	with retinal detachment	Stage 2.01-2.05 AND retinal detachment [ophthalmologist report]	STAGE 1.01-2.05 + DXCAT EYE07;
2.07	with hepatitis or choledocholithiasis or cholelithiasis	Stage 2.01-2.06 AND hepatitis: OR hepatomegaly OR choledocholithiasis [sonogram or endoscopic retrograde cholangiopancreatography report] OR cholelithiasis [sonogram or KUB x-ray report]	STAGE 1.01-2.06 + DXCAT HEP01;
2.08	with painful crisis	Stage 2.01-2.07 AND diffuse abdominal pain AND generalized bone pain	DX 28242, 28262, 28264; STAGE 2.01-2.07 + DX 28952;
2.09	with papillary necrosis	Stage 2.01-2.08 AND papillary necrosis of the kidney [operative/pathology report]	STAGE 1.01-2.08 + (DX 59000, 59001, 59010, 59011 , 59080, 59081);
2.10	with bacteremia	Stage 2.01-2.09 AND bacteremia:	STAGE 1.01-2.09 + GROUP BACTEREMIA;
2.11	with bacterial pneumonia	Stage 2.01-2.10 AND pneumonia:	STAGE 1.01-2.10 + DXCAT RES15;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM06
 DXCat Label: Anemia: Sickle Cell
 Etiology: Genetic (or hereditary)

MultiStage: No
 Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
2.12	with osteomyelitis	Stage 2.01-2.11 AND osteomyelitis:	STAGE 1.01-2.11 + GROUP OSTEOMYELIT;
3.01	with aplastic crisis	Stage 2.01-2.12 AND acellular bone marrow [operative/pathology report] OR leukopenia: AND thrombocytopenia:	STAGE 1.01-2.12 + (GROUP LEUKOPENIA) + (GROUP THRMBCYPEN);
3.02	acute chest syndrome	Stage 2.01-3.01 OR pulmonary infarctions [chest x-ray report] OR pulmonary embolism [nuclear ventilation/perfusion scan or pulmonary angiogram report]	STAGE 1.01-3.01 + (DX 5173 OR GROUP PULMEMB);
3.03	with renal failure	Stage 2.01-3.02 AND renal failure:	STAGE 1.01-3.02 + (GROUP REN_FAIL_ACU OR GROUP REN_FAIL_CHR);
3.04	with congestive heart failure	Stage 2.01-3.03 AND congestive heart failure:	STAGE 1.01-3.03 + GROUP CHF_NON_HTN;
3.05	with cerebrovascular accidents	Stage 2.01-3.04 AND cerebrovascular infarction or hemorrhage [CT scan or MRI scan report]	STAGE 1.01-3.04 + (DX 430, 431, 4320-4321, 4329, 43301, 43311, 43321, 43331, 43381, 43391, 43401, 43411, 43491, 436);
3.06	with sepsis	Stage 2.01-3.05 AND sepsis:	STAGE 1.01-3.05 + GROUP SEPSIS;
3.07	with respiratory failure	Stage 2.01-3.06 AND respiratory failure:	STAGE 1.01-3.06 + GROUP RESP_FAIL;
3.08	with shock	Stage 2.01-3.07 AND shock:	STAGE 1.01-3.07 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.01-3.08 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM06

MultiStage: No

DXCat Label: Anemia: Sickle Cell

Specificity: A

Etiology: Genetic (or hereditary)

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

- | |
|---|
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| Lane PA, Nuss R, Ambruso DR. Hematologic disorders. In: Hay WW, Groosthus JR, Hayward AR, Levin MJ, eds. Current Pediatric Diagnosis and Treatment. 13th ed. Stamford, CT: Appleton & Lange; 1997:732-780. |
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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM07

MultiStage: No

DXCat Label: Anemia: Thalassemia

Specificity: A

Etiology: Genetic (or hereditary)

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Alpha thalassemia trait	Microcytosis: AND anemia: AND serum iron > 55 ug/dl in males or > 35 ug/dl in females [chemistry report] AND total iron binding capacity < 513 ug/dl [chemistry report] OR serum ferritin > 12 ng/ml [chemistry report] OR normal iron stores [bone marrow biopsy report] OR hemoglobin Barts 5-10% in newborn [hemoglobin electrophoresis report]	DX 2824, 28249;
1.02	Beta thalassemia trait or thalassemia minor	Microcytosis: AND anemia: AND hemoglobin A ₂ > 3% [hemoglobin electrophoresis report]	NO;
2.01	Hemoglobin H disease (alpha thalassemia intermedia)	Microcytosis: AND anemia: AND hemoglobin H 4-20% in child or adult [hemoglobin electrophoresis report] OR hemoglobin Barts 5-10% in newborn [hemoglobin electrophoresis report]	NO;
2.02	Beta thalassemia intermedia	Microcytosis: AND hemoglobin 6-8 g/dl [hematology report] AND hemoglobin A 20-40% [hemoglobin electrophoresis report] AND hemoglobin F 60-80% [hemoglobin electrophoresis report]	NO;
3.01	Beta thalassemia major or Cooley's anemia	Hemoglobin F > 90% [hemoglobin electrophoresis report] AND hemoglobin ≤ 6 gm/dl [complete blood count report] AND erythroid hyperplasia of the bone marrow [bone marrow report] AND microcytosis: AND serum iron > 209 ug/dl [chemistry report] OR serum ferritin ≥ 370 ng/ml [chemistry report] OR normal iron stores [bone marrow biopsy report] AND reticulocyte count ≥ 1.5% of total erythrocytes [complete blood count report] AND total bilirubin ≥ 3.0 mg/dl [chemistry report]	NO;
3.02	with congestive heart failure	Stage 2.01-3.01 AND congestive heart failure:	STAGE 1.01 + GROUP CHF_NON_HTN;
3.03	Homozygous alpha thalassemia with hydrops fetalis	Hemoglobin Barts 80-90%; no Hemoglobin A or F in newborn [Hemoglobin electrophoresis report] AND hydrops fetalis	STAGE 1.01-3.02 + DX 7780;
4.00	with death	Stage 2.01-3.03 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM07

MultiStage: No

DXCat Label: Anemia: Thalassemia

Specificity: A

Etiology: Genetic (or hereditary)

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

Beutler E. Disorders of hemoglobin. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:645-653.

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Lane PA, Nuss R, Ambruso DR. Hematologic disorders. In: Hay WW, Groosthous JR, Hayward AR, Levin MJ, eds. Current Pediatric Diagnosis and Treatment. 13th ed. Stamford, CT: Appleton & Lange; 1997:732-780.

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Weatherall DJ. The thalassaemias. BMJ. 1997;314(7095):1675-8.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM08

MultiStage: No

DXCat Label: Anemia: Vitamin B-12 Deficiency

Specificity: A

Etiology: Nutritional

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Anemia secondary to vitamin B12 deficiency	Anemia: AND macrocytosis: AND serum vitamin B ₁₂ < 100 pg/ml [chemistry report]	DX 2810, 2811;
2.01	with neuropathy	Stage 1.01 AND paresthesia of extremities OR ataxia or loss of balance OR loss of vibratory sensation in lower extremities OR Babinski's sign	STAGE 1.01 + (DX 34489, 3559, 3569, 3574, 7813, 7820);
2.02	with cardiomegaly	Stage 1.01-2.01 AND cardiomegaly [chest x-ray or echocardiogram report]	STAGE 1.01-2.01 + DX 4293;
3.01	with megaloblastic madness (dementia)	Stage 1.01-2.02 AND delusions of grandeur and persecution OR disoriented to time or place or person	STAGE 1.01-2.02 + (DX 29410, 29411, 2970, 2971, 2979 OR GROUP DISORIENT);
3.02	with congestive heart failure	Stage 1.01-3.01 AND congestive heart failure:	STAGE 1.01-3.01 + GROUP CHF_NON_HTN;
3.03	with shock	Stage 2.01-3.02 AND shock:	STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.01-3.03 AND death	NO;

References:

- Hillman RS. Anemia. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:334-339.
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- Schwartz, E. Megaloblastic Anemias. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:1384-1387.
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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM09

MultiStage: No

DXCat Label: Glucose 6-Phosphate Dehydrogenase Deficiency

Specificity: A

Etiology: Congenital; Genetic (or hereditary)

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Glucose 6-phosphate dehydrogenase deficiency asymptomatic carrier or homozygotic female	Glucose 6-phosphate dehydrogenase activity \geq 20% of normal [hematology report] AND glucose 6-phosphate dehydrogenase activity \leq 100% of normal [hematology report]	NO;
1.02	with hemolytic anemia	Stage 1.01 AND hemolysis:	DX 2822;
2.01	with moderate anemia	Stage 1.02 AND glucose 6-phosphate dehydrogenase deficiency \geq 20% of normal [hematology report] OR hemoglobin \leq 8 gm/dl [CBC report]	NO;
3.01	with severe anemia	Stage 1.02-2.01 AND hemoglobin \leq 5 gm/dl [CBC report]	NO;
3.02	with congestive heart failure	Stage 1.02-3.01 AND congestive heart failure:	STAGE 1.02 + GROUP CHF_NON_HTN;
3.03	with shock	Stage 1.02-3.02 AND shock:	STAGE 1.02 + (GROUP SHOCKC OR GROUP SHOCKN);
4.00	with death	Stage 1.02-3.03 AND death	NO;

References:

- Linker CA. Blood. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:479-534.
- Luzzatto L. Glucose-6-phosphate dehydrogenase deficiency and hemolytic anemia. In: Nathan DG and Orkin SH, eds. Nathan and Oski's Hematology of Infancy and Childhood. 5th ed. Philadelphia, PA: WB Saunders; 1998:704-726.
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- Weatherall DJ. ABC of clinical haematology. The hereditary anaemias. BMJ. 1997;314(7079):492-6.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM10

MultiStage: No

DXCat Label: Graft versus Host reaction

Specificity: A

Etiology: Immune

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	Graft vs. host reaction		DX 99685, 9995-9998;
1.01	Acute reaction Grade I-IV	Stage 0.00 AND skin eruptions of erythematous maculo papules, bullae and toxic epidermal necrolysis (dermatology report)	STAGE 0.00 + DX 6951;
1.02	with hepatitis	Stage 0.00-1.01 AND hepatitis:	STAGE 0.00-1.01 + GROUP HEPATITIS;
1.03	with enteritis	Stage 0.00-1.02 AND bloody diarrhea	STAGE 0.00-1.02 + (DX 5589, 5781, 78791);
2.01	Lichen planus like or sclerodermoid reaction	Stage 0.00-1.03 AND Lichen planus like lesions on face, palms, soles and oral mucosa [operative/pathology report] OR systemic sclerodermoid lesions with tightening of skin of face, hands and feet (dermatology report)	STAGE 0.00-1.03 + (DX 6970, 7010);
2.02	with polymyositis	Stage 0.00-2.01 AND muscle weakness of proximal joints [EMG report]	STAGE 0.00-2.01 + DX 7104;
2.03	with Sjogren's syndrome	Stage 0.00-2.02 AND Sjogren's syndrome [Rheumatology report]	STAGE 0.00-2.02 + DX 7102;
2.04	with biliary cirrhosis	Stage 0.00-2.03 AND biliary cirrhosis [operative/pathology report]	STAGE 0.00-2.03 + DX 5716;
3.01	with respiratory failure	Stage 0.00-2.04 AND respiratory failure:	STAGE 0.00-2.04 + GROUP RESP_FAIL;
3.02	with shock	Stage 0.00-3.01 AND shock:	DX 9994; STAGE 0.00-3.01 + GROUP SHOCKA;
4.00	with death	Stage 0.00-3.02 AND death	NO;

References:

Norton J, Sloane JP. A prospective study of cellular and immunological changes in skin of allogenic bone marrow recipients - relationship to clinical and histological features of acute graft versus host disease. *Am J Clin Pathol.* 1994;(101):597-602.

Rowell NR, Goodfield MJD. The 'connective tissue diseases'. In: Champion RH, Burton JL, Burns DA, Breathnach SM. *Rook/Wilkinson/Ebling Textbook of Dermatology.* 6th ed. Oxford: Blackwell Science Ltd.; 1998:2516-2518.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM11

MultiStage: No

DXCat Label: Hemolytic Disease of the Newborn

Specificity: A

Etiology: Congenital

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Hemolytic disease of the newborn secondary to rhesus isoimmunization or ABO incompatibility or minor blood group incompatibility	Umbilical cord blood bilirubin \leq 5 mg/dl [chemistry report] AND direct Coombs' reaction [hematology report]	DX 7730-7732, 7740-7746;
2.01	Severe hemolytic disease of the newborn secondary to rhesus isoimmunization or ABO incompatibility or minor blood group incompatibility	Umbilical cord blood bilirubin \geq 5 mg/dl [chemistry report] AND direct Coombs' reaction [hematology report] AND cord blood hematocrit \leq 40% [hematology report] AND cord blood reticulocytes \geq 15% [hematology report]	DX 7735;
3.01	with kernicterus	Stage 1.01-2.01 AND kernicterus	DX 7734, 7747;
3.02	with hydrops fetalis	Stage 1.01-3.01 AND hydrops fetalis	DX 7733;
4.00	with death	Stage 1.01-3.02 AND death	NO;

References:

- Bowman JM. Immune hemolytic disease. In: Nathan DG and Orkin SH, eds. Nathan and Oski's Hematology of Infancy and Childhood. 5th ed. Philadelphia, PA: WB Saunders; 1998:53-78.
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- Jones LJ. Hemolytic disease of the newborn. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:500-504.
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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM12
 DXCat Label: Hemophilia A or B
 Etiology: Genetic (or hereditary)

MultiStage: No
 Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Mild asymptomatic, hemophilia A or B	Factor VIII:C 6-30% [hematology report] OR Factor IX 6-30% [hematology report]	DX 2860, 2861, V8301;
1.02	Moderate hemophilia A or B	Factor VIII:C ≤ 5 % and ≥ 1% [hematology report] OR Factor IX ≤ 5 % and ≥ 1%[hematology report]	DX V8302;
2.01	Severe hemophilia A or B	Factor VIII:C < 1% [hematology report] OR Factor IX < 1% [hematology report]	NO;
2.02	with intramuscular hematoma	Stage 1.01-2.01 AND intramuscular hematoma	STAGE 1.01 + (DX 920, 9210-9213, 9220-9224, 9228-9229, 92300-92303, 92309, 92310-92311, 92320-92321, 9233, 9238-9239, 92400-92401, 92410-92411, 92420-92421, 9243-9245, 9248-9249);
2.03	with hemarthrosis	Stage 1.01-2.02 AND hemarthrosis	DX 2864; STAGE 1.01-2.02 + DX 71910-71919;
2.04	with ankylosis of the elbow or knee joints	Stage 1.01-2.03 AND ankylosis of the elbow [elbow x-ray report] OR ankylosis of the knee [knee x-ray report]	STAGE 1.01-2.03 + (DX 71852, 71856);
2.05	with upper airway obstruction	Stage 1.01-2.04 AND sublingual hematoma OR laryngeal hematoma OR retropharyngeal hematoma	STAGE 1.01-2.04 + DX 5198;
3.01	with hemorrhage into the central nervous system or the heart of pericardium or thorax	Stage 1.01-2.05 AND intracranial hemorrhage [CT scan or MRI report] OR hemopericardium [echocardiogram report] OR hemothorax [chest x-ray report]	STAGE 1.01-2.04 + (DX 4230, 42989, 430, 431, 4320-4321, 4329, 5118, 7863);
3.02	with respiratory failure	Stage 101-3.01 AND respiratory failure:	STAGE 1.01-3.01 + GROUP RESP_FAIL;
3.03	with shock	Stage 101-3.02 AND shock:	STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 101-3.03 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM12

MultiStage: No

DXCat Label: Hemophilia A or B

Specificity: A

Etiology: Genetic (or hereditary)

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

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Montgomery RR, Gill JC, Scott JP. Hemophilia and von Willebrand disease. In: Nathan DG and Orkin SH, eds. <i>Nathan and Oski's Hematology of Infancy and Childhood</i> . 5th ed. Philadelphia, PA: WB Saunders; 1998:1631-1659.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM13

MultiStage: No

DXCat Label: Neoplasm, Malignant: Hodgkin's Disease with Lymphocytic Depletion

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	History or remission of Hodgkin's disease with lymphocytic depletion		NO;
1.01	Limited to one anatomic lymph node region	Lymph node group or group of contiguous lymph nodes with Hodgkin's disease with lymphocytic depletion [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 1A	DX 20171, 20172, 20173, 20174, 20175, 20176;
1.02	Limited to one anatomic lymph node region with involvement of adjacent extranodal tissue	Stage 1.01 AND Hodgkin's disease with lymphocytic depletion involving non-nodal surrounding tissue [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 1AE	DX 20170;
1.03	Limited to one anatomic lymph node region and constitutional symptoms	Stage 1.01 AND fever: OR history of night sweats OR weight loss of \geq 10% of baseline body weight in 6 months OR Ann Arbor Clinical Staging System Stage 1B	STAGE 1.01-1.02 + (DX 3383, 7808 OR GROUP FEVER) ;
1.04	Limited to one anatomic lymph node region and constitutional symptoms and involvement of adjacent extranodal tissue	Stage 1.03 AND Hodgkin's disease with lymphocytic depletion involving non-nodal surrounding tissue [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 1BE	NO;
2.01	On two anatomic lymph node regions on the same side of the diaphragm	Lymph node group or group of contiguous lymph nodes with Hodgkin's disease with lymphocytic depletion involving two anatomic regions on the same side of the diaphragm [operative/pathology report]	DX 20178;
2.02	Of two anatomic lymph node regions on the same side of the diaphragm and adjacent tissue involvement	Stage 2.01 AND Hodgkin's disease with lymphocytic depletion involving non-nodal surrounding tissues [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 2AE	STAGE 1.02 + STAGE 2.01;
2.03	Of two anatomic lymph node regions on the same side of the diaphragm with constitutional symptoms	Stage 2.01 AND fever: OR history of night sweats OR weight loss of \geq 10% baseline body weight in 6 months OR Ann Arbor Clinical Staging System Stage 2B	STAGE 2.01-2.02 + (DX 7808 OR GROUP FEVER);
2.04	Of two anatomic lymph node regions on the same side of the diaphragm with constitutional symptoms and adjacent tissue involvement	Stage 2.03 AND Hodgkin's disease with lymphocytic depletion involving non-nodal surrounding tissues [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 2BE	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM13

MultiStage: No

DXCat Label: Neoplasm, Malignant: Hodgkin's Disease with Lymphocytic Depletion

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.01	On both sides of the diaphragm or involving the spleen	Lymph node group or group of contiguous lymph nodes with Hodgkin's disease with lymphocytic depletion involving both sides of the diaphragm [operative/pathology report] OR Hodgkin's disease with lymphocytic depletion involving the spleen [operative/pathology report] OR celiac nodes [operative pathology report] OR portal nodes [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 3A1 OR Ann Arbor Clinical Staging System Stage 3B1	DX 20177;
3.02	On both sides of the diaphragm or spleen with extension to adjacent tissues	Stage 3.01 AND Hodgkin's disease with lymphocytic depletion involving non-nodal surrounding tissues [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 3A1E OR Ann Arbor Clinical Staging System Stage 3B1E	NO;
3.03	On both sides of the diaphragm or involving the spleen and further extension into the peritoneal cavity	Stage 3.01-3.02 AND mesenteric nodal involvement [operative/pathology report] OR para-aortic nodal involvement [operative/pathology report] OR iliac nodal involvement [operative/pathology report] OR femoral nodal involvement [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 3A2 OR Ann Arbor Clinical Staging System Stage 3B2, 3A2E, 3B2E OR Hodgkin's disease with lymphocytic depletion involving non-nodal surrounding tissues [operative/pathology report]	STAGE 1.01-3.01 + DX 78951;
3.04	with diffuse extranodal tissue involvement	Stage 1.01-3.03 AND involvement of extranodal tissues without involvement of that organ's anatomic lymph node region [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 4A OR Ann Arbor Clinical Staging System Stage 4B	NO;
3.05	with spinal cord compression	Stage 1.01-3.04 AND spinal cord compression [CT scan or MRI or operative/pathology report]	STAGE 3.01 + DX 3369;
3.06	with Pneumocystis carinii pneumonia or Cryptococcus infection or opportunistic infections	Stage 1.01-3.05 AND Pneumocystis carinii pneumonia [operative/pathology report or gallium scan] OR cryptococcal pneumonia [operative/pathology report] OR cryptococcal meningitis [CSF report] OR opportunistic infection:	STAGE 1.01-3.05 + GROUP OPP_INF;
3.07	with sepsis	Stage 1.01-3.06 AND sepsis:	STAGE 1.01-3.06 + GROUP SEPSIS;
3.08	with respiratory failure	Stage 1.01-3.07 AND respiratory failure:	STAGE 1.01-3.07 + GROUP RESP_FAIL;
3.09	with shock	Stage 1.01-3.08 AND shock:	STAGE 1.01-3.08 + (GROUP SHOCKC OR GROUP SHOCKN) ;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM13

MultiStage: No

DXCat Label: Neoplasm, Malignant: Hodgkin's Disease with Lymphocytic Depletion

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
4.00	with death	Stage 1.01-3.09 AND death	NO;

References:

- Albano EA, et.al. Neoplastic diseases/lymphomas. In: Hay WW, Groosthius JR, Hayward AR, Levin MJ, eds. Current Pediatric Diagnosis and Treatment. 13th ed. Stamford, CT: Appleton & Lange; 1997:789-793.
- DeVita VT Jr, Hubbard SM. Hodgkin's disease. N Engl J Med. 1993;328(8):560-5.
- Freedman AS, Nadler LM. Malignancies of lymphoid cells. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:695-712.
- Hudson MM. Lymphoma/hodgkin's disease. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:1459-1460.
- Linker CA. Lymphomas. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:511-516.
- Mead GM. ABC of clinical haematology. malignant lymphomas and chronic lymphocytic leukaemia. BMJ. 1997;314(7087):1103-6.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM14

MultiStage: No

DXCat Label: Neoplasm, Malignant: Hodgkin's Disease with Lymphocytic Predominance

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	History or remission of Hodgkin's disease with lymphocytic depletion		NO;
1.01	Limited to one anatomic lymph node region	Lymph node group or group of contiguous lymph nodes with Hodgkin's disease with lymphocytic predominance [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 1A	DX 20141, 20142, 20143, 20144, 20145, 20146;
1.02	Limited to one anatomic lymph node region with involvement of adjacent extranodal tissue	Stage 1.01 AND Hodgkin's disease with lymphocytic predominance involving non-nodal surrounding tissue [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 1AE	DX 20140;
1.03	Limited to one anatomic lymph node region and constitutional symptoms	Stage 1.01 AND fever: OR history of night sweats OR weight loss of $\geq 10\%$ of baseline body weight in 6 months OR Ann Arbor Clinical Staging System Stage 1B	STAGE 1.01-1.02 + (DX 3383, 7808 OR GROUP FEVER) ;
1.04	Limited to one anatomic lymph node region and constitutional symptoms and involvement of adjacent extranodal tissue	Stage 1.03 AND Hodgkin's disease with lymphocytic predominance involving non-nodal surrounding tissue [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 1BE	NO;
2.01	On two anatomic lymph node regions on the same side of the diaphragm	Lymph node group or group of contiguous lymph nodes with Hodgkin's disease with lymphocytic predominance involving two anatomic regions on the same side of the diaphragm [operative/pathology report] OR Ann Arbor Clinical Staging System 2A	DX 20148;
2.02	Of two anatomic lymph node regions on the same side of the diaphragm and adjacent tissue involvement	Stage 2.01 AND Hodgkin's disease with lymphocytic predominance involving non-nodal surrounding tissues [operative/pathology report] OR Ann Arbor Clinical Staging System 2AE	STAGE 2.01 + STAGE 1.02;
2.03	Of two anatomic lymph node regions on the same side of the diaphragm with constitutional symptoms	Stage 2.01 AND fever: OR history of night sweats OR weight loss of $\geq 10\%$ baseline body weight in 6 months OR Ann Arbor Clinical Staging System Stage 2B	STAGE 2.01-2.02 + (DX 7808 OR GROUP FEVER);
2.04	Of two anatomic lymph node regions on the same side of the diaphragm with constitutional symptoms and adjacent tissue involvement	Stage 2.03 AND Hodgkin's disease with lymphocytic predominance involving non-nodal surrounding tissues [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 2BE	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM14

MultiStage: No

DXCat Label: Neoplasm, Malignant: Hodgkin's Disease with Lymphocytic Predominance

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.01	On both sides of the diaphragm or involving the spleen	Lymph node group or group of contiguous lymph nodes with Hodgkin's disease with lymphocytic predominance involving both sides of the diaphragm [operative/pathology report] OR Hodgkin's disease with lymphocytic predominance involving the spleen [operative/pathology report] OR celiac nodes [operative pathology report] OR portal nodes [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 3A1 OR Ann Arbor Clinical Staging System Stage 3B1	DX 20147;
3.02	On both sides of the diaphragm or spleen with extension to adjacent tissues	Stage 3.01 AND Hodgkin's disease with lymphocytic predominance involving non-nodal surrounding tissues [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 3A1E OR Ann Arbor Clinical Staging System Stage 3B1E	NO;
3.03	On both sides of the diaphragm or involving the spleen and further extension into the peritoneal cavity	Stage 3.01-3.02 AND mesenteric nodal involvement [operative/pathology report] OR para-aortic nodal involvement [operative/pathology report] OR iliac nodal involvement [operative/pathology report] OR femoral nodal involvement [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 3A2 OR Ann Arbor Clinical Staging System Stage 3B2, 3A2E, 3B2 OR Hodgkin's disease with lymphocytic predominance involving non-nodal surrounding tissues [operative/pathology report]	STAGE 1.01-3.01 + DX 78951;
3.04	with diffuse extranodal tissue involvement	Stage 1.01-3.03 AND involvement of extranodal tissues without involvement of that organ's anatomic lymph node region [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 4A OR Ann Arbor Clinical Staging System Stage 4B	NO;
3.05	with spinal cord compression	Stage 1.01-3.04 AND spinal cord compression [CT scan or MRI or operative/pathology report]	STAGE 3.01 + DX 3369;
3.06	with opportunistic infections	Stage 1.01-3.05 AND opportunistic infection:	STAGE 1.01-3.05 + GROUP OPP_INF;
3.07	with sepsis	Stage 1.01-3.06 AND sepsis:	STAGE 1.01-3.06 + GROUP SEPSIS;
3.08	with respiratory failure	Stage 1.01-3.07 AND respiratory failure:	STAGE 1.01-3.07 + GROUP RESP_FAIL;
3.09	with shock	Stage 1.01-3.08 AND shock:	STAGE 1.01-3.08 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 1.01-3.09 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM14

MultiStage: No

DXCat Label: Neoplasm, Malignant: Hodgkin's Disease with Lymphocytic Predominance

Specificity: A

Etiology: Neoplasm

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

Albano EA, et.al. Neoplastic diseases/lymphomas. In: Hay WW, Groosthous JR, Hayward AR, Levin MJ, eds. Current Pediatric Diagnosis and Treatment. 13th ed. Stamford, CT: Appleton & Lange; 1997:789-793.

DeVita VT Jr, Hubbard SM. Hodgkin's disease. N Engl J Med. 1993;328(8):560-5.

Freedman AS, Nadler LM. Malignancies of lymphoid cells. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:695-712.

Hudson MM. Lymphoma/hodgkin's disease. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics, 15th ed. Philadelphia, PA: WB Saunders; 1996:1459-1460.

Linker CA. Lymphomas. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:511-516.

Mead GM. ABC of clinical haematology. malignant lymphomas and chronic lymphocytic leukaemia. BMJ. 1997;314(7087):1103-6.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM15

MultiStage: No

DXCat Label: Neoplasm, Malignant: Hodgkin's Disease with Mixed Cellularity

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	History or remission of Hodgkin's disease with mixed cellularity		NO;
1.01	Limited to one anatomic lymph node region	Lymph node group or group of contiguous lymph nodes with Hodgkin's disease with mixed cellularity [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 1A	DX 20161, 20162, 20163, 20164, 20165, 20166;
1.02	Limited to one anatomic lymph node region with involvement of adjacent extranodal tissue	Stage 1.01 AND Hodgkin's disease with mixed cellularity involving non-nodal surrounding tissue [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 1AE	DX 20160;
1.03	Limited to one anatomic lymph node region and constitutional symptoms	Stage 1.01 AND fever: OR history of night sweats OR weight loss of \geq 10% of baseline body weight in 6 months OR Ann Arbor Clinical Staging System Stage 1B	STAGE 1.01-1.02 + (DX 3383, 7808 OR GROUP FEVER) ;
1.04	Limited to one anatomic lymph node region and constitutional symptoms and involvement of adjacent extranodal tissue	Stage 1.03 AND Hodgkin's disease with mixed cellularity involving non-nodal surrounding tissue [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 1BE	NO;
2.01	On two anatomic lymph node regions on the same side of the diaphragm	Lymph node group or group of contiguous lymph nodes with Hodgkin's disease with mixed cellularity involving two anatomic regions on the same side of the diaphragm [operative/pathology report]	DX 20168;
2.02	Of two anatomic lymph node regions on the same side of the diaphragm and adjacent tissue involvement	Stage 2.01 AND Hodgkin's disease with mixed cellularity involving non-nodal surrounding tissues [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 2AE	STAGE 2.01 + STAGE 1.02;
2.03	Of two anatomic lymph node regions on the same side of the diaphragm with constitutional symptoms	Stage 2.01 AND fever: OR history of night sweats OR weight loss of \geq 10% baseline body weight in 6 months OR Ann Arbor Clinical Staging System Stage 2B	STAGE 2.01-2.02 + (DX 7808 OR GROUP FEVER);
2.04	Of two anatomic lymph node regions on the same side of the diaphragm with constitutional symptoms and adjacent tissue involvement	Stage 2.03 AND Hodgkin's disease with mixed cellularity involving non-nodal surrounding tissues [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 2BE	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM15

MultiStage: No

DXCat Label: Neoplasm, Malignant: Hodgkin's Disease with Mixed Cellularity

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.01	On both sides of the diaphragm or involving the spleen	Lymph node group or group of contiguous lymph nodes with Hodgkin's disease with mixed cellularity involving both sides of the diaphragm [operative/pathology report] OR Hodgkin's disease with mixed cellularity involving the spleen [operative/pathology report] OR celiac nodes [operative pathology report] OR portal nodes [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 3A1 OR Ann Arbor Clinical Staging System Stage 3B1	DX 20167;
3.02	On both sides of the diaphragm or spleen with extension to adjacent tissues	Stage 3.01 AND Hodgkin's disease with mixed cellularity involving non-nodal surrounding tissues [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 3A1E OR Ann Arbor Clinical Staging System Stage 3B1E	NO;
3.03	On both sides of the diaphragm or involving the spleen and further extension into the peritoneal cavity	Stage 3.01-3.02 AND mesenteric nodal involvement [operative/pathology report] OR para-aortic nodal involvement [operative/pathology report] OR iliac nodal involvement [operative/pathology report] OR femoral nodal involvement [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 3A2 OR Ann Arbor Clinical Staging System Stage 3B2, 3A2E, 3B2E OR Hodgkin's disease with mixed cellularity involving non-nodal surrounding tissues [operative/pathology report]	STAGE 1.01-3.01 + DX 78951;
3.04	with diffuse extranodal tissue involvement	Stage 1.01-3.03 AND involvement of extranodal tissues without involvement of that organ's anatomic lymph node region [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 4A OR Ann Arbor Clinical Staging System Stage 4B	NO;
3.05	with spinal cord compression	Stage 1.01-3.04 AND spinal cord compression [CT scan or MRI or operative/pathology report]	STAGE 3.01 + DX 3369;
3.06	with Pneumocystis carinii pneumonia or cryptococcus infection or opportunistic infections	Stage 1.01-3.05 AND Pneumocystis carinii pneumonia [operative/pathology report or gallium scan] OR cryptococcal pneumonia [operative/pathology report] OR cryptococcal meningitis [CSF report] OR opportunistic infection:	STAGE 1.01-3.05 + GROUP OPP_INF;
3.07	with sepsis	Stage 1.01-3.06 AND sepsis:	STAGE 1.01-3.06 + GROUP SEPSIS;
3.08	with respiratory failure	Stage 1.01-3.07 AND respiratory failure:	STAGE 1.01-3.07 + GROUP RESP_FAIL;
3.09	with shock	Stage 1.01-3.08 AND shock:	STAGE 1.01-3.08 + (GROUP SHOCKC OR GROUP SHOCKN) ;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM15

MultiStage: No

DXCat Label: Neoplasm, Malignant: Hodgkin's Disease with Mixed Cellularity

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
4.00	with death	Stage 1.01-3.09 AND death	NO;

References:

- Albano EA, et.al. Neoplastic diseases/lymphomas. In: Hay WW, Groosthius JR, Hayward AR, Levin MJ, eds. Current Pediatric Diagnosis and Treatment. 13th ed. Stamford, CT: Appleton & Lange; 1997:789-793.
- DeVita VT Jr, Hubbard SM. Hodgkin's disease. N Engl J Med. 1993;328(8):560-5.
- Freedman AS, Nadler LM. Malignancies of lymphoid cells. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:695-712.
- Hudson MM. Lymphoma/hodgkin's disease. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:1459-1460.
- Linker CA. Lymphomas. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:511-516.
- Mead GM. ABC of clinical haematology. malignant lymphomas and chronic lymphocytic leukaemia. BMJ. 1997;314(7087):1103-6.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM16

MultiStage: No

DXCat Label: Neoplasm, Malignant: Hodgkin's Disease with Nodular Sclerosis

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	History or remission of Hodgkin's disease with nodular sclerosis		NO;
1.01	Limited to one anatomic lymph node region	Lymph node group or group of contiguous lymph nodes with Hodgkin's disease with nodular sclerosis [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 1A	DX 20151-20156;
1.02	Limited to one anatomic lymph node region with involvement of adjacent extranodal tissue	Stage 1.01 AND Hodgkin's disease with nodular sclerosis involving non-nodal surrounding tissue [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 1AE	DX 20150;
1.03	Limited to one anatomic lymph node region and constitutional symptoms	Stage 1.01 AND fever: OR history of night sweats OR weight loss of \geq 10% of baseline body weight in 6 months OR Ann Arbor Clinical Staging System Stage 1B	STAGE 1.01-1.02 + (DX 3383, 7808 OR GROUP FEVER) ;
1.04	Limited to one anatomic lymph node region and constitutional symptoms and involvement of adjacent extranodal tissue	Stage 1.03 AND Hodgkin's disease with nodular sclerosis involving non-nodal surrounding tissue [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 1BE	NO;
2.01	On two anatomic lymph node regions on the same side of the diaphragm	Lymph node group or group of contiguous lymph nodes with Hodgkin's disease with nodular sclerosis involving two anatomic regions on the same side of the diaphragm [operative/pathology report]	DX 20158;
2.02	Of two anatomic lymph node regions on the same side of the diaphragm and adjacent tissue involvement	Stage 2.01 AND Hodgkin's disease with nodular sclerosis involving non-nodal surrounding tissues [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 2AE	STAGE 2.01 + STAGE 1.02;
2.03	Of two anatomic lymph node regions on the same side of the diaphragm with constitutional symptoms	Stage 2.01 AND fever: OR history of night sweats OR weight loss of \geq 10% baseline body weight in 6 months OR Ann Arbor Clinical Staging System Stage 2B	STAGE 2.01-2.02 + (DX 7808 OR GROUP FEVER);
2.04	Of two anatomic lymph node regions on the same side of the diaphragm with constitutional symptoms and adjacent tissue involvement	Stage 2.03 AND Hodgkin's disease with nodular sclerosis involving non-nodal surrounding tissues [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 2BE	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM16

MultiStage: No

DXCat Label: Neoplasm, Malignant: Hodgkin's Disease with Nodular Sclerosis

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.01	On both sides of the diaphragm or involving the spleen	Lymph node group or group of contiguous lymph nodes with Hodgkin's disease with nodular sclerosis involving both sides of the diaphragm [operative/pathology report] OR Hodgkin's disease with nodular sclerosis involving the spleen [operative/pathology report] OR celiac nodes [operative pathology report] OR portal nodes [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 3A1 OR Ann Arbor Clinical Staging System Stage 3B1	DX 20157;
3.02	On both sides of the diaphragm or spleen with extension to adjacent tissues	Stage 3.01 AND Hodgkin's disease with nodular sclerosis involving non-nodal surrounding tissues [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 3A1E OR Ann Arbor Clinical Staging System Stage 3B1E	NO;
3.03	On both sides of the diaphragm or involving the spleen and further extension into the peritoneal cavity	Stage 3.01-3.02 AND mesenteric nodal involvement [operative/pathology report] OR para-aortic nodal involvement [operative/pathology report] OR iliac nodal involvement [operative/pathology report] OR femoral nodal involvement [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 3A2 OR Ann Arbor Clinical Staging System Stage 3B2, 3A2E, 3B2E OR Hodgkin's disease with nodular sclerosis involving non-nodal surrounding tissues [operative/pathology report]	STAGE 1.01-3.01 + DX 78951;
3.04	with diffuse extranodal tissue involvement	Stage 1.01-3.03 AND involvement of extranodal tissues without involvement of that organ's anatomic lymph node region [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 4A OR Ann Arbor Clinical Staging System Stage 4B	NO;
3.05	with spinal cord compression	Stage 1.01-3.04 AND spinal cord compression [CT scan or MRI or operative/pathology report]	STAGE 3.01 + DX 3369;
3.06	with Pneumocystis carinii pneumonia or cryptococcus infection or opportunistic infections	Stage 1.01-3.05 AND Pneumocystis carinii pneumonia [operative/pathology report or gallium scan] OR cryptococcal pneumonia [operative/pathology report] OR cryptococcal meningitis [CSF report] OR opportunistic infection:	STAGE 1.01-3.05 + GROUP OPP_INF;
3.07	with sepsis	Stage 1.01-3.06 AND sepsis:	STAGE 1.01-3.06 + GROUP SEPSIS;
3.08	with respiratory failure	Stage 1.01-3.07 AND respiratory failure:	STAGE 1.01-3.07 + GROUP RESP_FAIL;
3.09	with shock	Stage 1.01-3.08 AND shock:	STAGE 1.01-3.08 + (GROUP SHOCKC OR GROUP SHOCKN) ;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM16

MultiStage: No

DXCat Label: Neoplasm, Malignant: Hodgkin's Disease with Nodular Sclerosis

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
4.00	with death	Stage 1.01-3.09 AND death	NO;

References:

- Albano EA, et.al. Neoplastic diseases/lymphomas. In: Hay WW, Groosthius JR, Hayward AR, Levin MJ, eds. Current Pediatric Diagnosis and Treatment. 13th ed. Stamford, CT: Appleton & Lange; 1997:789-793.
- DeVita VT Jr, Hubbard SM. Hodgkin's disease. N Engl J Med. 1993;328(8):560-5.
- Freedman AS, Nadler LM. Malignancies of lymphoid cells. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:695-712.
- Hudson MM. Lymphoma/hodgkin's disease. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:1459-1460
- Linker CA. Lymphomas. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:511-516.
- Mead GM. ABC of clinical haematology. malignant lymphomas and chronic lymphocytic leukaemia. BMJ. 1997;314(7087):1103-6.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM17

MultiStage: No

DXCat Label: Neoplasm, Malignant: Hodgkin's Lymphoma

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	History or remission of Hodgkin's disease		DX V1072;
1.01	Limited to one anatomic lymph node region	Lymph node group or group of contiguous lymph nodes with Hodgkin's Disease [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 1A	DX 20101-20106, 20111-20116, 20121-20126, 20191-20196;
1.02	Limited to one anatomic lymph node region with involvement of adjacent extranodal tissue	Stage 1.01 AND Hodgkin's Disease involving non-nodal surrounding tissue [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 1AE	DX 20100, 20110, 20120, 20190;
1.03	Limited to one anatomic lymph node region and constitutional symptoms	Stage 1.01 AND fever: OR history of night sweats OR weight loss of $\geq 10\%$ of baseline body weight in 6 months OR Ann Arbor Clinical Staging System Stage 1B	STAGE 1.01-1.02 + (DX 3383, 7808 OR GROUP FEVER) ;
1.04	Limited to one anatomic lymph node region and constitutional symptoms and involvement of adjacent extranodal tissue	Stage 1.03 AND Hodgkin's Disease involving non-nodal surrounding tissue [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 1BE	NO;
2.01	On two anatomic lymph node regions on the same side of the diaphragm	Lymph node group or group of contiguous lymph nodes with Hodgkin's Disease involving two anatomic regions on the same side of the diaphragm [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 2A	DX 20108, 20118, 20128, 20198;
2.02	Of two anatomic lymph node regions on the same side of the diaphragm and adjacent tissue involvement	Stage 2.01 AND Hodgkin's Disease involving non-nodal surrounding tissues [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 2AE	STAGE 2.01 + STAGE 1.02;
2.03	Of two anatomic lymph node regions on the same side of the diaphragm with constitutional symptoms	Stage 2.01 AND fever: OR history of night sweats OR weight loss of $\geq 10\%$ baseline body weight in 6 months OR Ann Arbor Clinical Staging System Stage 2B	STAGE 2.01-2.02 + (DX 7808 OR GROUP FEVER);
2.04	Of two anatomic lymph node regions on the same side of the diaphragm with constitutional symptoms and adjacent tissue involvement	Stage 2.03 AND Hodgkin's Disease involving non-nodal surrounding tissues [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 2BE	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM17

MultiStage: No

DXCat Label: Neoplasm, Malignant: Hodgkin's Lymphoma

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.01	On both sides of the diaphragm or involving the spleen with or without constitutional symptoms	Lymph node group or group of contiguous lymph nodes with Hodgkin's Disease involving both sides of the diaphragm [operative/pathology report] OR Hodgkin's Disease involving the spleen [operative/pathology report] OR celiac nodes [operative pathology report] OR portal nodes [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 3A1 OR Ann Arbor Clinical Staging System Stage 3B1	DX 20107, 20117, 20127, 20197;
3.02	On both sides of the diaphragm or spleen with extension to adjacent tissues with or without constitutional symptoms	Stage 3.01 AND Hodgkin's Disease involving non-nodal surrounding tissues [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 3A1E OR Ann Arbor Clinical Staging System Stage 3B1E	NO;
3.03	On both sides of the diaphragm or involving the spleen and further extension into the peritoneal cavity with or without constitutional symptoms or involvement of adjacent tissues	Stage 3.01-3.02 AND mesenteric nodal involvement [operative/pathology report] OR para-aortic nodal involvement [operative/pathology report] OR iliac nodal involvement [operative/pathology report] OR femoral nodal involvement [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 3A2 OR Ann Arbor Clinical Staging System Stage 3B2, 3A2E, 3B2E OR Hodgkin's Disease involving non-nodal surrounding tissues [operative/pathology report]	STAGE 1.01-3.01 + DX 78951;
3.04	with diffuse extranodal tissue involvement with or without constitutional symptoms	Stage 1.01-3.03 AND involvement of extranodal tissues without involvement of that organ's anatomic lymph node region [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 4A OR Ann Arbor Clinical Staging System Stage 4B	NO;
3.05	with spinal cord compression	Stage 1.01-3.04 AND spinal cord compression [CT scan or MRI or operative/pathology report]	STAGE 3.01 + DX 3369;
3.06	with opportunistic infections	Stage 1.01-3.05 AND opportunistic infection:	STAGE 1.01-3.05 + GROUP OPP_INF;
3.07	with sepsis	Stage 1.01-3.06 AND sepsis:	STAGE 1.01-3.06 + GROUP SEPSIS;
3.08	with respiratory failure	Stage 1.01-3.07 AND respiratory failure:	STAGE 1.01-3.07 + GROUP RESP_FAIL;
3.09	with shock	Stage 1.01-3.08 AND shock:	STAGE 1.01-3.08 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 1.01-3.09 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM17

MultiStage: No

DXCat Label: Neoplasm, Malignant: Hodgkin's Lymphoma

Specificity: A

Etiology: Neoplasm

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM18

MultiStage: No

DXCat Label: Neoplasm, Malignant: Leukemia, Acute Lymphocytic

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	History or remission of acute lymphoblastic leukemia		DX 20401, 20421;
1.01	Acute lymphoblastic leukemia	Lymphoblastic leukemia [peripheral smear or bone marrow aspiration or bone marrow biopsy report]	DX 20400, 20402, 20420, 20422;
1.02	with hyperdiploid states	Stage 1.01 AND hyperdiploid states [cytogenetics report]	NO;
2.01	with hyperuricemia or hypokalemia or hyperkalemia or hyperphosphatemia	Stage 1.01-1.02 AND hyperuricemia: OR hyperkalemia: OR hyperphosphatemia: OR hypokalemia:	STAGE 1.01 + (GROUP HYPER_URICEM OR GROUP HYPER_KALEM OR GROUP HYPOKALEMIA);
2.02	with significant anemia	Stage 1.01-2.01 AND hemoglobin \leq 7 gm/dl [CBC report]	STAGE 1.01-2.01 + GROUP ANEM_NEOPL;
2.03	with significant thrombocytopenia	Stage 1.01-2.02 AND platelets < 60,000 cells/mm ³ [CBC report]	STAGE 1.01-2.02 + GROUP THRMBCYPEN;
2.04	with leukopenia	Stage 1.01-2.03 AND leukopenia:	STAGE 1.01-2.03 + GROUP LEUKOPENIA;
2.05	with urinary tract infection or nephrolithiasis or pyoderma	Stage 1.01-2.04 AND UTI: OR nephrolithiasis [sonogram report] OR pyoderma	STAGE 1.01-2.04 + (DXCAT GUS10 OR DX 3383, 5920-5929, 68600-68609);
2.06	with pneumonia	Stage 1.01-2.05 AND pneumonia:	STAGE 1.01-2.05 + (DXCAT RES15 OR DXCAT RES16 OR DXCAT RES17 OR DXCAT RES12 OR DX 485-486);

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM18

MultiStage: No

DXCat Label: Neoplasm, Malignant: Leukemia, Acute Lymphocytic

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
2.07	with Pneumocystis pneumonia or opportunistic infections	Stage 1.01-2.06 AND Pneumocystitis carinii pneumonia [per operative/pathology report or gallium scan report] OR opportunistic infection from: Pneumocystis carinii Cytomegalovirus spp. Herpes virus spp. Candida albicans Cryptococcus spp. Histoplasma spp. Toxoplasma gondii Mycobacterium intracellulare Mycobacterium tuberculosis Cryptosporidia spp. Isospora belli	STAGE 1.01-2.06 + GROUP OPP_INF;
2.08	with severe thrombocytopenia	Stage 1.01-2.07 AND platelets < 20,000 cells/mm ³ [CBC report]	NO;
2.09	with acute bleeding	Stage 1.01-2.08 AND bleeding:	STAGE 1.01-2.07 + DX 4590;
2.10	with severe neutropenia	Stage 1.01-2.09 AND total neutrophil count ≤ 500 cells/mm ³ [CBC report]	STAGE 2.05-2.09 + (DX 2880-28809, 2884-28859);
3.01	with meningitis	Stage 1.01-2.10 AND meningitis:	STAGE 1.01-2.10 + (GROUP MENGIT__BACT OR GROUP MENING__VIR);
3.02	with disseminated intravascular coagulation	Stage 1.01-3.01 AND DIC:	STAGE 1.01-3.01 + GROUP DIC;
3.03	with sepsis	Stage 1.01-3.02 AND sepsis:	STAGE 1.01-3.02 + GROUP SEPSIS;
3.04	with shock	Stage 1.01-3.03 AND shock:	STAGE 1.01-3.03 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 1.01-3.04 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM18

MultiStage: No

DXCat Label: Neoplasm, Malignant: Leukemia, Acute Lymphocytic

Specificity: A

Etiology: Neoplasm

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

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| Pui CH, Evans WE. Acute lymphoblastic leukemia. N Engl J Med. 1998;339(9):605-15. |

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM19

MultiStage: No

DXCat Label: Neoplasm, Malignant: Leukemia, Acute Nonlymphocytic

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	History or remission of acute nonlymphocytic leukemia		DX 20501, 20521, 20531, 20601, 20621, 20701, 20711, 20721, 20801-20802, V1060, V1063, V1069;
1.01	Acute or subacute nonlymphocytic leukemia or myeloid sarcoma	Nonlymphocytic leukemia [peripheral smear or bone marrow aspiration or bone marrow biopsy report] Note: nonlymphocytic leukemias include acute undifferentiated leukemia (M0), acute myeloblastic leukemia (M1), acute myeloblastic leukemia with differentiation (M2), acute promyelocytic leukemia (M3), acute myelomonocytic leukemia (M4), acute monoblastic leukemia (M5), erythroleukemia (M6), and megakaryoblastic leukemia (M7).	DX 20500, 20502, 20520, 20522, 20530, 20532, 20600, 20602, 20620, 20622, 20700, 20702, 20710, 20712, 20720, 20722, 20800;
1.02	with monosomy 5 and 7 or abnormalities of 11q23	Stage 1.01 AND monosomy 5 and 7 [cytogenetics report] OR abnormalities of 11q23 [cytogenetics report]	NO;
2.01	with hyperuricemia or hyperkalemia or hyperphosphatemia	Stage 1.01-1.02 AND hyperuricemia: OR hyperkalemia: OR hyperphosphatemia:	STAGE 1.01 + (GROUP HYPER_URICEM OR GROUP HYPER_KALEM OR GROUP HYPOKALEMIA);
2.02	with significant anemia	Stage 1.01-2.01 AND hemoglobin ≤ 7 gm/dl [CBC report]	STAGE 1.01-2.01 + GROUP ANEM_NEOPL;
2.03	with significant thrombocytopenia	Stage 1.01-2.02 AND platelets < 60,000 cells/mm ³ [CBC report]	STAGE 1.01-2.02 + GROUP THRMBCYTPEN;
2.04	with leukopenia	Stage 1.01-2.03 AND leukopenia:	STAGE 1.01-2.03 + GROUP LEUKOPENIA;
2.05	with urinary tract infection or nephrolithiasis or pyoderma	Stage 1.01-2.04 AND UTI: OR nephrolithiasis OR pyoderma	STAGE 1.01-2.04 + (DX 3383 OR DXCAT GUS10 OR DX 5920-5929, 68600-68609);
2.06	with pneumonia	Stage 1.01-2.05 AND pneumonia:	STAGE 1.01-2.05 + (DXCAT RES15 OR DXCAT RES16 OR DXCAT RES17 OR DXCAT RES12 OR DX 485-486);

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM19

MultiStage: No

DXCat Label: Neoplasm, Malignant: Leukemia, Acute Nonlymphocytic

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
2.07	with Pneumocystis pneumonia or opportunistic infections	Stage 1.01-2.06 AND Pneumocystitis carinii pneumonia [operative/pathology report or gallium scan report] OR opportunistic infection from: Pneumocystis carinii Cytomegalovirus spp. Herpes virus spp. Candida albicans Cryptococcus spp. Histoplasma spp. Toxoplasma gondii Mycobacterium intracellulare Mycobacterium tuberculosis Cryptosporidia spp. Isospora belli	STAGE 1.01-2.06 + GROUP OPP_INF;
2.08	with severe thrombocytopenia	Stage 1.01-2.07 AND platelets < 20,000 cells/mm ³ [CBC report]	NO;
2.09	with acute bleeding	Stage 1.01-2.08 AND bleeding:	STAGE 1.01-2.07 + DX 4590;
2.10	with severe neutropenia	Stage 1.01-2.09 AND total neutrophil count ≤ 500 cells/mm ³ [CBC report]	STAGE 2.05-2.09 + (DX 2880-28809, 2884-28859);
3.01	with meningitis	Stage 1.01-2.10 AND meningitis:	STAGE 1.01-2.10 + (GROUP MENGIT__BACT OR GROUP MENING__VIR);
3.02	with disseminated intravascular coagulation	Stage 1.01-3.01 AND DIC:	STAGE 1.01-3.01 + GROUP DIC;
3.03	with sepsis	Stage 1.01-3.02 AND sepsis:	STAGE 1.01-3.02 + GROUP SEPSIS;
3.04	with shock	Stage 1.01-3.03 AND shock:	STAGE 1.01-3.03 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 1.01-3.04 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM19

MultiStage: No

DXCat Label: Neoplasm, Malignant: Leukemia, Acute Nonlymphocytic

Specificity: A

Etiology: Neoplasm

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM20

MultiStage: No

DXCat Label: Neoplasm, Malignant: Leukemia, Chronic Lymphocytic

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	History or remission of chronic lymphocytic leukemia		DX 20411, 20481, 20491, 20611, V1061;
1.01	Chronic lymphocytic leukemia	Chronic lymphocytic leukemia [peripheral smear or bone marrow aspiration or bone marrow biopsy report] OR lymphocyte count > 5 x 10 ⁹ /l [hematology report] AND immunophenotype co-expresses B lymphocyte lineage markers CD19 with the T lymphocyte marker CD5 [cytogenetics report].	DX 20240-20248, 20290-20298, 20410, 20412, 20480, 20482, 20490, 20492, 20610, 20612;
2.01	with adenopathy	Stage 1.01 AND lymphadenopathy	STAGE 1.01 + DX 7856;
2.02	with hypogammaglobulinemia	Stage 1.01-2.01 AND hypogammaglobulinemia [hematology report]	STAGE 1.01-2.01 + DX 27900;
2.03	with pneumonia	Stage 1.01-2.02 AND pneumonia	STAGE 1.01-2.02 + (DXCAT RES15 OR DXCAT RES16 OR DXCAT RES17 OR DXCAT RES12 OR DXCAT RES19 OR DX 485-486);
2.04	with hepatosplenomegaly	Stage 1.01-2.03 AND hepatosplenomegaly [physical examination or sonography report or CT scan report]	STAGE 1.01-2.03 + (DX 5718, 7891, 7892);
2.05	with anemia	Stage 1.01-2.04 AND anemia:	STAGE 1.01-2.04 + GROUP ANEM_NEOPL;
2.06	with thrombocytopenia	Stage 1.01-2.05 AND thrombocytopenia:	STAGE 1.01-2.05 + GROUP THRMBCYTPEN;
2.07	with large cell lymphoma or Richter's syndrome	Stage 2.01-2.06 AND large cell lymphoma or Richter's syndrome [operative/pathology report]	STAGE 1.01-2.06 + (DX 20000-20008, 20070-20078);
3.01	with meningitis	Stage 1.01-2.07 AND meningitis:	STAGE 1.01-2.07 + (DX 3383 OR GROUP MENGIT__BACT OR GROUP MENING__VIR);
3.02	with sepsis	Stage 1.01-3.01 AND sepsis:	STAGE 1.01-3.01 + GROUP SEPSIS;
3.03	with shock	Stage 1.01-3.02 AND shock:	STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 1.01-3.03 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM20

MultiStage: No

DXCat Label: Neoplasm, Malignant: Leukemia, Chronic Lymphocytic

Specificity: A

Etiology: Neoplasm

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

Freedman AS, Nadler LM. Malignancies of lymphoid cells. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:695-712.

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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM21

MultiStage: No

DXCat Label: Neoplasm, Malignant: Leukemia, Chronic Myelogenous

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	History or remission of chronic myelocytic leukemia		DX 20511, 20581, 20591, V1062;
1.01	Chronic myelogenous leukemia	Chronic myelogenous leukemia [peripheral smear report or bone marrow aspiration report or bone marrow biopsy report] OR neutrocytosis: AND Philadelphia chromosome positive [chromosome analysis report] OR splenomegaly OR bcr-abl gene [cytogenetics report or Southern Blot report]	DX 20510, 20512, 20580, 20582, 20590, 20592;
2.01	with significant anemia	Stage 1.01 AND hemoglobin \leq 7 gm/dl [CBC report]	STAGE 1.01 + GROUP ANEM_NEOPL;
2.02	with significant thrombocytopenia	Stage 1.01-2.01 AND platelets $<$ 60,000 cells/mm ³ [CBC report]	STAGE 1.01-2.01 + GROUP THRMBCYTPEN;
2.03	with significant leukocytosis	Stage 1.01-2.02 AND total WBC count $>$ 50,000 cells/mm ³ [CBC report]	STAGE 1.01-2.02 + GROUP LEUKOCYTOSIS;
2.04	with blast crisis	Stage 1.01-2.03 AND blast cells \geq 30% of bone marrow cell count [bone marrow report]	NO;
2.05	with chloromas or hepatosplenomegaly	Stage 1.01-2.04 AND chloromas, myeloblast tumors in skin or lymph nodes or bone or liver or spleen [operative/pathology report] OR hepatosplenomegaly [physical examination report or sonography report or CT scan report]	STAGE 1.01-2.03 + (DX 3383, 20530, 5718, 7891, 7892, 78951);
2.06	with severe thrombocytopenia	Stage 1.01-2.05 AND platelets $<$ 20,000 cells/mm ³ [CBC report]	NO;
2.07	with acute bleeding	Stage 1.01-2.06 AND bleeding:	STAGE 1.01-2.05 + DX 4590;
3.01	with sepsis	Stage 1.01-2.07 AND sepsis:	STAGE 1.01-2.07 + GROUP SEPSIS;
3.02	with shock	Stage 1.01-3.01 AND shock:	STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 1.01-3.02 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM21

MultiStage: No

DXCat Label: Neoplasm, Malignant: Leukemia, Chronic Myelogenous

Specificity: A

Etiology: Neoplasm

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM22

MultiStage: No

DXCat Label: Neoplasm, Malignant: Lymphoma, Cutaneous T Cell (Mycosis Fungoides)

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	History of mycosis fungoides	History of mycosis fungoides	NO;
1.01	T1 skin involvement	Papules, patches, or plaques involving <10% of skin (dermatology report) AND epidermotropism and Pautrier's abscess formation with larger nucleated lymphocytes, and diffuse infiltrates of lymphocytes in the dermis [dermatology report] AND immunophenotyping of T cells [operative/pathology report] AND analysis of the genetic sequences for the T cell receptor (pathology report)	DX 20210;
1.02	T2 skin involvement	Stage 1.01 AND papules, patches, or plaques involving 10% or more of skin (dermatology report)	NO;
1.03	T3 skin involvement	Stage 1.01-1.02 AND > 1 tumors (dermatology report)	NO;
1.04	T4 skin involvement	Stage 1.01-1.03 AND generalized erythroderma (dermatology report)	NO;
2.01	N1 lymph node involvement	Stage 1.01-1.04 AND abnormal peripheral lymph node AND pathologically negative for MF [operative/pathology report]	DX 20211-20216, 20218;
2.02	N2 lymph node involvement	Stage 1.01-2.01 AND no abnormal peripheral lymph node AND pathologically positive for MF [operative/pathology report]	NO;
2.03	N3 lymph node involvement	Stage 1.01-2.02 AND clinically abnormal peripheral lymph node AND pathologically positive for MF [operative/pathology report]	NO;
3.01	B1 blood involvement	Stage 1.01-2.03 AND evidence of increased numbers of atypical circulating cells (Sezary cell) AND bone marrow biopsy (pathology report)	DX 20220-20226, 20228;
3.02	M1 visceral organ involvement	Stage 1.01-3.01 AND hepatosplenomegaly [sonography report or CT scan report or MRI report or liver/spleen scan report]	DX 20217, 20227; STAGE 1.01-3.01 + (DX 3383, 78951);
4.00	with death	Stage 1.01-3.02 AND death	NO;

References:

Mackie RM. Cutaneous lymphomas and lymphocytic infiltrates. In: Champion RH, Burton JL, Burns DA, Breathnach SM. Rook/Wilkinson/Ebling Textbook of Dermatology. 6th ed. Oxford: Blackwell Science Ltd.; 1998:2375-2382.

Zachheim HS, Amin S, Kashani-Sabt M, McMillan A. Prognosis in cutaneous T-cell lymphoma by skin stage: long-term survival in 489 patients. J Am Acad Dermatol. 1999;(40/3):418-425.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM23

MultiStage: No

DXCat Label: Neoplasm, Malignant: Lymphoma, Diffuse Large Cell

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	History or remission of diffuse large cell lymphoma		NO;
1.01	Limited to one anatomic lymph node region	Lymph node group or group of contiguous lymph nodes with diffuse mixed small and large cell lymphoma [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 1A	DX 20281-20286;
1.02	Limited to one anatomic lymph node region and constitutional symptoms	Stage 1.01 AND fever: OR history of night sweats OR weight loss of \geq 10% baseline body weight in 6 months OR Ann Arbor Clinical Staging System Stage 1B	STAGE 1.01 + (DX 3383 OR GROUP FEVER OR DX 7808) ;
1.03	Limited to one anatomic lymph node region and constitutional symptoms and involvement of adjacent extranodal tissue	Stage 1.02 AND diffuse mixed small and large cell lymphoma involving non-nodal surrounding tissue [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 1BE	DX 20280; STAGE 1.02 + DX 20280; DX 20280 + (GROUP FEVER OR DX 7808);
2.01	Of two anatomic lymph node regions on the same side of the diaphragm	Lymph node group or group of contiguous lymph nodes with involving two anatomic regions on the same side of the diaphragm [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 2A	DX 20288;
2.02	Of two anatomic lymph node regions on the same side of the diaphragm and adjacent tissue involvement	Stage 2.01 AND Diffuse large cell lymphoma involving non-nodal surrounding tissues [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 2AE	NO;
2.03	Of two anatomic lymph node regions on the same side of the diaphragm with constitutional symptoms	Stage 2.01 AND fever: OR history of night sweats OR weight loss of \geq 10% baseline body weight in 6 months OR Ann Arbor Clinical Staging System Stage 2B	NO;
2.04	Of two anatomic lymph node regions on the same side of the diaphragm with constitutional symptoms and adjacent tissue involvement	Stage 2.03 AND Diffuse large cell lymphoma involving non-nodal surrounding tissues [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 2BE	NO;
3.01	On both sides of the diaphragm or involving the spleen	Lymph node group or group of contiguous lymph nodes with Diffuse large cell lymphoma involving both sides of the diaphragm [operative/pathology report] OR Diffuse large cell lymphoma involving the spleen [operative/pathology report] OR Diffuse large cell lymphoma involving the celiac nodes [operative/pathology report] OR Diffuse large cell lymphoma involving the portal nodes [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 3A1 OR Ann Arbor Clinical Staging System Stage 3B1	DX 20287;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM23

MultiStage: No

DXCat Label: Neoplasm, Malignant: Lymphoma, Diffuse Large Cell

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.02	On both sides of the diaphragm or involving the spleen with extension to adjacent tissues	Stage 3.01 AND Diffuse large cell lymphoma involving non-nodal surrounding tissues [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 3A1E OR Ann Arbor Clinical Staging System Stage 3B1E	NO;
3.03	On both sides of the diaphragm or involving the spleen and further extension into the peritoneal cavity	Stage 3.01 AND Diffuse large cell lymphoma involving non-nodal surrounding tissues [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 3A1E OR Ann Arbor Clinical Staging System Stage 3B1E	STAGE 1.01-3.01 + DX 78951;
3.04	with diffuse extranodal tissue involvement	Stage 1.01-3.03 AND involvement of extranodal tissues without involvement of that organ's anatomic lymph node region [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 4A OR Ann Arbor Clinical Staging System Stage 4B	NO;
3.05	with spinal cord compression	Stage 1.01-3.04 AND spinal cord compression [CT scan or MRI or operative/pathology report]	STAGE 1.01 + DX 3369;
3.06	with opportunistic infections	Stage 1.01-3.05 AND Pneumocystis carinii pneumonia [operative/pathology report of gallium scan] OR cryptococcal pneumonia [operative/pathology report] OR cryptococcal meningitis [CSF report] OR opportunistic infection:	STAGE 1.01-3.05 + GROUP OPP_INF;
3.07	with sepsis	Stage 1.01-3.06 AND sepsis:	STAGE 1.01-3.06 + GROUP SEPSIS;
3.08	with respiratory failure	Stage 1.01-3.07 AND respiratory failure:	STAGE 1.01-3.07 + GROUP RESP_FAIL;
3.09	with shock	Stage 1.01-3.08 AND shock:	STAGE 1.01-3.08 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 1.01-3.09 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM23

MultiStage: No

DXCat Label: Neoplasm, Malignant: Lymphoma, Diffuse Large Cell

Specificity: A

Etiology: Neoplasm

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

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| Albano EA, et. al. Neoplastic diseases/lymphomas. In: Hay WW, Groosthius JR, Hayward AR, Levin MJ, eds. Current Pediatric Diagnosis and Treatment. 13th ed. Stamford, CT: Appleton & Lange; 1997:789-793. |
| Freedman AS, Nadler LM. Malignancies of lymphoid cells. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:695-712. |
| Hudson MM. Lymphoma/hodgkin's disease. In: Behrman RE, Lliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:1459-1460. |
| Linker CA. Lymphomas. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:511-516. |
| Mead GM. ABC of clinical haematology. malignant lymphomas and chronic lymphocytic leukaemia. BMJ. 1997;314(7087):1103-6. |
| Sandlund JT. Downing JR. Crist WM. Non-hodgkin's lymphoma in childhood. N Engl J Med. 1996;334(19):1238-48. |

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM24

MultiStage: No

DXCat Label: Neoplasm, Malignant: Lymphoma, Diffuse Mixed Small and Large Cell

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	History or remission of diffuse mixed small and large cell lymphoma		NO;
1.01	Limited to one anatomic lymph node region	Lymph node group or group of contiguous lymph nodes with diffuse mixed small and large cell lymphoma [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 1A	DX 20081-20086;
1.02	Limited to one anatomic lymph node region and constitutional symptoms	Stage 1.01 AND fever: OR history of night sweats OR weight loss of \geq 10% baseline body weight in 6 months OR Ann Arbor Clinical Staging System Stage 1B	STAGE 1.01 + (DX 3383 OR GROUP FEVER OR DX 7808) ;
1.03	Limited to one anatomic lymph node region and constitutional symptoms and involvement of adjacent extranodal tissue	Stage 1.02 AND diffuse mixed small and large cell lymphoma involving non-nodal surrounding tissue [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 1BE	DX 20080; STAGE 1.02 + DX 20080; DX 20080 + (GROUP FEVER OR DX 7808);
2.01	Of two anatomic lymph node regions on the same side of the diaphragm	Lymph node group or group of contiguous lymph nodes with diffuse mixed small and large cell lymphoma involving two anatomic regions on the same side of the diaphragm [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 2A	DX 20088;
2.02	Of two anatomic lymph node regions on the same side of the diaphragm and adjacent tissue involvement	Stage 2.01 AND diffuse mixed small and large cell lymphoma involving non-nodal surrounding tissues [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 2AE	NO;
2.03	Of two anatomic lymph node regions on the same side of the diaphragm with constitutional symptoms	Stage 2.01 AND fever: OR history of night sweats OR weight loss of \geq 10% baseline body weight in 6 months OR Ann Arbor Clinical Staging System Stage 2B	NO;
2.04	Of two anatomic lymph node regions on the same side of the diaphragm with constitutional symptoms and adjacent tissue involvement	Stage 2.03 AND diffuse mixed small and large cell lymphoma involving non-nodal surrounding tissues [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 2BE	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM24

MultiStage: No

DXCat Label: Neoplasm, Malignant: Lymphoma, Diffuse Mixed Small and Large Cell

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.01	On both sides of the diaphragm or involving the spleen	Lymph node group or group of contiguous lymph nodes with diffuse mixed small and large cell lymphoma involving both sides of the diaphragm [operative/pathology report] OR diffuse mixed small and large cell lymphoma involving the spleen [operative/pathology report] OR diffuse mixed small and large cell lymphoma involving the celiac nodes [operative/pathology report] OR diffuse mixed small and large cell lymphoma involving the portal nodes [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 3A1	DX 20087;
3.02	On both sides of the diaphragm or involving the spleen with extension to adjacent tissues	Stage 3.01 AND diffuse mixed small and large cell lymphoma involving non-nodal surrounding tissues [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 3A1E OR Ann Arbor Clinical Staging System Stage 3B1E	NO;
3.03	On both sides of the diaphragm or involving the spleen and further extension into the peritoneal cavity	Stage 3.01 AND mesenteric nodal involvement [operative/pathology report] OR para-aortic nodal involvement [operative/pathology report] OR iliac nodal involvement [operative/pathology report] OR femoral nodal involvement [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 3A2 OR Ann Arbor Clinical Staging System Stage 3B2 OR Ann Arbor Clinical Staging System Stage 3A2E OR Ann Arbor Clinical Staging System Stage 3B2E OR diffuse mixed small and large cell lymphoma involving non-nodal surrounding tissues[operative/pathology report]	STAGE 1.01-3.01 + DX 78951;
3.04	with diffuse extranodal tissue involvement	Stage 1.01-3.03 AND involvement of extranodal tissues without involvement of that organ's anatomic lymph node region [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 4A OR Ann Arbor Clinical Staging System Stage 4B	NO;
3.05	with spinal cord compression	Stage 1.01-3.04 AND spinal cord compression [CT scan or MRI or operative/pathology report]	STAGE 1.01-3.01 + DX 3369;
3.06	with opportunistic infections	Stage 1.01-3.05 AND Pneumocystis carinii pneumonia [operative/pathology report of gallium scan] OR cryptococcal pneumonia [operative/pathology report] OR cryptococcal meningitis [CSF report] OR opportunistic infection:	STAGE 1.01-3.05 + GROUP OPP_INF;
3.07	with sepsis	Stage 1.01-3.06 AND sepsis:	STAGE 1.01-3.06 + GROUP SEPSIS;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM24

MultiStage: No

DXCat Label: Neoplasm, Malignant: Lymphoma, Diffuse Mixed Small and Large Cell

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.08	with respiratory failure	Stage 1.01-3.07 AND respiratory failure:	STAGE 1.01-3.07 + GROUP RESP_FAIL;
3.09	with shock	Stage 1.01-3.08 AND shock:	STAGE 1.01-3.08 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 1.01-3.09 AND death	NO;

References:

- Albano EA, et. al. Neoplastic diseases/lymphomas. In: Hay WW, Groosthius JR, Hayward AR, Levin MJ, eds. Current Pediatric Diagnosis and Treatment. 13th ed. Stamford, CT: Appleton & Lange; 1997:789-793.
- Freedman AS, Nadler LM. Malignancies of lymphoid cells. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:695-712.
- Hudson MM. Lymphoma/hodgkin's disease. In: Behrman RE, Liegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:1459-1460.
- Linker CA. Lymphomas. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:511-516.
- Mead GM. ABC of clinical haematology. malignant lymphomas and chronic lymphocytic leukaemia. BMJ. 1997;314(7087):1103-6.
- Sandlund JT. Downing JR. Crist WM. Non-hodgkin's lymphoma in childhood. N Engl J Med. 1996;334(19):1238-48.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM25

MultiStage: No

DXCat Label: Neoplasm, Malignant: Lymphoma, Diffuse Small Cleaved Cell

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	History or remission of diffuse small cleaved cell lymphoma		NO;
1.01	Limited to one anatomic lymph node region	Lymph node group or group of contiguous lymph nodes with Diffuse small cleaved cell lymphoma [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 1A	NO;
1.02	Limited to one anatomic lymph node region and constitutional symptoms	Stage 1.01 AND fever: OR history of night sweats OR weight loss of \geq 10% baseline body weight in 6 months OR Ann Arbor Clinical Staging System Stage 1B	NO;
1.03	Limited to one anatomic lymph node region and constitutional symptoms and involvement of adjacent extranodal tissue	Stage 1.02 AND diffuse small cleaved cell lymphoma involving non-nodal surrounding tissue [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 1BE	NO;
2.01	Of two anatomic lymph node regions on the same side of the diaphragm	Lymph node group or group of contiguous lymph nodes with Diffuse small cleaved cell lymphoma involving two anatomic regions on the same side of the diaphragm [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 2A	NO;
2.02	Of two anatomic lymph node regions on the same side of the diaphragm and adjacent tissue involvement	Stage 2.01 AND diffuse small cleaved cell lymphoma involving non-nodal surrounding tissues [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 2AE	NO;
2.03	Of two anatomic lymph node regions on the same side of the diaphragm with constitutional symptoms	Stage 2.01 AND fever: OR history of night sweats OR weight loss of \geq 10% baseline body weight in 6 months OR Ann Arbor Clinical Staging System Stage 2B	NO;
2.04	Of two anatomic lymph node regions on the same side of the diaphragm with constitutional symptoms and adjacent tissue involvement	Stage 2.03 AND diffuse small cleaved cell lymphoma involving non-nodal surrounding tissues [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 2BE	NO;
3.01	On both sides of the diaphragm or involving the spleen	Lymph node group or group of contiguous lymph nodes with Diffuse small cleaved cell lymphoma involving both sides of the diaphragm [operative/pathology report] OR diffuse small cleaved cell lymphoma involving the spleen [operative/pathology report] OR diffuse small cleaved cell lymphoma involving the celiac nodes [operative/pathology report] OR diffuse small cleaved cell lymphoma involving the portal nodes [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 3A1 OR Ann Arbor Clinical Staging System Stage 3B1	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM25

MultiStage: No

DXCat Label: Neoplasm, Malignant: Lymphoma, Diffuse Small Cleaved Cell

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.02	On both sides of the diaphragm or involving the spleen with extension to adjacent tissues	Stage 3.01 AND diffuse small cleaved cell lymphoma involving non-nodal surrounding tissues [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 3A1E OR Ann Arbor Clinical Staging System Stage 3B1E	NO;
3.03	On both sides of the diaphragm or involving the spleen and further extension into the peritoneal cavity	Stage 3.01 AND mesenteric nodal involvement [operative/pathology report] OR para-aortic nodal involvement [operative/pathology report] OR iliac nodal involvement [operative/pathology report] OR femoral nodal involvement [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 3A2 OR Ann Arbor Clinical Staging System Stage 3B2 OR Ann Arbor Clinical Staging System Stage 3A2E OR Ann Arbor Clinical Staging System Stage 3B2E OR Diffuse small cleaved cell lymphoma involving non-nodal surrounding tissues [operative/pathology report]	NO;
3.04	with diffuse extranodal tissue involvement	Stage 1.01-3.03 AND involvement of extranodal tissues without involvement of that organ's anatomic lymph node region [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 4A OR Ann Arbor Clinical Staging System Stage 4B	NO;
3.05	with spinal cord compression	Stage 1.01-3.04 AND spinal cord compression [CT scan or MRI or operative/pathology report]	NO;
3.06	with opportunistic infections	Stage 1.01-3.05 AND Pneumocystis carinii pneumonia [operative/pathology report of gallium scan] OR cryptococcal pneumonia [operative/pathology report] OR cryptococcal meningitis [CSF report] OR opportunistic infection:	NO;
3.07	with sepsis	Stage 1.01-3.06 AND sepsis:	NO;
3.08	with respiratory failure	Stage 1.01-3.07 AND respiratory failure:	NO;
3.09	with shock	Stage 1.01-3.08 AND shock:	NO;
4.00	with death	Stage 1.01-3.09 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM25

MultiStage: No

DXCat Label: Neoplasm, Malignant: Lymphoma, Diffuse Small Cleaved Cell

Specificity: A

Etiology: Neoplasm

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

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| Albano EA, et. al. Neoplastic diseases/lymphomas. In: Hay WW, Groosthius JR, Hayward AR, Levin MJ, eds. Current Pediatric Diagnosis and Treatment. 13th ed. Stamford, CT: Appleton & Lange; 1997:789-793. |
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| Linker CA. Lymphomas. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:511-516. |
| Mead GM. ABC of clinical haematology. malignant lymphomas and chronic lymphocytic leukaemia. BMJ. 1997;314(7087):1103-6. |
| Sandlund JT. Downing JR. Crist WM. Non-hodgkin's lymphoma in childhood. N Engl J Med. 1996;334(19):1238-48. |

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM26

MultiStage: No

DXCat Label: Neoplasm, Malignant: Lymphoma, Follicular Mixed Small Cleaved and Large Cell

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	History or remission of follicular mixed small cleaved and large cell lymphoma		NO;
1.01	Limited to one anatomic lymph node region	Lymph node group or group of contiguous lymph nodes with follicular mixed small cleaved and large cell lymphoma [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 1A	NO;
1.02	Limited to one anatomic lymph node region and constitutional symptoms	Stage 1.01 AND fever: OR history of night sweats OR weight loss of \geq 10% baseline body weight in 6 months OR Ann Arbor Clinical Staging System Stage 1B	NO;
1.03	Limited to one anatomic lymph node region and constitutional symptoms and involvement of adjacent extranodal tissue	Stage 1.02 AND follicular mixed small cleaved and large cell lymphoma involving non-nodal surrounding tissue [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 1BE	NO;
2.01	Of two anatomic lymph node regions on the same side of the diaphragm	Lymph node group or group of contiguous lymph nodes with follicular mixed small cleaved and large cell lymphoma involving two anatomic regions on the same side of the diaphragm [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 2A	NO;
2.02	Of two anatomic lymph node regions on the same side of the diaphragm and adjacent tissue involvement	Stage 2.01 AND follicular mixed small cleaved and large cell lymphoma involving non-nodal surrounding tissues[operative/pathology report] OR Ann Arbor Clinical Staging System Stage 2AE	NO;
2.03	Of two anatomic lymph node regions on the same side of the diaphragm with constitutional symptoms	Stage 2.01 AND fever: OR history of night sweats OR weight loss of \geq 10% baseline body weight in 6 months OR Ann Arbor Clinical Staging System Stage 2B	NO;
2.04	Of two anatomic lymph node regions on the same side of the diaphragm with constitutional symptoms and adjacent tissue involvement	Stage 2.03 AND follicular mixed small cleaved and large cell lymphoma involving non-nodal surrounding tissues [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 2BE	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM26

MultiStage: No

DXCat Label: Neoplasm, Malignant: Lymphoma, Follicular Mixed Small Cleaved and Large Cell

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.01	On both sides of the diaphragm or involving the spleen	Lymph node group or group of contiguous lymph nodes with follicular mixed small cleaved and large cell lymphoma involving both sides of the diaphragm [operative/pathology report] OR follicular mixed small cleaved and large cell lymphoma involving the spleen [operative/pathology report] OR follicular mixed small cleaved and large cell lymphoma involving the celiac nodes [operative/pathology report] OR follicular mixed small cleaved and large cell lymphoma involving the portal nodes [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 3A1 OR Ann Arbor Clinical Staging System Stage 3B1	NO;
3.02	On both sides of the diaphragm or involving the spleen with extension to adjacent tissues	Stage 3.01 AND follicular mixed small cleaved and large cell lymphoma involving non-nodal surrounding tissues [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 3A1E OR Ann Arbor Clinical Staging System Stage 3B1E	NO;
3.03	On both sides of the diaphragm or involving the spleen and further extension into the peritoneal cavity	Stage 3.01 AND mesenteric nodal involvement [operative/pathology report] OR para-aortic nodal involvement [operative/pathology report] OR iliac nodal involvement [operative/pathology report] OR femoral nodal involvement [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 3A2 OR Ann Arbor Clinical Staging System Stage 3B2 OR Ann Arbor Clinical Staging System Stage 3A2E OR Ann Arbor Clinical Staging System Stage 3B2E OR follicular mixed small cleaved and large cell lymphoma involving non-nodal surrounding tissues [operative/pathology report]	NO;
3.04	with diffuse extranodal tissue involvement	Stage 1.01-3.03 AND involvement of extranodal tissues without involvement of that organ's anatomic lymph node region [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 4A OR Ann Arbor Clinical Staging System Stage 4B	NO;
3.05	with spinal cord compression	Stage 1.01-3.04 AND spinal cord compression [CT scan or MRI or operative/pathology report]	NO;
3.06	with opportunistic infections	Stage 1.01-3.05 AND Pneumocystis carinii pneumonia [operative/pathology report of gallium scan] OR cryptococcal pneumonia [operative/pathology report] OR cryptococcal meningitis [CSF report] OR opportunistic infection:	NO;
3.07	with sepsis	Stage 1.01-3.06 AND sepsis:	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM26

MultiStage: No

DXCat Label: Neoplasm, Malignant: Lymphoma, Follicular Mixed Small Cleaved and Large Cell

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.08	with respiratory failure	Stage 1.01-3.07 AND respiratory failure:	NO;
3.09	with shock	Stage 1.01-3.08 AND shock:	NO;
4.00	with death	Stage 1.01-3.09 AND death	NO;

References:

Albano EA, et. al. Neoplastic diseases/lymphomas. In: Hay WW, Groosthius JR, Hayward AR, Levin MJ, eds. Current Pediatric Diagnosis and Treatment. 13th ed. Stamford, CT: Appleton & Lange; 1997:789-793.

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Linker CA. Lymphomas. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:511-516.

Mead GM. ABC of clinical haematology. malignant lymphomas and chronic lymphocytic leukaemia. BMJ. 1997;314(7087):1103-6.

Sandlund JT. Downing JR. Crist WM. Non-hodgkin's lymphoma in childhood. N Engl J Med. 1996;334(19):1238-48.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM27

MultiStage: No

DXCat Label: Neoplasm, Malignant: Lymphoma, Follicular Predominantly Large Cell

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	History or remission of follicular predominantly large cell lymphoma		NO;
1.01	Limited to one anatomic lymph node region	Lymph node group or group of contiguous lymph nodes with follicular predominantly large cell lymphoma [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 1A	DX 20201-20206;
1.02	Limited to one anatomic lymph node region and constitutional symptoms	Stage 1.01 AND fever: OR history of night sweats OR weight loss of \geq 10% baseline body weight in 6 months OR Ann Arbor Clinical Staging System Stage 1B	STAGE 1.01 + (DX 3383 OR GROUP FEVER OR DX 7820) ;
1.03	Limited to one anatomic lymph node region and constitutional symptoms and involvement of adjacent extranodal tissue	Stage 1.02 AND follicular predominantly large cell lymphoma involving non-nodal surrounding tissue [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 1BE	DX 20200; DX 20200 + (GROUP FEVER OR DX 7800);
2.01	Of two anatomic lymph node regions on the same side of the diaphragm	Lymph node group or group of contiguous lymph nodes with follicular predominantly large cell lymphoma involving two anatomic regions on the same side of the diaphragm [operative/pathology report]	DX 20208;
2.02	Of two anatomic lymph node regions on the same side of the diaphragm and adjacent tissue involvement	Stage 2.01 AND follicular predominantly large cell lymphoma involving non-nodal surrounding tissues [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 2AE	NO;
2.03	Of two anatomic lymph node regions on the same side of the diaphragm with constitutional symptoms	Stage 2.01 AND fever: OR history of night sweats OR weight loss of \geq 10% baseline body weight in 6 months OR Ann Arbor Clinical Staging System Stage 2B	NO;
2.04	Of two anatomic lymph node regions on the same side of the diaphragm with constitutional symptoms and adjacent tissue involvement	Stage 2.03 AND follicular predominantly large cell lymphoma involving non-nodal surrounding tissues[operative/pathology report] OR Ann Arbor Clinical Staging System Stage 2BE	NO;
3.01	On both sides of the diaphragm or involving the spleen	Lymph node group or group of contiguous lymph nodes with follicular predominantly large cell lymphoma involving both sides of the diaphragm [operative/pathology report] OR follicular predominantly large cell lymphoma involving the spleen [operative/pathology report] OR follicular predominantly large cell lymphoma involving the celiac nodes [operative/pathology report] OR follicular predominantly large cell lymphoma involving the portal nodes [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 3A1	DX 20207;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM27

MultiStage: No

DXCat Label: Neoplasm, Malignant: Lymphoma, Follicular Predominantly Large Cell

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.02	On both sides of the diaphragm or involving the spleen with extension to adjacent tissues	Stage 3.01 AND follicular mixed small cleaved and large cell lymphoma involving non-nodal surrounding tissues [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 3A1E OR Ann Arbor Clinical Staging System Stage 3B1E	NO;
3.03	On both sides of the diaphragm or involving the spleen and further extension into the peritoneal cavity	Stage 3.01 AND mesenteric nodal involvement [operative/pathology report] OR para-aortic nodal involvement [operative/pathology report] OR iliac nodal involvement [operative/pathology report] OR femoral nodal involvement [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 3A2 OR Ann Arbor Clinical Staging System Stage 3B2 OR Ann Arbor Clinical Staging System Stage 3A2E OR Ann Arbor Clinical Staging System Stage 3B2E OR follicular mixed small cleaved and large cell lymphoma involving non-nodal surrounding tissues [operative/pathology report]	STAGE 1.01-3.01 + DX 78951;
3.04	with diffuse extranodal tissue involvement	Stage 1.01-3.03 AND involvement of extranodal tissues without involvement of that organ's anatomic lymph node region [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 4A OR Ann Arbor Clinical Staging System Stage 4B	NO;
3.05	with spinal cord compression	Stage 1.01-3.04 AND spinal cord compression [CT scan or MRI or operative/pathology report]	STAGE 1.01-3.01 + DX 3369;
3.06	with opportunistic infections	Stage 1.01-3.05 AND Pneumocystis carinii pneumonia [operative/pathology report of gallium scan] OR cryptococcal pneumonia [operative/pathology report] OR cryptococcal meningitis [CSF report] OR opportunistic infection:	STAGE 1.01-3.05 + GROUP OPP_INF;
3.07	with sepsis	Stage 1.01-3.06 AND sepsis:	STAGE 1.01-3.06 + GROUP SEPSIS;
3.08	with respiratory failure	Stage 1.01-3.07 AND respiratory failure:	STAGE 1.01-3.07 + GROUP RESP_FAIL;
3.09	with shock	Stage 1.01-3.08 AND shock:	STAGE 1.01-3.08 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 1.01-3.09 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM27

MultiStage: No

DXCat Label: Neoplasm, Malignant: Lymphoma, Follicular Predominantly Large Cell

Specificity: A

Etiology: Neoplasm

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

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| Albano EA, et. al. Neoplastic diseases/lymphomas. In: Hay WW, Groosthius JR, Hayward AR, Levin MJ, eds. Current Pediatric Diagnosis and Treatment. 13th ed. Stamford, CT: Appleton & Lange; 1997:789-793. |
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| Hudson MM. Lymphoma/hodgkin's disease. In: Behrman RE, Lliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:1459-1460. |
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| Mead GM. ABC of clinical haematology. malignant lymphomas and chronic lymphocytic leukaemia. BMJ. 1997;314(7087):1103-6. |
| Sandlund JT. Downing JR. Crist WM. Non-hodgkin's lymphoma in childhood. N Engl J Med. 1996;334(19):1238-48. |

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM28

MultiStage: No

DXCat Label: Neoplasm, Malignant: Lymphoma, Follicular, Predominantly Small Cleaved Cell

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	History or remission of follicular predominantly small cleaved cell lymphoma		NO;
1.01	Limited to one anatomic lymph node region	Lymph node group or group of contiguous lymph nodes with follicular predominantly small cleaved cell lymphoma [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 1A	NO;
1.02	Limited to one anatomic lymph node region and constitutional symptoms	Stage 1.01 AND fever: OR history of night sweats OR weight loss of \geq 10% baseline body weight in 6 months OR Ann Arbor Clinical Staging System Stage 1B	NO;
1.03	Limited to one anatomic lymph node region and constitutional symptoms and involvement of adjacent extranodal tissue	Stage 1.02 AND follicular predominantly small cleaved cell lymphoma involving non-nodal surrounding tissue [operative/pathology report]	NO;
2.01	Of two anatomic lymph node regions on the same side of the diaphragm	Lymph node group or group of contiguous lymph nodes with follicular predominantly small cleaved cell lymphoma involving two anatomic regions on the same side of the diaphragm [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 2A	NO;
2.02	Of two anatomic lymph node regions on the same side of the diaphragm and adjacent tissue involvement	Stage 2.01 AND follicular predominantly small cleaved cell lymphoma involving non-nodal surrounding tissues [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 2AE	NO;
2.03	Of two anatomic lymph node regions on the same side of the diaphragm with constitutional symptoms	Stage 2.01 AND fever: OR history of night sweats OR weight loss of \geq 10% baseline body weight in 6 months OR Ann Arbor Clinical Staging System Stage 2B	NO;
2.04	Of two anatomic lymph node regions on the same side of the diaphragm with constitutional symptoms and adjacent tissue involvement	Stage 2.03 AND follicular predominantly small cleaved cell lymphoma involving non-nodal surrounding tissues [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 2BE	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM28

MultiStage: No

DXCat Label: Neoplasm, Malignant: Lymphoma, Follicular, Predominantly Small Cleaved Cell

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.01	On both sides of the diaphragm or involving the spleen	Lymph node group or group of contiguous lymph nodes with follicular predominantly small cleaved cell lymphoma involving both sides of the diaphragm [operative/pathology report] OR follicular predominantly small cleaved cell lymphoma involving the spleen [operative/pathology report] OR follicular predominantly small cleaved cell lymphoma involving the celiac nodes [operative/pathology report] OR follicular predominantly small cleaved cell lymphoma involving the portal nodes [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 3A1 OR Ann Arbor Clinical Staging System Stage 3B1	NO;
3.02	On both sides of the diaphragm or involving the spleen with extension to adjacent tissues	Stage 3.01 AND follicular predominantly small cleaved cell lymphoma involving non-nodal surrounding tissues [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 3A1E OR Ann Arbor Clinical Staging System Stage 3B1E	NO;
3.03	On both sides of the diaphragm or involving the spleen and further extension into the peritoneal cavity	Stage 3.01 AND mesenteric nodal involvement [operative/pathology report] OR para-aortic nodal involvement [operative/pathology report] OR iliac nodal involvement [operative/pathology report] OR femoral nodal involvement [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 3A2 OR Ann Arbor Clinical Staging System Stage 3B2 OR Ann Arbor Clinical Staging System Stage 3A2E OR Ann Arbor Clinical Staging System Stage 3B2E OR follicular predominantly small cleaved cell lymphoma involving non-nodal surrounding tissues [operative/pathology report]	NO;
3.04	with diffuse extranodal tissue involvement	Stage 3.01 AND involvement of extranodal tissues without involvement of that organ's anatomic lymph node region [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 4A OR Ann Arbor Clinical Staging System Stage 4B	NO;
3.05	with spinal cord compression	Stage 1.01-3.04 AND spinal cord compression [CT scan or MRI or operative/pathology report]	NO;
3.06	with opportunistic infections	Stage 1.01-3.05 AND Pneumocystis carinii pneumonia [operative/pathology report of gallium scan] OR cryptococcal pneumonia [operative/pathology report] OR cryptococcal meningitis [CSF report] OR opportunistic infection:	NO;
3.07	with sepsis	Stage 1.01-3.06 AND sepsis:	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM28

MultiStage: No

DXCat Label: Neoplasm, Malignant: Lymphoma, Follicular, Predominantly Small Cleaved Cell

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.08	with respiratory failure	Stage 1.01-3.07 AND respiratory failure:	NO;
3.09	with shock	Stage 1.01-3.08 AND shock:	NO;
4.00	with death	Stage 1.01-3.09 AND death	NO;

References:

Albano EA, et. al. Neoplastic diseases/lymphomas. In: Hay WW, Groosthius JR, Hayward AR, Levin MJ, eds. Current Pediatric Diagnosis and Treatment. 13th ed. Stamford, CT: Appleton & Lange; 1997:789-793.

Freedman AS, Nadler LM. Malignancies of lymphoid cells. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:695-712.

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Mead GM. ABC of clinical haematology. malignant lymphomas and chronic lymphocytic leukaemia. BMJ. 1997;314(7087):1103-6.

Sandlund JT. Downing JR. Crist WM. Non-hodgkin's lymphoma in childhood. N Engl J Med. 1996;334(19):1238-48.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM29

MultiStage: No

DXCat Label: Neoplasm, Malignant: Lymphoma, Histiocytic Cell

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	History or remission of histiocytic cell lymphoma		NO;
1.01	Limited to one anatomic lymph node region	Lymph node group or group of contiguous lymph nodes with histiocytic cell lymphoma [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 1A	DX 20001-20006;
1.02	Limited to one anatomic lymph node region and constitutional symptoms	Stage 1.01 AND fever: OR history of night sweats OR weight loss of \geq 10% baseline body weight in 6 months OR Ann Arbor Clinical Staging System Stage 1B	STAGE 1.01 + (DX 3383 OR GROUP FEVER OR DX 7808) ;
1.03	Limited to one anatomic lymph node region and constitutional symptoms and involvement of adjacent extranodal tissue	Stage 1.02 AND histiocytic cell lymphoma involving non-nodal surrounding tissue [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 1BE	DX 20000; STAGE 1.02 + DX 20000; DX 20000 + (GROUP FEVER OR DX 7800);
2.01	Of two anatomic lymph node regions on the same side of the diaphragm	Lymph node group or group of contiguous lymph nodes with histiocytic cell lymphoma involving two anatomic regions on the same side of the diaphragm [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 2A	DX 20008;
2.02	Of two anatomic lymph node regions on the same side of the diaphragm and adjacent tissue involvement	Stage 2.01 AND histiocytic cell lymphoma involving non-nodal surrounding tissues [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 2AF	NO;
2.03	Of two anatomic lymph node regions on the same side of the diaphragm with constitutional symptoms	Stage 2.01 AND fever: OR history of night sweats OR weight loss of \geq 10% baseline body weight in 6 months OR Ann Arbor Clinical Staging System Stage 2B	NO;
2.04	Of two anatomic lymph node regions on the same side of the diaphragm with constitutional symptoms and adjacent tissue involvement	Stage 2.03 AND histiocytic cell lymphoma involving non-nodal surrounding tissues [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 2BE	NO;
3.01	On both sides of the diaphragm or involving the spleen	Lymph node group or group of contiguous lymph nodes with histiocytic cell lymphoma involving both sides of the diaphragm [operative/pathology report] OR histiocytic cell lymphoma involving the spleen [operative/pathology report] OR histiocytic cell lymphoma involving the celiac nodes [operative/pathology report] OR histiocytic cell lymphoma involving the portal nodes [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 3A1 OR Ann Arbor Clinical Staging System Stage 3B1	DX 20007;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM29

MultiStage: No

DXCat Label: Neoplasm, Malignant: Lymphoma, Histiocytic Cell

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.02	On both sides of the diaphragm or involving the spleen with extension to adjacent tissues	Stage 3.01 AND histiocytic cell lymphoma involving non-nodal surrounding tissues [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 3A1E	NO;
3.03	On both sides of the diaphragm or involving the spleen and further extension into the peritoneal cavity	Stage 3.01 AND mesenteric nodal involvement [operative/pathology report] OR para-aortic nodal involvement [operative/pathology report] OR iliac nodal involvement [operative/pathology report] OR femoral nodal involvement [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 3A2 OR Ann Arbor Clinical Staging System Stage 3B2 OR Ann Arbor Clinical Staging System Stage 3A2E OR Ann Arbor Clinical Staging System Stage 3B2E OR histiocytic cell lymphoma involving non-nodal surrounding tissues[operative/pathology report]	STAGE 1.01-3.01 + DX 78951;
3.04	with diffuse extranodal tissue involvement	Stage 3.01 AND involvement of extranodal tissues without involvement of that organ's anatomic lymph node region [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 4A OR Ann Arbor Clinical Staging System Stage 4B	NO;
3.05	with spinal cord compression	Stage 1.01-3.04 AND spinal cord compression [CT scan or MRI or operative/pathology report]	STAGE 1.01-3.01 + DX 3369;
3.06	with opportunistic infections	Stage 1.01-3.05 AND Pneumocystis carinii pneumonia [operative/pathology report of gallium scan] OR cryptococcal pneumonia [operative/pathology report] OR cryptococcal meningitis [CSF report] OR opportunistic infection:	STAGE 1.01-3.05 + GROUP OPP_INF;
3.07	with sepsis	Stage 1.01-3.06 AND sepsis:	STAGE 1.01-3.06 + GROUP SEPSIS;
3.08	with respiratory failure	Stage 1.01-3.07 AND respiratory failure:	STAGE 1.01-3.07 + GROUP RESP_FAIL;
3.09	with shock	Stage 1.01-3.08 AND shock:	STAGE 1.01-3.08 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 1.01-3.09 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM29

MultiStage: No

DXCat Label: Neoplasm, Malignant: Lymphoma, Histiocytic Cell

Specificity: A

Etiology: Neoplasm

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

Albano EA, et. al. Neoplastic diseases/lymphomas. In: Hay WW, Groosthius JR, Hayward AR, Levin MJ, eds. Current Pediatric Diagnosis and Treatment. 13th ed. Stamford, CT: Appleton & Lange; 1997:789-793.

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Mead GM. ABC of clinical haematology. malignant lymphomas and chronic lymphocytic leukaemia. BMJ. 1997;314(7087):1103-6.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM30

MultiStage: No

DXCat Label: Neoplasm, Malignant: Lymphoma, Large Cell Immunoblastic

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	History or remission of Large cell immunoblastic lymphoma		NO;
1.01	Limited to one anatomic lymph node region	Lymph node group or group of contiguous lymph nodes with Large cell immunoblastic lymphoma [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 1A	NO;
1.02	Limited to one anatomic lymph node region and constitutional symptoms	Stage 1.01 AND fever: OR history of night sweats OR weight loss of \geq 10% baseline body weight in 6 months OR Ann Arbor Clinical Staging System Stage 1B	NO;
1.03	Limited to one anatomic lymph node region and constitutional symptoms and involvement of adjacent extranodal tissue	Stage 1.02 AND Large cell immunoblastic lymphoma involving non-nodal surrounding tissue [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 1BE	NO;
2.01	On two anatomic lymph node regions on the same side of the diaphragm	Lymph node group or group of contiguous lymph nodes with Large cell immunoblastic lymphoma involving two anatomic regions on the same side of the diaphragm [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 2A	NO;
2.02	Of two anatomic lymph node regions on the same side of the diaphragm and adjacent tissue involvement	Stage 2.01 AND Large cell immunoblastic lymphoma involving non-nodal surrounding tissues [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 2AE	NO;
2.03	Of two anatomic lymph node regions on the same side of the diaphragm with constitutional symptoms	Stage 2.01 AND fever: OR history of night sweats OR weight loss of \geq 10% baseline body weight in 6 months OR Ann Arbor Clinical Staging System Stage 2B	NO;
2.04	Of two anatomic lymph node regions on the same side of the diaphragm with constitutional symptoms and adjacent tissue involvement	Stage 2.03 AND Large cell immunoblastic lymphoma involving non-nodal surrounding tissues [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 2BE	NO;
3.01	On both sides of the diaphragm or involving the spleen	Lymph node group or group of contiguous lymph nodes with Large cell immunoblastic lymphoma involving both sides of the diaphragm [operative/pathology report] OR Large cell immunoblastic lymphoma involving the spleen [operative/pathology report] OR Large cell immunoblastic lymphoma involving the celiac nodes [operative/pathology report] OR Large cell immunoblastic lymphoma involving the portal nodes [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 3A1 OR Ann Arbor Clinical Staging System Stage 3B1	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM30

MultiStage: No

DXCat Label: Neoplasm, Malignant: Lymphoma, Large Cell Immunoblastic

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.02	On both sides of the diaphragm or involving the spleen with extension to adjacent tissues	Stage 3.01 AND Large cell immunoblastic lymphoma involving non-nodal surrounding tissues [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 3A1E OR Ann Arbor Clinical Staging System Stage 3B1E	NO;
3.03	On both sides of the diaphragm or involving the spleen and further extension into the peritoneal cavity	Stage 3.01 AND mesenteric nodal involvement [operative/pathology report] OR para-aortic nodal involvement [operative/pathology report] OR iliac nodal involvement [operative/pathology report] OR femoral nodal involvement [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 3A2 OR Ann Arbor Clinical Staging System Stage 3B2 OR Ann Arbor Clinical Staging System Stage 3A2E OR Ann Arbor Clinical Staging System Stage 3B2E OR Large cell immunoblastic lymphoma involving non-nodal surrounding tissues [operative/pathology report]	NO;
3.04	with diffuse extranodal tissue involvement	Stage 3.01 AND involvement of extranodal tissues without involvement of that organ's anatomic lymph node region [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 4A OR Ann Arbor Clinical Staging System Stage 4B	NO;
3.05	with spinal cord compression	Stage 1.01-3.04 AND spinal cord compression [CT scan or MRI or operative/pathology report]	NO;
3.06	with opportunistic infections	Stage 1.01-3.05 AND Pneumocystis carinii pneumonia [operative/pathology report of gallium scan] OR cryptococcal pneumonia [operative/pathology report] OR cryptococcal meningitis [CSF report] OR opportunistic infection:	NO;
3.07	with sepsis	Stage 1.01-3.06 AND sepsis:	NO;
3.08	with respiratory failure	Stage 1.01-3.07 AND respiratory failure:	NO;
3.09	with shock	Stage 1.01-3.08 AND shock	NO;
4.00	with death	Stage 1.01-3.09 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM30

MultiStage: No

DXCat Label: Neoplasm, Malignant: Lymphoma, Large Cell Immunoblastic

Specificity: A

Etiology: Neoplasm

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

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| Albano EA, et. al. Neoplastic diseases/lymphomas. In: Hay WW, Groosthius JR, Hayward AR, Levin MJ, eds. Current Pediatric Diagnosis and Treatment. 13th ed. Stamford, CT: Appleton & Lange; 1997:789-793. |
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| Linker CA. Lymphomas. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:511-516. |
| Mead GM. ABC of clinical haematology. malignant lymphomas and chronic lymphocytic leukaemia. BMJ. 1997;314(7087):1103-6. |
| Sandlund JT. Downing JR. Crist WM. Non-hodgkin's lymphoma in childhood. N Engl J Med. 1996;334(19):1238-48. |

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM31

MultiStage: No

DXCat Label: Neoplasm, Malignant: Lymphoma, Lymphoblastic

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	History or remission of Lymphoblastic lymphoma		DX V1071;
1.01	Limited to one anatomic lymph node region	Lymph node group or group of contiguous lymph nodes with Lymphoblastic lymphoma [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 1A	DX 20011-20016, 20021-20026;
1.02	Limited to one anatomic lymph node region and constitutional symptoms	Stage 1.01 AND fever: OR history of night sweats OR weight loss of \geq 10% baseline body weight in 6 months OR Ann Arbor Clinical Staging System Stage 1B	STAGE 1.01 + (GROUP FEVER OR DX 3383, 7808);
1.03	Limited to one anatomic lymph node region and constitutional symptoms and involvement of adjacent extranodal tissue	Stage 1.02 AND Lymphoblastic lymphoma involving non-nodal surrounding tissue [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 1BE	DX 20010, 20020; STAGE 1.02 + (DX 20010) OR DX 20020; DX 20010 OR DX 20020 + (GROUP FEVER OR DX 7808);
2.01	On two anatomic lymph node regions on the same side of the diaphragm	Lymph node group or group of contiguous lymph nodes with Lymphoblastic lymphoma involving two anatomic regions on the same side of the diaphragm [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 2A	DX 20018, 20028;
2.02	Of two anatomic lymph node regions on the same side of the diaphragm and adjacent tissue involvement	Stage 2.01 AND Lymphoblastic lymphoma involving non-nodal surrounding tissues [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 2AE	NO;
2.03	Of two anatomic lymph node regions on the same side of the diaphragm with constitutional symptoms	Stage 2.01 AND fever: OR history of night sweats OR weight loss of \geq 10% baseline body weight in 6 months OR Ann Arbor Clinical Staging System Stage 2B	NO;
2.04	Of two anatomic lymph node regions on the same side of the diaphragm with constitutional symptoms and adjacent tissue involvement	Stage 2.03 AND Lymphoblastic lymphoma involving non-nodal surrounding tissues [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 2BE	NO;
3.01	On both sides of the diaphragm or involving the spleen	Lymph node group or group of contiguous lymph nodes with Lymphoblastic lymphoma involving both sides of the diaphragm [operative/pathology report] OR Lymphoblastic lymphoma involving the spleen [operative/pathology report] OR Lymphoblastic lymphoma involving the celiac nodes [operative/pathology report] OR Lymphoblastic lymphoma involving the portal nodes [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 3A1 OR Ann Arbor Clinical Staging System Stage 3B1	DX 20017, 20027;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM31

MultiStage: No

DXCat Label: Neoplasm, Malignant: Lymphoma, Lymphoblastic

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.02	On both sides of the diaphragm or involving the spleen with extension to adjacent tissues	Stage 3.01 AND Lymphoblastic lymphoma involving non-nodal surrounding tissues [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 3A1E OR Ann Arbor Clinical Staging System Stage 3B1E	NO;
3.03	On both sides of the diaphragm or involving the spleen and further extension into the peritoneal cavity	Stage 3.01 AND mesenteric nodal involvement [operative/pathology report] OR para-aortic nodal involvement [operative/pathology report] OR iliac nodal involvement [operative/pathology report] OR femoral nodal involvement [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 3A2 OR Ann Arbor Clinical Staging System Stage 3B2 OR Ann Arbor Clinical Staging System Stage 3A2E OR Ann Arbor Clinical Staging System Stage 3B2E OR Lymphoblastic lymphoma involving non-nodal surrounding tissues [operative/pathology report]	STAGE 1.01-3.01 + DX 78951;
3.04	with diffuse extranodal tissue involvement	Stage 3.01 AND involvement of extranodal tissues without involvement of that organ's anatomic lymph node region [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 4A OR Ann Arbor Clinical Staging System Stage 4B	NO;
3.05	with spinal cord compression	Stage 1.01-3.04 AND spinal cord compression [CT scan or MRI or operative/pathology report]	STAGE 1.01-3.01 + DX 3369;
3.06	with opportunistic infections	Stage 1.01-3.05 AND Pneumocystis carinii pneumonia [operative/pathology report of gallium scan] OR cryptococcal pneumonia [operative/pathology report] OR cryptococcal meningitis [CSF report] OR opportunistic infection:	STAGE 1.01-3.05 + GROUP OPP_INF;
3.07	with sepsis	Stage 1.01-3.06 AND sepsis:	STAGE 1.01-3.06 + GROUP SEPSIS;
3.08	with respiratory failure	Stage 1.01-3.07 AND respiratory failure:	STAGE 1.01-3.07 + GROUP RESP_FAIL;
3.09	with shock	Stage 1.01-3.08 AND shock:	STAGE 1.01-3.08 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 1.01-3.09 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM31

MultiStage: No

DXCat Label: Neoplasm, Malignant: Lymphoma, Lymphoblastic

Specificity: A

Etiology: Neoplasm

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

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| Albano EA, et. al. Neoplastic diseases/lymphomas. In: Hay WW, Groosthius JR, Hayward AR, Levin MJ, eds. Current Pediatric Diagnosis and Treatment. 13th ed. Stamford, CT: Appleton & Lange; 1997:789-793. |
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| Hudson MM. Lymphoma/hodgkin's disease. In: Behrman RE, Lliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:1459-1460. |
| Linker CA. Lymphomas. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:511-516. |
| Mead GM. ABC of clinical haematology. malignant lymphomas and chronic lymphocytic leukaemia. BMJ. 1997;314(7087):1103-6. |
| Sandlund JT. Downing JR. Crist WM. Non-hodgkin's lymphoma in childhood. N Engl J Med. 1996;334(19):1238-48. |

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM32

MultiStage: No

DXCat Label: Neoplasm, Malignant: Lymphoma, Small Lymphocytic Cell

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	History or remission of small lymphocytic cell lymphoma		NO;
1.01	Limited to one anatomic lymph node region	Lymph node group or group of contiguous lymph nodes with small lymphocytic cell lymphoma [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 1A	NO;
1.02	Limited to one anatomic lymph node region and constitutional symptoms	Stage 1.01 AND fever: OR history of night sweats OR weight loss of \geq 10% baseline body weight in 6 months OR Ann Arbor Clinical Staging System Stage 1B	NO;
1.03	Limited to one anatomic lymph node region and constitutional symptoms and involvement of adjacent extranodal tissue	Stage 1.02 AND small lymphocytic cell lymphoma involving non-nodal surrounding tissue [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 1BE	NO;
2.01	On two anatomic lymph node regions on the same side of the diaphragm	Lymph node group or group of contiguous lymph nodes with small lymphocytic cell lymphoma involving two anatomic regions on the same side of the diaphragm [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 2A	NO;
2.02	Of two anatomic lymph node regions on the same side of the diaphragm and adjacent tissue involvement	Stage 2.01 AND small lymphocytic cell lymphoma involving non-nodal surrounding tissues [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 2AE	NO;
2.03	Of two anatomic lymph node regions on the same side of the diaphragm with constitutional symptoms	Stage 2.01 AND Fever: OR history of night sweats OR weight loss of \geq 10% baseline body weight in 6 months OR Ann Arbor Clinical Staging System Stage 2B	NO;
2.04	Of two anatomic lymph node regions on the same side of the diaphragm with constitutional symptoms and adjacent tissue involvement	Stage 2.03 AND small lymphocytic cell lymphoma involving non-nodal surrounding tissues [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 2BE	NO;
3.01	On both sides of the diaphragm or involving the spleen	Lymph node group or group of contiguous lymph nodes with small lymphocytic cell lymphoma involving both sides of the diaphragm [operative/pathology report] OR small lymphocytic cell lymphoma involving the spleen [operative/pathology report] OR small lymphocytic cell lymphoma involving the celiac nodes [operative/pathology report] OR small lymphocytic cell lymphoma involving the portal nodes [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 3A1 OR Ann Arbor Clinical Staging System Stage 3B1	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM32

MultiStage: No

DXCat Label: Neoplasm, Malignant: Lymphoma, Small Lymphocytic Cell

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.02	On both sides of the diaphragm or involving the spleen with extension to adjacent tissues	Stage 3.01 AND small lymphocytic cell lymphoma involving non-nodal surrounding tissues [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 3A1E OR Ann Arbor Clinical Staging System Stage 3B1E	NO;
3.03	On both sides of the diaphragm or involving the spleen and further extension into the peritoneal cavity	Stage 3.01 AND mesenteric nodal involvement [operative/pathology report] OR para-aortic nodal involvement [operative/pathology report] OR iliac nodal involvement [operative/pathology report] OR femoral nodal involvement [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 3A2 OR Ann Arbor Clinical Staging System Stage 3B2 OR Ann Arbor Clinical Staging System Stage 3A2E OR Ann Arbor Clinical Staging System Stage 3B2E OR small lymphocytic cell lymphoma involving non-nodal surrounding tissues [operative/pathology report]	NO;
3.04	with diffuse extranodal tissue involvement	Stage 3.01 AND involvement of extranodal tissues without involvement of that organ's anatomic lymph node region [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 4A OR Ann Arbor Clinical Staging System Stage 4B	NO;
3.05	with spinal cord compression	Stage 1.01-3.04 AND spinal cord compression [CT scan or MRI or operative/pathology report]	NO;
3.06	with opportunistic infections	Stage 1.01-3.05 AND Pneumocystis carinii pneumonia [operative/pathology report of gallium scan] OR cryptococcal pneumonia [operative/pathology report] OR cryptococcal meningitis [CSF report] OR opportunistic infection:	NO;
3.07	with sepsis	Stage 1.01-3.06 AND sepsis:	NO;
3.08	with respiratory failure	Stage 1.01-3.07 AND respiratory failure:	NO;
3.09	with shock	Stage 1.01-3.08 AND shock:	NO;
4.00	with death	Stage 1.01-3.09 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM32

MultiStage: No

DXCat Label: Neoplasm, Malignant: Lymphoma, Small Lymphocytic Cell

Specificity: A

Etiology: Neoplasm

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

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| Albano EA, et. al. Neoplastic diseases/lymphomas. In: Hay WW, Groosthius JR, Hayward AR, Levin MJ, eds. Current Pediatric Diagnosis and Treatment. 13th ed. Stamford, CT: Appleton & Lange; 1997:789-793. |
| Freedman AS, Nadler LM. Malignancies of lymphoid cells. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:695-712. |
| Hudson MM. Lymphoma/hodgkin's disease. In: Behrman RE, Lliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:1459-1460. |
| Linker CA. Lymphomas. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:511-516. |
| Mead GM. ABC of clinical haematology. malignant lymphomas and chronic lymphocytic leukaemia. BMJ. 1997;314(7087):1103-6. |
| Sandlund JT. Downing JR. Crist WM. Non-hodgkin's lymphoma in childhood. N Engl J Med. 1996;334(19):1238-48. |

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM33

MultiStage: No

DXCat Label: Neoplasm, Malignant: Lymphoma, Small Noncleaved Cell or Burkitt's

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	History or remission of small noncleaved cell or Burkitt's lymphoma		NO;
1.01	Limited to one anatomic lymph node region	Lymph node group or group of contiguous lymph nodes with small noncleaved cell or Burkitt's lymphoma [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 1A	NO;
1.02	Limited to one anatomic lymph node region and constitutional symptoms	Stage 1.01 AND fever: OR history of night sweats OR weight loss of \geq 10% baseline body weight in 6 months OR Ann Arbor Clinical Staging System Stage 1B	NO;
1.03	Limited to one anatomic lymph node region and constitutional symptoms and involvement of adjacent extranodal tissue	Stage 1.02 AND small noncleaved cell or Burkitt's lymphoma involving non-nodal surrounding tissue [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 1BE	NO;
2.01	On two anatomic lymph node regions on the same side of the diaphragm	Lymph node group or group of contiguous lymph nodes with small noncleaved cell or Burkitt's lymphoma involving two anatomic regions on the same side of the diaphragm [operative/pathology report]	NO;
2.02	Of two anatomic lymph node regions on the same side of the diaphragm and adjacent tissue involvement	Stage 2.01 AND small noncleaved cell or Burkitt's lymphoma involving non-nodal surrounding tissues [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 2AE	NO;
2.03	Of two anatomic lymph node regions on the same side of the diaphragm with constitutional symptoms	Stage 2.01 AND fever: OR history of night sweats OR weight loss of \geq 10% baseline body weight in 6 months OR Ann Arbor Clinical Staging System Stage 2B	NO;
2.04	Of two anatomic lymph node regions on the same side of the diaphragm with constitutional symptoms and adjacent tissue involvement	Stage 2.03 AND small noncleaved cell or Burkitt's lymphoma involving non-nodal surrounding tissues [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 2BE	NO;
3.01	On both sides of the diaphragm or involving the spleen	Lymph node group or group of contiguous lymph nodes with small noncleaved cell or Burkitt's lymphoma involving both sides of the diaphragm [operative/pathology report] OR small noncleaved cell or Burkitt's lymphoma involving the spleen [operative/pathology report] OR small noncleaved cell or Burkitt's lymphoma involving the celiac nodes [operative/pathology report] OR small noncleaved cell or Burkitt's lymphoma involving the portal nodes [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 3A1	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM33

MultiStage: No

DXCat Label: Neoplasm, Malignant: Lymphoma, Small Noncleaved Cell or Burkitt's

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.02	On both sides of the diaphragm or involving the spleen with extension to adjacent tissues	Stage 3.01 AND small noncleaved cell or Burkitt's lymphoma involving non-nodal surrounding tissues [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 3A1E OR Ann Arbor Clinical Staging System Stage 3B1E	NO;
3.03	On both sides of the diaphragm or involving the spleen and further extension into the peritoneal cavity	Stage 3.01 AND mesenteric nodal involvement [operative/pathology report] OR para-aortic nodal involvement [operative/pathology report] OR iliac nodal involvement [operative/pathology report] OR femoral nodal involvement [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 3A2 OR Ann Arbor Clinical Staging System Stage 3B2 OR Ann Arbor Clinical Staging System Stage 3A2E OR Ann Arbor Clinical Staging System Stage 3B2E OR small noncleaved cell or Burkitt's lymphoma involving non-nodal surrounding tissues [operative/pathology report]	NO;
3.04	with diffuse extranodal tissue involvement	Stage 3.01 AND involvement of extranodal tissues without involvement of that organ's anatomic lymph node region [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 4A OR Ann Arbor Clinical Staging System Stage 4B	NO;
3.05	with spinal cord compression	Stage 1.01-3.04 AND spinal cord compression [CT scan or MRI or operative/pathology report]	NO;
3.06	with opportunistic infections	Stage 1.01-3.05 AND Pneumocystis carinii pneumonia [operative/pathology report of gallium scan] OR cryptococcal pneumonia [operative/pathology report] OR cryptococcal meningitis [CSF report] OR opportunistic infection:	NO;
3.07	with sepsis	Stage 1.01-3.06 AND sepsis:	NO;
3.08	with respiratory failure	Stage 1.01-3.07 AND respiratory failure:	NO;
3.09	with shock	Stage 1.01-3.08 AND shock:	NO;
4.00	with death	Stage 1.01-3.09 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM33

MultiStage: No

DXCat Label: Neoplasm, Malignant: Lymphoma, Small Noncleaved Cell or Burkitt's

Specificity: A

Etiology: Neoplasm

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

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| Albano EA, et. al. Neoplastic diseases/lymphomas. In: Hay WW, Groosthius JR, Hayward AR, Levin MJ, eds. Current Pediatric Diagnosis and Treatment. 13th ed. Stamford, CT: Appleton & Lange; 1997:789-793. |
| Freedman AS, Nadler LM. Malignancies of lymphoid cells. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:695-712. |
| Hudson MM. Lymphoma/hodgkin's disease. In: Behrman RE, Lliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:1459-1460. |
| Linker CA. Lymphomas. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:511-516. |
| Mead GM. ABC of clinical haematology. malignant lymphomas and chronic lymphocytic leukaemia. BMJ. 1997;314(7087):1103-6. |
| Sandlund JT. Downing JR. Crist WM. Non-hodgkin's lymphoma in childhood. N Engl J Med. 1996;334(19):1238-48. |

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM34

MultiStage: No

DXCat Label: Neoplasm, Malignant: Multiple Myeloma

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	History or remission of multiple myeloma		DX 20301, 20311, V1079;
1.01	Multiple myeloma	Multiple myeloma in bone marrow [bone marrow biopsy report] OR monoclonal immunoglobulin, M component, paraprotein spike in serum [serum protein electrophoresis report]	DX 20300, 20310, 20302, 20312;
2.01	with osteolytic lesions or anemia or pathologic fracture	Stage 1.01 AND osteoporosis: OR osteolytic bone lesions [KUB x-ray or chest x-ray or skull x-ray or spine series x-ray] OR anemia: OR pathologic fracture [x-ray report]	STAGE 1.01 + (DXCAT MUS38 OR GROUP ANEM_NEOPL OR DX 3383, 73310-73319);
2.02	with hyperuricemia or hypercalcemia	Stage 1.01-2.01 AND hyperuricemia: OR hypercalcemia:	STAGE 1.01-2.01 + (GROUP HYPER_URICEM OR GROUP HYPR_CALCEM);
2.03	with amyloidosis of the lungs or liver or spleen	Stage 1.01-2.02 AND amyloidosis of the lungs [operative/pathology report] OR amyloidosis of the liver [operative/pathology report] OR amyloidosis of the spleen [operative/pathology report]	STAGE 1.01-2.02 + DX 2273;
2.04	with nephrotic syndrome or renal amyloidosis or renal tubular acidosis	Stage 1.01-2.03 AND renal amyloidosis [operative/pathology report] OR 24 hour urine protein \geq 3.0 g/dl AND total serum protein \leq 3.0 g/dl OR renal tubular acidosis	STAGE 2.03 + DX 58381;
3.01	with amyloidosis of the heart	Stage 1.01-2.04 AND amyloidosis of the heart [operative/pathology report or echocardiogram report]	STAGE 2.03-2.04 + DX 4257;
3.02	with congestive heart failure	Stage 1.01-3.01 AND congestive heart failure:	STAGE 1.01-3.01 + (GROUP CHF_NON_HTN OR DX 78951);
3.03	with spinal cord compression	Stage 1.01-3.02 AND collapsed vertebrae [operative/pathology report or CT scan or MRI scan report] OR spinal cord compression [operative/pathology report or CT scan or MRI scan report]	STAGE 1.01-3.02 + DX 3369;
3.04	with renal failure	Stage 1.01-3.04 AND renal failure:	STAGE 1.01-3.03 + (GROUP REN_FAIL_ACU OR GROUP REN_FAIL_CHR);
3.05	with shock	Stage 1.01-3.04 AND shock:	STAGE 1.01-3.04 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 1.01-3.05 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM34

MultiStage: No

DXCat Label: Neoplasm, Malignant: Multiple Myeloma

Specificity: A

Etiology: Neoplasm

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

Bataille R, Harousseau JL. Multiple myeloma. *N Engl J Med.* 1997;336(23):1657-64.

Croucher PI, Apperley JF. Bone disease in multiple myeloma. *British Journal of Haematology.* 1998;103(4):902-10.

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Linker CA. Blood. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. *Current Medical Diagnosis & Treatment.* Stamford, CT: Appleton & Lange; 1998:479-534.

Longo DL. Plasma cell disorders. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. *Harrison's Principles of Internal Medicine.* 14th ed. New York, NY: McGraw-Hill; 1998:712-718.

Singer CR. ABC of clinical haematology. Multiple myeloma and related conditions. *BMJ.* 1997;314(7085):960-3.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM35

MultiStage: No

DXCat Label: Neoplasm, Malignant: Waldenstrom's Macroglobulinemia

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Macroglobulinemia	Infiltration of bone marrow by plasmacytic lymphocyte [bone marrow report] AND IgM spike in the beta or gamma globulin region [immunoelectrophoresis report]	DX 2733;
2.01	with anemia	Stage 1.01 AND anemia:	STAGE 1.01 + GROUP ANEM_OTH_UN;
2.02	with coagulopathies	Stage 1.01-2.01 AND coagulation defect:	STAGE 1.01-2.01 + GROUP COAG_DEFECT;
2.03	with severe anemia	Stage 1.01-2.02 AND hemoglobin < 6 gm/dl [hematology report]	NO;
2.04	with hyperviscosity syndrome	Stage 1.01-2.03 AND serum viscosity > 2.0 [hematology report]	NO;
2.05	with coronary artery disease	Stage 1.01-2.04 AND angina:	STAGE 1.01-2.02 + (DX 3383 OR DXCAT CVS10 OR DXCAT CVS11);
3.01	with congestive heart failure	Stage 1.01-2.05 AND congestive heart failure:	STAGE 1.01-2.05 + (GROUP CHF_NON_HTN OR DX 78951);
3.02	with cerebrovascular accidents	Stage 1.1-3.1 AND new intracerebral infarction or hemorrhage [CT scan or MRI scan report]	STAGE 1.01-3.01 + (DX 430, 431, 4320, 4321, 4329, 43301, 43311, 43321, 43331, 43381, 43391, 43401, 43411, 43491, 436);
3.03	with sepsis	Stage 1.01-3.02 AND sepsis:	STAGE 1.01-3.02 + GROUP SEPSIS;
3.04	with shock	Stage 1.01-3.02 AND shock:	STAGE 1.01-3.03 + (GROUP SHOCKC OR GROUP SHOCKN) ;
3.06			NO;
4.00	with death	Stage 2.01-3.03 AND death	NO;

References:

Linker CA. Blood. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:479-534.

Longo DL. Plasma cell disorders. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:712-718.

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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM36
 DXCat Label: Polycythemia Vera
 Etiology: Idiopathic

MultiStage: No
 Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Polycythemia vera	Red blood cell mass \geq 26 ml/kg in males or \geq 21 ml/kg in females [hematology report] AND arterial oxygen saturation \geq 92% [arterial blood gas report] AND splenomegaly [physical examination or liver-spleen scan or CT scan] OR thrombocytosis: OR leukocytosis: OR plasma erythropoetin level = 4mU/ml [chemistry report]	DX 2384;
2.01	with peptic ulcer disease	Stage 1.01 AND peptic ulcer(s) [gastroscopy or UGI series report]	STAGE 1.01 + DXCAT GIS31;
2.02	with hyperuricemia	Stage 1.01-2.01 AND hyperuricemia:	STAGE 1.01-2.01 + GROUP HYPER_URICEM;
2.03	with gouty arthritis	Stage 1.01-2.02 AND gouty arthritis [Needle shaped negatively birefringent crystals in fluid or in phagocytes per synovial fluid report]	STAGE 1.01-2.02 + DXCAT MUS23;
2.04	with renal calculi	Stage 1.01-2.03 AND renal calculi [KUB x-ray or sonogram or CT scan report]	STAGE 1.01-2.03 + DXCAT GUS06;
2.05	with myelofibrosis	Stage 1.01-2.04 AND myelofibrosis [operative/pathology report]	STAGE 1.01-2.04 + (DX 2898, 28989);
2.06	with gastrointestinal bleeding	Stage 1.01-2.05 AND gastrointestinal bleeding [endoscopy or bleeding scan or angiogram report] OR bleeding:	STAGE 1.01-2.05 + (DX 5780, 5781, 5789, 53082);
2.07	with deep vein thrombosis	Stage 1.01-.2.06 AND DVT:	STAGE 1.01-2.06 + (DX 4510-452, 4531-4539);
2.08	with Budd-Chiari syndrome	Stage 1.01-2.07 AND thrombosis of the hepatic veins [hepatic venography or liver/spleen scan report]	STAGE 1.01-2.07 + DX 4530;
3.01	with pulmonary embolism	Stage 1.01-.2.07 AND pulmonary embolism:	STAGE 1.01-2.08 + GROUP PULMEMB;
3.02	with myocardial infarction	Stage 1.01-3.01 AND acute myocardial infarction:	STAGE 1.01-3.01 + GROUP AMI;
3.03	with congestive heart failure	Stage 1.01-3.02 AND congestive heart failure:	STAGE 1.01-3.02 + GROUP CHF_NON_HTN;
3.04	with cerebral vascular accident	Stage 1.01-3.03 AND cerebral accident [CT scan or MRI report]	STAGE 1.01-3.03 + (DX 430, 431, 4320, 4321, 4329, 43301, 43311, 43321, 43331, 43381, 43391, 43401, 43411, 43491, 436);
3.05	with sepsis	Stage 1.01-3.04 AND sepsis:	STAGE 1.01-3.04 + GROUP SEPSIS;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM36

MultiStage: No

DXCat Label: Polycythemia Vera

Specificity: A

Etiology: Idiopathic

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.06	with shock	Stage 1.01-3.05 AND shock:	STAGE 1.01-3.05 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 1.01-3.05 AND death	NO;

References:

- Best PJ, Daoud MS, Pittelkow MR, Pettitt RM. Hydroxyurea-induced leg ulceration in 14 patients. *Annals of Internal Medicine*. 1998;128(1):29-32.
- Linker CA. Blood. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. *Current Medical Diagnosis & Treatment*. Stamford, CT: Appleton & Lange; 1998:479-534.
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- Tefferi A. The Philadelphia chromosome negative chronic myeloproliferative disorders: a practical overview. *Mayo Clinic Proceedings*. 1998;73(12):1177-84.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM37

MultiStage: No

DXCat Label: Neoplasm, Malignant: Lymphoma, Other Types

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Marginal zone, mantle cell, primary central nervous system, anaplastic large cell, large cell, or peripheral T-cell lymphoma limited to one lymph zone	Lymph node group or group of contiguous lymph nodes with marginal zone, mantle cell, primary central nervous system, anaplastic large cell, large cell, or peripheral T-cell lymphoma [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 1A	DX 20031-20036, 20041-20046, 20051-20056, 20061-20066, 20071-20076, 20271-20276;
1.02	Limited to one anatomical region and constitutional symptoms	Stage 1.01 AND fever: OR history of night sweats OR weight loss of \geq 10% baseline body weight in 6 months OR Ann Arbor Clinical Staging System Stage 1B	STAGE 1.01 + (DX 3383 OR GROUP FEVER OR DX 7808) ;
1.03	Limited to one anatomical region and constitutional symptoms and involvement of adjacent extranodal tissue	Stage 1.02 AND marginal zone, mantle cell, primary central nervous system, anaplastic large cell, large cell, or peripheral T-cell lymphoma involving non-nodal surrounding tissue [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 1BE	DX 20030, 20040, 20050, 20060, 20070, 20270; (DX 20030, 20040, 20050, 20060, 20070, 20270) + (GROUP FEVER OR DX 7080);
2.01	Of two anatomic lymph node regions on the same side of the diaphragm	Lymph node group or group of contiguous lymph nodes with marginal zone, mantle cell, primary central nervous system, anaplastic large cell, large cell, or peripheral T-cell lymphoma involving two anatomic regions on the same side of the diaphragm [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 2A	DX 20038, 20048, 20058, 20068, 20078, 20278;
2.02	Of two anatomic lymph node regions on the same side of the diaphragm and adjacent tissue involvement	Stage 2.01 AND marginal zone, mantle cell, primary central nervous system, anaplastic large cell, large cell, or peripheral T-cell lymphoma involving non-nodal surrounding tissues [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 2AE	NO;
2.03	Of two anatomic lymph node regions on the same side of the diaphragm with constitutional symptoms	Stage 2.01 AND fever: OR history of night sweats OR weight loss of \geq 10% baseline body weight in 6 months OR Ann Arbor Clinical Staging System Stage 2B	NO;
2.04	Of two anatomic lymph node regions on the same side of the diaphragm with constitutional symptoms and adjacent tissue involvement	Stage 2.03 AND marginal zone, mantle cell, primary central nervous system, anaplastic large cell, large cell, or peripheral T-cell lymphoma involving non-nodal surrounding tissues [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 2BE	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM37

MultiStage: No

DXCat Label: Neoplasm, Malignant: Lymphoma, Other Types

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.01	On both sides of the diaphragm or involving the spleen	Lymph node group or group of contiguous lymph nodes with marginal zone, mantle cell, primary central nervous system, anaplastic large cell, large cell, or peripheral T-cell lymphoma involving both sides of the diaphragm [operative/pathology report] OR diffuse mixed small and large cell lymphoma involving the spleen [operative/pathology report] OR diffuse mixed small and large cell lymphoma involving the celiac nodes [operative/pathology report] OR diffuse mixed small and large cell lymphoma involving the portal nodes [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 3A1 OR Ann Arbor Clinical Staging System Stage 3B1	DX 20037, 20047, 20057, 20067, 20077, 20277;
3.02	On both sides of the diaphragm or involving the spleen with extension to adjacent tissues	Stage 3.01 AND marginal zone, mantle cell, primary central nervous system, anaplastic large cell, large cell, or peripheral T-cell lymphoma involving non-nodal surrounding tissues [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 3A1E OR Ann Arbor Clinical Staging System Stage 3B1E	NO;
3.03	On both sides of the diaphragm or involving the spleen and further extension into the peritoneal cavity	Stage 3.01 AND mesenteric nodal involvement [operative/pathology report] OR para-aortic nodal involvement [operative/pathology report] OR iliac nodal involvement [operative/pathology report] OR femoral nodal involvement [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 3A2 OR Ann Arbor Clinical Staging System Stage 3B2 OR Ann Arbor Clinical Staging System Stage 3A2E OR Ann Arbor Clinical Staging System Stage 3B2E OR marginal zone, mantle cell, primary central nervous system, anaplastic large cell, large cell, or peripheral T-cell lymphoma involving non-nodal surrounding tissues [operative/pathology report]	STAGE 1.01-3.01 + DX 78951;
3.04	with diffuse extranodal involvement	Stage 1.01-3.03 AND involvement of extranodal tissues without involvement of that organ's anatomic lymph node region [operative/pathology report] OR Ann Arbor Clinical Staging System Stage 4A OR Ann Arbor Clinical Staging System Stage 4B	NO;
3.05	with spinal cord compression	Stage 1.01-3.04 AND spinal cord compression [CT scan or MRI or operative/pathology report]	STAGE 1.01-3.01 + DX 3369;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM37

MultiStage: No

DXCat Label: Neoplasm, Malignant: Lymphoma, Other Types

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.06	with opportunistic infections	Stage 1.01-3.05 AND Pneumocystis carinii pneumonia [operative/pathology report of gallium scan] OR cryptococcal pneumonia [operative/pathology report] OR cryptococcal meningitis [CSF report] OR opportunistic infection:	STAGE 1.01-3.05 + GROUP OPP_INF;
3.07	with sepsis	Stage 1.01-3.06 AND sepsis:	STAGE 1.01-3.06 + GROUP SEPSIS;
3.08	with respiratory failure	Stage 1.01-3.07 AND respiratory failure:	STAGE 1.01-3.07 + GROUP RESP_FAIL;
3.09	with shock	Stage 1.01-3.08 AND shock:	STAGE 1.01-3.08 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 1.01-3.09 AND death	NO;

References:

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- Sandlund JT. Downing JR. Crist WM. Non-hodgkin's lymphoma in childhood. N Engl J Med. 1996;334(19):1238-48.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM80

MultiStage: No

DXCat Label: Anemia: Other

Specificity: C

Etiology:

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Other nutritional, hemorrhagic, sideroblastic anemias		DX 2813-2819, 2850-2851, 28529-2859;
2.01	Moderate anemia	Hemoglobin <8	NO;
3.01	with CHF		STAGE 1.01 + GROUP CHF__NON_HTN;
3.02	with shock		STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM81

MultiStage: No

DXCat Label: Neoplasm, Benign: Lymphatic or Hematopoietic

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Benign neoplasm of lymphatic or hematopoietic system		DX 2126, 2281, 2290, 2385-23876, 23879, 20962;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM82

MultiStage: No

DXCat Label: Neoplasm, Malignant: Leukemia, Other Types

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	History or remission of malignant histiocytosis, Letterer-Siwe Disease, monocytic and other types of leukemia or immunoproliferative malignancies		DX 20381, 20681, 20691, 20781, 20811, 20821, 20881, 20891;
1.01	Malignant histiocytosis, Letterer-Siwe Disease, monocytic and other types of leukemia or immunoproliferative malignancies		DX 20230-20238, 20250-20258, 20380, 20382, 20680 , 20682, 20690, 20692, 20780, 20782, 20810 , 20812, 20820, 20822, 20880, 20882, 20890 , 20892;
3.01	with malignant ascites		STAGE 1.01 + DX 78951;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM83

MultiStage: No

DXCat Label: Neoplasm, Malignant: Lymphatic and Hematopoietic, Other Types

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Malignant neoplasm of spleen or thymus or other lymph node malignancy		DX 1591, 1640, 1765, 20922;
2.01	with lymph node metastases		STAGE 1.01 + (DX 1960-1969, 3383);
2.02	with anemia of neoplastic disease		STAGE 1.01-2.01 + DX 28522;
3.01	with distant metastases		STAGE 2.02-2.03 + (DX 1970-1991, 78951);
3.02	with shock		STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM84

MultiStage: No

DXCat Label: Neoplasm, Malignant: Mastocytosis

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	History or remission of malignant mastocytosis		NO;
1.01	Malignant mastocytosis limited to one anatomic lymph node region		DX 20261-20266;
1.02	with constitutional symptoms		STAGE 1.01 + (DX 7820, 3383 OR GROUP FEVER);
1.03	with constitutional symptoms and involvement of adjacent extranodal tissue		DX 20260; DX 20260 + (DX 7800 OR GROUP FEVER);
2.01	of two anatomic lymph node regions		DX 20268;
3.01	on both sides of the diaphragm or involving the spleen		DX 20267; STAGE 1.01-2.01 + DX 78951;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM85

MultiStage: No

DXCat Label: Other Disorders of Blood and Blood-Forming Organs

Specificity: C

Etiology:

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Coagulation disorders, purpuras, thrombocytopenias, and other hemorrhagic conditions		DX 2862-2863, 2865-2879, 2881-2890, 2894-2899;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEM86

MultiStage: No

DXCat Label: Other Lymphatic Disorders

Specificity: C

Etiology:

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Lymphadenitis, lymphangitis, lymphedema, noninfectious lymphatic disorders, enlarged lymph nodes		DX 2891-2893, 4570-4579, 683, 7856;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEP01

MultiStage: Yes

DXCat Label: Cholecystitis and Cholelithiasis

Specificity: A

Etiology: Idiopathic; Metabolic

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Chronic cholecystitis or cholelithiasis	Chronic cholecystitis [operative/pathology report or sonography report or HIDA scan report or oral cholescycytogram report]	DX 57410-57421, 57510-57511;
2.01	Chronic cholecystitis with choledocholithiasis	Stage 1.01 AND chronic cholecystitis with choledocholithiasis [endoscopic retrograde cholangiopancreatography report or intraoperative cholangiogram report or HIDA scan report or sonogram report or oral cholecystogram report or CT scan report or	DX 57440-57441, 57450, 57470-57471, 57490-57491, 5752;
2.02	Acute cholecystitis	Acute cholecystitis [operative/pathology report or sonogram report or HIDA scan report or oral cholecystogram report]	DX 57400-57401, 5750, 57512;
2.03	Acute cholecystitis with choledocholithiasis	Stage 2.02 AND choledocholithiasis [operative/pathology report or endoscopic retrograde cholangiopancreatography report or intraoperative cholangiogram report or HIDA scan report or sonogram report or CT scan report]	DX 57430-57431, 57460-57461, 57480-57481;
2.04	Empyema of gallbladder	Stage 1.01-2.03 AND empyema of gallbladder [operative/pathology report or plain abdomen x-ray report or sonogram report]	NO;
2.05	Cholecystitis with gangrene of gallbladder	Stage 1.01-2.04 AND gangrene of gallbladder [operative/pathology report]	NO;
2.06	Cholecystitis with localized perforation of gallbladder	Stage 1.01-2.05 AND localized perforation of the gallbladder [operative/pathology report]	DX 5754, 5763;
2.07	Cholecystitis with gallstone ileus or with cholecystoduodenal or cholecystoenteric fistula or gallbladder obstruction	Stage 1.01-2.06 AND gallstone ileus [operative/pathology report or KUB x-ray report] OR fistula between gallbladder and intestines [operative/pathology report or UGI series report]	DX 56031, 57451, 5753, 5755, 5762, 5764;
2.08	with ascending cholangiitis	Stage 1.01-2.07 AND cholangitis [operative/pathology report] OR infected biliary tree [biliary tree culture reports growth of pathologic organism(s)]	DX 5761;
2.09	with bile peritonitis	Stage 1.01-2.08 AND bile peritonitis [operative/pathology report]	STAGE 1.01-2.08 + (DX 5672, 5678-56781, 5679, 56983);
3.01	Cholecystitis with acute Pancreatitis	Stage 1.01-2.09 AND acute pancreatitis [operative/pathology report or CT scan report or sonogram report or KUB x-ray report] OR serum amylase \geq 163 u/l [chemistry report] OR serum p-type isoamylasemia [chemistry report] AND serum lipase \geq 200 u/l per chemistry report OR sentinel loop [plain abdomen x-ray report] OR edema of the pancreas [sonogram or CT scan report]	DX 57510-57511 + DX 5770;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEP01

MultiStage: Yes

DXCat Label: Cholecystitis and Cholelithiasis

Specificity: A

Etiology: Idiopathic; Metabolic

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.02	with sepsis	Stage 1.01-3.01 AND sepsis:	STAGE 1.01-3.01 + GROUP SEPSIS;
3.03	with shock	Stage 1.01-3.02 AND shock:	STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	Cholecystitis with death	Stage 1.01-3.03 AND death	NO;

References:

Fenster LF, Lonborg R, Thirlby RC, Traverso LW. What symptoms does cholecystectomy cure? Insights from an outcomes measurement project and review of the literature. American Journal of Surgery. 1995;169(5):533-8.

Friedman LS. Liver, biliary tract, & pancreas. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:628-666.

Greenberger NJ, Toskes PP, Isselbacher KJ. Acute and chronic pancreatitis. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1741-1753.

Russell RC. General surgery: biliary surgery. BMJ. 1993;307(6914):1266-9.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEP02

DXCat Label: Cirrhosis of the Liver

Etiology: Idiopathic; Toxicologic

MultiStage: Yes

Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
2.01	Cirrhosis of liver	Cirrhosis of the liver [liver biopsy report]	DX 5715-5719;
2.02	with coagulopathies	Stage 2.01 AND coagulation defect:	STAGE 2.01 + GROUP COAG_DEFECT;
2.03	with ascites or hypoproteinemia	Stage 2.01-2.02 AND ascites OR hypoproteinemia:	STAGE 2.01-2.02 + (GROUP HYPOPROTEIN OR DX 7895, 78959);
2.04	with esophageal variceal bleeding	Stage 2.01-2.03 AND bleeding esophageal varices [endoscopy report]	STAGE 2.01-2.03 + DX 45620;
2.05	with bacterial peritonitis	Stage 2.01-2.04 AND peritonitis [operative/pathology report or peritoneal fluid culture reports growth of pathologic organism(s)]	STAGE 2.01-2.04 + (DX 5672- 5679, 56983);
3.01	with renal failure	Stage 2.01-2.05 AND renal failure:	STAGE 2.01-2.05 + GROUP REN_FAIL_ACU;
3.02	with sepsis	Stage 2.01-3.01 AND sepsis:	STAGE 2.01-3.01 + GROUP SEPSIS;
3.03	with respiratory failure	Stage 2.01-3.02 AND respiratory failure:	STAGE 2.01-3.02 + GROUP RESP_FAIL;
3.04	with hepatic encephalopathy	Stage 2.01-3.03 AND hepatic coma:	STAGE 2.01-3.03 + GROUP COMA_HEP;
3.05	with shock	Stage 2.01-3.04 AND shock:	STAGE 2.01-3.04 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.01-3.05 AND death	NO;

References:

Friedman LS. Liver, biliary tract, & pancreas. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:628-666.

Friedman SL. Seminars in medicine of the Beth Israel Hospital, Boston. The cellular basis of hepatic fibrosis. Mechanisms and treatment strategies. N Engl J Med. 1993;328(25):1828-35.

Podolsky DK, Isselbacher KJ. Cirrhosis and alcoholic liver disease. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1704-1710.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEP03

MultiStage: No

DXCat Label: Disorders of Bilirubin Excretion

Specificity: A

Etiology: Congenital; Genetic (or hereditary)

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Familial recurrent cholestasis or cholestasis of pregnancy	Cholestasis [liver biopsy report] AND family history of cholestasis OR pregnant AND alkaline phosphatase \geq 143 u/l [chemistry report]	DX 75161;
1.02	Gilbert's syndrome	Unconjugated serum bilirubin \geq 2 mg/dl [chemistry report] AND unconjugated serum bilirubin \leq 5 mg/dl [chemistry report] AND SGOT \leq 60 iu/l [chemistry report] AND SGPT \leq 60 iu/l [chemistry report] OR GGT \leq 38 u/l [chemistry report] AND serum haptoglobin \geq 50 mg/dl [chemistry report]	DX 2774;
1.03	Dubin-Johnson	Conjugated serum bilirubin \geq 2 mg/dl [chemistry report] AND deeply pigmented liver [biopsy report] AND urine coproporphyrin \geq 200 ug/24 hours [urine chemistry report]	NO;
1.04	Rotor's	Conjugated serum bilirubin \geq 2 mg/dl [chemistry report] AND normal liver [biopsy report] AND urine coproporphyrin \geq 200 ug/24 hours [urine chemistry report]	NO;
2.01	Type II Crigler-Najjar	Glucuronyl transferase deficiency [biopsy report or chemistry report] AND total serum bilirubin \leq 20 mg/dl [chemistry report] AND total serum bilirubin \geq 1.225 mg/dl [chemistry report] OR bile bilirubin \geq 10 mg/dl [chemistry report]	NO;
2.02	Type I Crigler-Najjar	Glucuronyl transferase deficiency [biopsy report or chemistry report] OR colorless bile AND total serum bilirubin \geq 20 mg/dl [chemistry report] OR bile bilirubin \leq 10 mg/dl [chemistry report]	NO;
3.01	with kernicterus	Stage 1.01-2.02 AND lethargy OR poor feeding OR opisthotonos OR oculozytic crisis OR seizures AND total serum bilirubin \geq 10 mg/dl [chemistry report]	STAGE 1.01-1.02 + (DX 37887, 7747, 7790, 78032, 78039, 78079, 7810, 7961);
3.02	with hepatic coma	Stage 1.01-3.01 AND hepatic coma: OR acute hepatic necrosis [operative or pathology report]	STAGE 1.01-3.01 + (GROUP COMA__HEP OR DX 570);
3.03	with shock	Stage 1.01-3.02 AND shock:	STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	Disorders of biliary excretion with death	Stage 1.01-3.03 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEP03

MultiStage: No

DXCat Label: Disorders of Bilirubin Excretion

Specificity: A

Etiology: Congenital; Genetic (or hereditary)

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

Friedman LS. Liver, biliary tract, & pancreas. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:628-666.

Isselbacher KJ. Bilirubin metabolism and hyperbilirubinemia. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1672-1677.

Paulusma CC, Bosma PJ, Zaman GJ. Congenital jaundice in rats with a mutation in a multidrug resistance-associated protein gene. Science. 1996;271(5252):1126-8.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEP04

MultiStage: No

DXCat Label: Hepatitis A

Specificity: A

Etiology: Infection, Viral

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Acute viral hepatitis A	Acute hepatitis A [serology report] AND anti-HAV IgG [serology report]	DX 0701, 5731-5732;
1.02	Chronic persistent hepatitis	Stage 1.01 AND chronic persistent hepatitis [operative/pathology report]	STAGE 1.01 + DX 57141;
2.01	with dehydration	Stage 1.01-1.02 AND dehydration:	STAGE 1.01-1.02 + GROUP DEHYDRATION;
3.01	with hypotension	Stage 1.01 AND hypotension:	STAGE 1.01-2.01 + GROUP HYPOTENSION;
3.02	with shock	Stage 1.01-3.01 AND shock:	DX 0700; STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN);
4.00	with death	Stage 1.01-3.02 AND death	NO;

References:

- Dienstag JL, Isselbacher K. Acute viral hepatitis. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1677-1692.
- Friedman LS. Liver, biliary tract, & pancreas. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:628-666.
- Noskin GA. Prevention, diagnosis, and management of viral hepatitis. A guide for primary care physicians. Archives of Family Medicine. 1995;4(11):923-34.
- Tepper MI, Gully PR. Viral hepatitis: know your D, E, F and Gs. CMAJ. 1997;156(12):1735-8.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEP05
 DXCat Label: Hepatitis B
 Etiology: Infection, Viral

MultiStage: No
 Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Carrier of viral hepatitis B	Hepatitis B surface antigen [serology report] AND hepatitis B core antibody IgG [serology report]	DX V0261;
1.02	Acute viral hepatitis B	Acute hepatitis B [serology report] OR hepatitis B surface antigen [serology report]	DX 07030-07033;
1.03	Chronic persistent hepatitis	Stage 1.02 AND chronic persistent hepatitis [operative/pathology report]	STAGE 1.02 + DX 57141;
1.04	Chronic active hepatitis	Stage 1.02-1.03 AND chronic active hepatitis [operative/pathology report]	STAGE 1.02-1.03 + DX 57149;
2.01	with cirrhosis	Stage 1.02-1-04 AND cirrhosis [operative/pathology report or liver scan or CT scan report]	STAGE 1.02-1.04 + DX 5715;
2.02	with bleeding	Stage 1.02-2.01 AND bleeding:	STAGE 1.02-2.01 + (DX 2867-2869, 4590);
2.03	with hepatoma	Stage 1.02-2.02 AND hepatoma [operative/pathology report]	STAGE 1.02-2.02 + DX 1550;
3.01	with renal failure	Stage 1.02-2.03 AND renal failure:	STAGE 1.02-2.03 + (GROUP REN_FAIL_ACU OR GROUP REN_FAIL_CHR);
3.02	with hepatic coma	Stage 1.02-3.01 AND hepatic coma:	DX 07020-07023;
4.00	with death	Stage 1.02-3.02 AND death	NO;

References:

- Dienstag JL, Isselbacher K. Acute viral hepatitis. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1677-1692.
- Friedman LS. Liver, biliary tract, & pancreas. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:628-666.
- Noskin GA. Prevention, diagnosis, and management of viral hepatitis. A guide for primary care physicians. Archives of Family Medicine. 1995;4(11):923-34.
- Tepper MI, Gully PR. Viral hepatitis: know your D, E, F and Gs. CMAJ. 1997;156(12):1735-8.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEP06

MultiStage: No

DXCat Label: Hepatitis C

Specificity: A

Etiology: Infection, Viral

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Acute viral hepatitis C	Acute hepatitis C [recombinant immunoblot assay or serology report] AND antibody hepatitis C [recombinant immunoblot assay or serology report]	DX 07051, 07070;
1.02	Chronic persistent hepatitis	Stage 1.01 AND chronic persistent hepatitis [operative/pathology report]	DX 07054;
1.03	Chronic active hepatitis	Stage 1.01-1.02 AND chronic active hepatitis [operative/pathology report]	STAGE 1.01-1.02 + DX 57149;
2.01	with cirrhosis	Stage 1.01-1.03 AND cirrhosis [operative/pathology report or liver scan or CT scan report]	STAGE 1.01-1.03 + DX 5715;
2.02	with bleeding	Stage 1.01-2.01 AND bleeding:	STAGE 1.02-2.01 + (DX 2867-2869, 4590);
2.03	with hepatoma	Stage 1.01-2.02 AND hepatoma [operative/pathology report]	STAGE 1.01-2.02 + DX 1550;
3.01	with renal failure	Stage 1.01-2.03 AND renal failure:	STAGE 1.01-2.03 + GROUP REN_FAIL_ACU;
3.02	with hepatic coma	Stage 1.01-3.01 AND hepatic coma:	DX 07041, 07044, 07071;
4.00	with death	Stage 1.01-3.02 AND death	NO;

References:

Dienstag JL, Isselbacher K. Acute viral hepatitis. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1677-1692.

Friedman LS. Liver, biliary tract, & pancreas. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:628-666.

Noskin GA. Prevention, diagnosis, and management of viral hepatitis. A guide for primary care physicians. Archives of Family Medicine. 1995;4(11):923-34.

Tepper MI, Gully PR. Viral hepatitis: know your D, E, F and Gs. CMAJ. 1997;156(12):1735-8.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEP07

MultiStage: No

DXCat Label: Hepatitis D

Specificity: A

Etiology: Infection, Viral

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Acute viral hepatitis D	Hepatitis B surface antigen [serology report] OR hepatitis B core antibody IgM [serology report] AND Acute Delta hepatitis [IgM serology report]	DX 07052;
1.02	Chronic persistent hepatitis	Stage 1.01 AND chronic persistent hepatitis [operative/pathology report]	STAGE 1.01 + DX 57141;
1.03	Chronic active hepatitis	Stage 1.01-1.02 AND chronic active hepatitis [operative/pathology report]	STAGE 1.01-1.02 + DX 57149;
2.01	with cirrhosis	Stage 1.01-1.03 AND cirrhosis [operative/pathology report or liver scan or CT scan report]	STAGE 1.01-1.03 + DX 5715;
2.02	with bleeding	Stage 1.01-2.01 AND bleeding:	STAGE 1.02-2.01 + (DX 2867-2869, 4590);
2.03	with hepatoma	Stage 1.01-2.02 AND hepatoma [operative/pathology report]	STAGE 1.01-2.02 + DX 1550;
3.01	with renal failure	Stage 1.01-2.03 AND renal failure:	STAGE 1.01-2.03 + (GROUP REN_FAIL_ACU OR GROUP REN_FAIL_CHR);
3.02	with hepatic coma	Stage 1.01-3.01 AND hepatic coma:	DX 07042;
4.00	with death	Stage 1.01-3.02 AND death	NO;

References:

- Dienstag JL, Isselbacher K. Acute viral hepatitis. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1677-1692.
- Friedman LS. Liver, biliary tract, & pancreas. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:628-666.
- Noskin GA. Prevention, diagnosis, and management of viral hepatitis. A guide for primary care physicians. Archives of Family Medicine. 1995;4(11):923-34.
- Tepper MI, Gully PR. Viral hepatitis: know your D, E, F and Gs. CMAJ. 1997;156(12):1735-8.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEP08

MultiStage: No

DXCat Label: Hepatitis E

Specificity: A

Etiology: Infection, Viral

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Acute viral hepatitis E	Hepatitis E [27-34 nm virus-like particles by immune electron microscopy in feces of acutely ill patients or hepatitis E serology report or hepatitis E PCR report] AND negative hepatitis A serology [serology report] AND negative anti-HAV IgM serology [serology report] AND negative acute hepatitis B serology [serology report] AND hepatitis B surface antigen [serology report] AND negative hepatitis B core antibody IgM [serology report] AND negative acute hepatitis C serology [recombinant immunoblot assay or serology report] AND negative antibody hepatitis C serology [recombinant immunoblot assay or serology report]	DX 07053;
1.02	Chronic persistent hepatitis	Stage 1.01 AND chronic persistent hepatitis [operative/pathology report]	STAGE 1.01 + DX 57141;
1.03	Chronic active hepatitis	Stage 1.01-1.02 AND chronic active hepatitis [operative/pathology report]	STAGE 1.01-1.02 + DX 57149;
2.01	with dehydration	Stage 1.01-1.03 AND dehydration:	STAGE 1.01-1.03 + GROUP DEHYDRATION;
3.01	with hypotension	Stage 1.02-2.01 AND hypotension:	STAGE 1.01-2.01 + GROUP HYPOTENSION;
3.02	with shock	Stage 1.01-3.01 AND shock:	DX 07043; STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN);
4.00	with death	Stage 1.01-3.02 AND death	NO;

References:

- Dienstag JL, Isselbacher K. Acute viral hepatitis. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1677-1692.
- Friedman LS. Liver, biliary tract, & pancreas. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:628-666.
- Noskin GA. Prevention, diagnosis, and management of viral hepatitis. A guide for primary care physicians. Archives of Family Medicine. 1995;4(11):923-34.
- Tepper MI, Gully PR. Viral hepatitis: know your D, E, F and Gs. CMAJ. 1997;156(12):1735-8.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEP09

MultiStage: No

DXCat Label: Hepatitis G

Specificity: A

Etiology: Infection, Viral

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Acute viral hepatitis G and other or unspecified hepatitis	Acute hepatitis G [reverse-transcriptase PCR report or serology report]	DX 07059, 0709;
1.02	Chronic persistent hepatitis	Stage 1.01 AND chronic persistent hepatitis [operative/pathology report]	NO;
3.01	with hepatic coma	Stage 1.01-1.02 AND hepatic coma:	DX 0706, 07049;

References:

- Dienstag JL, Isselbacher K. Acute viral hepatitis. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1677-1692.
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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEP10

MultiStage: No

DXCat Label: Hepatitis, Chemical

Specificity: A

Etiology: Toxicologic

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Toxic chemical hepatitis	History of exposure or ingestion of chemicals or drugs AND jaundice:	DX 5733;
2.01	with peliosis hepatitis	History of anabolic steroid use AND bloody cysts of the liver [operative/pathology report or CT scan or sonogram report]	NO;
2.02	with hepatic adenoma	History of oral contraceptive use AND hepatic adenoma [CT scan or biopsy report]	STAGE 1.01 + DX 2115;
2.03	with hepatic vein thrombosis	History of oral contraceptive use AND hepatic vein thrombosis [liver/spleen scan report or hepatic venography report]	STAGE 1.01-2.02 + DX 4530;
3.01	with coagulation defects	Stage 1.01-2.03 AND coagulation defect:	STAGE 1.01 + GROUP COAG_DEFECT;
3.02	with renal failure	Stage 1.01-3.01 AND renal failure:	STAGE 1.01-3.01 + GROUP REN_FAIL_ACU;
3.03	with hepatic coma	Stage 1.01-3.02 AND hepatic coma:	STAGE 1.01-3.02 + GROUP COMA_HEP;
3.04	with shock	Stage 1.01-3.03 AND shock:	STAGE 1.01-3.03 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 1.01-3.04 AND death	NO;

References:

- Dienstag JL, Isselbacher KJ. Toxic and Drug-Induced Hepatitis. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1692-1696.
- Friedman LS. Liver, biliary tract, & pancreas. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:628-666.
- Kenna JG, Jones RM. The organ toxicity of inhaled anesthetics. Anesthesia & Analgesia. 1995;81(6 Suppl):S51-66.
- McNair AN, Tibbs CJ, Williams R. Hepatology. BMJ. 1995;311(7016):1351-5.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEP11

MultiStage: No

DXCat Label: Neoplasm, Malignant: Pancreas

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	Hx, Ca Pancreas	History of carcinoma of the pancreas	NO;
1.01	Localized	No direct extension of primary pancreatic carcinoma beyond the pancreas [operative/pathology report] OR pancreatic carcinoma with extension to the duodenum, bile ducts or stomach with no regional lymph node extension and removal by en bloc excision with the pancreas [operative/pathology report] OR Stage I American Joint Committee on Cancer	DX 1570-1579; DX 1570-1579 + DX 1974;
2.01	with extension beyond duodenum or bile ducts or stomach, no regional lymph nodes	Pancreatic carcinoma with extension beyond the duodenum or bile ducts or stomach and no regional lymph node extension [operative/pathology report] OR Stage II American Joint Committee on Cancer OR Stage T3	STAGE 1.01 + (DX 1975, 1976, 1978, 3383);
3.01	with regional lymph nodes	Regional node involvement with pancreatic carcinoma [operative/pathology report] OR Stage III American Joint Committee on Cancer	STAGE 1.01-2.01 + (DX 1962, 1966);
3.02	with distant or liver mets	Liver involvement with pancreatic carcinoma [operative/pathology report] OR pancreatic carcinoma involves tissue beyond the confines of the abdominal cavity [operative/pathology report] OR Stage IV American Joint Committee on Cancer	STAGE 1.01-3.01 + (DX 1960-1961, 1963-1965, 1968-1973, 1977, 1980-1991, 78951);
3.03	with shock	Stage 1.01-3.02 AND shock:	STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 1.01-3.03 AND death	NO;

References:

Flanders TY, Foulkes WD. Pancreatic adenocarcinoma: epidemiology and genetics. *Journal of Medical Genetics*. 1996;33(11):889-98.

Friedman LS. Liver, biliary tract, & pancreas. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. *Current Medical Diagnosis & Treatment*. Stamford, CT: Appleton & Lange; 1998:628-666.

Mayer RJ. Pancreatic Cancer. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. *Harrison's Principles of Internal Medicine*. 14th ed. New York, NY: McGraw-Hill; 1998:581-584.

Rosewicz S, Wiedenmann B. Pancreatic carcinoma. *Lancet*. 1997;349(9050):485-9.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEP12
 DXCat Label: Pancreatitis
 Etiology: Toxicologic

MultiStage: Yes
 Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Pancreatitis with pancreatic insufficiency	History of ≥ 1 previous episode of acute pancreatitis OR calcification in pancreas [plain abdomen x-ray report or CT scan report] AND pancreatic insufficiency:	DX 5771, 5778;
1.02	with pancreatic pseudocyst	Stage 1.01 AND pancreatic pseudocyst [sonogram report or operative/pathology report]	STAGE 1.01 + DX 5772;
1.03	Acute pancreatitis	Pancreatitis [operative/pathology report or CT scan report or sonogram report or KUB x-ray report] OR serum amylase ≥ 163 u/l [chemistry report] OR serum p-type isoamylasemia [chemistry report] AND serum lipase ≥ 200 u/l [chemistry report] OR sentinel loop [plain abdomen x-ray report] OR edema of the pancreas [sonogram or CT scan report]	DX 5770;
1.04	Acute and Chronic pancreatitis	Stage 1.01-1.03 AND history of ≥ 1 episode of acute pancreatitis	DX 5770 + DX 5771;
2.01	with ascites	Stage 1.01-1.04 AND ascites [sonogram report] OR shifting dullness	STAGE 1.01-1.04 + (DX 7895, 78959);
2.02	Fulminant pancreatitis	Stage 1.01-1.04 AND age ≥ 55 years old OR serum glucose ≥ 200 mg/dl [chemistry report] OR serum LDH ≥ 350 mg/dl [chemistry report] OR SGOT ≥ 250 u/l [chemistry report] OR WBC $\geq 16,000/\text{mm}^3$ [complete blood count report] OR hematocrit decrease $\geq 10\%$ within 48 hours [hematology report] OR BUN increase ≥ 5 mg/dl within 48 hours [chemistry report] OR serum calcium ≤ 8 mg/dl within 48 hours [chemistry report] OR hypoxemia: within 48 hours OR base deficit ≥ 4 mEq/L within 48 hours [ABG report] OR estimated fluid sequestration ≥ 6 liters within 48 hours	STAGE 1.03-2.01 + AGE 55-124 + (GROUP HYPOXEMIA OR GROUP HYPOCALCEMIA);

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEP12
 DXCat Label: Pancreatitis
 Etiology: Toxicologic

MultiStage: Yes
 Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
2.03	Hemorrhagic or severe pancreatitis	Stage 1.01-2.02 AND hemorrhagic pancreatitis [operative/pathology report] OR Grey Turner's sign OR Cullen's sign OR Ranson's criteria for very high risk pancreatitis (any finding \geq 3 of the following:) age \geq 55 years old OR serum glucose \geq 200 mg/dl [chemistry report] OR serum LDH \geq 350 mg/dl [chemistry report] OR SGOT \geq 250 u/l [chemistry report] OR WBC \geq 16,000/mm ³ [complete blood count report] OR hematocrit decrease \geq 10% within 48 hours [hematology report] OR BUN increase \geq 5 mg/dl within 48 hours [chemistry report] OR serum calcium \leq 8 mg/dl within 48 hours [chemistry report] OR hypoxemia : within 48 hours OR base deficit \geq 4 mEq/L within 48 hours [ABG report] OR estimated fluid sequestration \geq 6 liters within 48 hours	NO;
3.01	with renal failure	Stage 1.01-2.03 AND renal failure :	STAGE 1.01-2.03 + (GROUP REN_FAIL_ACU OR GROUP REN_FAIL_CHR);
3.02	with CHF	Stage 1.01-3.01 AND congestive heart failure :	STAGE 1.01-3.01 + GROUP CHF_NON_HTN;
3.03	with sepsis	Stage 1.01-3.02 AND sepsis :	STAGE 1.01-3.02 + GROUP SEPSIS;
3.04	with respiratory failure	Stage 1.01-3.03 AND respiratory failure :	STAGE 1.01-3.03 + GROUP RESP_FAIL;
3.05	with shock	Stage 1.01-3.04 AND shock :	STAGE 1.01-3.04 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 1.01-3.05 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEP12

MultiStage: Yes

DXCat Label: Pancreatitis

Specificity: A

Etiology: Toxicologic

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

Friedman LS. Liver, biliary tract, & pancreas. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:628-666.

Greenberger NJ, Toskes PP, Isselbacher KJ. Acute and chronic pancreatitis. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1741-1753.

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Mergener K, Baillie J. Chronic pancreatitis. Lancet. 1997;350(9088):1379-85.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEP13

DXCat Label: Wilson's Disease

Etiology: Metabolic

MultiStage: No

Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Wilson's disease or hepatolenticular degeneration	urinary copper excretion \geq 100mg/24 hrs [urine chemistry report] OR serum ceruloplasmin \leq 200 mg/l [chemistry report] AND Kayser-Fleischer ring [slit lamp ophthalmoscopy report] OR hepatic copper \geq 250ug/g dry liver weight [biopsy report] OR defect chromosome 13 ATP7B gene [genetics report]	DX 2751;
2.01	with hepatitis or splenomegaly	Stage 1.01 AND splenomegaly OR hepatitis:	STAGE 1.01 + (DXCAT HEP10 OR DX 7824, 7894);
2.02	with CNS disorders	Stage 1.01-2.01 AND fine tremors of upper extremities OR choreoathetosis OR muscular rigidity OR dysarthria	STAGE 1.01-2.01 + (DX 3331-3333, 3335-3336, 33371, 33379, 33381-33382, 33394, 7845);
2.03	with hemolytic anemia	Stage 1.01-2.02 AND hemolysis:	STAGE 1.01-2.01 + (DX 28310, 28319, 2839);
2.04	Chronic active hepatitis	Stage 1.01-2.03 AND chronic active hepatitis [operative/pathology report]	STAGE 1.01-2.03 + DX 57149;
2.05	with coagulation defects	Stage 1.01-2.04 AND coagulation defects:	STAGE 1.01-2.04 + GROUP COAG_DEFECT;
3.01	with renal failure	Stage 1.01-2.05 AND renal failure:	STAGE 1.01-2.05 + GROUP REN_FAIL_ACU;
3.02	with hepatic coma	Stage 1.01-3.01 AND hepatic coma: OR acute hepatic necrosis [operative/ pathology report]	STAGE 1.01-3.01 + (DX 07041, 07044, 07071, 5722) ;
3.03	with shock	Stage 1.01-3.02 AND shock:	STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 1.01-3.02 AND death	NO;

References:

- Friedman LS. Liver, biliary tract, & pancreas. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:628-666.
- Jones EA, Weissenborn K. Neurology and the liver. Journal of Neurology, Neurosurgery & Psychiatry. 1997;63(3):279-93.
- Scheinberg IH. Wilson's disease. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:2166-2169.
- Walshe JM. Treatment of Wilson's disease: the historical background. QJM. 1996;89(7):553-5.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEP80

MultiStage: No

DXCat Label: Budd Chiari Syndrome

Specificity: C

Etiology:

Stage	Description	Diagnostic findings	ICD-9-CM Codes
2.01	Budd-Chiari syndrome		DX 4530;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEP81

MultiStage: No

DXCat Label: Neoplasm, Benign: Hepatobiliary System

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Benign neoplasm hepatobiliary system		DX 2115-2117, 2353;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEP82

MultiStage: No

DXCat Label: Neoplasm, Malignant: Other Hepatobiliary Tract

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	History of liver malignancy		DX V1007;
1.01	Primary malignant neoplasm of liver, gallbladder, hepatic or biliary ducts		DX 1550-1569, 2308;
2.01	with abdominal or peritoneal lymph node involvement		STAGE 0.00-1.01 + (DX 1962, 1966, 3383);
2.02	with anemia of neoplastic disease		STAGE 0.00-2.01 + DX 28522;
3.01	with distant metastases		STAGE 0.00-2.01 + (DX 1960-1961, 1963-1965, 1968-1991, 78951);
3.02	with shock		STAGE 0.00-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEP83

MultiStage: No

DXCat Label: Other Liver Disorders

Specificity: C

Etiology:

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Sequelae of chronic liver disease or other liver conditions		DX 5728, 5738-5739, 7948;
1.02	Chronic hepatitis or chronic passive liver congestion		DX 57140-57149, 5728, 5730;
2.01	Hepatic infarction, liver abscess, acute necrosis, portal pyemia, or portal hypertension		DX 570, 5720-5721, 5723, 5734;
3.01	Hepatic coma, hepatorenal syndrome		DX 5722, 5724;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEP84

MultiStage: No

DXCat Label: Other Biliary Disorders

Specificity: C

Etiology:

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Other gallbladder disease		DX 5756-5759, 5760, 5765-5769, 7933;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: HEP85

MultiStage: No

DXCat Label: Other Pancreatic Disorders

Specificity: C

Etiology:

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Pancreatic cyst and other pancreatic disease		DX 5772, 5779;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: IMM01

MultiStage: No

DXCat Label: Human Immunodeficiency Virus Type I (HIV) Infection

Specificity: A

Etiology: Infection, Viral

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Human immunodeficiency virus infection, Type I	Human immunodeficiency virus infection [Western blot assay report and ELISA report]	DX V08;
1.02	with significant immunosuppression	Stage 1.01 AND CD4 count < 500/mm ³ [hematology report] AND CD4 count > 200 /mm ³ [hematology report] OR bDNA < 20,000 copies/mL [hematology report] OR HIV RNA levels or viral load tests <10,000 copies/mL [hematology report] AND HIV RNA levels or viral load tests > 5000 copies/mL [hematology report]	NO;
2.01	Presumptive Acquired Immune Deficiency Syndrome	Stage 1.01-1.02 AND recent onset of retrosternal pain on swallowing AND oral candidiasis [culture report] OR Cytomegalovirus retinitis [ophthalmoscopic report] OR Mycobacteriosis [acid-fast bacilli not identified as reported by culture report] OR Erythematous or violaceous plaque-like lesion on skin or mucous membrane OR a history of dyspnea on exertion or nonproductive cough of recent onset ≤ 3 months AND diffuse bilateral interstitial infiltrates [chest x-ray report] OR diffuse bilateral pulmonary disease [gallium scan report] AND arterial oxygen partial pressure of < 70 mm Hg [blood gas report] OR respiratory diffusing capacity of < 80% of predicted values [PFT report] AND no evidence of bacterial pneumonia OR recent onset of a focal neurologic abnormality or a reduced level of consciousness AND brain lesion having a mass effect [CT scan or MRI report] OR radiographic appearance enhanced by injection of contrast medium [CT scan or MRI report] AND serum antibody to toxoplasmosis [serology report]	DX 042;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: IMM01

MultiStage: No

DXCat Label: Human Immunodeficiency Virus Type I (HIV) Infection

Specificity: A

Etiology: Infection, Viral

Stage	Description	Diagnostic findings	ICD-9-CM Codes
2.02	AIDS with low CD4 cell count	CD4 lymphocyte count <200 cells/mm ³ [hematology report] OR CD4 lymphocyte percentage <14% [hematology report] AND coccidioidomycosis, disseminated OR HIV encephalopathy OR histoplasmosis, disseminated OR isosporiasis [culture report] AND diarrhea persisting > 1 month OR Kaposi's sarcoma [operative/pathology report] OR primary lymphoma of the brain [operative/pathology report] OR non-Hodgkin's lymphoma of B cell origin [hematology report] OR non-Hodgkin's lymphoma unknown immunologic phenotype [hematology report] OR mycobacterial disease other than mycobacterium tuberculosis, disseminated OR tuberculosis [culture or molecular medicine report] OR history of recurrent salmonella sepsis OR HIV wasting syndrome OR pneumonia episodes ≥ 1/year OR invasive cervical cancer [operative/pathology report]	STAGE 2.01 + (DX 0072, 01000-01896, 0310-0312, 0318-0319, 1140-1145, 1149, 11500-11505, 11509, 11510-11514, 11519, 11590-11595, 11599, 1800-1801, 1808-1809, 3483, 7994) ; STAGE 2.01 + DX 0031 + DX V1209; STAGE 2.01 + (DX 1760-1765, 1768-1769 OR DXCAT HEM23 OR DXCAT HEM24 OR DXCAT HEM27 OR DXCAT HEM29 OR DXCAT HEM31);
2.03	AIDS defining diagnosis	Candidiasis of the esophagus [endoscopy report] OR candidiasis of the trachea [bronchoscopy report] OR candidiasis of the bronchi [bronchoscopy report] OR candidiasis of the lungs [bronchoscopy report] OR cryptococcosis, extrapulmonary OR cryptosporidiosis [culture report] AND diarrhea persisting > 1 month OR cytomegalovirus disease of an organ other than liver, spleen, or lymph nodes OR herpes simplex virus infection with mucocutaneous ulcer persists > 1 month OR herpes simplex virus bronchitis [bronchoscopy report] OR herpes simplex virus esophagitis [endoscopy report] OR herpes simplex pneumonitis [bronchoscopy report] OR Kaposi's sarcoma in a patient < 60 years of age [operative/pathology report] OR primary lymphoma of the brain in a patient < 60 years of age [operative/pathology report] OR mycobacterium avium complex [culture report] OR mycobacterium kansasii disease, disseminated [culture report] OR Pneumocystis carinii pneumonia [bronchoscopy report] OR progressive multifocal leukoencephalopathy [operative/pathology report] OR toxoplasmosis of the brain [operative/pathology report]	STAGE 2.01 + (DX 0074, 0463, 0785, 1124, 11284, 1175, 1300, 1308, 1363); STAGE 2.01 + (DX 1760-1765, 1768-1769 OR DXCAT HEM23 OR DXCAT HEM24 OR DXCAT HEM27 OR DXCAT HEM29 OR DXCAT HEM31) + (AGE 0-59) ;
3.01	with renal failure	Stage 2.01-2.03 AND renal failure:	STAGE 1.01-2.03 + (GROUP REN_FAIL_AQU OR GROUP REN_FAIL_CHR);

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: IMM01

MultiStage: No

DXCat Label: Human Immunodeficiency Virus Type I (HIV) Infection

Specificity: A

Etiology: Infection, Viral

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.02	with sepsis	Stage 2.01-3.01 AND sepsis:	STAGE 1.01-3.01 + GROUP SEPSIS;
3.03	with respiratory failure	Stage 2.01-3.02 AND respiratory failure:	STAGE 1.01-3.02 + GROUP RESP_FAIL;
3.04	with coma	Stage 2.01-3.03 AND coma:	STAGE 1.01-3.03 + GROUP COMA;
3.05	with shock	Stage 2.01-3.04 AND shock:	STAGE 1.01-3.04 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.01-3.05 AND death	NO;

References:

Anonymous. Guidelines for the use of antiretroviral agents in HIV-infected adults and adolescents. *Annals of Internal Medicine*. 1998;128(12):1079-1100.

Centers for Disease Control and Prevention. CDC Surveillance Summaries: AIDS-Defining Opportunistic Illnesses: 1992-1997, April 16, 1999. *MMWR* 1999;48(No. SS-2).

Fauci AS, Lane HC. Human Immunodeficiency Virus (HIV) Disease: AIDS and Related Disorders. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. *Harrison's Principles of Internal Medicine*. 14th ed. New York, NY: McGraw-Hill; 1998:1791-1856.

Gazzard B, Moyle G. 1998 revision to the British HIV Association guidelines for antiretroviral treatment of HIV seropositive individuals. BHIVA Guidelines Writing Committee. *Lancet*. 1998;352(9124):314-6.

Havlir DV, Barnes PF. Tuberculosis in patients with human immunodeficiency virus infection. *N Engl J Med*. 1999;340(5):367-73.

Katz MH, Hollander H. HIV Infection. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. *Current Medical Diagnosis & Treatment*. Stamford, CT: Appleton & Lange; 1998:1204-1231.

Mellors J, Rinaldo C, Gupta P, White RM, Todd JA, Kingsley LA. Prognosis in HIV infection predicted by the quantity of virus in plasma. *Science*. 1996;373:123-126.

Montaner JS, Hogg R, Raboud J, Harrigan R, O'Shaughnessy M. Antiretroviral treatment in 1998. *Lancet*. 1998;352(9144):1919-22.

O'Brien W, Pomerantz RJ. AIDS and other diseases due to HIV infection. In: Neal Nathanson, ed. *Viral Pathogenesis*. New York, NY: Raven Press; 1997:813-837.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: IMM02
 DXCat Label: Urticaria
 Etiology: Idiopathic; Immune

MultiStage: No
 Specificity: C

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Localized acute urticaria	Urticaria ≤ 6 weeks AND Localized urticaria [dermatology report or operative/pathology report or laboratory test and skin test]	DX 7080-7085, 7089, 9990;
1.02	Localized chronic urticaria	Urticaria > 6 weeks AND Localized urticaria [dermatology report or operative/pathology report or laboratory test and skin test]	DX 7088;
2.01	Generalized chronic urticaria	Urticaria > 6 weeks AND Generalized urticaria [dermatologist report or operative/pathology report or laboratory test or skin test]	NO;
2.02	Generalized acute urticaria	Urticaria ≤ 6 weeks AND Generalized urticaria [dermatologist report or operative/pathology report or laboratory test or skin test]	NO;
3.01	with anaphylactic shock	Stage 1.01-2.01 AND shock:	STAGE 1.01-1.02 + (DX 9950, 99560-99569, 9994);
4.00	with death	Stage 1.01-3.01 AND death	NO;

References:

Black AK, Champion RH. Urticaria. In: Champion RH, Burton JL, Burns DA, Breathnach SM. Rook/Wilkinson/Ebling. Textbook of Dermatology. 6th ed. Oxford: Blackwell Science Ltd., 1998:2113-2139.

Davis MDP, Daoud MS, Kirby B, Gibson LE, Rogers RS. Clinicopathologic correlation of hypocomplementemic and normocomplementemic urticarial vasculitis. J Am Acad Dermatol. 1998, 38(6): 899-905.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: IMM80

MultiStage: No

DXCat Label: Other Immunodeficient Disorders

Specificity: C

Etiology:

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Other immunodeficient disorders		DX 27900-2794, 2798-2799;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF01

DXCat Label: Aspergillosis

Etiology: Infection

MultiStage: No

Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Primary localized cutaneous aspergillosis	Cutaneous Aspergillosis [culture reports] OR biopsy confirms cutaneous Aspergillus invasion	DX 1173;
2.01	with keratitis	Infection of the cornea by Aspergillus spp. [culture report of growth of pathologic organism(s)]	STAGE 1.01 + (DX 37044, 37049, 3708-3709);
2.02	with endophthalmitis	Infection of the entire eye by Aspergillus spp. [culture reports growth of pathologic organism(s)]	STAGE 1.01-2.01 + DX 36000-36019;
2.03	with orbital cellulitis	Orbital cellulitis: AND aspergillosis [culture reports growth of pathologic organism(s)]	STAGE 1.01-2.02 + DX 37601;
2.04	Aspergilloma or 'fungus ball'	Stage 1.01-2.03 AND new as a dense round ball infiltrate [chest x-ray report] AND Aspergillus spp. in sputum [gram stain documents presence of many WBC AND sputum culture reports growth of Aspergillus] OR Aspergillus antibody positive [serology report]	NO;
2.05	Allergic bronchial aspergillosis	History of asthma AND eosinophilia: AND positive skin test to Aspergillus spp. OR IgE levels \geq 506 units/ml. [serology report]	STAGE 1.01-2.04 + (DX 4846, 5186); DX 4846;
3.01	with endocarditis	Stage 1.01-2.05 AND endocarditis:	STAGE 1.01-2.05 + DX 4211;
3.02	with meningitis	Stage 1.01-3.01 AND meningitis:	STAGE 1.01-3.01 + DX 3211;
3.03	with sepsis	Stage 1.01-3.02 AND sepsis:	STAGE 1.01-3.02 + GROUP SEPSIS;
3.04	with shock	Stage 2.02-3.03 AND shock:	STAGE 1.01-3.03 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.02-3.04 AND death	NO;

References:

Bennett JE. Aspergillosis. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1156-1158.

Clancy CJ, Nguyen MH. Acute community-acquired pneumonia due to Aspergillus in presumably immunocompetent hosts: clues for recognition of a rare but fatal disease. Chest. 1998;114(2):629-34.

Hamill RJ. Infectious diseases: mycotic. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:1388-1400.

Saraceno JL, Phelps DT, Ferro TJ, Futerfas R, Schwartz DB. Chronic necrotizing pulmonary aspergillosis: approach to management. Chest. 1997;112(2):541-8.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF02

MultiStage: No

DXCat Label: Botulism

Specificity: A

Etiology: Infection, Bacterial

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Botulism	Clostridium botulism toxin in serum [serology report] OR Clostridium botulism toxin in food [food analysis report] AND diplopia OR ptosis OR blurred vision OR fixed dilated pupils OR dry mouth OR dysphagia OR dysphonia OR nausea OR vomiting OR cranial nerve palsy:	DX 0051;
2.01	with generalized muscle weakness	Stage 1.01 AND generalized muscle weakness	STAGE 1.01 + DX 3581;
2.02	with bladder involvement	Stage 1.01-2.01 AND distended bladder AND unable to void OR post-voiding urine catheterization shows >50 cc of residual urine	STAGE 1.01-2.01 + (DX 5968, 78820-78829);
2.03	with respiratory musculature involvement	Stage 1.01-2.02 AND dyspnea	STAGE 1.01-2.02 + DX 78609;
2.04	with aspiration pneumonia	Stage 1.01-2.03 AND aspiration pneumonia	STAGE 1.01-2.03 + DX 5070;
3.01	with respiratory failure	Stage 1.01-2.04 AND respiratory failure:	STAGE 1.01-2.04 + GROUP RESP_FAIL;
3.02	with shock	Stage 1.01-3.01 AND shock:	STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	Botulism and death	Stage 1.01-3.02 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF02

MultiStage: No

DXCat Label: Botulism

Specificity: A

Etiology: Infection, Bacterial

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

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| Chambers HF. Botulism. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:1277-1288. |
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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF03

MultiStage: No

DXCat Label: Candida (Monilial) Infections

Specificity: A

Etiology: Infection

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Cutaneous or oral or vaginal candidiasis	Cutaneous or oral cavity candidiasis [culture reports growth of Candida or Candida identified in potassium hydroxide wet mounts from scraping] <u>Presumptive Diagnostic Findings:</u> Oral thrush OR candida paronychia OR cheesy, curd-like discharge of Candida vaginitis	DX 1120-1123, 11282, 11289, 11289, 1129;
2.01	Candidiasis of gastrointestinal or lower urinary or upper respiratory tract	Candidiasis of gastrointestinal tract [culture reports growth of Candida or Candida identified in potassium hydroxide wet mounts from scraping] OR dysuria AND candidiasis of urinary tract [culture reports growth of Candida] OR cough AND candidiasis of upper respiratory tract [culture reports growth of Candida]	DX 11284-11285, 1124;
2.02	Chronic candidiasis	Stage 1.01-2.01 AND history of recurrent Candida infections	NO;
2.03	Candida endophthalmitis or pyelonephritis or arthritis or osteomyelitis	Candida endophthalmitis [operative or pathology report] OR pyelonephritis: OR candida arthritis [culture report of joint effusion] OR candida osteomyelitis [bone culture report]	STAGE 1.01-2.01 + (DX 36000-36019, 59000-5909 OR GROUP ARTHR_SEPTIC OR GROUP OSTEOMYELIT);
2.04	Candida fungemia	Candida fungemia [blood culture reports growth of candida]	DX 1125;
3.01	with renal failure	Stage 2.01-2.04 AND renal failure:	STAGE 1.01-2.04 + (GROUP REN_FAIL_ACU OR GROUP REN_FAIL_CHR);
3.02	with endocarditis	Stage 2.01-3.01 AND endocarditis:	DX 11281;
3.03	with meningitis	Stage 2.01-3.02 AND meningitis:	DX 11283;
3.04	with sepsis	Stage 2.01-3.02 AND sepsis	STAGE 1.01-3.03 + GROUP SEPSIS;
3.05	with shock	Stage 2.01-3.04 AND shock:	STAGE 1.01-3.04 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.01-3.05 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF03

MultiStage: No

DXCat Label: Candida (Monilial) Infections

Specificity: A

Etiology: Infection

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF04

MultiStage: No

DXCat Label: Chlamydial Infection Except Trachoma or Pneumonia

Specificity: A

Etiology: Infection

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	Screening exam for chlamydia		DX V7388, V7398;
1.01	Chlamydial conjunctivitis	Mucopurulent conjunctival discharge OR conjunctival injection OR conjunctival edema AND chlamydial trachomatis [exudate culture report] OR chlamydial trachomatis [immunofluorescence antibody report or ELISA report or DNA-PCR report]	DX 07798, 07888, 07988, 07998, 09950, 09959;
1.02	Chlamydial proctitis	Proctitis AND chlamydial trachomatis [immunofluorescence antibody report or ELISA report or DNA-PCR report]	DX 09952;
1.03	Chlamydial urethritis	Urethritis AND chlamydial trachomatis [immunofluorescence antibody report or ELISA report or DNA-PCR report]	DX 09941, 09951, 09953, 09955;
1.04	Chlamydial cervicitis	Cervicitis AND chlamydial trachomatis [immunofluorescence antibody report or ELISA report or DNA-PCR report]	STAGE 1.01-1.03 + DX 6160;
2.01	with lymphogranuloma venereum	Stage 1.01-1.04 AND suppurative inguinal lymphadenitis	STAGE 1.01-1.04 + (DX 2891-2893, 683, 7856 OR DXCAT INF17);
2.02	Chlamydial infection with pelvic inflammatory disease	Stage 1.01-2.01 OR pelvic inflammatory disease AND chlamydial trachomatis [immunofluorescence antibody report or ELISA report or DNA-PCR report]	DX 09954, 09956; DX 09954 + DX 6140-6149; DX 09956 + DX 6140-6149; STAGE 1.01-2.01 + DX 6140-6149;
2.03	Chlamydial interstitial pneumonia	Stage 1.01-2.02 AND new infiltrate [chest x-ray report]	STAGE 1.01-2.02 + (DX 4808-4809, 485-486, 5168);
3.01	with respiratory failure	Stage 1.01-2.03 AND respiratory failure:	STAGE 1.01-2.03 + GROUP RESP_FAIL;
3.02	with shock	Stage 1.02-3.01 AND shock:	STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 1.02-3.02 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF04

MultiStage: No

DXCat Label: Chlamydial Infection Except Trachoma or Pneumonia

Specificity: A

Etiology: Infection

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF05

MultiStage: No

DXCat Label: Clostridial Wound Infection

Specificity: A

Etiology: Infection, Bacterial

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Clostridium wound infection	Clostridial sp. grown from abscess or wound [wound culture report]	NO;
2.01	with cellulitis	Stage 1.01 AND cellulitis:	NO;
2.02	with hemolysis	Stage 1.01-2.01 AND hemolysis:	NO;
2.03	with myonecrosis or gas gangrene	Stage 1.01-2.01 AND gas in tissues [x-ray report] OR gas palpable in tissues OR myonecrosis [muscle biopsy operative/pathology report]	DX 0400;
3.01	with sepsis	Stage 1.01-2.02 AND sepsis:	STAGE 2.03 + GROUP SEPSIS;
3.02	with shock	Stage 2.01-3.01 AND shock:	STAGE 2.03-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.01-3.02 AND death	NO;

References:

Chambers HF. Infectious diseases: bacterial & chlamydial. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. In: Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:1267-1304.

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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF06

MultiStage: No

DXCat Label: Coccidioidomycosis

Specificity: A

Etiology: Infection

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Coccidioidomycosis of the respiratory tract	Infected sputum [gram stain demonstrates Coccidioides spp. or sputum culture reports growth of Coccidioides spp.] OR Coccidioides titer \geq 1:16 [serology report] OR coccidioidomycosis [IgM or IgG serology report shows \geq 4 fold increase in titer from	DX 1140, 1143-1145, 1149;
2.01	Cutaneous coccidioidomycosis or coccidioidomycosis with lymphadenopathy	Stage 1.01 AND skin ulcerations of coccidioidomycosis [operative/pathology report] OR axillary and inguinal adenopathy	DX 1141;
2.02	with pleural effusion	Stage 1.01-2.01 AND pleural fluid [chest x-ray report]	STAGE 1.01-2.01 + DX 5111-5119;
2.03	with pulmonary cavitation	Stage 1.01-2.02 AND pulmonary granuloma or cavitation [chest x-ray report]	STAGE 1.01-2.02 + DX 51889;
2.04	with osteomyelitis or arthritis	Stage 1.01-2.03 AND osteomyelitis: OR coccidioidomycosis arthritis (synovial fluid reports Coccidioides spp.) OR arthritis:	STAGE 1.01-2.03 + (GROUP ARTHR_SEPTIC OR GROUP OSTEOMYELIT);
2.05	with hepatitis or splenic involvement	Stage 1.01-2.04 AND liver mass [CT scan report or liver-spleen scan report] OR splenomegaly [CT scan report or liver-spleen scan report] OR hepatic granuloma of Coccidioides spp. [operative/pathology report] OR splenic granuloma of Coccidioides spp. [operative/pathology report]	STAGE 1.01-2.04 + (DX 5718, 5728, 7891-7892 OR GROUP HEPATITIS);
2.06	Renal coccidioidomycosis	Stage 1.01-2.05 AND renal mass [CT scan or sonogram report] OR renal coccidioidomycosis [operative/pathology report]	STAGE 1.01-2.05 + DX 5909;
3.01	with meningitis	Coccidioides titer $>$ 1:16 in CSF [CSF serology report] OR coccidioidomycosis [IgM or IgG CSF serology report shows \geq 4 fold increase in titer from baseline AND meningitis:	DX 1142;
3.02	with sepsis	Stage 1.01-3.01 AND sepsis:	STAGE 1.01-3.01 + GROUP SEPSIS;
3.03	with respiratory failure	Stage 1.01-3.02 AND respiratory failure:	STAGE 1.01-3.02 + GROUP RESP_FAIL;
3.04	with shock	Stage 1.01-3.03 AND shock:	STAGE 1.01-3.03 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 1.01-3.03 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF06

MultiStage: No

DXCat Label: Coccidioidomycosis

Specificity: A

Etiology: Infection

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

Anonymous. From the Centers for Disease Control and Prevention. Coccidioidomycosis--Arizona, 1990-1995. *JAMA*. 1997;277(2):104-5.

Bennett JE. Coccidioidomycosis. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. *Harrison's Principles of Internal Medicine*. 14th ed. New York, NY: McGraw-Hill; 1998:1151-1152.

Hamill RJ. Infectious diseases: mycotic. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. *Current Medical Diagnosis & Treatment*. Stamford, CT: Appleton & Lange, 1998:1388-1400.

Stevens DA. Coccidioidomycosis. *N Engl J Med*. 332(16):1077-82, 1995 Apr 20.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF07

MultiStage: No

DXCat Label: Coxsackie and ECHO Infections

Specificity: A

Etiology: Infection, Viral

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Exanthems caused by Coxsackie or ECHO viruses	Nonpruritic or nondesquamative or discrete rubelliform rash confined to face or neck and chest AND Coxsackie virus infection [tissue culture reports isolation of virus or convalescent versus acute serum antibody titers show ≥ 4 increase] OR ECHO virus infection [tissue culture reports isolation of virus or convalescent versus acute serum antibody titers show ≥ 4 increase]	DX 0791-0792;
1.02	Herpangina caused by Coxsackie viruses	Herpangina OR fever: AND sore throat AND grayish papulovesicular lesions with erythematous areola on tonsillar pillars or soft palate or tonsils or uvula and tongue which may ulcerate AND Coxsackie virus infection [tissue culture reports isolation of virus or convalescent versus acute serum antibody titers show four fold increase]	DX 0740; STAGE 1.01 + GROUP FEVER;
1.03	Lymphonodular pharyngitis caused by Coxsackie viruses	Coxsackie virus infection [tissue culture reports isolation of virus or convalescent versus acute serum antibody titers show four fold increase] AND fever: AND sore throat AND raised white to yellowish pharyngeal nodules	DX 0748;
1.04	Hand-Foot-and-Mouth disease caused by Coxsackie viruses	Stage 1.01-1.03 AND vesicular exanthem over buccal mucosa or palate and over hands and feet AND Coxsackie virus infection [tissue culture reports isolation of virus or convalescent versus acute serum antibody titers show four fold increase]	DX 0743;
1.05	Epidemic pleurodynia or Bornholm disease	Severe intermittent epigastric pain or lower anterior chest pain AND fever: AND sore throat AND malaise AND myalgia of trunk and extremities AND Coxsackie virus infection [tissue culture reports isolation of virus or convalescent versus acute serum antibody titers show four fold increase]	DX 0741;
1.06	ECHO virus gastroenteritis	Diffuse abdominal pain AND bowel movements > 3 times a day AND diarrhea AND ECHO virus infection of stool [tissue culture reports isolation of virus or convalescent versus acute serum antibody titers show four fold increase]	DX 0791 + (DX 00869, 0088);
2.01	Coxsackie or ECHO virus pneumonia	Stage 1.01-1.06 AND Coxsackie virus infection [tissue culture reports isolation of virus or convalescent versus acute serum antibody titers show four fold increase] OR ECHO virus infection [tissue culture reports isolation of virus or convalescent versus acute serum antibody titers show four fold increase] AND new infiltrate [chest x-ray report]	STAGE 1.01-1.06 + DX 4808-4809;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF07

MultiStage: No

DXCat Label: Coxsackie and ECHO Infections

Specificity: A

Etiology: Infection, Viral

Stage	Description	Diagnostic findings	ICD-9-CM Codes
2.02	Coxsackie or ECHO virus paralysis	Stage 1.01-2.01 AND weakness of extremities unresolved after 1 month OR paralysis of extremities unresolved after 1 month	STAGE 1.01-2.01 + (DX 34200-34292, 34400-3449);
2.03	Pericarditis	Stage 1.01-2.02 AND pericarditis:	DX 07420-07422;
3.01	Myocarditis caused by Coxsackie or ECHO viruses	Stage 1.01-2.03 AND myocarditis: AND Coxsackie virus infection [tissue culture reports isolation of virus or convalescent versus acute serum antibody titers show four fold increase] OR ECHO virus infection [tissue culture reports isolation of virus or convalescent versus acute serum antibody titers show four fold increase]	DX 07423;
3.02	Aseptic meningitis caused by Coxsackie or ECHO viruses	Stage 1.01-3.01 AND aseptic meningitis:	STAGE 1.01-3.01 + DXCAT NEU13;
3.03	Coxsackie or ECHO viruses myocarditis with congestive heart failure	Stage 1.01-3.02 AND congestive heart failure:	STAGE 3.01 + GROUP CHF_NON_HTN;
3.04	Respiratory failure caused by Coxsackie or ECHO viruses	Stage 1.01-3.03 AND respiratory failure:	STAGE 1.01-3.03 + GROUP RESP_FAIL;
3.05	Shock caused by Coxsackie or ECHO viruses	Stage 1.01-3.04 AND shock:	STAGE 1.01-3.04 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	ECHO or Coxsackie virus infections with death	Stage 1.01-3.05 AND death	NO;

References:

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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF08

MultiStage: No

DXCat Label: Cryptococcosis

Specificity: A

Etiology: Infection

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Cryptococcal infection	Cryptococcal antigen \geq 1:8 [serology report] OR Cryptococcal fungemia [blood culture report]	DX 1175;
1.02	Cryptococcal dermatitides	Stage 1.01 AND skin pustules or skin ulcers of cryptococcosis [skin culture reports growth of Cryptococcus neoformans]	NO;
2.01	Cryptococcal pneumonia	S1.01-1.02 AND new infiltrate [chest x-ray report] AND sputum culture reports growth of Cryptococcus neoformans [sputum culture report]	STAGE 1.01 + DX 4847;
2.02	Cryptococcal urinary tract infection	Urine infected with > 100,000 cfu/ml of Cryptococcus neoformans growth [culture from freshly voided 'clean catch' urine] AND pyuria:	STAGE 1.01-2.01 + DXCAT GUS10;
2.03	Cryptococcal osteomyelitis or endophthalmitis or hepatitis or endocarditis or pericarditis or pyelonephritis	Stage 1.01-2.02 AND Cryptococcal osteomyelitis [bone culture report] OR Cryptococcal endophthalmitis [eye culture report] OR Cryptococcal hepatitis [liver biopsy report] OR endocarditis: OR pericarditis: OR urine infected with >100,000 cfu/ml of Cryptococcus neoformans growth [culture from freshly voided 'clean catch' urine] AND pyuria: AND costovertebral tenderness OR kidney punch positive	STAGE 1.01-2.02 + (DX 4200, 42090, 42099, 36000-36002, 59000-5909 OR GROUP ENDOCARDITIS OR DXCAT HEP04 OR DXCAT HEP05 OR DXCAT HEP06 OR DXCAT HEP07 OR DXCAT HEP08 OR DXCAT HEP09 OR DXCAT MUS25 OR GROUP HEPATITIS);
3.01	Cryptococcal meningitis	Cryptococcal meningitis [India ink stain of CSF or latex agglutination test of CSF]	STAGE 1.01-2.03 + (DX 3210, 3218); DX 3210;
3.02	Cryptococcal encephalitis	Stage 1.01-3.01 AND involvement of the cerebral hemispheres with infarction or granulomas [CT scan report or MRI report]	STAGE 1.01-3.01 + (DX 3234, 3236-3239);
3.03	with sepsis	Stage 1.01-3.02 AND sepsis:	STAGE 1.01-3.02 + GROUP SEPSIS;
3.04	with coma	Stage 1.01-3.03 AND coma:	STAGE 1.01-3.03 + GROUP COMA;
3.05	with shock	Stage 1.01-3.05 AND shock:	STAGE 1.01-3.04 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 1.01-3.05 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF08

MultiStage: No

DXCat Label: Cryptococcosis

Specificity: A

Etiology: Infection

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

Bennett JE. Cryptococcosis. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1153-1154.

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Murakawa GJ, Kerschmann R, Berger T. Cutaneous Cryptococcus infection and AIDS. Report of 12 cases and review of the literature. *Archives of Dermatology*. 132(5):545-8, 1996 May.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF09

MultiStage: No

DXCat Label: Cytomegalovirus Disease, (Acquired)

Specificity: A

Etiology: Infection, Viral

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Cytomegalovirus disease of the salivary glands	Cytomegalovirus isolated from saliva [tissue culture reports isolation of cytomegalovirus]	DX 0785;
1.02	Cytomegalovirus retinitis	Cytomegalovirus infection [isolation of cytomegalovirus from serum or body fluids or urine from tissue cultures or convalescent/acute cytomegalovirus serum antibody titers \geq 4 increase] AND retinitis [ophthalmoscopy report] OR cotton wool spots [ophthalmoscopy report]	STAGE 1.01 + DX 36300-36320;
1.03	Cytomegalovirus retinitis with retinal hemorrhages or infiltrates or disk edema	Stage 1.01-1.02 AND retinal hemorrhages [ophthalmoscopy report] OR sectoral infiltrates [ophthalmoscopy report] OR optic disk edema [ophthalmoscopy report]	STAGE 1.02 + DX 36281-36283;
1.04	Cytomegalovirus retinitis with retinal detachment	Stage 1.01-1.03 AND rhegmatogenous retinal detachment [ophthalmoscopy report] OR iris neovascularization [ophthalmoscopy report]	STAGE 1.02-1.03 + (DX 36100-36107, 36181-3619);
2.01	with hepatitis	Cytomegalovirus infection [isolation of cytomegalovirus from serum or body fluids or urine from tissue cultures or convalescent/acute cytomegalovirus serum antibody titers > 4 fold increase] AND hepatosplenomegaly [liver/spleen scan report or CT scan report or sonogram report] AND hepatitis:	STAGE 1.01-1.04 + GROUP HEPATITIS;
2.02	Cytomegalovirus mononucleosis	Stage 2.01 AND lymphocytosis: AND atypical lymphocytes [hematology report] AND heterophil antibody test negative [hematology report]	STAGE 1.01-2.01 + DX 075;
2.03	with ulcers of the gastrointestinal tract	Duodenal ulcers [endoscopy report] OR gastric ulcers [endoscopy report] OR esophageal ulcers [endoscopy report] OR small intestinal ulcers [endoscopy report] OR colonic ulcers [endoscopy report] AND cytomegalovirus tissue infection [biopsy or operative/pathology tissue culture report]	STAGE 1.01-2.02 + DX 53100-53491;
2.04	with pneumonitis	Stage 1.02-2.03 AND new interstitial infiltrate [chest x-ray report] OR cytomegalovirus pneumonitis [biopsy or operative/pathology tissue culture report]	STAGE 1.01 + DX 4841; DX 4841;
3.01	with glomerulopathy or renal failure	Stage 1.02-2.04 AND renal failure:	STAGE 1.01-2.04 + (DX 58081, 58181, 58281, 58381 OR GROUP REN_FAIL_ACU OR GROUP REN_FAIL_CHR);
3.02	with meningoencephalitis	Stage 1.02-3.01 AND disorientation: AND aseptic meningitis:	STAGE 1.01-3.01 + (DX 048, 0498-0499, 3239 OR GROUP DISORIENT OR DXCAT NEU13);
3.03	with respiratory failure	Stage 1.02-3.02 AND respiratory failure:	STAGE 1.01-3.02 + GROUP RESP_FAIL;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF09

MultiStage: No

DXCat Label: Cytomegalovirus Disease, (Acquired)

Specificity: A

Etiology: Infection, Viral

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.04	with coma	Stage 1.02-3.03 AND coma:	STAGE 1.01-3.03 + GROUP COMA;
3.05	with shock	Stage 1.02-3.04 AND shock:	STAGE 1.01-3.03 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.01-3.04 AND death	NO;

References:

- Beers MH, Berkow R. eds. Cytomegalovirus infection. In: Merck Manual. 17th ed. Whitehouse Station, NJ: Merck Research Laboratories; 1999:1295-1296.
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- Shandera WX, Carlini ME. Infectious diseases: viral & rickettsial. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. *Current Medical Diagnosis & Treatment*. Stamford, CT: Appleton & Lange, 1998:1231-1267.
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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF10

MultiStage: No

DXCat Label: Herpes Simplex Infections

Specificity: A

Etiology: Infection, Viral

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Oral herpes simplex or cutaneous infections or primary herpes simplex or recurrent herpes simplex	Grouped papulovesiculopustular lesions on erythematous base of mucocutaneous areas AND Tzanck smear test (dermatology report) OR herpes simplex [Virus isolation tissue culture or immunofluorescent test or complement fixation test or PCR detection of HSV DNA]	DX 05440-05441, 0546, 05473, 05479-0549, 05881-05882, 05889;
1.02	Genital herpes simplex infections	Herpes simplex genitalis [Virus isolation tissue culture or immunofluorescent test or complement fixation test or PCR detection of HSV DNA]	DX 05410-05419;
1.03	Herpetic keratitis	Herpetic keratitis OR green dendritic ulcers [fluorescein staining of eye]	DX 05442-05443;
1.04	with erythema multiforme	Stage 1.01-1.03 AND symmetrical erythematous pruritic dermatitis AND macules OR papules OR bullae OR purpura OR target-like or annular lesions	STAGE 1.01-1.03 + DX 6951; DX 05810-05812;
2.01	Exzema herpeticum	Stage 1.01-1.04 AND multiple centrally umblicated erythematous papules vesicles and pustules with crusting AND atopic dermatitis OR seborrheic dermatitis OR Darier's disease	DX 0540;
2.02	with Bell's Palsy or paresthesia or hypesthesia	Stage 1.01-2.01 AND Bell's Palsy OR paresthesia OR hypesthesia	STAGE 1.01-2.01 + (DX 3510, 7820);
2.03	with iridocyclitis or urethral strictures or labial fusion or prostatitis or cystitis	Stage 1.01-2.02 AND urethral strictures OR labial fusion OR prostate tenderness OR pyuria: OR dysuria AND clear discharge OR iridocyclitis [ophthalmology report]	DX 05444; STAGE 1.01-2.02 + (DX 5954, 59800, 5988-5989, 6014, 6232);
2.04	Visceral herpetic infection or pneumonitis	Stage 1.01-2.03 AND herpetic gastrointestinal tract lesion [biopsy tissue culture results] OR Herpes sp. pneumonia [biopsy tissue culture results] <u>Presumptive Diagnostic Findings:</u> hepatitis: OR dysphagia	DX 05471; STAGE 1.01-2.03 + (DX 4808-4809 OR DXCAT HEP04 OR DXCAT HEP05 OR DXCAT HEP06 OR DXCAT HEP07 OR DXCAT HEP08 OR DXCAT HEP09 OR GROUP HEPATITIS);

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF10

MultiStage: No

DXCat Label: Herpes Simplex Infections

Specificity: A

Etiology: Infection, Viral

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.01	with aseptic meningitis	Stage 1.01-2.04 AND aseptic meningitis:	DX 05472; STAGE 1.01-2.04 + DXCAT NEU13;
3.02	Herpes simplex meningoencephalitis	Stage 1.01-3.01 AND herpes meningoencephalitis [brain biopsy virus isolation report or operative/pathology report or HSV DNA polymerase chain reaction (PCR) report or MRI report]	DX 0543, 0545, 05474, 05821, 05829;
3.03	with respiratory failure	Stage 2.02-3.02 AND respiratory failure:	STAGE 1.01-3.02 + GROUP RESP_FAIL;
4.00	with death	Stage 3.01-3.03 AND death	NO;

References:

Sterling JC, Kurtz, JB. Viral infections. In: Champion RH, Burton JL, Burns DA, Breathnach SM. Rook/Wilkins/Ebling Textbook of Dermatology. 6th ed. Oxford: Blackwell Science Ltd., 1998:1008-1014.

Weston et al. Target lesions on the lips: childhood herpes simplex associated with erythema multiforme mimics Steven-Johnson syndrome. J Am Acad Dermatol. 1997;(37): 848-50.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF11

DXCat Label: Herpes zoster

Etiology: Infection, Viral

MultiStage: No

Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Herpes zoster	History of previous varicella infection AND Herpes zoster rash OR unilateral pain with a maculopapular rash along a nerve distribution followed by a vesicular rash with a red base within 72 hours AND isolation of virus from lesions [virus tissue culture report or antibody rise acute/convalescent serum \geq 4.0 from serology report] OR multinucleated giant cells from lesions [Tzanck smear]	DX 05371-0539;
1.02	with postherpetic neuralgia	Stage 1.01 AND pain on the affected side persisting after lesions have healed OR pain on the affected side persisting after 4 weeks	DX 05310-05311, 05313-05319;
1.03	with involvement of the ophthalmic branch of the trigeminal nerve	History of previous varicella infection AND Herpes zoster rash along ophthalmic branch of the trigeminal nerve	DX 05312;
1.04	with keratitis	Stage 1.01-1.03 AND epithelial pseudodendrites [fluorescein stain report] OR Herpes zoster keratitis [growth of pathologic organism(s) corneal virus culture reports]	DX 05321;
2.01	with keratouveitis	Stage 1.01-1.04 AND corneal hypesthesia AND stromal infiltrate [ophthalmoscopy report] OR keratic precipitates [ophthalmoscopy report] OR ciliary flush [ophthalmoscopy report]	DX 05329;
2.02	with retinitis or optic neuritis or iridocyclitis	Stage 1.01-2.01 AND retinitis [ophthalmoscopy report] OR optic neuritis [ophthalmoscopy report] OR iridocyclitis [ophthalmoscopy report]	DX 05322;
2.03	with facial nerve involvement	History of previous varicella infection AND Herpes zoster rash along 7 th nerve OR unilateral pain with a maculopapular rash along 7 th nerve distribution followed by a vesicular rash with a red base within 72hours AND isolation of virus from lesions [virus tissue culture report or antibody rise acute/convalescent serum \geq 4.0 from serology report] OR multinucleated giant cells from lesions [Tzanck smear]	STAGE 1.01-2.02 + DX 7821;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF11

MultiStage: No

DXCat Label: Herpes zoster

Specificity: A

Etiology: Infection, Viral

Stage	Description	Diagnostic findings	ICD-9-CM Codes
2.04	with cutaneous dissemination	History of previous varicella infection AND diffuse Herpes zoster rash OR diffuse vesicular rash with a red base AND isolation of virus from lesions [virus tissue culture report or antibody rise acute/convalescent serum \geq 4.0 from serology report] OR multinucleated giant cells from lesions [Tzanck smear]	DX 05320;
3.01	Involving the gastrointestinal or genitourinary or respiratory tracts	Stage 1.01-2.04 AND H. zoster lesions in the gastrointestinal tract [tissue culture report or Tzanck smear report] OR H. zoster lesions in the genitourinary tract [tissue culture report or Tzanck smear report] OR H. zoster lesions in the respiratory tracts [tissue culture report or Tzanck smear report]	NO;
3.02	with aseptic meningitis and disorientation	Stage 1.01-3.01 AND disorientation: AND aseptic meningitis:	DX 0530;
4.00	with death	Stage 3.01-3.02 AND death	NO;

References:

- Berger TG. Skin & appendages. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:111-180.
- Kost RG, Straus SE. Postherpetic neuralgia--pathogenesis, treatment, and prevention. N Engl J Med. 1996;335(1):32-42.
- Richards P. Shingles in one family practice. Archives of Family Medicine. 1996;5(1):42-6.
- Whitley RJ. Varicella-Zoster virus infections. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1086-1089.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF12

DXCat Label: Histoplasmosis

Etiology: Infection

MultiStage: No

Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Acute histoplasmosis	New infiltrate [chest x-ray report] AND Histoplasma infected sputum (gram stain documents presence of many WBC and Histoplasma spp. by special stain or sputum culture reports growth of Histoplasma spp.)] OR histoplasmin titer \geq 1:32 [RIA or ELISA serology report] OR histoplasmosis [compliment fixation serology report shows > 4 fold increase in baseline titer] OR histoplasmin urine antigen [serology report]	DX 11500, 11509-11510, 11519-11590, 11599;
1.02	Histoplasma choroiditis	History of residence in endemic area OR history of systemic histoplasmosis AND yellow-white spot in macular region [ophthalmoscopy report]	DX 11502, 11512, 11592;
1.03	Histoplasma choroiditis with reduced vision	Stage 1.01-1.02 AND vision \leq 20/70 OR choroidal atrophic scars in macular region [ophthalmoscopy report] OR choroidal atrophic scars in peripapillary region [ophthalmoscopy report] OR choroidal atrophic scars in mid-peripheral region [ophthalmoscopy report]	STAGE 1.02 + GROUP BLINDNESS;
1.04	Histoplasma choroiditis with active subretinal neovascularization	Stage 1.03 AND subretinal fluid [ophthalmoscopy report] OR retinal hemorrhage [ophthalmoscopy report] OR retinal exudates adjacent to choroidal scar [ophthalmoscopy report]	STAGE 1.02-1.03 + (DX 36216, 36281-36282);
1.05	Histoplasma choroiditis with inactive subretinal neovascularization	Stage 1.04 AND atrophic chorioretinal scar [ophthalmoscopy report] OR fibrotic subretinal scar [ophthalmoscopy report]	STAGE 1.02-1.04 + (DX 36330, 36332-36335);
2.01	Mucocutaneous histoplasmosis	Stage 1.01-1.05 AND skin ulcerations OR oropharyngeal lesions OR laryngeal lesions	STAGE 1.01-1.05 + (DX 47829, 47879, 70710-7079);
2.02	with cavitory pneumonia	Stage 1.01-2.01 AND cavitation or granuloma [chest x-ray report]	DX 11505, 11515, 11595;
2.03	with hepatosplenomegaly	Stage 1.01-2.02 AND hepatomegaly [physical examination or liver-spleen scan report or CT scan report or sonogram report] OR splenomegaly [physical examination or liver-spleen scan report or CT scan report or sonogram report]	STAGE 1.01-2.02 + (DX 5718, 7891-7892);
2.04	with adrenal insufficiency	Stage 1.01-2.03 AND adrenal insufficiency:	STAGE 1.01-2.03 + DXCAT END01;
3.01	with endocarditis	Stage 1.01-2.04 AND endocarditis:	STAGE 1.01-2.04 + GROUP ENDOCARDITIS; DX 11503-11504, 11513-11514, 11593-11594;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF12

DXCat Label: Histoplasmosis

Etiology: Infection

MultiStage: No

Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.02	with meningitis	Stage 1.0-3.01 AND meningitis:	DX 11501, 11511, 11591;
3.03	with sepsis	Stage 1.01-3.02 AND sepsis:	STAGE 1.01-3.02 + GROUP SEPSIS;
3.04	with respiratory failure	Stage 1.01-3.03 AND respiratory failure:	STAGE 1.01-3.03 + GROUP RESP_FAIL;
3.05	with shock	Stage 1.01-3.04 AND shock:	STAGE 1.01-3.04 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.01-3.05 AND death	NO;

References:

Bennett JE. Histoplasmosis. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1150-1151.

Hamill RJ. "infectious diseases: mycotic. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:1388-1400.

Wheat J. Histoplasmosis. Experience during outbreaks in Indianapolis and review of the literature. Medicine. 76(5):339-54, 1997 Sep

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF13

MultiStage: No

DXCat Label: Infectious Mononucleosis

Specificity: A

Etiology: Infection, Viral

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	Past infection with Epstein-Barr virus	Negative IgM antibodies to Epstein-Barr VCA [serology report] AND negative antibodies to Epstein-Barr early antigen diffuse staining (EA-D) [serology report] AND antibody to Epstein-Barr virus nuclear antigen (EBNA) at a dilution of 1:10-1:40 [serology report] OR IgG antibodies to Epstein-Barr viral capsid antigen (VCA) at a dilution of	NO;
1.01	Acute infectious mononucleosis	Pharyngitis AND fever: AND lymphadenopathy AND leukocytosis: AND an atypical lymphocytosis \geq 10% AND a positive heterophile antibody test in patients \geq 4 years old [serology report] OR IgG antibodies to Epstein-Barr viral capsid antigen (VCA) at a dilution of 1:160 1:640 [serology report] OR IgM antibodies to Epstein-Barr VCA at a dilution of 1:32-1:256 [serology report] AND negative antibodies to Epstein-Barr early diffuse staining (EA-D) [serology report] AND negative antibody to Epstein-Barr virus nuclear antigen (EBNA) [serology report]	DX 075; DX 075 + GROUP FEVER;
1.02	with hepatosplenomegaly	Stage 1.01 AND hepatomegaly OR splenomegaly	STAGE 1.01 + (DX 5718, 7891-7892);
2.01	with hepatitis	Stage 1.01-1.02 AND hepatitis:	STAGE 1.01-1.02 + (DX 5731 OR DXCAT HEP04 OR DXCAT HEP05 OR DXCAT HEP06 OR DXCAT HEP07 OR DXCAT HEP08 OR DXCAT HEP09 OR GROUP HEPATITIS);
2.02	with upper airway obstruction	Stage 1.01-1.02 AND upper airway obstruction	STAGE 1.01-2.01 + DX 5198;
2.03	with hemolytic anemia	Stage 1.01-2.02 AND hemolysis: AND cold agglutinins against red blood cell antigen i [hematology report]	STAGE 1.01-2.02 + GROUP ANEM_HEM_ACQ;
2.04	with interstitial pneumonia	Stage 1.01-2.03 AND interstitial pneumonia [chest x-ray report]	STAGE 1.01-2.03 + DX 5168;
2.05	with pericarditis	Stage 1.01-2.04 AND pericarditis:	STAGE 1.01-2.04 + (DX 4200, 42090-42099);
2.06	with splenic rupture	Stage 1.01-2.05 AND splenic rupture [operative/pathology report]	STAGE 1.01-2.05 + DX 28959;
3.01	with myocarditis	Stage 1.01-2.06 AND myocarditis:	STAGE 1.01-2.06 + GROUP MYOCARDITIS;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF13

MultiStage: No

DXCat Label: Infectious Mononucleosis

Specificity: A

Etiology: Infection, Viral

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.02	with meningoencephalitis	Stage 1.01-3.01 AND no cerebral infarction [CT or MRI scan report] AND Guillain-Barre syndrome OR aseptic meningitis: OR "Alice in Wonderland" syndrome OR metamorphopsia OR seizures OR acute hemiplegia OR brachial plexus neuropathy OR cerebellar ataxia OR transverse myelitis with progressive paralysis of legs OR cranial nerve palsy:	STAGE 1.01-3.01 + GROUP MENING__VIR;
3.03	with respiratory failure	Stage 1.01-3.02 AND respiratory failure:	STAGE 1.01-3.02 + GROUP RESP_FAIL;
3.04	with coma	Stage 1.01-3.03 AND coma:	STAGE 1.01-3.03 + GROUP COMA;
4.00	with death	Stage 1.01-3.04 AND death	NO;

References:

Cohen JL. Epstein-barr virus infections, including infectious mononucleosis. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1089-1091.

Connelly KP, DeWitt LD. Neurologic complications of infectious mononucleosis. Pediatric Neurology. 1994;10(3):181-184.

Jenson HB. Epstein-barr virus. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:897-901.

Levin MJ. Infections: viral and rickettsial/infectious mononucleosis. In: Hay WW, Groosthuis JR, Hayward AR, Levin MJ, eds. Current Pediatric Diagnosis and Treatment. 13th ed. Stamford, CT: Appleton & Lange; 1997:980-982.

Shandera WX, Carlini ME. Infectious diseases: viral and rickettsial/infectious mononucleosis. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:1238-1239.

Straus SE, Cohen JL, Tosato G, Meier J. Epstein-barr virus infections: biology, pathogenesis and management. Annals of Internal Medicine. 1993;118:45-58.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF14

MultiStage: No

DXCat Label: Leprosy (Hansen's disease)

Specificity: A

Etiology: Infection, Bacterial

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	Screening for Hansen's disease		DX V742;
1.01	Indeterminate leprosy	Hypopigmented and/or erythematous macule with or without paresthesia or anesthesia [dermatology report] AND non-specific findings of skin biopsy [pathology report] AND bacteriological findings, AFB negative [laboratory report] AND Mitsuda reaction negative	DX 0302, 0308-0309;
1.02	Tuberculoid type	Stage 1.01 AND a few asymmetrical anesthetic annular skin lesions [dermatology report] AND tuberculoid granulomas [pathology report] AND bacteriological findings, AFB stain negative [laboratory report]	DX 0301;
1.03	Borderline group (borderline tuberculoid, borderline borderline, borderline lepromatous)	Stage 1.01-1.02 AND multiple symmetrical and/or asymmetrical anesthetic to infiltrated lesions [dermatology report] AND predominance of tuberculoid granulomas or foamy macrophages infiltration [pathology	DX 0303;
1.04	Lepromatous type	Stage 1.01-1.03 AND multiple symmetrical skin lesions AND leonine facies (dermatology report) AND diffuse foamy macrophages infiltration [pathology report] AND bacteriological findings, AFB stain strongly positive [laboratory report]	DX 0300;
2.01	Type I reaction (Downgrading or upgrading) OR Type II reaction (erythema nodosum leprosum)	Type I reaction: Stage 1.03 AND acute neuritis and/or acutely inflamed skin lesions [dermatology report] Type II reaction: Stage 1.03 (borderline lepromatous) AND Stage 1.04 AND multiple painful erythematous nodules on the face and extensor surfaces with ulceration and suppuration (dermatology report) AND fever AND arthralgias AND lymphadenopathy AND uveitis AND neutrophil skin infiltration with vasculitis (pathology report)	STAGE 1.01-1.04 + (DX 6952, 69589-6959);
2.02	with loss of hands or feet	Stage 1.02-2.01 AND mitten hand OR claw hand OR loss of lower extremity	STAGE 1.01-2.01 + DX V4960-V4977;
3.01	with pulmonary tuberculosis	Stage 1.03-2.02 AND pulmonary tuberculosis [culture and report or PCR report]	STAGE 1.01-2.02 + DXCAT RES27;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF14

MultiStage: No

DXCat Label: Leprosy (Hansen's disease)

Specificity: A

Etiology: Infection, Bacterial

Stage	Description	Diagnostic findings	ICD-9-CM Codes
4.00	with death	Stage 1.03-3.01 AND death	NO;

References:

Abulafia J, Vignale RA. Leprosy: pathogenesis updated. *Int J Dermatol.* 1999;(38): 321-334.

Lockwood DNJ, Bryceson ADM. Leprosy. In: Champion RH, Burton JL, Burns DA, Breathnach SM. *Rook/Wilkinson, Ebling Textbook of Dermatology.* 6th ed. Oxford: Blackwell Science Ltd.; 1998:1215-1235.

Miller RA. Leprosy: Hansen's disease. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. *Harrison's Principles of Internal Medicine.* 14th ed. New York, NY: McGraw-Hill; 1998:1014-1019.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF15

MultiStage: No

DXCat Label: Listeriosis

Specificity: A

Etiology: Infection, Bacterial

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Listeriosis	Listeriosis [culture reports growth of Listeria spp.]	DX 0270;
1.02	Listeria conjunctivitis	Listeria conjunctivitis [culture reports growth of Listeria spp.]	STAGE 1.01 + (DX 37200-37204, 37230, 37239);
2.01	Oculoglandular listeriosis	Listeria lymphadenitis [culture reports growth of Listeria spp.] OR ophthalmitis [culture reports growth of Listeria spp.]	STAGE 1.01-1.02 + DX 683;
2.02	Listeria urethritis	Listeria urethritis [urethral discharge culture reports growth of Listeria spp.]	STAGE 1.01-2.01 + DX 59780;
2.03	Listeria pneumonia	New infiltrate [chest x-ray report] AND infected sputum [gram strain documents presence of many WBC AND a single predominant organism or sputum culture reports growth of pathologic organism]	STAGE 1.01-2.02 + DXCAT RES15;
2.04	Listeria lung abscess	Stage 2.03 AND lung abscess [chest x-ray report]	STAGE 1.01-2.03 + DX 5130;
3.01	with endocarditis	Stage 1.02-2.04 AND endocarditis:	STAGE 1.01-2.04 + GROUP ENDOCARDITIS;
3.02	with meningitis	Stage 2.01-3.01 AND meningitis:	STAGE 1.01-3.01 + DX 3207;
3.03	with sepsis	Stage 1.02-3.01 AND sepsis:	STAGE 1.01-3.02 + GROUP SEPSIS;
3.04	with shock	Stage 1.02-3.03 AND shock:	STAGE 1.01-3.03 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.01-3.04 AND death	NO;

References:

Alriton W. Listeriosis. In: Behrman RE, Lkiegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:810-811.

Beers MH, Berkow R, eds. Neonatal listeriosis. In: Merck Manual. 17th ed. Whitehouse Station, NJ: Merck Research Laboratories; 1999:2184-2185.

Chambers HF. Infectious diseases: bacterial & chlamydial. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. In: Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange, 1998:1267-1304.

Cole FS. Bacterial infections of the newborn/infection with listeria monocytogenes. In: Taeusch HW and Ballard RA, eds. Avery's Diseases of the Newborn, 7th ed. Philadelphia, PA: WB Saunders; 1998:496-497.

Ogle JW. Infections: Bacterial and spirochetal/listeriosis. In: Hay WW, Groosthus JR, Hayward AR, Levin MJ, eds. Current Pediatric Diagnosis and Treatment. 13th ed. Stamford, CT: Appleton & Lange; 1997:1044-1045.

Schuchat A, Broome CV. Infections caused by listeria monocytogenes. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:899-901.

Southwick FS, Purich DL. Intracellular pathogenesis of listeriosis. N Engl J Med. 334(12):770-6, 1996 Mar 21

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF16

MultiStage: No

DXCat Label: Lyme disease (Erythema chronicum migrans)

Specificity: A

Etiology: Infection, Bacterial

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	History of Erythema chronicum migrans	History of previous Erythema chronicum migrans AND previous tick bite AND identification of tick (laboratory report)	NO;
1.01	Erythema chronicum migrans	Bull's eye skin eruption [dermatology report or pathology report or laboratory report or ELISA indirect immunofluorescent or Western blot test]	DX 08881;
2.01	with fever	Stage 0.00-1.01 AND fever:	STAGE 1.01 + GROUP FEVER;
2.02	with lymphadenopathy	Stage 0.00-2.01 AND lymphadenopathy	STAGE 1.01-2.01 + (DX 2891-2893, 683, 7856);
2.03	with arthralgia	Stage 0.00-2.02 AND arthralgia	STAGE 1.01-2.02 + DX 71950-71959;
2.04	with hepatosplenomegaly	Stage 0.00-2.03 AND hepatosplenomegaly [liver/spleen scan report or MRI report or CT scan report or sonography report]	STAGE 1.01-2.03 + (DX 5718, 7891-7892);
3.01	with myocarditis	Stage 0.00-2.04 AND myocarditis:	STAGE 1.01-2.04 + (DX 4220, 42290-42292, 42299);
3.02	with meningitis	Stage 0.00-3.01 AND meningitis:	STAGE 1.01-3.01 + (DX 3207, 32089-3209);
3.03	with coma	Stage 0.00-3.02 AND coma:	STAGE 1.01-3.02 + GROUP COMA;
4.00	with death	Stage 0.00-3.03 AND death	NO;

References:

Hay RJ, Adriaans BM. Bacterial infections. In: Champion RH, Burton JL, Burns DA, Breathnach SM. Rook/Winkinson/Ebing. Textbook of Dermatology. 6th ed. Oxford: Blackwell Science Ltd., 1998:1160-1162.

Schuttelaar MLA, Laeijendecker R, Heinhuis RJ, Joost TV. Erythema multiforme and persistent erythema as early cutaneous manifestations of Lyme disease. J Am Acad Dermatol. 1997; (37):873-875.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF17

MultiStage: No

DXCat Label: Lymphogranuloma Venereum

Specificity: A

Etiology: Infection

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Lymphogranuloma venereum	Inguinal adenopathy AND Chlamydia trachomatis infection [complement fixation test shows ≥ 4 fold increase in antibody titers or culture reports growth of pathologic organism(s)]	DX 0991;
2.01	with ulcerations of inguinal lymph nodes	Stage 1.01 AND ulceration of inguinal adenopathy OR abscess formation of inguinal adenopathy	STAGE 1.01 + DX 683;
2.02	with ulcerative proctitis or sinus tract formation	Stage 2.01 AND purulent rectal discharge OR sinus tract formation	STAGE 1.01-2.01 + (DX 5562, 5651);
2.03	with elephantiasis	Stage 1.01-2.02 AND lymphedema of entire lower limb	STAGE 1.01-2.02 + DX 4571;
2.04	with rectovaginal fistula	Stage 1.01-2.03 AND stool from vagina OR rectovaginal fistula [barium enema report]	STAGE 1.01-2.03 + DX 6191;
2.05	with rectal strictures	Stage 1.01-2.04 AND rectal strictures	STAGE 1.01-2.04 + DX 5692;

References:

Berkow R, Fletcher AJ, eds. In: Merck Manual. 16th ed. Rahway, NJ: Merck & Co., Inc.; 1992:268-269.

Stamm WE, Holmes KK. Chlamydial infections. In: Wilson JD, Braunwald E, Isselbacher KJ, Petersdorf RG, Martin JB, Fauci AS, Root RK, eds. Harrison's Principles of Internal Medicine. 12th ed. New York, NY: McGraw-Hill; 1991:764-772.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF18

MultiStage: No

DXCat Label: Measles or Rubeola

Specificity: A

Etiology: Infection, Viral

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	Screening exam for measles		DX V732;
1.01	Rubeola	Measles antigen [immunofluorescent smear] OR measles [EIA serology reports \geq 4 increase in IgM or IgG tier] OR Coryza OR fever: OR cough OR conjunctivitis AND multinucleated giant cells in nasal or pharyngeal and buccal secretions [gram stain report AND maculopapular rash AND Koplik spots on buccal and labial mucosa OR paramyxovirus infection in secretions from nasopharyngeal, conjunctiva, blood or urine [tissue culture report]	DX 05579-0559;
1.02	with keratitis	Stage 1.01 AND keratitis	DX 05571;
1.03	with otitis media	History of previous measles infection AND otitis media	DX 0552;
1.04	with tracheolaryngobronchitis (croup)	Stage 1.01-1.03 AND croup	STAGE 1.01-1.03 + DXCAT RES07;
2.01	with pneumonitis	Stage 1.01-1.04 AND new infiltrate [chest x-ray report]	DX 0551;
3.01	with acute encephalitis	Stage 1.01-2.01 AND encephalitis:	DX 0550;
3.02	with congestive heart failure	Stage 1.01-3.01 AND congestive heart failure:	STAGE 1.01-3.01 + GROUP CHF_NON_HTN;
3.03	with subacute sclerosing panencephalitis	Stage 1.01-1.03 AND behavioral and intellectual deterioration years after the original measles infection AND convulsions AND EIA serology reports \geq 4 increase in measles specific-IgM or IgG titer in serum [serology report] AND CSF with measles-specific IgG and IgM antibodies \geq 1:8 and normal or slightly elevated protein with \geq 20 percent of total protein composed of gamma globulin AND bursts of high voltage sharp-slow waves every 3-8 seconds followed by periods of attenuated background [EEG report]	STAGE 1.01-3.02 + DX 0462;
3.04	with respiratory failure	Stage 1.01-3.03 AND respiratory failure:	STAGE 1.01-3.03 + GROUP RESP_FAIL;
3.05	with coma	Stage 1.01-3.04 AND coma:	STAGE 1.01-3.04 + GROUP COMA;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF18

MultiStage: No

DXCat Label: Measles or Rubeola

Specificity: A

Etiology: Infection, Viral

Stage	Description	Diagnostic findings	ICD-9-CM Codes
4.00	with death	Stage 2.01-3.05 AND death	NO;

References:

Asher DM. Slow viral infections of the human nervous system. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:934-940.

Beers MH, Berkow R. eds. Childhood infections/viral infections. In: Merck Manual. 17th ed. Whitehouse Station, NJ: Merck Research Laboratories; 1999:2320-2357.

Cutts FT, Steinglass R. Should measles be eradicated? 1998;133):765-7.

de Quadros CA, Olive JM, Hersh BS, et al. Measles elimination in the Americas. Evolving strategies. JAMA. 275(3):224-9, 1996 Jan 17.

Gershon A. Measles (rubeola). In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1123-1125.

Maldonado Y. Measles. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:565-871.

Ogle JW. Infections: viral and rickettsial/measles. In: Hay WW, Groshius JR, Hayward AR, Levin MJ, eds. Current Pediatric Diagnosis and Treatment. 13th ed. Stamford, CT: Appleton & Lange, 1997:965-969.

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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF19

MultiStage: No

DXCat Label: Mucormycosis

Specificity: A

Etiology: Infection

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Mucormycosis	Multiple abscess or necrotizing infection of the foot OR fistula formation of foot AND serosanguinous exudate from foot AND fungus infection [culture report of pathologic fungal organism growth] AND fungus granules [operative/pathology report]	DX 1177;
2.01	Orbital mucormycosis	Orbital mucormycosis [sinus biopsy report] OR change in vision AND facial pain OR ocular pain AND corneal hypesthesia OR proptosis OR lid edema OR internal ophthalmoplegia OR external ophthalmoplegia AND sinus opacification [orbital x-ray report] AND fungus infection [culture reports of growth of pathologic fungus] AND fungus granules [pathology report]	STAGE 1.01 + (DX 36752, 36810-36847, 3688-3689, 37181, 37482, 37630, 37855-37856, 37872, 37991, 7840);
3.01	with sepsis	Stage 1.01-2.01 AND sepsis:	STAGE 1.01-2.01 + GROUP SEPSIS;
3.02	with shock	Stage 2.01-3.01 AND shock:	STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.01-3.02 AND death	NO;

References:

- Bennett JE. Mucormycosis. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1156-1158.
- deShazo RD, O'Brien M, Chapin K, Soto-Aguilar M, Gardner L, Swain R. A new classification and diagnostic criteria for invasive fungal sinusitis. Archives of Otolaryngology—Head & Neck Surgery. 1997;123(11):1181-8.
- Hamill RJ. Infectious diseases: mycotic. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:1388-1400.
- Harril WC, Stewart MG, Lee AG, Cernoch P. Chronic rhinocerebral mucormycosis. Laryngoscope. 1996;106(10):1292-7.
- Strasser MD, Kennedy RJ, Adam RD. Rhinocerebral mucormycosis. Therapy with amphotericin B lipid complex. Archives of Internal Medicine. 1996;156(3):337-9.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF20

DXCat Label: Poliomyelitis

Etiology: Infection, Viral

MultiStage: No

Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	Contact with or exposure to poliomyelitis	Added stage 5/8/06 cb	DX V012, V730;
1.01	Abortive poliomyelitis	Polio virus throat isolation [culture report] OR polio antibody rise [acute phase antibodies/convalescent phase antibodies > 4]	DX 04520-04523, 04590-04593;
1.02	with septic meningitis	Stage 1.01 AND virus isolation from CSF [culture report] OR aseptic meningitis:	DX 04500-04503; STAGE 1.01 + DXCAT NEU13;
2.01	Spinal poliomyelitis with monoplegia or paraplegia	Stage 1.02 AND monoplegia OR paraplegia	DX 04510-04513; STAGE 1.01-1.02 + DX 3442-34442;
2.02	Bulbar poliomyelitis with respiratory involvement	Stage 1.02-2.01 AND hypoxemia:	STAGE 1.01-2.01 + GROUP HYPOXEMIA;
3.01	Bulbar poliomyelitis with respiratory failure	Stage 1.02-2.02 AND respiratory failure:	STAGE 1.01-2.02 + GROUP RESP_FAIL;
3.02	Poliomyelitis with shock	Stage 1.02-3.01 AND shock:	STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	Poliomyelitis with death	Stage 1.02-3.02 AND death	NO;

References:

Cohen JI. Enteroviruses and reoviruses. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine, 14th ed. New York, NY: McGraw-Hill; 1998:1118-1123.

Patriarca PA, Foege WH, Swartz TA. Progress in polio eradication. Lancet. 1993;342(8885):1461-1464.

Shandera WX, Carlini ME. Poliomyelitis. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:1244-1246.

Thorsteinsson G. Management of postpolio syndrome. Mayo Clinic Proceedings. 1997;72(7):627-638.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF21

MultiStage: No

DXCat Label: Post-Polio Syndrome

Specificity: A

Etiology: Infection, Viral

Stage	Description	Diagnostic findings	ICD-9-CM Codes
2.01	Post-Polio Syndrome	Post polio syndrome OR Past history of poliomyelitis with functional stability or recovery for \geq ten years AND decreased asymmetric muscle strength distribution OR acute muscle atrophy OR acute musculoskeletal pain OR reduced exercise tolerance OR poor sleep quality with sleep disruption and/or hypersomnolence OR acute dysphagia OR acute dysphonia AND electrophysiologic features of acute denervation superimposed on chronic denervation-reinnervation	DX 138, 73070-73079; DX 73070-73000;
2.02	with progressive nocturnal hypoventilation or sleep apnea	Stage 1.01 AND nocturnal hypoventilation or sleep apnea [polysomnography report]	STAGE 2.01 + (DX 78051, 78053, 78057, 32720, 32726);
2.03	with pulmonary hypertension or cor pulmonale	Stage 2.01-2.02 AND pulmonary hypertension:	STAGE 2.01-2.02 + GROUP COR_PULMONAL; STAGE 2.01-2.02 + (DX 4160, 4168);
3.01	with respiratory failure	Stage 2.01-2.03 AND respiratory failure:	STAGE 2.01-2.03 + GROUP RESP_FAIL;
3.02	with shock	Stage 2.01-3.01 AND shock:	STAGE 2.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;

References:

Bartfeld H and Ma D. Recognizing post-polio syndrome. Hospital Practice. 1996;31:95-107.

Cohen JI. Enteroviruses and reoviruses/poliiovirus. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine, 14th ed. New York, NY: McGraw-Hill; 1998:1120-1121.

Hsu AA, Staats BA. Postpolio sequelae and sleep-related disordered breathing. Mayo Clinic Proceedings 1998;73:216-224.

Nolan P, Beeston P. Post polio syndrome. Australian Family Physician. 1997;26:1055-1059.

Thorsteinsson G. Management of postpolio syndrome. Mayo Clinic Proceedings 1997;72:627-638.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF22

MultiStage: No

DXCat Label: Reye's Syndrome

Specificity: A

Etiology: Infection; Toxicologic

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.01	Reye's syndrome	History of recent convalescence from an upper respiratory tract infection, influenza or varicella in child aged ≤ 16 years old OR history of salicylate use AND disorientation: OR protracted vomiting OR lethargy AND fatty infiltration of the liver [operative or pathology report] OR serum ammonia > 50 mcg/dL [chemistry report] AND AST [SGOT] ≥ 105 u/l [chemistry report] AND ALT [SGPT] ≥ 90 u/l [chemistry report]	DX 33181;
3.02	with hypoglycemia	Stage 3.01 AND hypoglycemia:	STAGE 3.01 + DXCAT END08;
3.03	with hepatic failure	Stage 3.01-3.02 AND hyperammonemia:	STAGE 3.01-3.02 + (DX 570 OR GROUP HYPR_AMMON);
3.04	with seizures	Stage 3.01-3.03 AND seizures	STAGE 3.01-3.03 + DX 78031-78039;
3.05	with respiratory failure	Stage 3.01-3.04 AND respiratory failure:	STAGE 3.01-3.04 + GROUP RESP_FAIL;
3.06	with decerebrate rigidity	Stage 3.01-3.05 AND decerebrate rigidity OR cerebral edema and herniation [CT or MRI scan report]	STAGE 3.01-3.05 + DX 3484 + DX 3485;
3.07	with coma	Stage 3.01-3.06 AND coma:	STAGE 3.01-3.06 + GROUP COMA;
3.08	with shock	Stage 3.01-3.07 AND shock:	STAGE 3.01-3.07 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 3.01-3.08 AND death	NO;

References:

- Balisteri WF. Reye's syndrome. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:1144-1145.
- Glasgow JFT and Moore R. Current concepts in Reye's syndrome. Brit. J. Hosp. Med. 1993;50:599-604.
- Greene CL, Blitzer MG, Shapira E. Inborn errors of metabolism and Reye's syndrome: differential diagnosis. J. Pediatrics 1988;113:156-159.
- Sokol RJ and Narkewicz MR. Liver and pancreas/Reye's syndrome. In: Hay WW, Groosthuss JR, Hayward AR, Levin MJ, eds. Current Pediatric Diagnosis and Treatment. 13th ed. Stamford, CT: Appleton & Lange; 1997:598-599.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF23

MultiStage: No

DXCat Label: Rheumatic Fever

Specificity: A

Etiology: Immune; Infection, Bacterial

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Rheumatic fever with migratory polyarthritis	History of B-hemolytic streptococcal infection AND arthritis: AND ASO titer ≥ 250 u/l [chemistry report] OR antihyaluronidase titer ≥ 1000 u/l [chemistry report] OR anti-DNAse B titer elevated [chemistry report] OR fever: OR migratory polyarthralgia OR PR interval ≥ 0.21 seconds [EKG report] OR ESR ≥ 15 mm/hr. [hematology report]	DX 390;
1.02	with erythema marginatum or subcutaneous nodules	History of B-hemolytic streptococcal infection AND erythema marginatum OR subcutaneous nodules AND ASO titer ≥ 250 u/l [chemistry report] OR antihyaluronidase titer ≥ 1000 u/l [chemistry report] OR anti-DNAse B titer elevated [chemistry report] OR fever: OR migratory polyarthralgia OR PR interval ≥ 0.21 seconds [EKG report] OR ESR ≥ 15 mm/hr. [hematology report]	STAGE 1.01 + (DX 6950, 7822 OR GROUP FEVER);
1.03	with Sydenham's chorea	History of B-hemolytic streptococcal infection AND Sydenham's chorea AND ASO titer ≥ 250 u/l [chemistry report] OR antihyaluronidase titer ≥ 1000 u/l [chemistry report] OR anti-DNAse B titer elevated [chemistry report] OR fever: OR migratory polyarthralgia OR PR interval ≥ 0.21 seconds [EKG report] OR ESR ≥ 15 mm/hr. [hematology report]	DX 3929;
2.01	with carditis	Stage 1.01-1.03 AND rheumatic myocarditis [myocardial biopsy reports Aschoff's lesion] OR myocarditis: OR pericarditis:	DX 3910, 3912-3920, 393, 3980-39890, 39899;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF23

MultiStage: No

DXCat Label: Rheumatic Fever

Specificity: A

Etiology: Immune; Infection, Bacterial

Stage	Description	Diagnostic findings	ICD-9-CM Codes
2.02	with valvular disease or pneumonia	Stage 1.01-2.01 AND mitral stenosis [echocardiogram report] OR mitral insufficiency [echocardiogram report] OR aortic stenosis [echocardiogram report] OR aortic insufficiency [echocardiogram report] OR tricuspid stenosis [echocardiogram report] OR tricuspid insufficiency [echocardiogram report] OR pulmonic stenosis [echocardiogram report] OR pulmonic insufficiency [echocardiogram report]	DX 3940-3963, 3968-3979, 5171;
3.01	with endocarditis	Stage 1.01-2.02 AND endocarditis:	DX 3911;
3.02	with congestive heart failure	Stage 1.03-3.01 AND congestive heart failure:	DX 39891; STAGE 1.01-3.01 + GROUP CHF__NON_HTN;
3.03	with sepsis	Stage 1.01-3.02 AND sepsis:	STAGE 1.01-3.02 + GROUP SEPSIS;
3.04	with respiratory failure	Stage 1.01-3.03 AND respiratory failure:	STAGE 1.01-3.03 + GROUP RESP_FAIL;
3.05	with shock	Stage 2.01-3.04 AND shock:	STAGE 1.01-3.04 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.01-3.05 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF23

MultiStage: No

DXCat Label: Rheumatic Fever

Specificity: A

Etiology: Immune; Infection, Bacterial

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

Bernstein D. Rheumatic heart disease. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:1347-1349.

Dajani AS et al. Guidelines for the diagnosis of rheumatic fever: Jones criteria updated 1992. *Circ*. 1993; 87:302-307.

Kaplan EL. Rheumatic fever. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1309-1311.

Kaplan EL. Recent epidemiology of group A streptococcal infections in North America and abroad: an overview. [Review] [25 refs] [Journal Article. Review. Review, Tutorial] *Pediatrics*. 97(6 Pt 2):945-8, 1996

Massie BM, Amidon TM. Acute rheumatic fever and rheumatic heart disease. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:417-419.

Stollerman GH. Rheumatic fever *Lancet*. 1997;349(9056):935-942.

Todd J. Rheumatic fever. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:754-760.

Wolfe RR, Boucek M, Schaffer MS, and Wiggins, JW. Acquired heart disease. In: Hay WW, Groosthous JR, Hayward AR, Levin MJ, eds. Current Pediatric Diagnosis and Treatment. 13th ed. Stamford, CT: Appleton & Lange; 1997:516-524.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF24

DXCat Label: Rickettsioses

Etiology: Infection

MultiStage: No

Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Uncomplicated rickettsial infection	Rocky Mountain spotted fever (serology report) OR Q fever (serology report) OR endemic typhus (serology report) OR epidemic typhus (serology report) OR Brill-Zinsser disease or prior epidemic typhus infection and recurrence OR Rickettsial pox (by serology report) OR typhus fevers* (serology report) OR scrub typhus (serology report) *includes: fever boutonneuse, Indian tick typhus, Kenya tick typhus, South Africal tick typhus <u>Presumptive diagnostic findings by:</u> history of tick, louse or mite bite AND hemorrhagic maculopapular rash AND regional lymphadenitis AND malaise, headache and fever	DX 080-0839; DX 080-0839 + GROUP FEVER;
2.01	Q fever with pneumonia or hepatitis	Q fever [serology report] AND pneumonia: OR hepatitis:	DX 0830 + (DXCAT HEP04 OR DXCAT HEP05 OR DXCAT HEP06 OR DXCAT HEP07 OR DXCAT HEP08 OR DXCAT HEP09 OR DXCAT RES15 OR DXCAT RES16 OR DXCAT RES17 OR DXCAT RES19);
2.02	Disseminated intravascular coagulation or gangrene	Stage 1.01 AND DIC: OR gangrene [operative/pathology report]	STAGE 1.01-2.01 + (DX 7854 OR GROUP DIC);
3.01	Rocky Mountain spotted fever with renal failure	Rocky Mountain spotted fever[serology report] AND renal failure:	DX 0820 + (GROUP REN_FAIL_ACU OR GROUP REN_FAIL_CHR);
3.02	Q fever with disorientation	Stage 2.01 AND disorientation:	DX 0830 + GROUP DISORIENT;
3.03	Q fever with endocarditis	Stage 2.01 AND endocarditis:	DX 0830 + GROUP ENDOCARDITIS;
3.04	with shock	Stage 1.01-3.03 AND shock:	STAGE 1.01-3.03 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.01-3.04 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF24

MultiStage: No

DXCat Label: Rickettsioses

Specificity: A

Etiology: Infection

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

Brouqui P, Harle JR, Delmont J, Frances C, Weiller PJ, Raoult D. African tick-bite fever. an imported spotless rickettsiosis. Archives of Internal Medicine. 1997;157(1):119-24.

Shandera WX, Carlini ME. Infectious diseases: viral & rickettsial. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:1231-1267.

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Walker DH, Barbour AG, Oliver JH. Emerging bacterial zoonotic and vector-borne diseases. Ecological and epidemiological factors. JAMA. 1996;275(6):463-9.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF25

MultiStage: No

DXCat Label: Rubella: Acquired

Specificity: A

Etiology: Infection, Viral

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	Contact with or exposure to rubella		DX V014, V733;
1.01	Rubella	Rubella titer shows \geq 4 fold rise in titer [IgG serology report] AND coryza OR lymphadenopathy OR pinpoint "scarlatiniform" rash	DX 05679-0569;
1.02	with otitis media	Stage 1.01 AND otitis media	STAGE 1.01 + (DX 38013 OR DXCAT ENT18);
2.01	with arthralgia	Stage 1.01 AND arthralgia	STAGE 1.01-1.02 + DX 71950-71959;
2.02	with arthritis	Stage 1.01-2.01 AND arthritis:	DX 05671;
2.03	with hepatitis	Stage 1.01-2.02 AND hepatitis:	STAGE 1.01-2.02 + (DXCAT HEP04 OR DXCAT HEP05 OR DXCAT HEP06 OR DXCAT HEP07 OR DXCAT HEP08 OR DXCAT HEP09 OR GROUP HEPATITIS);
2.04	with thrombocytopenic purpura	Stage 1.01-2.03 AND purpuric rash of the skin AND thrombocytopenia:	STAGE 1.01-2.03 + (DX 2873-2875, 4466);
2.05	with bronchopneumonia	Stage 1.01-2.04 AND bronchopneumonia [chest x-ray report]	STAGE 1.01-2.04 + (DX 4808-4809, 485-486);
3.01	with myocarditis	Stage 1.01-2.04 AND myocarditis:	STAGE 1.01-2.05 + (DX 4220, 42290-42292);
3.02	with encephalitis	Stage 1.01-3.01 AND encephalitis:	DX 05600-05609;
3.03	with respiratory failure	Stage 1.01-3.02 AND respiratory failure:	STAGE 1.01-3.02 + GROUP RESP_FAIL;
3.04	with coma	Stage 1.01-3.03 AND coma:	STAGE 1.01-3.03 + GROUP COMA;
4.00	with death	Stage 2.01-3.02 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF25

MultiStage: No

DXCat Label: Rubella: Acquired

Specificity: A

Etiology: Infection, Viral

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

Banatvala JE. Rubella--could do better. *Lancet*. 351(9106):849-50, 1998 Mar 21.

Beers MH, Berkow R, eds. Rubella. In: *Merck Manual*. 17th ed. Whitehouse Station, NJ: Merck Research Laboratories; 1999:2327-2329.

Gershon A. Rubella (German measles). In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. *Harrison's Principles of Internal Medicine*. 14th ed. New York, NY: McGraw-Hill; 1998:1125-1127.

Maldonado Y. Rubella. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. *Nelson Textbook of Pediatrics*. 15th ed. Philadelphia, PA: WB Saunders; 1996:871-873.

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Shandera WX, Carlini ME. Infectious diseases: viral & rickettsial. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. *Current Medical Diagnosis & Treatment*. Stamford, CT: Appleton & Lange; 1998:1231-1267.

Thomas DR, Salmon RL, King J. Rates of first measles-mumps-rubella immunisation in Wales (UK). *Lancet*. 1998;351(9120):1927.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF26

DXCat Label: Schistosomiasis

Etiology: Infection

MultiStage: No

Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Schistosoma dermatitis or swimmer's itch	History of swimming in endemic area AND pruritic papular dermatitis AND schistosome dermatitis [biopsy report]	DX 1203-1209;
1.02	Acute schistosomiasis	Antibodies to Schistosoma [serology report] AND Fever: AND malaise OR myalgia OR diarrhea OR weakness	DX 1201-1202; STAGE 1.01 + GROUP FEVER + (DX 0092-0093, 7291, 78079);
2.01	with cystitis or colitis	Hematuria: AND Schistosoma ova in stools [stool exam report] OR Schistosoma ova in urine [urinalysis report]	DX 1200; STAGE 1.01-1.02 + (DX 0090- 0091, 55842, 5589, 5950, 59589- 5959);
2.02	with hydroureter or hydronephrosis	Schistosoma ova in urine [urinalysis report] AND hydroureter [intravenous pyelogram report] OR hydronephrosis [intravenous pyelogram report]	STAGE 1.01-2.01 + (DX 591, 5935);
2.03	with liver fibrosis	Stage 1.01-2.02 AND liver fibrosis [wedge biopsy report]	STAGE 1.01-2.02 + (DX 5715, 5718-5719);
2.04	with cor pulmonale	Stage 1.01-2.03 AND cor pulmonale:	STAGE 1.01-2.03 + GROUP COR_PULMONAL;
3.01	with renal failure	Stage 1.01-2.04 AND renal failure:	STAGE 1.01-2.04 + (GROUP REN_FAIL_ACU OR GROUP REN_FAIL_CHR);
3.02	with central nervous system lesions	Stage 1.01-3.01 AND mass lesions in brain or spinal cord [CT scan report or MRI report]	STAGE 1.01-3.01 + (DX 3369, 3488);
3.03	with coma	Stage 1.01-3.02 AND coma:	STAGE 1.01-3.02 + GROUP COMA;
3.04	with shock	Stage 1.01-3.03 AND shock:	STAGE 1.01-3.03 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.01-3.04 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF26

MultiStage: No

DXCat Label: Schistosomiasis

Specificity: A

Etiology: Infection

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF27

MultiStage: No

DXCat Label: Syphilis: Acquired

Specificity: A

Etiology: Infection, Bacterial

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Primary syphilis	Chancre at point of initial contact AND spirochetes in wound or lymph nodes [immunofluorescence or hemagglutination antibody or dark field or microscopy report] OR FTA test \geq 1:4 dilutions [serology report]	DX 0910-0912, 0920, 0929, 096-0979;
2.01	Secondary syphilis	Maculopapular skin rash OR mucocutaneous lesions OR generalized lymphadenopathy AND FTA test \geq 1:4 dilutions [serology report]	DX 0913-0914, 0917, 09182-0919;
2.02	Secondary syphilis with uveitis	Stage 2.01 AND uveitis	DX 09150-09152;
2.03	Asymptomatic neurosyphilis	Stage 1.01-2.02 AND FTA of spinal fluid \geq 1:4 dilutions [serology report]	DX 0943, 09489-0949;
2.04	Syphilis with visceral crisis	Stage 1.01-2.03 AND paroxysms of pain in abdomen OR paroxysms of pain in rectum OR paroxysms of pain in bladder	DX 09169;
2.05	Tertiary syphilis or syphilis involving the liver or spleen or kidney or joints or bones	Stage 1.01-2.04 AND mass lesion in liver demonstrates syphilis [biopsy report] OR mass lesion in spleen demonstrates syphilis [biopsy report] OR syphilis glomerulitis [biopsy report] OR arthritis: OR osteomyelitis:	DX 09161-09162, 0950-0959;
3.01	Cardiovascular syphilis	Stage 1.01-2.05 AND aortitis [operative/pathology report] OR thoracic aneurysm [operative/pathology report] OR myocarditis: OR aortic insufficiency [echocardiogram report]	DX 0930-0939;
3.02	Syphilitic meningitis	Meningitis AND FTA of spinal fluid \geq 1:4 dilutions [serology report]	DX 09181, 0942;
3.03	Meningovascular syphilis	Stage 1.01-3.02 AND tabes dorsalis OR locomotor ataxia OR dementia paralytica OR generalized paresis OR disorientation:	DX 0940-0941, 09481-09487;
3.04	Syphilis with congestive heart failure	Stage 1.01-3.03 AND congestive heart failure:	STAGE 1.01-3.03 + GROUP CHF_NON_HTN;
3.05	Syphilis with shock	Stage 1.03-3.04 AND shock:	STAGE 2.03-3.04 + (GROUP SHOCKC OR GROUP SHOCKN) ;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF27

MultiStage: No

DXCat Label: Syphilis: Acquired

Specificity: A

Etiology: Infection, Bacterial

Stage	Description	Diagnostic findings	ICD-9-CM Codes
4.00	Syphilis with death	Stage 1.01-3.05 AND death	NO;

References:

- Gordon SM, Eaton ME, George R, et al. The response of symptomatic neurosyphilis to high-dose intravenous penicillin G in patients with human immunodeficiency virus infection. *N Engl J Med.* 1994;331(22):1469-73.
- Jacobs RA. Infectious diseases: spirochetal. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. *Current Medical Diagnosis & Treatment.* Stamford, CT: Appleton & Lange; 1998:1304-1324.
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- Malone JL, Wallace MR, Hendrick BB, et al. Syphilis and neurosyphilis in a human immunodeficiency virus type-1 seropositive population: evidence for frequent serologic relapse after therapy. *American Journal of Medicine.* 1995;99(1):55-63.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF28

MultiStage: No

DXCat Label: Tetanus

Specificity: A

Etiology: Infection, Bacterial

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Tetanus	History of wound contamination OR umbilical cord contamination AND spasticity of musculature at the area of the wound OR stiffness of the jaw OR stiffness of facial musculature OR dysphagia OR hyperactive deep tendon reflexes	DX 037, 7713;
1.02	with rigidity	Stage 1.01 AND rigidity of jaw OR rigidity of facial musculature OR risus sardonius	NO;
2.01	with reflex spasms	Stage 1.01-1.02 AND spasms precipitated by deep tendon reflexes OR minimal motor stimuli	NO;
2.02	with fracture of vertebrae	Stage 1.01-2.01 AND fracture(s) of thoracic or lumbar vertebrae [spine x-ray reports]	STAGE 1.01 + DX 8052-8055;
2.03	with deep vein thrombosis	Stage 1.01-2.02 AND DVT:	STAGE 1.01-2.02 + GROUP DVT;
2.04	with aspiration pneumonia	Stage 1.01-2.03 AND aspiration pneumonia	STAGE 1.01-2.03 + DX 5070;
2.05	obstructive apnea or laryngospasm	Stage 1.01-2.04 AND obstructive apnea OR laryngospasm	STAGE 1.01-2.04 + (DX 47875, 78603);
3.01	with pulmonary emboli	Stage 1.01-2.05 AND pulmonary embolism:	STAGE 1.01-2.05 + GROUP PULMEMB;
3.02	with myocarditis	Stage 1.01-3.01 AND myocarditis:	STAGE 1.01-3.01 + (DX 4220, 42290, 42291, 42299) ;
3.03	with sepsis	Stage 1.01-3.02 AND sepsis:	STAGE 1.01-3.02 + (DX 0383, 0388-0389, 41512);
3.04	with respiratory failure	Stage 1.01-3.03 AND respiratory failure:	STAGE 1.01-3.03 + GROUP RESP_FAIL;
4.00	with death	Stage 1.01-3.04 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF28

MultiStage: No

DXCat Label: Tetanus

Specificity: A

Etiology: Infection, Bacterial

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

Abrutyn E. Tetanus. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:901-904.

Arnon, Stephen. Tetanus" In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics, 15th ed. Philadelphia, PA: WB Saunders, 1996; 815-817.

Attygalle D, Karalliedde. Unforgettable Tetanus. European Journal of Anaesthesiology. 1997;14:122-133.

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Finegold, S. Aspiration pneumonia. Reviews of Infectious Diseases 1991; 13(Suppl 9):S737-42.

Galazka A, Gasse F. The present status of tetanus and tetanus vaccination. Current Topics in Microbiology & Immunology 1995; 195:31-53.

Ogle, JW. Infections: bacterial and spirochetal/tetanus. In: Hay WW, Groosthous JR, Hayward AR, Levin MJ, eds. Current Pediatric Diagnosis and Treatment. 13th ed. Stamford, CT: Appleton & Lange; 1997:1022-1023.

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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF29

MultiStage: No

DXCat Label: Toxoplasmosis: Acquired

Specificity: A

Etiology: Infection

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Asymptomatic	Toxoplasmosis: [IgG antibodies present against Toxoplasma gondii by Sabin-Feldman dye test \geq 1:4 or indirect fluorescent antibody \geq 1:10 or indirect hemagglutination test = 1:16 or complement fixation test \geq 1:4 or ELISA titer \geq 2 or positive tissue culture report or tachyzoites of Toxoplasma gondii in tissue or body fluids per operative/pathology report]	DX 1307, 1309;
1.02	Acute toxoplasmosis with lymphadenitis	Enlarged lymph nodes AND antibodies present against Toxoplasma gondii in high titers [IgG Sabin-Feldman dye test \geq 1:1000 or indirect fluorescent antibody \geq 1:1000 or indirect hemagglutination test \geq 1:1000 or complement fixation test \geq 1:4 or ELISA titer \geq 6] OR isolation of Toxoplasma gondii from body fluids [tissue culture report]	STAGE 1.01 + (DX 2891-2893, 683, 7856);
2.01	Acute Toxoplasma mononucleosis syndrome	Stage 1.02 AND hepatosplenomegaly OR maculopapular rash OR jaundice:	DX 1305; STAGE 1.02 + (DX 5781, 7891, 7892);
2.02	with chorioretinitis	Stage 1.01-2.01 AND chorioretinitis [ophthalmologist's report]	DX 1301-1302;
2.03	with chorioretinitis and blindness	Stage 2.02 AND blindness: AND macular scar [ophthalmologist's report] OR retinal detachment [ophthalmologist's report] OR optic nerve atrophy [ophthalmologist's report]	STAGE 2.02 + GROUP BLINDNESS;
2.04	Toxoplasma pneumonia	Stage 1.02-2.03 AND pneumonia:	DX 1304;
3.01	Toxoplasma myocarditis	Stage 1.02-2.04 AND myocarditis:	DX 1303;
3.02	with disseminated toxoplasmosis	Stage 1.02-3.01 AND disseminated toxoplasmosis	DX 1308;
3.03	with meningoencephalitis	Stage 1.01-3.02 AND Toxoplasma gondii in CSF or brain [tissue culture report or tachyzoites of Toxoplasma gondii in tissue operative/pathology report] <u>Presumptive Diagnostic Findings:</u> Toxoplasma meningoencephalitis [MRI or CT scan report]	DX 1300;
3.04	with coma	Stage 1.01-3.03 AND coma:	STAGE 1.01-3.03 + GROUP COMA;
4.00	with death	Stage 2.02-3.04 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF29

MultiStage: No

DXCat Label: Toxoplasmosis: Acquired

Specificity: A

Etiology: Infection

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

American Academy of Pediatrics. Toxoplasma gondii infections. In Peter G, ed. 1997 Red Book: Report on the Committee on Infectious Diseases. 24th ed. Elk Grove Village, IL: American Academy of Pediatrics; 1997:531-535.

Goldsmith RS. Infectious diseases: protozoal and helminthic/toxoplasmosis. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:1353-1356.

Kasper LH. Toxoplasma infections. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1197-1202.

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McLeod R, Remington JS. Toxoplasmosis. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:978-987.

Weinberg A, Levin MJ. Parasitic and mycotic infections/toxoplasmosis. In: Hay WW, Groosthus JR, Hayward AR, Levin MJ, eds. Current Pediatric Diagnosis and Treatment. 13th ed. Stamford, CT: Appleton & Lange; 1997: 1074-76.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF30

MultiStage: No

DXCat Label: Varicella (Chickenpox)

Specificity: A

Etiology: Infection, Viral

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Varicella	Pruritic generalized vesicular rash with an erythematous base and centripetal distribution OR Varicella [Tzanck test OR skin biopsy (pathology report OR isolation of virus from lesions [tissue culture report] OR acute phase H. zoster antibodies/convalescent phase H. zoster antibodies >4.0 [serology report]	DX 0528-0529;
1.02	with orchitis	Stage 1.01 AND scrotal tenderness	DX 0527;
1.03	with arthritis	Stage 1.01-1.02 AND limited range of motion of joints AND arthralgia AND swelling of joints	STAGE 1.01-1.02 + GROUP ARTHR_SEPTIC;
1.04	with neuralgia	Stage 1.03 AND neuralgia	STAGE 1.01-1.03 + DX 05310-05319;
1.05	with conjunctivitis or keratitis	Stage 1.1-1.4 AND varicella keratitis [ophthalmology report] OR conjunctivitis	STAGE 1.01-1.04 + DX 05320-05329;
2.01	with pneumonia	Stage 1.1-1.5 AND new parenchymal infiltrate (chest x-ray report)	DX 0521;
2.02	with hepatitis	Stage 1.01-2.01 AND hepatitis:	STAGE 1.01-2.01 + DXCAT HEP04 OR DXCAT HEP05 OR DXCAT HEP06 OR DXCAT HEP07 OR DXCAT HEP08 OR DXCAT HEP09;
2.03	with thrombocytopenia	Stage 1.01-1.03 AND 2.01-2.02 AND thrombocytopenia:	STAGE 1.01-2.02 + GROUP THRMBCYTPEN;
3.01	with myocarditis	Stage 1.01-1.03 AND 2.01-2.03 AND myocarditis:	STAGE 1.01-2.03 + (DX 4220, 42290, 42292, 42299) ;
3.02	with renal failure	Stage 1.01-3.01 AND renal failure:	STAGE 1.01-3.01 + (GROUP REN_FAIL_ACU OR GROUP REN_FAIL_CHR);

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF30

MultiStage: No

DXCat Label: Varicella (Chickenpox)

Specificity: A

Etiology: Infection, Viral

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.03	with Reye's syndrome	Reye's syndrome OR History of recent convalescence from an upper respiratory tract infection, influenza or varicella in child aged \leq 16 years old AND disorientation: OR vomiting OR lethargy AND fatty infiltration of the liver (operative or pathology report) OR serum ammonia $>$ 50 mcg/dL (chemistry report) AND AST (SGOT) \geq 105 u/l (Chemistry report) AND ALT (SGPT) \geq 90 u/l (chemistry report)	STAGE 1.01-3.02 + GROUP REYE_S;
3.04	with meningoencephalitis	Stage 1.01-1.03 and 2.01-3.03 AND aseptic meningitis: AND ataxia OR nystagmus OR paralysis	DX 0520, 0522; STAGE 1.01-3.03 + DX 0530;
3.05	with coma	Stage 1.01-3.04 AND coma:	STAGE 1.01-3.04 + GROUP COMA;
3.06	with shock	Stage 1.01-3.05 AND shock:	STAGE 1.01-3.05 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 1.01-3.06 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF30

MultiStage: No

DXCat Label: Varicella (Chickenpox)

Specificity: A

Etiology: Infection, Viral

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

Anonymous. Leprosy. Report of a meeting of physicians and scientists at the all India Institute of Medical Sciences, New Delhi. <i>Lancet</i> . 1995;345(8951):697-703.
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Stover BH, Bratcher DF. Varicella-zoster virus: infection, control, and prevention. <i>American Journal of Infection Control</i> . 1998;26(3):369-81.
Whitley RJ. Varicella-zoster virus infections. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. <i>Harrison's Principles of Internal Medicine</i> . 14th ed. New York, NY: McGraw-Hill; 1998:1086-1089.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF31

MultiStage: No

DXCat Label: Chancroid

Specificity: A

Etiology: Infection, Bacterial

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Soft chancre	Shallow ulcers with ragged edges AND nonindurated ulcers AND inguinal adenopathy AND Hemophilus ducreyi infection [culture reports growth of Hemophilus ducreyi]	DX 0990;
2.01	Chancroid with phimosis	Stage 1.01 AND phimosis	STAGE 1.01 + DX 605;
2.02	with urethral stricture	Stage 1.01-2.01 AND urethral stricture [cystoscopy report]	STAGE 1.01-2.01 + (DX 59800-59801, 5969);
2.03	with urethral fistula	Stage 1.01-2.02 AND urethral fistula [barium enema report] OR urine from rectum	STAGE 1.01-2.02 + (DX 5991, 60889, 6190);

References:

Chambers HF. Infectious diseases: bacterial & chlamydial. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. In: Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:1267-1304.

Marrazzo JM, Handsfield HH. Chancroid: new developments in an old disease. Current Clinical Topics in Infectious Diseases. 1995;15:129-52.

Murphy TF, Kasper DL. Infections due to haemophilus influenzae, other haemophilus species, the HACEK Group, and other gram-negative bacilli. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:924-928.

Murphy TF, Kasper DL. Infections due to haemophilus influenzae, other haemophilus species, the HACEK Group, and other gram-negative bacilli. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:924-928.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF80

MultiStage: No

DXCat Label: Anthrax

Specificity: A

Etiology: Infection, Bacterial

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	Contact with or suspected or known exposure to Anthrax		DX V0181, V7182;
1.01	Cutaneous or unspecified anthrax, or culture positive for anthrax		DX 0220, 0228-0229, 79531;
2.01	Gastrointestinal anthrax		DX 0222;
3.01	Pulmonary anthrax		DX 0221, 4845;
3.02	Anthrax septicemia		DX 0223;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF81

DXCat Label: Malaria

Etiology: Infection

MultiStage: No

Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	Personal history of malaria or screening for malaria		DX V1203, V751;
1.01	Malaria, uncomplicated		DX 0840-0847;
2.01	Malaria complicated by anemia, thrombocytopenia, or other non-specific condition		STAGE 1.01 + (GROUP ANEM_DEF_B12 OR GROUP ANEM_DEF_FE OR GROUP ANEM_DEF_FOL OR GROUP ANEM_DEF_OTH OR GROUP ANEM_HEM_ACQ OR GROUP ANEM_OTH_CHR OR GROUP ANEM_OTH_UN OR GROUP THRMBCYTPEN); DX 0849;
2.02	Blackwater fever or malaria with jaundice, hepatomegaly, splenomegaly, hepatitis, retinal hemorrhages, or nephrosis		DX 0848; STAGE 1.01-2.01 + (DX 36281, 7891-7892, 5732, 58181, 7824);
3.01	with respiratory failure		STAGE 1.01-2.02 + GROUP RESP_FAIL;
3.02	with encephalitis or shock		STAGE 1.01-3.01 + (DX 3232, 3230-32302, 3234-3239 OR GROUP SHOCKC OR GROUP SHOCKN) ;
3.03	with coma		STAGE 1.01-3.02 + GROUP COMA;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF82

DXCat Label: Other Bacterial Infections

Etiology: Infection, Bacterial

MultiStage: No

Specificity: C

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	Contact with or exposure to E. coli		DX V0183, V746-V749;
1.01	Other bacterial infections		DX 0230-0239, 0260-0269, 0271, 0278-0279, 0311, 0318-0319, 0390, 0392-0399, 04042, 04081, 04089, 04100-04111, 04119-0417, 04182-04185, 04189-0419, 0992, 0998-0999, 10089-1009, 1020-1023, 1027-1030, 1039-1049, 7907;
2.01	with pulmonary manifestations		DX 0310;
2.02	Bacteremia, yaws, or icterohemorrhagica		DX 0312, 1000, 1024-1026, 1031-1033;
2.03	Infection with endocarditis		STAGE 1.01-2.02 + GROUP ENDOCARDITIS;
3.01	Leptospiral meningitis		DX 10081;
3.02	Septicemia		DX 0380-03811, 03819-0389; STAGE 2.03 + (DX 41512, 449); DX 78552;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF83

MultiStage: No

DXCat Label: Other Fungal Infections

Specificity: C

Etiology: Infection

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	Screening for mycotic diseases		DX V754;
1.01	Superficial dermatophytosis and dermatomycosis		DX 1100-1119;
1.02	Subcutaneous and systemic mycoses		DX 1160-1172, 1174, 1176, 1178-118, 4847;
3.01	Meningitis in other fungal diseases		DX 3211;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF84

MultiStage: No

DXCat Label: Other Infectious and Parasitic Infections

Specificity: C

Etiology: Infection

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	Contact with or exposure to other communicable diseases including unspecified venereal disease or positive culture, screening exams		DX 7953, V016-V018, V0189-V019, V745, V750, V752-V753, V755-V759;
1.01	Leishmaniasis, trypanosomiasis, relapsing fever, helminthiasis, or other skin involvement		DX 0850-0859, 0862-0869, 0870-0879, 0880, 08882-0889, 1210-1219, 1222-1224, 1226-1239, 1250-1259, 1270-129, 13100, 13109, 1318-1319, 1320-1329, 1338-1349, 1360-13629, 1364-1369, 79539;
1.02	Infection with drug resistant organisms		DX V090-V0991, 04112;
2.01	with non-cardiac organ involvement		DX 0861, 1220-1221, 1225, 1398, 4848;
2.02	with cardiac system involvement		DX 0860;
3.01	with central nervous system involvement		DX 3213, 3218, 3231-3232;
3.02	Methicillin resistant septicemia		STAGE 1.02 + GROUP SEPSIS; DX 03812;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: INF85

DXCat Label: Other Viral Infections

Etiology: Infection, Viral

MultiStage: No

Specificity: C

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	Contact with or exposure to smallpox or rabies or screening exams for viral infections		DX V013, V015, V731, V734-V735, V7381, V7389, V7399;
1.01	Viral warts other than condyloma acuminatum		DX 07810, 07812, 07819;
1.02	Other viral exanthems, fevers, mumps or rabies		DX 0500-0519, 0570-0579, 05900-0599, 0600-061, 0660-06640, 06642-0669, 071, 07279-0728, 0772-0778, 07799-0780, 0782-0784, 0786, 07881-07882, 07889-0790, 0793-07959, 07983, 0799, 07999, 7908;
2.01	Viral hemorrhagic conditions, respiratory involvement or mumps orchitis, pancreatitis, hepatitis, or polyneuropathy		DX 0650-0659, 0720-0721, 0723-07272, 0730-0739, 0787;
3.01	Mumps meningitis or encephallitis, or West Nile encephalitis or meningitis due to other viral infections		DX 06641, 0722, 3212;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MGS01

MultiStage: No

DXCat Label: Benign Prostatic Hypertrophy

Specificity: A

Etiology: Degenerative

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Benign prostatic hypertrophy	Benign prostatic hypertrophy [operative/pathology report or ultrasound report or physical exam report] AND PSA < 4 ng/dl [serum chemistry report]	DX 600-60000, 6001-60010, 6002-60020, 6009-60090 ;
1.02	with urinary tract infection	Stage 1.01 AND UTI:	STAGE 1.01 + DXCAT GUS10;
2.01	with bladder outlet obstruction	Stage 1.01-1.02 AND bladder hypertrophy [excretory urogram report/operative cystoscopy report] OR elevated post void residual urine [excretory urogram, ultrasound or catheterized sample] OR American Urological Association Symptom Index \geq 20	DX 60001, 60011, 60021, 60091; STAGE 1.01-1.02 + (DX 5935, 5960, 5996-59969);
2.02	with hydronephrosis	Stage 1.01-2.01 AND hydronephrosis [excretory urogram or ultrasound or CT scan report]	STAGE 1.01-2.01 + DX 591;
3.01	with renal failure	Stage 1.01-2.02 AND renal failure:	STAGE 1.01-2.02 + GROUP REN_FAIL_ACU;
3.02	with sepsis	Stage 1.02-3.01 AND sepsis:	STAGE 1.02-3.01 + GROUP SEPSIS;
3.03	with shock	Stage 1.02-3.02 AND shock:	STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 1.02-3.03 AND death	NO;

References:

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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MGS02
 DXCat Label: Cryptorchidism
 Etiology: Congenital

MultiStage: No
 Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Undescended testis or cryptorchidism	Undescended testis [imaging study confirms physical examination]	DX 75251-75252;
1.02	with sterility	Stage 1.01 AND sterility	STAGE 1.01 + (DX 6060-6061, 6069);
1.03	with indirect inguinal hernia	Stage 1.01-1.02 AND indirect inguinal hernia [operative/pathology report]	STAGE 1.01-1.02 + DX 55000-55093;
2.01	with torsion of the testis	Stage 1.01-1.03 AND torsion of the testis [operative/pathology report]	STAGE 1.01-1.03 + DX 6082-60823;
2.02	with development of testicular malignancy (see Staging of Testicular Cancer)	Stage 1.01-2.01 AND malignancy of testicle [operative/pathology report]	STAGE 1.01-2.01 + DX 1860;

References:

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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MGS03
 DXCat Label: Gonorrhea: Male
 Etiology: Infection, Bacterial

MultiStage: No
 Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Carrier or suspected carrier of gonorrhea		DX V027 + MALE;
1.02	Gonococcal urethritis or pharyngitis or proctitis or conjunctivitis	Gonococci in exudates [gram stain of exudates report] OR gonococcal infection [culture reports growth of Neisseria gonorrhoeae report] OR gonococcal conjunctivitis [gram stain of exudates report] OR gonococcal pharyngitis [gram stain of exudates report] OR gonococcal proctitis [gram stain of exudates report]	(DX 0980-09811, 09819-09831, 09839, 09841-09849, 0986-0987) + MALE; AGE 1-124 + DX 09840 + MALE;
1.03	Gonococcal epididymitis	Stage 1.02 AND inguinal pain OR spermatic cord pain OR edema of scrotum AND erythema of scrotum AND tenderness of scrotum	(DX 09813-09814, 09833-09834) + MALE;
1.04	with acute prostatitis	Stage 1.02-1.03 AND prostatitis:	(DX 09812, 09832) + MALE;
2.01	with gonococcal skin infection	Stage 1.02-1.04 AND gonococcal skin infection [skin wound culture reports growth of Neisseria gonorrhoeae]	DX 09881 + MALE;
2.02	with peritonitis	Stage 1.02-2.01 AND peritonitis [operative/pathology report]	DX 09886 + MALE;
2.03	with arthritis	Stage 1.02-2.02 AND arthritis:	DX 09850-09859 + MALE;
3.01	Gonococcal endocarditis or pericarditis	Stage 1.02-2.03 AND endocarditis:	DX 09883-09885 + MALE;
3.02	Infection with meningitis	Stage 1.02-3.01 AND meningitis:	DX 09882 + MALE;
3.03	with congestive heart failure	Stage 3.01-3.02 AND congestive heart failure:	STAGE 3.01-3.02 + GROUP CHF__NON_HTN;
3.04	with sepsis	Stage 1.02-3.03 AND sepsis:	DX 09889 + MALE; STAGE 1.02-3.03 + (DX 03840, 03849-0389, 41512, 449);
3.05	with shock	Stage 2.02-3.04 AND shock:	STAGE 2.02-3.04 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.02-3.05 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MGS03

MultiStage: No

DXCat Label: Gonorrhea: Male

Specificity: A

Etiology: Infection, Bacterial

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MGS04

MultiStage: No

DXCat Label: Neoplasm, Malignant: Breast, Male

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	History of carcinoma of the breast		DX V103 + MALE;
1.01	in situ	Carcinoma of the breast in situ [operative/pathology report] OR American Joint Committee on Cancer Stage 0	DX 2330 + MALE;
1.02	Malignant neoplasm of the breast of unspecified size or malignant cysosarcoma phyllodes	Malignant neoplasm of the breast of unspecified size or malignant cysosarcoma phyllodes [operative/pathology report]	DX 1750-1759 + MALE;
1.03	≤ 2 cm in diameter	Carcinoma of the breast ≤ 2.0 cm in diameter [operative/pathology report] AND no lymph node involved [operative/pathology report] OR American Joint Committee on Cancer Stage 1	NO;
1.04	> 2 cm and ≤ 5 cm in diameter or single ipsilateral node involved	Carcinoma of the breast > 2 and ≤ 5.0 cm in diameter [operative/pathology report] OR < 1 ipsilateral lymph node involved [operative/pathology report] OR American Joint Committee Stage 2a	STAGE 0.00-1.02 + DX 1963;
2.01	> 5 cm in diameter	Carcinoma of the breast > 5.0 cm in diameter [operative/pathology report] OR American Joint Committee Stage 2b	NO;
3.01	Nodal involvement with fixation	> 1 ipsilateral node with fixation [operative/pathology report] OR American Joint Committee Stage 3a	NO;
3.02	Tumor extension to skin or tumor extension to chest or internal mammary node involvement	Tumor extension to skin [operative/pathology report] OR tumor extension to chest [operative/pathology report] OR internal mammary node involvement [operative/pathology report] OR American Joint Committee Stage 3b	STAGE 0.00-1.04 + (DX 3383, 1961, 1970-1973, 1982);
3.03	with metastasis	Carcinoma of the breast involving the lungs [operative/pathology report or chest x-ray or CT scan] OR carcinoma of the breast involving the liver [operative/pathology report or CT scan or liver/spleen scan] OR carcinoma of the breast involving the skeletal system [operative/pathology report or bone scan or x-ray] OR American Joint Committee Stage 4	STAGE 0.00-3.02 + (DX 1960, 1962, 1965, 1968-1969, 1974-1981, 1984-1985, 1987-1991, 78951);
4.00	and death	Stage 1.02-3.02 AND death	NO;

References:

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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MGS05

MultiStage: No

DXCat Label: Neoplasm, Malignant: Penile

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Cancer in situ of penis	Carcinoma in situ [operative/pathology report] OR Stage TIS	DX 2335, 2336;
1.02	Localized penile cancer	Noninvasive verrucous carcinoma [operative/pathology report] OR Stage Ta	DX 1871-1872, 1874;
1.03	Superficially invasive	Tumor invades subepithelial connective tissue [operative/pathology report] OR Stage T1	NO;
2.01	with corporal body invasion	Tumor invades corpus spongiosum or cavernosum [operative/pathology report] OR Stage T2	DX 1873;
2.02	with invasion of adjacent structures	Tumor invades urethra or prostate [operative/pathology report] OR Stage T3	DX 1878-1879; STAGE 1.02-2.01 + (DX 3383, 1981, 19882);
2.03	with invasion of adjacent organs	Tumor invades other adjacent structures [operative/pathology report] OR T4	NO;
2.04	with involvement of a single lymph node	Metastasis in a single superficial inguinal lymph node [operative/pathology report] OR Stage N1	STAGE 1.02-2.02 + DX 1965;
3.01	with involvement of multiple lymph nodes	Metastasis in multiple or bilateral superficial inguinal lymph nodes [operative/pathology report] OR Stage N2	NO;
3.02	with involvement of pelvic lymph nodes	Metastasis in deep inguinal or pelvic lymph node(s), unilateral or bilateral [operative/pathology report] OR Stage N3	STAGE 1.02-2.04 + DX 1966;
3.03	with distant metastasis	Metastasis beyond pelvis such as lung, liver or other organs [operative/pathology report] OR M1	STAGE 1.02-3.02 + (DX 1960- 1963, 1968-1980, 1982-19881, 19889-1991, 78951);
3.04	with shock	Stage 2.01-3.03 AND shock:	STAGE 2.01-3.03 + (GROUP SHOCKN OR GROUP SHOCKC) ;
4.00	with death	Stage 2.01-3.04 AND death	NO;

References:

Epperson WJ. Male genital cancers. Prim Care. 1998;25(2): 459-72.

Fleming ID, Cooper JS, Henson DE, Hutter RVP, Kennedy BJ, Murphy GP, O'Sullivan B, Yabro JW ed. AJCC Cancer Staging Manual. Lippincott, Philadelphia 1997.

Herr HW, et al. Cancer of the Urethra and Penis. In: DeVita ed. Cancer: Principles and Practice of Oncology, 5th ed. Philadelphia, PA: Lippincott-Raven; 1997:1390-1394.

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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MGS06

MultiStage: No

DXCat Label: Neoplasm, Malignant: Prostate

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	History of carcinoma of the prostate		DX V1046;
1.01	Less than 3 microscopic areas of carcinoma on prostate	No palpable tumor AND ≤ 3 high power fields of carcinoma [TURP operative/pathology report] OR Stage T1a	DX 2334;
1.02	Greater than 3 areas of microscopic carcinoma on prostate	No palpable tumor AND > 3 high power fields of carcinoma [TURP operative/pathology report] OR Stage T1b	NO;
1.03	Prostate specific antigen diagnosis for prostate carcinoma	No palpable tumor AND Prostate specific antigen elevation > 4 ng/ml [chemistry report] OR Stage T1c	DX 79093;
2.01	Tumor 1.5 cm in greatest dimension or in more than 1 lobe	Palpable tumor nodule, confined to prostate Tumor ≤ 1.5 cm or with normal tissue on two sides [radical prostatectomy /pathology report] OR Stage 2a	DX 185;
2.02	Tumor > 1.5 cm in greatest dimension or in more than 1 lobe	Palpable tumor nodule, confined to prostate Tumor > 1.5 cm or in more than one prostate lobe [radical prostatectomy /pathology report] OR Stage 2b	NO;
3.01	Tumor has local extension	Palpable tumor extends beyond prostate Tumor extends through capsule on one or both sides [radical prostatectomy/pathology report] OR Stage T3a	STAGE 0.00-2.01 + (DX 19882, 3383);
3.02	with seminal vesicle involvement	Tumor invades seminal vesicals [radical prostatectomy/pathology report] OR Stage T3b	NO;
3.03	Tumor is fixed or invades adjacent structures	Carcinoma of the prostate with adjacent organ involvement [radical prostatectomy/pathology report] OR Stage T4	STAGE 0.00-3.01 + DX 1981;
3.04	with involvement of a single node ≤ 2 cm	Carcinoma of the prostate with involvement of a single node ≤ 2 cm [operative/pathology report] OR Stage N1	STAGE 0.00-3.03 + DX 1965-1966;
3.05	with involvement of node > 2 cm and < 5 cm in diameter	Carcinoma of the prostate with involvement of node > 2 cm and < 5 cm diameter [operative/pathology report or imaging study] OR Stage N2	NO;
3.06	with nodes > 5 cm in diameter	Carcinoma of the prostate with involvement of node > 5 cm diameter [operative/pathology report or imaging study] OR Stage N3	NO;
3.07	with distant metastasis	Carcinoma of the prostate with spread beyond the confines of the abdominal cavity [operative/pathology report] OR Stage M1	STAGE 0.00-3.04 + (DX 1960-1963, 1968-1980, 1982-19881, 19889-1991, 78951); STAGE 0.00-3.04 + DX 1985 + DX 73310-73319 ; STAGE 0.00-3.04 + GROUP ANEM_NEOPL;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MGS06

MultiStage: No

DXCat Label: Neoplasm, Malignant: Prostate

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.08	with shock	Stage 2.01-3.06 AND shock:	STAGE 0.00-3.07 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.01-3.07 AND death	NO;

References:

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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MGS07

MultiStage: No

DXCat Label: Neoplasm, Malignant: Testicular

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	History of cancer of the testis		DX V1047-V1048;
1.01	Cancer of the testis limited to the testis and epididymis	Tumor limited to testis and epididymis without vascular/lymphatic invasion tumor may invade tunica albuginea, but not tunica vaginalis [operative/pathology report] OR Stage T1 OR Stage Tis intratubular cancer [operative/pathology report]	DX 1860, 1869, 1875;
1.02	with extension beyond the tunica albuginea into tunica vaginalis	Tumor limited to testis and epididymis with vascular/lymphatic invasion, or tumor extending through tunica albuginea with involvement of tunica vaginalis [operative/pathology report] OR Stage T2	STAGE 0.00-1.01 + DX 19882;
1.03	with involvement of the spermatic cord	Tumor invades spermatic cord with or without vascular/lymphatic invasion [operative/pathology report]	DX 1876;
2.01	with invasion of the scrotum	Tumor invades scrotum with or without vascular/lymphatic invasion. [operative/pathology report] OR Stage T4	DX 1877;
2.02	with involvement of a single lymph node ≤ 2 cm	Carcinoma of the testis with a lymph node mass 2 cm or less in greatest dimension or multiple lymph nodes, none more than 2 cm in greatest dimension [operative/pathology report] OR Stage N1	STAGE 0.00-2.01 + DX 1965-1966;
3.01	with involvement of node > 2 cm and ≤ 5 cm in diameter	Carcinoma of the testis with involvement 2 cm but not more than 5 cm in greatest dimension, or multiple lymph nodes, any one mass more than 2 cm but not more than 5 cm in greatest dimension. [operative/pathology report] OR Stage N2	NO;
3.02	with nodes > 5 cm in diameter	Carcinoma of the testis with node > 5 cm diameter [operative/pathology report] OR Stage N3	NO;
3.03	with distant metastasis	Carcinoma of the testis with non-regional lymph nodes or pulmonary metastasis [operative/pathology report] OR Stage M1 or M1a or M1b [Note: regional lymph nodes are considered the periaortic, preaortic, interaortocaval, paracaval, precaval, retrocaval and retroaortic nodes]	STAGE 0.00-2.02 + (DX 3383, 1960-1963, 1968-19881, 19889-1991, 78951);
3.04	with shock	Stage 2.01-3.03 AND shock:	STAGE 2.01-3.03 + (GROUP SHOCKN OR GROUP SHOCKC) ;
4.00	with death	Stage 2.01-3.04 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MGS07

MultiStage: No

DXCat Label: Neoplasm, Malignant: Testicular

Specificity: A

Etiology: Neoplasm

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

Einhorn LH, Donohue JP. Advanced testicular cancer: update for urologists. <i>Journal of Urology</i> . 1998;160(6 Pt 1):1964-9.
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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MGS08

DXCat Label: Prostatitis

Etiology: Idiopathic; Infection; Trauma

MultiStage: No

Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Chronic abacterial prostatitis	History of irritative voiding AND negative urine cultures [urine culture report]	DX 13103, 6011, 6018-6019, 6014;
1.02	Chronic bacterial prostatitis	Prostatitis: AND UTI:	STAGE 1.01 + (DX 04100-0419 OR DXCAT GUS10); DX 6013;
1.03	Acute bacterial prostatitis	Prostatitis: AND UTI: AND fever:	DX 6010; DX 6010 + GROUP FEVER; STAGE 1.02 + GROUP FEVER;
2.01	Prostatic abscess	Stage 1.02-1.03 AND prostatic abscess [operative/pathology report]	DX 6012;
2.02	with bladder outlet obstruction	Stage 1.01-2.01 AND distended urinary bladder AND inability to void OR increasing frequency of urination OR overflow incontinence	STAGE 1.01-2.01 + (DX 5960, 5996-59969, 78820-78843);
2.03	with epididymo-orchitis	Stage 1.01-2.02 AND pain, tenderness, erythema and swelling of testis	STAGE 1.01-2.02 + DX 6040-60499;
2.04	with pyelonephritis	Stage 1.02-2.03 AND pyelonephritis: AND flank pain OR costovertebral tenderness	STAGE 1.01-2.03 + (DX 59010-59011, 59080-5909);
2.05	with hydronephrosis	Stage 1.01-2.04 AND dilated ureters [intravenous urogram or ultrasound or CT scan report] OR hydronephrosis [intravenous urogram or ultrasound CT scan report]	STAGE 1.01-2.04 + (DX 591, 5935);
3.01	with sepsis	Stage 1.01-2.05 AND sepsis:	STAGE 1.01-2.05 + GROUP SEPSIS;
3.02	with shock	Stage 1.01-3.01 AND shock:	STAGE 1.01-3.01 + (GROUP SHOCKN OR GROUP SHOCKC) ;
4.00	with death	Stage 2.01-3.02 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MGS08

MultiStage: No

DXCat Label: Prostatitis

Specificity: A

Etiology: Idiopathic; Infection; Trauma

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

- | |
|--|
| Aarnink RG, Beerlage HP, De La Rosette JJ, Debruyne FM, Wijkstra H. Transrectal ultrasound of the prostate: innovations and future applications. <i>Journal of Urology</i> . 1998;159(5):1568-79. |
| Collins MM, Stafford RS, O'Leary MP, Barry MJ. How common is prostatitis? A national survey of physician visits. <i>Journal of Urology</i> . 1998;159(4):1224-8. |
| Goforth GA. Prostatitis. In: Dambro: Griffith's 5-minute clinical consult. Philadelphia, PA: Lippincott Williams & Wilkins, Inc.: 1999. |
| Nickel JC. Effective office management of chronic prostatitis. <i>Urol Clin North Am</i> . 1998;25(4): 677-84. |
| Pewitt EB. Urinary tract infection in urology, including acute and chronic prostatitis. <i>Infect Dis Clin North Am</i> . 1997;11(3): 623-46. |
| Presti Jr JC, Stoller ML, Carroll PR. Urology. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. <i>Current Medical Diagnosis & Treatment</i> . Stamford, CT: Appleton & Lange; 1998:878-916. |
| Stamm WE. Urinary tract infections and pyelonephritis. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. <i>Harrison's Principles of Internal Medicine</i> . 14th ed. New York, NY: McGraw-Hill; 1998:817-824. |

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MGS80

MultiStage: No

DXCat Label: Neoplasm, Benign: Male Reproductive System

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Benign neoplasm of male genital system		DX 2144, 2220-2229, 2364-2366;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MGS81

MultiStage: No

DXCat Label: Other Disorders of Male Genital System

Specificity: C

Etiology:

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Prostatic calculus, cyst or dysplasia; hydrocele, phimosis, abnormal semen, condyloma acuminatum or fertility disorders		(DX 6003, 6020-6039, 605-6089, 7922); (DX 07811 + MALE); (DX 2395 + MALE); (DX 79679 + MALE); (DX 79675 + MALE);
1.02	Orchitis		DX 6040-60499;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS01

MultiStage: No

DXCat Label: Bursitis

Specificity: A

Etiology: Degenerative; Trauma

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Bursitis	Shoulder bursitis [x-ray report or physical examination] OR trochanteric bursitis [femoral x-ray report or physical examination] OR prepatellar bursitis [x-ray report or physical examination] OR olecranon bursitis [x-ray report or physical examination] OR foot bursitis [x-ray report or physical examination] OR ischial bursitis [x-ray report or physical examination]	DX 72610, 72612, 72619, 72630-72639, 7264, 7265, 72660-72690;
1.02	Acute calcareous tendonitis with bursitis	Stage 1.01 AND acute calcareous tendonitis [x-ray report or physical examination of affected bursa]	DX 72611, 7262;
1.03	Supraspinatus or tensor fascia lata tendonitis with bursitis	Stage 1.01-1.02 AND supraspinatus tendonitis [shoulder x-ray report or physical examination] OR tendonitis of the tensor fascia lata [humerus x-ray report or physical examination]	DX 7260;
1.04	Bursitis with bacterial infection	Stage 1.01-1.03 AND infected bursa [fluid culture reports growth of pathologic organism(s)]	STAGE 1.01-1.03 + DX 0410-0419;

References:

Dowling J. Musculoskeletal disease: staged for rapid comprehension. Year Book Medical Publishers Inc. 1985:97-99.

Gilliland BC. Relapsing polychondritis and other arthritides. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1951-1965.

Hellmann DB. Arthritis & musculoskeletal disorders. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:774-824.

Stell IM, Gransden WR. Simple tests for septic bursitis: comparative study. BMJ. 1998;316(7148):1877.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS02

DXCat Label: Dislocation: Elbow

Etiology: Trauma

MultiStage: No

Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Sprains of elbow and forearm	Sprain of elbow OR sprain of forearm	DX 8410-8419;
1.02	Dislocation of the elbow	Dislocation of the elbow [x-ray report]	DX 71822, 71832, 71872, 71882, 71892, 83200-83219;
1.03	Humeroradioulnar dislocation	Humeroradioulnar dislocation [x-ray report]	NO;
1.04	Dislocation of the elbow with fracture of the coronoid process	Stage 1.02-1.03 AND fracture of the coronoid process [x-ray report]	STAGE 1.02-1.03 + (DX 81302, 81312);
1.05	Dislocation of the elbow with fracture of the head of the radius or epicondyle	Stage 1.02-1.03 Fracture of the head of the radius [x-ray report] OR fracture of the median epicondyle [x-ray report] OR fracture of the lateral epicondyle [x-ray report]	STAGE 1.02-1.04 + (DX 81242-81244, 81252-81254, 81305, 81315);
1.06	Dislocation of the elbow with injury to the brachialis muscle or triceps muscle	Stage 1.02-1.05 AND injury to the brachialis muscle OR injury to the triceps muscle	STAGE 1.01 + STAGE 1.02-1.05;
2.01	Dislocation of the elbow with injury to the median nerve or ulnar nerve	Stage 1.02-1.06 AND ulnar nerve palsy OR median nerve palsy	STAGE 1.02-1.06 + (DX 33811, 33821, 3540, 3542, 9551-9552);
2.02	Dislocation of the elbow with injury to the brachial artery	Stage 1.02-2.01 AND brachial artery injury [angiography report]	STAGE 1.02-2.01 + DX 9031;

References:

Dowling J. Musculoskeletal disease: staged for rapid comprehension. Year Book Medical Publishers Inc. 1985:217-218.

Fitch RD, Speer KP. Fractures and dislocations: fractures and dislocations of the shoulder, arm, and forearm. In: Sabiston DC, ed. Sabiston Textbook of Surgery. 15th ed. Philadelphia, PA: WB Saunders; 1998:1408-1414.

Ring D, Jupiter JB. Fracture-dislocation of the elbow. Journal of Bone & Joint Surgery - American Volume. 1998;80(4):566-80.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS03

DXCat Label: Dislocation: Knee

Etiology: Trauma

MultiStage: No

Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Partial dislocation of the knee	Partial dislocation of the knee [x-ray report]	DX 71826, 71876, 71886, 83650-83654, 83659, 83660-83669;
1.02	Complete dislocation of the knee	Complete dislocation of the knee [x-ray report]	NO;
2.01	with ligamentous injuries	Stage 1.01-1.02 AND ligament injuries of the knee [operative/pathology report]	STAGE 1.01 + (DX 33811, 33821, 8440-8442, 8448, 8449);
2.02	with injury to the peroneal nerve	Stage 1.01-2.01 AND numbness of the lower leg OR peroneal nerve injury [EMG/nerve conduction study report]	STAGE 1.01-2.01 + DX 9563;
2.03	with injury to the popliteal artery	Stage 1.01-2.02 AND injury to the popliteal artery [arteriogram report]	STAGE 1.01-2.02 + DX 90441;
2.04	with osteomyelitis	Stage 1.01-2.03 AND osteomyelitis:	STAGE 1.01-2.03 + GROUP OSTEOMYELIT;
2.05	with gangrene of the lower leg	Stage 1.01-2.04 AND gangrene of the lower leg [operative/pathology report]	STAGE 1.01-2.04 + DX 7854;
3.01	with sepsis	Stage 2.04-2.05 AND sepsis:	STAGE 1.01-2.05 + GROUP SEPSIS;
3.02	with shock	Stage 2.04-3.01 AND shock:	STAGE 1.01-3.01 + GROUP SHOCKA;
4.00	with death	Stage 2.04-3.02 AND death	NO;

References:

Clasby L, Young MA. Management of sports-related anterior cruciate ligament injuries. AORN Journal. 1997;66(4):609-30.

Vail TP, McCollum DE. Fractures and dislocations: fractures of the pelvis, femur, and knee. In: Sabiston DC, ed. Sabiston Textbook of Surgery. 15th ed. Philadelphia, PA: WB Saunders; 1998:1432-1443.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS04

MultiStage: No

DXCat Label: Eosinophilia Myalgia Syndrome

Specificity: A

Etiology: Toxicologic

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Eosinophilia Myalgia Syndrome	Eosinophilia Myalgia Syndrome OR eosinophilia: AND eosinophilia persists ≥ 6mo. AND eosinophilic infiltration of heart [operative/pathology report] OR eosinophilic infiltration of liver [operative/pathology report] OR eosinophilic infiltration of spleen [operative/pathology report] OR eosinophilic infiltration of lungs [operative/pathology report]	DX 7105, 725; DX 2883 + DX 5183;
2.01	with peripheral neuropathy	Stage 1.01 AND peripheral neuropathy [EMG report]	STAGE 1.01 + (DX 33811, 33821, 3569, 3577);
2.02	with deep vein thrombosis	Stage 1.01-2.01 AND DVT:	STAGE 1.01-2.01 + GROUP DVT;
2.03	with cardiac conduction abnormalities	Stage 1.01-2.02 AND cardiac conduction abnormalities:	STAGE 1.01-2.02 + GROUP COND_BBBS;
2.04	with aspiration pneumonia	Stage 1.01-2.03 AND aspiration pneumonia	STAGE 1.01-2.03 + DX 5070;
3.01	with pulmonary embolism	Stage 2.02-2.04 AND pulmonary embolism:	STAGE 2.02-2.04 + GROUP PULMEMB;
3.02	with sepsis	Stage 2.04-3.01 AND sepsis:	STAGE 2.04-3.01 + GROUP SEPSIS;
3.03	with respiratory failure	Stage 2.02-3.02 AND respiratory failure:	STAGE 2.02-3.02 + GROUP RESP_FAIL;
3.04	with shock	Stage 2.01-.3.03 AND shock:	STAGE 2.02-3.03 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.01-3.04 AND death	NO;

References:

Hellmann DB. Arthritis & musculoskeletal disorders. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:774-824.

Hertzman PA, Clauw DJ, Kaufman LD, et al. The eosinophilia-myalgia syndrome: status of 205 patients and results of treatment 2 years after onset. Annals of Internal Medicine. 1995;122(11):851-5.

Sullivan EA, Kamb ML, Jones JL et al. The natural history of eosinophilia-myalgia syndrome in a tryptophan-exposed cohort in South Carolina. Archives of Internal Medicine. 1996;156(9):973-9.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS05

MultiStage: No

DXCat Label: Fracture: Acetabulum

Specificity: A

Etiology: Trauma

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Fracture of the acetabulum without displacement	Fracture of the acetabulum without displacement [x-ray report]	DX 8080;
1.02	with displacement of the acetabular bone	Fracture of the acetabulum with displacement of acetabular bone [x-ray report]	NO;
1.03	Fracture of the dome of the acetabulum	Fracture of the dome of the acetabulum [x-ray report]	NO;
1.04	Fracture of the acetabulum with central displacement of the dome	Fracture of the acetabulum with central displacement of the dome [x-ray report]	NO;
2.01	Open fracture of the acetabulum	Stage 1.01-1.04 AND laceration of the overlying skin of the acetabulum exposing fractured bone	DX 8081;
2.02	with injury to the sciatic nerve	Stage 1.01-2.01 AND weakness of the involved lower extremity OR laceration of the sciatic nerve [operative/pathology report]	STAGE 1.01-2.01 + (DX 33811, 33821, 9560);
2.03	with deep vein thrombosis	Stage 1.01-2.02 AND DVT:	STAGE 1.01-2.02 + (DXCAT CVS22 OR GROUP DVT);
3.01	with pulmonary embolism	Stage 1.01-2.03 AND pulmonary embolism:	STAGE 2.01-2.03 + GROUP PULMEMB;
3.02	with respiratory failure	Stage 3.01 AND respiratory failure:	STAGE 3.01 + GROUP RESP_FAIL;
3.03	with shock	Stage 2.01-3.02 AND shock:	STAGE 3.01-3.02 + GROUP SHOCKA;
4.00	with death	Stage 2.01-3.03 AND death	NO;

References:

Jaffe WL, Scott DF. Total hip arthroplasty with hydroxyapatite-coated prostheses. *Journal of Bone & Joint Surgery - American Volume*. 1996;78(12):1918-34.

Vail TP, McCollum DE. Fractures and dislocations: fractures of the pelvis, femur, and knee. In: Sabiston DC, ed. *Sabiston Textbook of Surgery*. 15th ed. Philadelphia, PA: WB Saunders; 1998:1432-1443.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS06
 DXCat Label: Fracture: Calcaneus
 Etiology: Trauma

MultiStage: No
 Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Fracture of the calcaneus without displacement	Fracture of the calcaneus without displacement [x-ray report]	DX 8250;
1.02	Fracture of the calcaneus with displacement	Fracture of the calcaneus with displacement [x-ray report]	NO;
2.01	Compound fractures of the calcaneus	Stage 1.01-1.02 AND laceration of the skin with exposure of the fractured bones	DX 8251;
2.02	with osteomyelitis	Stage 2.01 AND osteomyelitis:	STAGE 2.01 + (DX 33811, 33821 OR GROUP OSTEOMYELIT);
3.01	with sepsis	Stage 2.01-2.02 AND sepsis:	STAGE 2.01-2.02 + GROUP SEPSIS;
3.02	with shock	Stage 2.01-3.01 AND shock:	STAGE 2.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.01-3.02 AND death	NO;

References:

Dowling J. Musculoskeletal disease: staged for rapid comprehension. Year Book Medical Publishers Inc. 1985:196-197.

Klaue K. Planovalgus and cavovarus deformity of the hind foot. A functional approach to management. Journal of Bone & Joint Surgery - British Volume. 1997;79(6):892-5.

Kundel K, Funk E, Brutscher M, Bickel R. Calcaneal fractures: operative versus nonoperative treatment. Journal of Trauma. 1996;41(5):839-45.

Miric A, Patterson BM. Pathoanatomy of intra-articular fractures of the calcaneus. Journal of Bone & Joint Surgery -American Volume. 1998;80(2):207-12.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS07

MultiStage: No

DXCat Label: Fracture: Femur, Except Head or Neck

Specificity: A

Etiology: Trauma

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Fracture of the femoral shaft without displacement	Fracture of the femoral shaft without displacement [x-ray report] OR linear fracture of the femoral shaft [x-ray report]	DX 73315, 73397, 82100, 82101;
1.02	Simple fracture of the femoral shaft with two bony fragments	Fracture of the femoral shaft with two bony fragments [x-ray report]	NO;
2.01	Segmental fracture of the femoral shaft	Double fractures of the femoral shaft [x-ray report]	NO;
2.02	Comminuted fracture of the femoral shaft	Comminuted fracture of the femoral shaft [x-ray report]	NO;
2.03	Intercondylar or supracondylar or condylar or epiphyseal fracture of the femoral shaft	Intercondylar fracture of the femoral shaft and head [x-ray report] OR supracondylar fracture of the femoral shaft and head [x-ray report] OR condylar fracture of the femoral shaft and head [x-ray report] OR epiphyseal fracture of the femoral shaft and head [x-ray report]	DX 82120-82123, 82129;
2.04	Subtrochanteric fracture of the femoral shaft	Subtrochanteric fracture of the femoral shaft [x-ray report]	DX 82022;
2.05	Open fracture of the femoral shaft	Fracture of the femoral shaft AND laceration of the skin with exposure of bony fragments	DX 82110-82111, 82130-82133, 82139, 82032;
2.06	with damage to the femoral nerve or peroneal nerve or tibial nerve or reflex sympathetic dystrophy	Stage 1.01-2.05 AND damage to the femoral nerve [EMG/nerve conduction study report] OR damage to the peroneal nerve [EMG/nerve conduction study report] OR damage to the tibial nerve [EMG/nerve conduction study report] OR reflex sympathetic dystrophy	STAGE 1.01-2.05 + (DX 33811, 33821, 9561-9563, 9565, 9568-9569);
2.07	with laceration of the femoral artery or popliteal artery or femoral vein or popliteal vein or hemorrhage	Stage 1.01-2.06 AND laceration of the femoral artery [arteriogram report or operative/pathology report] OR laceration of the popliteal artery [arteriogram report or operative/pathology report] OR laceration of the femoral vein [venogram report or operative/pathology report] OR laceration of the popliteal vein [venogram report or operative/pathology report] OR bleeding:	STAGE 1.01-2.06 + (DX 9040-9042, 90440-90442);
3.01	with pulmonary embolism	Stage 1.01-2.07 AND pulmonary embolism:	STAGE 2.01-2.07 + GROUP PULMEMB;
3.02	with sepsis	Stage 2.03-3.01 AND sepsis:	STAGE 2.05-3.01 + GROUP SEPSIS;
3.03	with respiratory failure	Stage 3.01 AND respiratory failure:	STAGE 3.01-3.02 + GROUP RESP_FAIL;
3.04	with shock	Stage 2.05-3.03 AND shock:	STAGE 3.01-3.03 + GROUP SHOCKA;
4.00	with death	Stage 2.06-3.04 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS07

MultiStage: No

DXCat Label: Fracture: Femur, Except Head or Neck

Specificity: A

Etiology: Trauma

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

Tominaga GT, Connolly JE, Wilson SE. Bilateral popliteal artery injury from bumper crush injury. *Journal of Trauma*. 1996;40(2):311-3.

Vail TP, McCollum DE. Fractures and dislocations: fractures of the pelvis, femur, and knee. In: Sabiston DC, ed. *Sabiston Textbook of Surgery*. 15th ed. Philadelphia, PA: WB Saunders; 1998:1432-1443.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS08

MultiStage: No

DXCat Label: Fracture: Femur, Head or Neck

Specificity: A

Etiology: Trauma

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Stable fracture of the head or neck of the femur	Stress fracture of the head or neck of the femur [x-ray report] OR impact fracture of the head or neck of the femur [x-ray report] OR linear fracture of the head or neck of the femur [x-ray report] OR intertrochanteric fracture of the femur [x-ray report] OR transcervical fracture of the femur [x-ray report]	DX 73314, 73396, 82000-82003, 82009, 82020-82021 , 8208;
2.01	Unstable fractures of the head or neck of the femur	Displaced fracture of the head or neck of the femur [x-ray report] OR comminuted fracture of the head or neck of the femur [x-ray report]	NO;
2.02	Open fracture of the head or neck of the femur	Fracture of the head or neck of the femur AND exposure of the fractured bone through a skin laceration	DX 82010-82013, 82019, 82030-82031, 8209;
2.03	Fracture of the head or neck of the femur with avascular necrosis	Fracture of the head or neck of the femur AND avascular necrosis of the head or neck of the femur [operative/pathology report or x-ray]	STAGE 1.01-2.02 + DX 73342;
2.04	with deep vein thrombosis	Stage 1.01-2.03 AND DVT:	STAGE 1.01-2.03 + (DX 33811, 33821 OR DXCAT CVS22 OR GROUP DVT);
3.01	with pulmonary embolism	Stage 2.01-2.04 AND pulmonary embolism:	STAGE 2.01-2.04 + GROUP PULMEMB;
3.02	with respiratory failure	Stage 3.01 AND respiratory failure:	STAGE 3.01 + GROUP RESP_FAIL;
3.03	with shock	Stage 2.02-3.02 AND shock:	STAGE 3.01-3.02 + GROUP SHOCKA;
4.00	with death	Stage 2.02-3.03 AND death	NO;

References:

Hughes LO, Beaty JH. Fractures of the head and neck of the femur in children. Journal of Bone & Joint Surgery - American Volume. 1994;76(2):283-92.

Vail TP, McCollum DE. Fractures and dislocations: fractures of the pelvis, femur, and knee. In: Sabiston DC, ed. Sabiston Textbook of Surgery. 15th ed. Philadelphia, PA: WB Saunders; 1998:1432-1443

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS09
 DXCat Label: Fracture: Fibula
 Etiology: Trauma

MultiStage: No
 Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Linear fracture of the fibula without displacement	Linear fracture of the fibula without displacement [x-ray report]	DX 82301, 82321, 82341, 82381;
1.02	Linear fracture of the fibula with displacement	Linear fracture of the fibula with displacement [x-ray report]	NO;
1.03	Comminuted fractures of the fibula	Comminuted fracture of the head or shaft of the fibula [x-ray report]	NO;
1.04	Segmental fracture of the fibular shaft	Segmental or double fracture of the fibular shaft [x-ray report]	NO;
2.01	Compound fracture of the fibula	Fracture of the fibula AND laceration of the skin with exposure of the fractured bones	DX 82311, 82331, 82391;
2.02	with compartment syndrome or vascular or neurologic complications	Stage 1.01-2.01 AND compartment syndrome [physical examination or compartment pressure \geq 30 mmHg] OR loss of pedal pulses OR paresthesia of the lower extremity OR Volkmann's compartment ischemia	STAGE 1.01-2.01 + (DX 33811, 33821, 7820, 7859, 9586, 9588);
2.03	with crush injuries to soft tissue	Stage 1.01-2.02 AND crush injury to soft tissues	STAGE 1.01-2.02 + (DX 92810, 92811, 92821, 9288, 9289);
2.04	with osteomyelitis	Stage 2.01-2.03 AND osteomyelitis:	STAGE 2.01-2.03 + GROUP OSTEOMYELIT;
2.05	with gangrene	Stage 2.01-2.04 AND gangrene of the fibula [operative/pathology report]	STAGE 2.01-2.04 + DX 7854;
3.01	with sepsis	Stage 2.01-2.05 AND sepsis:	STAGE 2.01-2.05 + GROUP SEPSIS;
3.02	with shock	Stage 2.01-3.01 AND shock:	STAGE 2.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.01-3.02 AND death	NO;

References:

Lawless MW, Laughlin RT, Wright DG, Lemmon GW, Rigano WC. Massive pelvis injuries treated with amputations: case reports and literature review. *Journal of Trauma*. 1997;42(6):1169-75.

Levin LS, Garrett WE Jr. Fractures and dislocations: fractures of the tibia, fibula, ankle, and foot. In: Sabiston DC, ed. *Sabiston Textbook of Surgery*. 15th ed. Philadelphia, PA: WB Saunders; 1998:1444-1451.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS10

MultiStage: No

DXCat Label: Fracture: Humerus (Shaft)

Specificity: A

Etiology: Trauma

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Transverse or oblique fracture of the shaft of the humerus with no displacement	Transverse or oblique fracture of the shaft of the humerus with no displacement [x-ray report]	DX 73311, 81220, 81221;
1.02	Fracture of the shaft of the humerus with simple displacement	Fracture of the shaft of the humerus with simple displacement [x-ray report]	NO;
1.03	Fracture of the shaft of the humerus with comminution and displacement	Fracture of the shaft of the humerus with comminution and displacement [x-ray report]	NO;
1.04	Segmental fracture of the shaft of the humerus with displacement	Segmental fracture of the shaft of the humerus with displacement [x-ray report]	NO;
1.05	with interposed muscle tissue	Fracture of the shaft of the humerus AND interposed soft tissue in fracture [operative/pathology report]	STAGE 1.01 + (DX 88003, 88023);
2.01	with soft tissue damage or open fracture	Fracture of the shaft of the humerus AND laceration of the skin with exposure of the fractured or dislocated bones OR extensive soft tissue damage	DX 81230, 81231; STAGE 1.01-1.05 + (DX 88013, 04042);
2.02	with injury to the radial nerve	Stage 1.01-2.01 AND radial nerve palsy OR wrist drop	STAGE 1.01-2.01 + (DX 33811, 33821, 3543, 73605, 9553);
2.03	with reflex sympathetic dystrophy	Stage 1.01-2.02 AND causalgia OR hyperesthesia OR shoulder-hand syndrome	STAGE 1.01-2.02 + (DX 33721, 3379, 3544, 7820);
2.04	with osteomyelitis	Stage 2.01-2.03 AND osteomyelitis:	STAGE 2.01-2.03 + GROUP OSTEOMYELIT;
2.05	with gangrene	Stage 2.01-2.04 AND gangrene	STAGE 2.01-2.04 + DX 7854;
3.01	with sepsis	Stage 2.01-2.04 AND sepsis:	STAGE 2.01-2.05 + GROUP SEPSIS;
3.02	with shock	Stage 2.01-3.01 AND shock:	STAGE 2.01-3.01 + GROUP SHOCKA;
4.00	with death	Stage 2.01-3.02 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS10

MultiStage: No

DXCat Label: Fracture: Humerus (Shaft)

Specificity: A

Etiology: Trauma

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

Bernstein J, Adler LM, Blank JE, Dalsey RM, Williams GR, Iannotti JP. Evaluation of the Neer system of classification of proximal humeral fractures with computerized tomographic scans and plain radiographs. *Journal of Bone & Joint Surgery - American Volume*. 1996;78(9):1371-5.

Dowling J. *Musculoskeletal disease: staged for rapid comprehension*. Year Book Medical Publishers Inc. 1985:203-204.

Kontakis GM, Galanakis IA, Steriopoulos KA. Dislocation of the shoulder and ipsilateral fracture of the humeral shaft: case reports and literature review. *Journal of Trauma*. 1995;39(5):990-2.

Ogawa K, Ui M. Humeral shaft fracture sustained during arm wrestling: report on 30 cases and review of the literature. *Journal of Trauma*. 1997;42(2):243-6.

Swamy G, Schemitsch EH. Humeral head fracture dislocation: case report and review of the literature. *Journal of Trauma*. 1998;44(2):377-80.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS11

MultiStage: No

DXCat Label: Fracture: Humerus (Supracondylar)

Specificity: A

Etiology: Trauma

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Supracondylar fracture of the humerus without displacement	Supracondylar fracture of the humerus without displacement [x-ray report]	DX 81240-81244, 81249;
1.02	Supracondylar fracture of the humerus with displacement	Supracondylar fracture of the humerus with displacement [x-ray report]	NO;
1.03	Supracondylar fracture of the humerus with cubitus varus deformity	Supracondylar fracture of the humerus with cubitus varus deformity or gunstock deformity [x-ray report]	NO;
1.04	Supracondylar fracture of the humerus with intercondylar displacement	Supracondylar fracture of the humerus with intercondylar displacement [x-ray report] OR supracondylar T-fracture of the humerus [x-ray report]	NO;
2.01	Open supracondylar fracture of the humerus	Supracondylar fracture of the humerus AND laceration of the skin with exposure of the fractured or dislocated bones	DX 81250-81259;
2.02	with injury to the radial nerve or ulnar nerve or medial nerve	Supracondylar fracture of the humerus AND radial nerve palsy OR ulnar nerve palsy OR median nerve palsy	STAGE 1.01-2.01 + (DX 33811, 33821, 3541-3543, 9551-9553);
2.03	with Volkmann's ischemic contracture	Stage 1.01-2.02 AND Volkmann's ischemic contracture OR severe pain in hand and fingers AND tissue pallor AND inability to extend fingers	STAGE 1.01-2.02 + DX 9586;
2.04	with osteomyelitis	Stage 2.01-2.03 AND osteomyelitis:	STAGE 2.01-2.03 + GROUP OSTEOMYELIT;
2.05	with gangrene	Stage 2.01-2.04 AND gangrene	STAGE 2.01-2.04 + DX 7854;
3.01	with sepsis	Stage 2.01-2.04 AND sepsis:	STAGE 2.01-2.05 + GROUP SEPSIS;
3.02	with shock	Stage 2.01-3.01 AND shock:	STAGE 2.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.01-3.02 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS11

MultiStage: No

DXCat Label: Fracture: Humerus (Supracondylar)

Specificity: A

Etiology: Trauma

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

Bernstein J, Adler LM, Blank JE, Dalsey RM, Williams GR, Iannotti JP. Evaluation of the Neer system of classification of proximal humeral fractures with computerized tomographic scans and plain radiographs. *Journal of Bone & Joint Surgery - American Volume*. 1996;78(9):1371-5.

Dowling J. *Musculoskeletal Disease: Staged for Rapid Comprehension*. Year Book Medical Publishers Inc. 1985:203-204.

Kontakis GM, Galanakis IA, Steriopoulos KA. Dislocation of the shoulder and ipsilateral fracture of the humeral shaft: case reports and literature review. *Journal of Trauma*. 1995;39(5):990-2.

Ogawa K, Ui M. Humeral shaft fracture sustained during arm wrestling: report on 30 cases and review of the literature. *Journal of Trauma*. 1997;42(2):243-6.

Swamy G, Schemitsch EH. Humeral head fracture dislocation: case report and review of the literature. *Journal of Trauma*. 1998;44(2):377-80.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS12

MultiStage: No

DXCat Label: Fracture: Radial Head and Neck

Specificity: A

Etiology: Trauma

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Fracture of the head and neck of the radius, without displacement	Fracture of the head and neck of the radius without displacement [x-ray report]	DX 81305, 81306;
1.02	Fracture of the head and neck of the radius, with displacement involving $\geq 1/3$ of the articular surfaces	Fracture of the head and neck of the radius with displacement involving $\geq 1/3$ of the articular surfaces [x-ray report]	NO;
1.03	Fracture of the head and neck of the radius, with comminution	Comminuted fracture of the head and neck of the radius [x-ray report]	NO;
2.01	Open fracture of the head and neck of the radius	Fracture of the head and neck of the radius AND laceration of the skin with exposure of the fractured or dislocated bones	DX 81315, 81316;
2.02	with osteomyelitis	Stage 2.01 AND osteomyelitis:	STAGE 2.01 + (DX 33811, 33821 OR GROUP OSTEOMYELIT);
2.03	with gangrene	Stage 2.01-2.02 AND gangrene	STAGE 2.01-2.02 + DX 7854;
3.01	with sepsis	Stage 2.01-2.03 AND sepsis:	STAGE 2.01-2.03 + GROUP SEPSIS;
3.02	with shock	Stage 2.01-3.01 AND shock:	STAGE 2.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.01-3.02 AND death	NO;

References:

Dowling J. Musculoskeletal disease: staged for rapid comprehension. Year Book Medical Publishers Inc. 1985:217-218.

Fitch RD, Speer KP. Fractures and dislocations: fractures and dislocations of the shoulder, arm, and forearm. In: Sabiston DC, ed. Sabiston Textbook of Surgery. 15th ed. Philadelphia, PA: WB Saunders; 1998:1408-1414.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS13

MultiStage: No

DXCat Label: Fracture: Radial Shaft, Ulna or Olecranon

Specificity: A

Etiology: Trauma

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Fracture of the radius and/or ulna or olecranon without displacement	Fracture of the radius or ulna without displacement [x-ray report]	DX 81300-81302, 81304, 81307-81308, 81320-81323, 81343;
1.02	with displacement	Fracture of the radius or ulna with displacement [x-ray report]	NO;
1.03	with dislocation of the radioulnar joint or Monteggia's fracture joint	Fracture of the radius or ulna with dislocation of the radioulnar joint [x-ray report] OR Galeazzi's fracture [x-ray report] OR Monteggia's fracture	STAGE 1.01 + DX 81342; DX 81303;
1.04	with extensive soft tissue damage	Stage 1.01-1.03 AND extensive soft tissue damage	STAGE 1.01-1.03 + (DX 8400-84209, 9032-9039, 92310-92311, 92321);
2.01	Open fracture of the radius and/or ulna	Fracture of the radius or ulna AND laceration of the skin with exposure of the fractured or dislocated bones	DX 81310-81314, 81317-81318, 81330-81333, 81353;
2.02	with injury to the radial nerve or median nerve or ulnar nerve	Stage 1.01-2.01 AND radial nerve palsy OR medial nerve palsy OR ulna nerve palsy	STAGE 1.01-2.01 + (DX 33811, 33821, 3541-3543, 9551-9554);
2.03	with reflex sympathetic dystrophy	Stage 1.01-2.02 AND reflex sympathetic dystrophy OR shoulder-hand syndrome OR Sudeck's atrophy OR hyperesthesia AND skin pallor AND trophic changes distal to fracture site	STAGE 1.01-2.02 + (DX 33721, 3379, 7337, 7820);
2.04	with Volkmann's ischemic contracture	Stage 1.01-2.03 AND Volkmann's ischemic contracture	STAGE 1.01-2.03 + DX 9586;
2.05	with osteomyelitis	Stage 2.01-2.04 AND osteomyelitis:	STAGE 2.01-2.04 + GROUP OSTEOMYELIT;
2.06	with gangrene	Stage 2.01-2.05 AND gangrene	STAGE 2.01-2.05 + DX 7854;
3.01	with sepsis	Stage 2.01-2.06 AND sepsis:	STAGE 2.01-2.06 + GROUP SEPSIS;
3.02	with shock	Stage 2.01-3.01 AND shock:	STAGE 2.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.01-3.02 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS13

MultiStage: No

DXCat Label: Fracture: Radial Shaft, Ulna or Olecranon

Specificity: A

Etiology: Trauma

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

Fitch RD, Speer KP. Fractures and dislocations: fractures and dislocations of the shoulder, arm, and forearm. In: Sabiston DC, ed. Sabiston Textbook of Surgery. 15th ed. Philadelphia, PA: WB Saunders; 1998:1408-1414.

Stoffelen D, Broos P. Minimally displaced distal radius fractures: do they need plaster treatment? Journal of Trauma. 1998;44(3):503-5.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS14

MultiStage: No

DXCat Label: Fracture: Radius, Lower End

Specificity: A

Etiology: Trauma

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Fracture of the lower end of the radius with minimal displacement	Fracture of the lower end of the radius with minimal displacement [x-ray report] OR 'reversed' Colles' fracture [x-ray report] OR linear fracture not involving articular surfaces [x-ray report] OR linear fracture without involving the radiocarpal joints [x-ray report] OR Colles' fracture [x-ray report]	DX 73312, 81340-81342, 81344-81345;
1.02	Comminuted fracture of the lower end of the radius	Comminuted fracture of the lower end of the radius [x-ray report]	NO;
1.03	Comminuted fracture of the lower end of the radius, running into the joint surfaces	Comminuted fracture of the lower end of the radius running into the joint surfaces [x-ray report]	NO;
1.04	Fracture of the lower end of the radius, with anterior subluxation of the carpus	Fracture of the lower end of the radius with anterior subluxation of the carpus [x-ray report]	STAGE 1.01 + (DX 83300, 83302);
2.01	Open fracture of the lower end of the radius	Fracture of the lower end of the radius AND laceration of the skin with exposure of the fractured or dislocated bones	DX 81350-81352, 81354;
2.02	Fracture of the lower end of the radius, with entrapment neuropathy	Stage 1.01-2.01 AND median nerve palsy OR ulnar nerve palsy	STAGE 1.01-2.01 + (DX 33811, 33821, 3540, 3542);
2.03	with reflex sympathetic dystrophy	Stage 1.01-2.02 AND reflex sympathetic dystrophy OR shoulder-hand syndrome OR Sudeck's atrophy OR hyperesthesia AND skin pallor AND trophic changes distal to fracture site	STAGE 1.01-2.02 + (DX 33721, 3379, 7820);
2.04	with tendon rupture	Stage 1.01-2.03 AND rupture of the extensor pollicis longus [physical examination or operative/pathology report] OR rupture of flexor tendons [physical examination or operative/pathology report]	STAGE 1.01-2.03 + (DX 84200-84202, 84209);
2.05	with Volkmann's ischemic contracture	Stage 1.01-2.04 AND Volkmann's ischemic contracture	STAGE 1.01-2.04 + DX 9586;
2.06	with osteomyelitis	Stage 2.01-2.05 AND osteomyelitis:	STAGE 2.01-2.05 + GROUP OSTEOMYELIT;
2.07	with gangrene	Stage 2.01-2.06 AND gangrene	STAGE 2.01-2.06 + DX 7854;
3.01	with sepsis	Stage 2.01-2.07 AND sepsis:	STAGE 2.01-2.07 + GROUP SEPSIS;
3.02	with shock	Stage 2.01-3.01 AND shock:	STAGE 2.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS14

MultiStage: No

DXCat Label: Fracture: Radius, Lower End

Specificity: A

Etiology: Trauma

Stage	Description	Diagnostic findings	ICD-9-CM Codes
4.00	with death	Stage 2.01-3.02 AND death	NO;

References:

Dowling J. Musculoskeletal disease: staged for rapid comprehension. Year Book Medical Publishers Inc. 1985:217-218.

Fitch RD, Speer KP. Fractures and dislocations: fractures and dislocations of the shoulder, arm, and forearm. In: Sabiston DC, ed. Sabiston Textbook of Surgery. 15th ed. Philadelphia, PA: WB Saunders; 1998:1408-1414.

Kozin SH, Wood MB. Early soft-tissue complications after fractures of the distal part of the radius. Journal of Bone & Joint Surgery - American Volume. 1993;75(1):144-53.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS15
 DXCat Label: Fracture: Tibia
 Etiology: Trauma

MultiStage: No
 Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Fracture of the tibial tuberosity	Fracture of the tibial tuberosity [x-ray report]	DX 73316, 73393, 82300, 82302, 82340, 82342, 82380, 82382;
1.02	Fracture of the tibial eminence	Fracture of the tibial eminence [x-ray report]	NO;
1.03	Fracture of the lateral tibial condyles	Fracture of the lateral tibial condyles [x-ray report]	NO;
1.04	Fracture of the medial tibial condyles	Fracture of the medial tibial condyles [x-ray report]	NO;
1.05	Linear fracture of the tibia without displacement	Linear fracture of the tibia without displacement [x-ray report]	NO;
1.06	Linear fracture of the tibia with displacement	Linear fracture of the tibia with displacement [x-ray report]	NO;
2.01	Fracture of the lateral and medial tibial condyles	Stage 1.03 AND Stage 1.04	NO;
2.02	Comminuted fractures of the tibia	Comminuted fracture of the tibia	NO;
2.03	Segmental fracture of the tibial shaft	Segmental or double fracture of the tibial shaft [x-ray report]	DX 82320, 82322;
2.04	Compound fracture of the tibia	Fracture of the tibia AND laceration of the skin with exposure of the fractured bones	DX 82310, 82312, 82330, 82332, 82390, 82392;
2.05	with compartment syndrome or vascular or neurologic complications	Stage 1.01-2.04 AND compartment syndrome [physical examination or compartment pressure \geq 30 mmHg] OR loss of pedal pulses OR paresthesia of the lower extremity OR Volkmann's compartment ischemia	STAGE 1.01-2.04 + (DX 33811, 33821, 7820, 7859, 9586, 9588);
2.06	with crush injuries to soft tissue	Stage 1.01-2.05 AND crush injury to soft tissues	STAGE 1.01-2.05 + (DX 92810, 92811, 92821, 9288, 9289);
2.07	with osteomyelitis	Stage 2.04-2.06 AND osteomyelitis:	STAGE 2.01-2.06 + GROUP OSTEOMYELIT;
2.08	with gangrene	Stage 2.04-2.07 AND gangrene of the tibia [operative/pathology report]	STAGE 2.01-2.07 + DX 7854;
3.01	with sepsis	Stage 2.04-2.08 AND sepsis:	STAGE 2.01-2.08 + GROUP SEPSIS;
3.02	with shock	Stage 2.04-3.01 AND shock:	STAGE 2.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.04-3.02 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS15

MultiStage: No

DXCat Label: Fracture: Tibia

Specificity: A

Etiology: Trauma

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

Beaty JH, Kumar A. Fractures about the knee in children. *Journal of Bone & Joint Surgery - American Volume*. 1994;76(12):1870-80.

Brown C, Henderson S, Moore S. Surgical treatment of patients with open tibial fractures. *AORN Journal*. 1996;63(5):875-96.

Dowling J. Musculoskeletal disease: staged for rapid comprehension. *Year Book Medical Publishers Inc*. 1985:181-812.

Watson JT. Treatment of unstable fractures of the shaft of the tibia. *Journal of Bone & Joint Surgery - American Volume*. 1994;76(10):1575-84.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS16

MultiStage: No

DXCat Label: Fracture or Dislocation: Patella

Specificity: A

Etiology: Trauma

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Patellofemoral dislocation	Patellar instability OR hemarthrosis AND localized tenderness over patellar retinaculum	DX 8363;
1.02	Chronic patellofemoral dislocation	Stage 1.01 AND history of recurrent patellofemoral dislocation	DX 71836;
1.03	Transverse fracture of the patella	Transverse fracture of the patella [x-ray report]	DX 8220;
1.04	Comminuted fracture of the patella	Comminuted fracture of the patella [x-ray report]	NO;
2.01	Open fracture or dislocation of the patella	Fracture or dislocation of the patella AND laceration of the underlying skin with exposure of the fractured bones	DX 8221, 8364;

References:

Dandy DJ. Chronic patellofemoral instability. *Journal of Bone & Joint Surgery - British Volume*. 1996;78(2):328-35.

Vail TP, McCollum DE. Fractures and dislocations: fractures of the pelvis, femur, and knee. In: Sabiston DC, ed. *Sabiston Textbook of Surgery*. 15th ed. Philadelphia, PA: WB Saunders; 1998:1432-1443.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS17

MultiStage: No

DXCat Label: Fracture or Sprain: Ankle

Specificity: A

Etiology: Trauma

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Ankle sprain	Ankle sprain	DX 84500-84503, 84509;
1.02	Nondisplaced malleolar fractures	Nondisplaced fracture of the medial malleolus [ankle x-ray report] OR nondisplaced fracture of the lateral malleolus [x-ray report] OR nondisplaced fracture of the posterior malleolus [x-ray report]	DX 8240, 8242, 8248;
1.03	Nondisplaced talar fractures	Nondisplaced fracture of the talus [x-ray report]	DX 82521;
1.04	Displaced single malleolar fractures	Displaced fracture of the medial malleolus [x-ray report] OR displaced fracture of the lateral malleolus [x-ray report] OR displaced fracture of the posterior malleolus [x-ray report]	NO;
1.05	Displaced bimalleolar fractures	Fracture of any <u>two</u> of the following bones: Displaced fracture of the medial malleolus [x-ray report] OR displaced fracture of the lateral malleolus [x-ray report] OR displaced fracture of the posterior malleolus [x-ray report]	DX 8244;
1.06	Displaced trimalleolar fractures	Fracture of any <u>three</u> of the following bones: Displaced fracture of the medial malleolus [x-ray report] OR displaced fracture of the lateral malleolus [x-ray report] OR displaced fracture of the posterior malleolus [x-ray report]	DX 8246;
1.07	Displaced talar fractures	Displaced fracture of the talus [x-ray report]	NO;
1.08	Dislocation of the ankle	Dislocation of the ankle [x-ray report]	DX 8370;
2.01	Fracture and dislocation of the ankle	Stage 1.02-1.07 AND Stage 1.08	STAGE 1.02-1.06 + STAGE 1.08;
2.02	Comminuted intra-articular ankle fracture	Comminuted fracture of the malleolar bones [ankle x-ray report] OR comminuted fracture of the talus bones [x-ray report]	NO;
2.03	Open fracture or dislocation of the ankle	Fracture or dislocation of the ankle AND laceration of the skin with exposure of the fractured bones	DX 8241, 8243, 8245, 8247, 8249, 8371;
2.04	with injury to ankle tendons	Stage 1.02-2.03 AND laceration of the posterior tibial tendon [x-ray report or operative/pathology report] OR laceration of the peroneal tendon [x-ray report or operative/pathology report]	STAGE 1.01 + STAGE 1.02-1.08;
2.05	with injury to the posterior tibial nerve	Stage 1.02-2.04 AND posterior tibial nerve palsy [physical examination or EMG/nerve conduction study report] OR tarsal tunnel syndrome	STAGE 1.01-2.04 + (DX 33811, 33821, 3555, 9562);
2.06	with injury to the posterior or anterior tibial artery	Stage 1.02-2.05 AND posterior tibial artery laceration [angiogram report] OR anterior tibial artery laceration [angiogram report]	STAGE 1.01-2.05 + (DX 90451, 90453);
2.07	with osteomyelitis	Stage 2.03-2.06 AND osteomyelitis:	STAGE 2.03-2.06 + GROUP OSTEOMYELIT;
3.01	with sepsis	Stage 2.03-2.07 AND sepsis:	STAGE 2.03-2.07 + GROUP SEPSIS;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS17

MultiStage: No

DXCat Label: Fracture or Sprain: Ankle

Specificity: A

Etiology: Trauma

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.02	with shock	Stage 2.03-3.01 AND shock:	STAGE 2.03-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.03-3.02 AND death	NO;

References:

Dowling J. Musculoskeletal disease: staged for rapid comprehension. Year Book Medical Publishers Inc. 1985:190-191.

Levin LS, Garrett WE Jr. Fractures and dislocations: fractures of the tibia, fibula, ankle, and foot. In: Sabiston DC, ed. Sabiston Textbook of Surgery. 15th ed. Philadelphia, PA: WB Saunders; 1998:1444-1451.

Michelson JD. Fractures about the ankle. Journal of Bone & Joint Surgery - American Volume. 1995;77(1):142-52.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS18

MultiStage: No

DXCat Label: Fracture, Dislocation, or Sprain: Facial Bones

Specificity: A

Etiology: Trauma

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Sprain or dislocation, face and neck area	Sprain or dislocation, face and neck area	DX 8300, 8480-8482;
1.02	Fracture of facial bones without displacement of bones	Fracture of the maxilla without bony displacement [x-ray report]	DX 8020, 80220-80229, 8024, 8028;
1.03	Fracture of the lower third of the maxilla with displacement	Fracture of the lower third of the maxilla with displacement [x-ray report] OR LeFort type I fracture [x-ray report] OR horizontal segment fracture of the alveolar process of the maxilla where the teeth are contained in the detached bony segment [x-ray report] OR Guérin's fracture [x-ray report] OR horizontal maxillary fracture [x-ray report]	NO;
1.04	Fracture of the middle third of the maxilla with displacement	Fracture of the middle third of the maxilla with displacement [x-ray report] OR LeFort type II fracture [x-ray report] OR unilateral or bilateral fracture of the maxilla where the body of the maxilla is separated from the facial skeleton and the separated portion is pyramidal in shape and extends through the body of the maxilla to the hard palate, through the floor of the orbit and into the nasal cavity [x-ray report]	NO;
1.05	Fracture of the upper third of the maxilla with displacement	Fracture of the upper third of the maxilla with displacement [x-ray report] OR LeFort type III fracture [x-ray report] OR the entire maxilla and facial bones are completely separated from the craniofacial skeleton [x-ray report] OR craniofacial displacement [x-ray report] OR transverse facial fracture [x-ray report]	NO;
2.01	Open dislocation or fracture of facial bones	Fracture or dislocation of facial bones [x-ray report] AND laceration of overlying skin	DX 8301, 8021, 80230-80239, 8025, 8029;
2.02	with ruptured ocular globe	Stage 1.02-2.01 AND ruptured ocular globe [CT scan report]	STAGE 1.01-2.01 + DX 8710-8712;
2.03	Closed fracture of larynx or trachea	Fracture of larynx or trachea [cervical x-ray, MRI or CT scan report]	DX 8075;
2.04	Open fracture of larynx or trachea	Fracture of larynx or trachea AND laceration of overlying skin	DX 8076;
2.05	with intracranial injury	Stage 1.02-2.04 AND cerebrospinal fluid rhinorrhea OR cerebrospinal fluid otorrhea OR intracranial bleeding [CT scan or MRI report] OR intracranial contusion [CT scan or MRI report]	STAGE 1.02-2.04 + DX 8500-85419;
2.06	with facial osteomyelitis	Stage 1.02-2.05 AND osteomyelitis: AND face involvement	STAGE 1.02-2.05 + (DX 33811, 33821, 37603, 38320 , 5264, 73008, 73018, 73028);

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS18

MultiStage: No

DXCat Label: Fracture, Dislocation, or Sprain: Facial Bones

Specificity: A

Etiology: Trauma

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.01	with meningitis	Stage 1.02-2.06 AND meningitis:	STAGE 2.01-2.06 + (GROUP MENSIT__BACT OR GROUP MENING__VIR);
3.02	with sepsis	Stage 2.01-3.01 AND sepsis:	STAGE 2.01-3.01 + GROUP SEPSIS;
3.03	with respiratory failure	Stage 1.02-3.02 AND respiratory failure:	STAGE 2.01-3.02 + GROUP RESP_FAIL;
3.04	with shock	Stage 2.01-3.03 AND shock:	STAGE 2.01-3.03 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.01-3.04 AND death	NO;

References:

Aminoff MJ. Nervous system. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:916-973.

Fox LA. Images in clinical medicine. Three-dimensional CT diagnosis of maxillofacial trauma. N Engl J Med. 1993;329(2):102.

Ropper AH. Traumatic injuries of the head and spine. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:2390-2398.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS19

MultiStage: No

DXCat Label: Fracture, Dislocation, or Sprain: Foot

Specificity: A

Etiology: Trauma

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Sprain or dislocation of the foot	Sprain of foot OR dislocation of foot	DX 71827, 71837, 71877, 71887, 71897, 84510-84513, 84519, 83800-83806, 83809;
1.02	Closed phalangeal fractures	Closed phalangeal fractures [x-ray report]	DX 8260;
1.03	Linear fracture without displacement	Linear fracture of the metatarsals without displacement [x-ray report]	DX 73394, 82520, 82525-82529;
1.04	Fracture of the metatarsals with displacement	Fracture of the metatarsals with displacement [x-ray report]	NO;
1.05	Fracture of the metatarsals with concomitant divergent diastasis of the first and second tarsometatarsal rays	Fracture of the metatarsals with concomitant divergent diastasis of the first and second tarsometatarsal rays [x-ray report]	STAGE 1.03 + DX 83803;
1.06	Fracture of the metatarsals with tarsometatarsal dislocation	Stage 1.01-1.05 AND tarsometatarsal dislocation [x-ray report]	NO;
1.07	Fracture of navicular, cuboid, cuneiform bones, closed	Fracture of the navicular bone [x-ray report] OR fracture of the cuboid bone [x-ray report] OR fracture of the cuneiform bone [x-ray report]	DX 82522-82524;
2.01	Open phalangeal fracture or dislocation	Fracture or dislocation of phalanges AND laceration of skin with exposure of the fractured toe(s) OR laceration of skin overlying site of dislocation of toe(s)	DX 8261, 83810, 83815-83816, 83819;
2.02	Open fracture or dislocation of the metatarsals	Fracture or dislocation of metatarsals AND laceration of the skin with exposure of the fractured metatarsal bones OR laceration of the skin overlying site of metatarsal dislocation	DX 83813, 83814, 82530-82531, 82535, 82539;
2.03	Open fracture or dislocation of navicular, cuboid or cuneiform bones	Fracture or dislocation of navicular, cuboid, or cuneiform bone AND laceration of skin with exposure of the navicular bone OR laceration of skin with exposure of the cuboid bone OR laceration of skin with exposure of the cuneiform bone OR laceration of the skin overlying the site of dislocation	DX 82532-82534, 83811-83812;
2.04	Fracture or dislocation with injury to the medial or lateral plantar nerve or artery	Fracture or dislocation of phalanges, metatarsals, or tarsals AND injury to the medial or lateral plantar arteries [angiogram report] OR injury to the medial or lateral plantar nerves [physical examination or EMG nerve conduction study report]	STAGE 1.01-2.03 + (DX 33811, 33821, 9046-9049, 9565, 9568-9569);
2.05	with osteomyelitis	Stage 2.01-2.04 AND osteomyelitis:	STAGE 2.01-2.04 + GROUP OSTEOMYELIT;
3.01	with sepsis	Stage 2.01-2.05 AND sepsis:	STAGE 2.01-2.05 + GROUP SEPSIS;
3.02	with shock	Stage 2.01-3.01 AND shock:	STAGE 2.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS19

MultiStage: No

DXCat Label: Fracture, Dislocation, or Sprain: Foot

Specificity: A

Etiology: Trauma

Stage	Description	Diagnostic findings	ICD-9-CM Codes
4.00	with death	Stage 2.01-3.02 AND death	NO;

References:

Levin LS, Garrett WE Jr. Fractures and dislocations: fractures of the tibia, fibula, ankle, and foot. In: Sabiston DC, ed. Sabiston Textbook of Surgery. 15th ed. Philadelphia, PA: WB Saunders; 1998:1444-1451.

Mann RA, Prieskorn D, Sobel M. Mid-tarsal and tarsometatarsal arthrodesis for primary degenerative osteoarthritis or osteoarthritis after trauma. Journal of Bone & Joint Surgery - American Volume. 1996;78(9):1376-85.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS20

MultiStage: No

DXCat Label: Fracture, Dislocation, or Sprain: Hip or Pelvis

Specificity: A

Etiology: Trauma

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Sprain of pelvis, hip or thigh	Sprain of pelvis OR sprain of hip OR sprain of thigh	DX 8430-8439, 8485;
1.02	Fracture or dislocation of hip or pelvis without break in continuity of the pelvic ring	No break in the continuity of pelvic ring [pelvic series x-ray report] AND fracture of the ilium [x-ray report] OR fracture of the ischium [x-ray report] OR fracture of the pubis [x-ray report] OR dislocation of the symphysis pubis [x-ray report] OR dislocation of the sacroiliac joint [x-ray report]	DX 71825, 71835, 71875, 71885, 71895, 8082, 80841-80842, 80849, 8088, 83500-83503, 73398;
1.03	Fracture or dislocation of the hip with a single break in pelvic ring	Single break in the continuity of pelvic ring [x-ray report] AND fracture of the ilium [x-ray report] OR fracture of the ischium [x-ray report] OR fracture of the pubis [x-ray report] OR dislocation of the symphysis pubis [x-ray report] OR dislocation of the sacroiliac joint [x-ray report]	NO;
2.01	Double break in pelvic ring	Double break in pelvic ring [x-ray report] AND fracture of the ilium [x-ray report] OR fracture of the ischium [x-ray report] OR fracture of the pubis [x-ray report] OR dislocation of the symphysis pubis [x-ray report] OR dislocation of the sacroiliac joint [x-ray report]	DX 80843;
2.02	Malgaigne's fracture or straddle fracture	Malgaigne fracture: break in anterior and posterior pelvic ring [x-ray report, or straddle fracture: double break in the pelvic ring associated with dislocation of the symphysis pubis [x-ray report] AND fracture of the ilium [x-ray report] OR fracture of the ischium [x-ray report] OR fracture of the pubis [x-ray report] OR dislocation of the symphysis pubis [x-ray report] OR dislocation of the sacroiliac joint [x-ray report]	NO;
2.03	Multiple fractures of the pelvis including pelvic ring	Multiple fractures of the pelvis or pelvic ring [x-ray report]	NO;
2.04	Open fracture of the pelvis or hip	Fracture of hip or pelvis AND laceration of the skin and exposure of the underlying fractured bones	DX 8083, 80851-80853, 80859, 8089, 83510-83513;
2.05	with thrombophlebitis	Stage 1.02-2.04 AND DVT:	STAGE 1.02-2.04 + (DXCAT CVS22 OR GROUP DVT OR DX 33811, 33821);
2.06	with rupture of large pelvic veins	Stage 1.02-2.05 AND venous hemorrhage [pelvic venography report or operative/pathology report]	STAGE 1.02-2.05 + (DX 90231-90239, 90242, 90252, 90254, 90256, 90282);

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS20

MultiStage: No

DXCat Label: Fracture, Dislocation, or Sprain: Hip or Pelvis

Specificity: A

Etiology: Trauma

Stage	Description	Diagnostic findings	ICD-9-CM Codes
2.07	with injury to uterus or ovaries or colonic perforation or neurological injury or urological injury	Stage 1.02-2.06 AND trauma to uterus [contrast hystero-graphy or operative/pathology or CT scan report] OR trauma to ovaries [contrast hystero-graphy or operative/pathology report] OR colonic perforation [contrast GI series report or operative/pathology report] OR fracture of vertebrae in the spinal column [myelogram, CT scan, x-ray or operative/pathology report] OR laceration of urinary bladder [operative/pathology report] OR ureters [operative/pathology report] OR urethra [operative/pathology report]	STAGE 1.02-2.06 + (DX 86340-86346, 86349, 86350-86356, 86359, 8670-8679);
2.08	with rupture of major pelvic arteries	Stage 1.02-2.07 AND arterial hemorrhage [arteriogram report or operative/pathology report]	STAGE 1.02-2.07 + (DX 90220-90229, 90240-90241, 90249, 90250-90251, 90253, 90255, 90259, 90281, 90287, 90289);
3.01	with pulmonary embolism	Stage 1.02-2.08 AND pulmonary embolism:	STAGE 1.02-2.08 + GROUP PULMEMB;
3.02	with respiratory failure	Stage 3.01 AND respiratory failure:	STAGE 1.02-3.01 + GROUP RESP_FAIL;
3.03	with shock	Stage 1.02-3.02 AND shock:	STAGE 1.02-3.02 + GROUP SHOCKA;
4.00	with death	Stage 1.02-3.03 AND death	NO;

References:

Dowling J. Musculoskeletal disease: Staged for Rapid Comprehension. Year Book Medical Publishers Inc. 1985:135-139.

Hellmann DB. Arthritis & musculoskeletal disorders. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:774-824.

Koraitim MM. Pelvic fracture urethral injuries: evaluation of various methods of management. Journal of Urology. 1996;156(4):1288-91.

Resnick NM. Geriatric medicine. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:37-46.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS21

MultiStage: No

DXCat Label: Fracture, Dislocation, or Sprain: Humerus (Head) or Shoulder

Specificity: A

Etiology: Trauma

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Sprains of shoulder and upper arm	Sprain of shoulder OR sprain of upper arm	DX 8400-8409;
1.02	Closed dislocation of the head of the humerus, acromioclavicular joint or shoulder region	Dislocation of the head of humerus [x-ray report] OR dislocation of the acromioclavicular joint [x-ray report] OR dislocation of the shoulder region [x-ray report]	DX 71821, 71831, 71871, 71881, 71891, 83100, 83103-83104, 83109;
1.03	Anterior, subcoracoid, subglenoid, posterior or superior dislocation of the head of the humerus	Anterior, subcoracoid, subglenoid, posterior or superior dislocation [x-ray report]	DX 83101, 83102;
1.04	Closed fracture of scapula or clavicle	Fracture of the scapula [x-ray report] OR fracture of the clavicle [x-ray report]	DX 81100-81103, 81109, 81000-81003;
1.05	Closed fracture of the head or neck of humerus	Fracture of the head and neck of humerus without displacement [x-ray report] OR Neer Group I fracture	DX 81200-81202, 81209;
1.06	Closed fracture of greater or lesser tuberosity of humerus	Fracture of the head and neck of the humerus with fracture of the greater or lesser tuberosities [x-ray report] OR Neer Group V fracture	DX 81203;
1.07	Fracture of the head or neck of humerus with displacement of fragments or segment	Fracture of the head and neck of the humerus and impaction with 35-45 degrees of angulation and less than 2/3 diameter of lateral displacement OR fracture of the head and neck of the humerus with displacement of the head greater than 1 cm. OR Neer Group II fracture OR fracture of the head and neck of humerus with displaced shaft segment and intact rotator	NO;
1.08	Fracture of the head and neck of the humerus with fracture of the greater tuberosity and unimpacted fracture of the surgical neck	Fracture of the head and neck of the humerus with fracture of the greater tuberosity and unimpacted fracture of the surgical neck [x-ray report] OR Neer Group IV fracture	(DX 81200, 81202, 81209) + DX 81201 + DX 81203;
2.01	Open dislocation or fracture of clavicle or scapula	Dislocation or fracture of clavicle or scapula AND laceration of skin overlying dislocation OR laceration of skin overlying fracture	DX 83114, 83119, 81010-81013, 81110-81113, 81119 ;
2.02	Open dislocation of the shoulder	Dislocation of the shoulder AND laceration of the skin overlying the dislocation	DX 83110-83113;
2.03	Open fracture of the head or neck of the humerus	Fracture of the head or neck of the humerus AND laceration of the skin with exposure of the fractured bone(s)	DX 81210-81213, 81219;
2.04	Open fracture of the head or neck of humerus with displacement of fragments or segment	Displaced fracture of the head or neck of the humerus AND laceration of the skin with exposure of the fractured bone(s)	NO;
2.05	with injury to the axillary artery or vein	Stage 1.05-2.04 AND injury to the axillary artery [angiogram report] OR injury to the axillary vein [venography report]	STAGE 1.01-2.03 + DX 90300-90302;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS21

MultiStage: No

DXCat Label: Fracture, Dislocation, or Sprain: Humerus (Head) or Shoulder

Specificity: A

Etiology: Trauma

Stage	Description	Diagnostic findings	ICD-9-CM Codes
2.06	with injury to the brachial plexus or axillary nerve	Stage 1.05-2.05 AND ulnar nerve palsy OR radial nerve palsy OR median nerve palsy OR paralysis of the deltoid muscle	STAGE 1.01-2.05 + (DX 33811, 33821, 9534, 9550);
2.07	with osteomyelitis	Stage 2.01-2.06 AND osteomyelitis:	STAGE 2.01-2.06 + GROUP OSTEOMYELIT;
2.08	with gangrene	Stage 2.01-2.07 AND gangrene of the upper limb [operative/pathology report]	STAGE 2.01-2.07 + DX 7854;
3.01	with sepsis	Stage 2.01-2.08 AND sepsis:	STAGE 2.01-2.08 + GROUP SEPSIS;
3.02	with shock	Stage 2.01-3.01 AND shock:	STAGE 2.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.01-3.02 AND death	NO;

References:

Bernstein J, Adler LM, Blank JE, Dalsey RM, Williams GR, Iannotti JP. Evaluation of the Neer system of classification of proximal humeral fractures with computerized tomographic scans and plain radiographs. *Journal of Bone & Joint Surgery - American Volume*. 1996;78(9):1371-5.

Dowling J. Musculoskeletal disease: staged for rapid comprehension. Year Book Medical Publishers Inc. 1985:198-199.

Kontakis GM, Galanakis IA, Steriopoulos KA. Dislocation of the shoulder and ipsilateral fracture of the humeral shaft: case reports and literature review. *Journal of Trauma*. 1995;39(5):990-2.

Ogawa K, Ui M. Humeral shaft fracture sustained during arm wrestling: report on 30 cases and review of the literature. *Journal of Trauma*. 1997;42(2):243-6.

Swamy G, Schemitsch EH. Humeral head fracture dislocation: case report and review of the literature. *Journal of Trauma*. 1998;44(2):377-80.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS22

MultiStage: No

DXCat Label: Fracture, Dislocation, or Sprain: Wrist or Hand or Fingers

Specificity: A

Etiology: Trauma

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Sprain or closed dislocation of wrist, hand, or fingers	Sprain of wrist OR sprain of hand OR sprain of fingers OR dislocation of wrist [x-ray report] OR dislocation of hand [x-ray report] OR dislocation of fingers [x-ray report]	DX 71823-71824, 71833-71834, 71873-71874, 71883-71884, 71893-71894, 83300-83309, 83400-83402, 84200-84209, 84210-84219;
1.02	Closed fracture of phalanx or phalanges	Closed fracture of one or more phalanges [x-ray report]	DX 81600-81603;
1.03	Closed fracture of metacarpal bone(s)	Closed fracture of metacarpal bone(s) [x-ray report]	DX 81500-81509;
1.04	Fracture of the carpal bone(s) without displacement	Fracture of the carpal bones without displacement [x-ray report]	DX 81400-81409;
1.05	Fracture of the carpal bone(s) with proximal pole fracture	Fracture of the carpal bone(s) with proximal pole fracture [x-ray report]	NO;
1.06	Fracture of the carpal navicular waist	Fracture of the carpal navicular waist [x-ray report]	NO;
1.07	Fracture of the carpal bone(s) with lunate bone subluxation or dislocation	Stage 1.04-1.06 AND fracture of the carpal bone(s) with lunate bone subluxation or dislocation [x-ray report]	STAGE 1.04 + DX 83302;
2.01	Open phalangeal dislocation or fracture	Fracture or dislocation of phalanges AND laceration of the skin with exposure of the dislocated or fractured bone(s)	DX 81610-81613, 83410-83412;
2.02	Open dislocation or fracture of metacarpal bone(s)	Fracture or dislocation of metacarpals AND laceration of the skin with exposure of the dislocated or fractured bone(s)	DX 83310-83319, 81510-81519;
2.03	Open fracture of the carpal bone(s)	Fracture or dislocation of carpals AND laceration of the skin with exposure of the fractured or dislocated bone(s)	DX 81410-81419;
2.04	Fracture of the carpal bone(s) with damage to the median nerve	Fracture of carpals AND median nerve palsy	STAGE 1.04-2.03 + (DX 33811, 33821, 3542, 9552);
2.05	with osteomyelitis	Stage 2.01-2.04 AND osteomyelitis:	STAGE 2.01-2.04 + GROUP OSTEOMYELIT;
3.01	with sepsis	Stage 2.01-2.05 AND sepsis:	STAGE 2.01-2.05 + GROUP SEPSIS;
3.02	with shock	Stage 2.01-3.01 AND shock:	STAGE 2.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.01-3.02 AND death	NO;

References:

Goldner RD, Goldner JL. Fractures and dislocations: fractures and dislocations of the hand. In: Sabiston DC, ed. Sabiston Textbook of Surgery. 15th ed. Philadelphia, PA: WB Saunders; 1998:1419-1431.

Chiorenoya D, Whitwell DJ. Occult scaphoid fracture: need to avoid complacency. Journal of Trauma. 1996;41(6):1054-5.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS23
 DXCat Label: Gout
 Etiology: Metabolic

MultiStage: No
 Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Hyperuricemia	Hyperuricemia:	DX 27481-2749;
1.02	Acute gouty arthritis	Acute gouty arthritis [Needle shaped negatively birefringent crystals in fluid or in phagocytes per synovial fluid report]	DX 2740;
2.01	Chronic gouty arthritis	History of acute gouty arthritis of the involved joint AND punched out lesion of subchondral bone [x-ray report] OR destruction of involved joint [x-ray report]	NO;
2.02	with renal urate stones	Stage 1.01-2.01 AND renal urate stones [pathology report]	DX 27410-27419;
2.03	with pyelonephritis	Stage 1.01-2.02 AND pyelonephritis:	STAGE 1.01-2.02 + DX 59010-59011;
3.01	with renal failure	Stage 2.02-2.03 AND renal failure:	STAGE 1.01-2.03 + GROUP REN_FAIL_ACU;
3.02	with shock	Stage 2.03-3.01 AND shock:	STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.03-3.03 AND death	NO;

References:

Barth WF. Office evaluation of the patient with musculoskeletal complaints. *American Journal of Medicine.* 1997;102(1A):3S-10S.

Emmerson BT. The management of gout. *N Engl J Med.* 1996;334(7):445-51.

Hellmann DB. Arthritis & musculoskeletal disorders. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. *Current Medical Diagnosis & Treatment.* Stamford, CT: Appleton & Lange; 1998:774-824.

Wortmann RL. Gout and other disorders of purine metabolism. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. *Harrison's Principles of Internal Medicine.* 14th ed. New York, NY: McGraw-Hill; 1998:2158-2166.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS24

MultiStage: No

DXCat Label: Hallux Deformities

Specificity: A

Etiology: Congenital; Degenerative; Trauma

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Hallux valgus or bunion	Hallux valgus [x-ray report]	DX 7350, 7271;
1.02	Hallux valgus encroaching upon adjacent toes	Hallux valgus encroaching upon adjacent toes [x-ray report]	NO;
1.03	Hallux valgus with inflamed overlying bursa	Hallux valgus with inflamed overlying bursa [x-ray report]	DX 72706;
1.04	Hallux valgus with infection	Hallux valgus with skin infection [wound discharge culture reports growth of pathologic organism(s)]	STAGE 1.01-1.03 + DX 68600-6869;
1.05	Hallux rigidus	Hallux rigidus [x-ray report]	DX 7352;
1.06	Hallux varus	Hallux varus [x-ray report]	DX 7351;
1.07	Hallux malleus	Hallux malleus [x-ray report]	DX 7353;

References:

Brandt KD. Osteoarthritis. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1935-1941.

Dowling J. Musculoskeletal disease: staged for rapid comprehension. Year Book Medical Publishers Inc. 1985:119-121.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS25

MultiStage: No

DXCat Label: Intervertebral Disc Disorders: Lumbar and Lumbosacral

Specificity: A

Etiology: Trauma

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Asymptomatic prolapse of the intervertebral disc	Herniated intervertebral disc [spine x-ray or MRI or myelogram report]	DX 72210, 7222, 72230, 72232-72239;
1.02	Symptomatic prolapse of the intervertebral disc	Stage 1.01 AND pain radiating to leg(s) or arm(s) OR weakness of arm(s) or leg(s) OR cervical radiculopathy [physical examination or EMG report] OR lumbar radiculopathy [EMG report]	DX 72270, 72273;
2.01	with loss of bladder or bowel control	Stage 1.01-1.02 AND incontinence of urine OR incontinence of bowels	STAGE 1.01-1.02 + (DX 78830, 78838, 7876);
2.02	with cauda equina syndrome or conus medullaris syndrome	Stage 1.01-2.01 AND cauda equina syndrome: OR conus medullaris syndrome:	STAGE 1.01-2.01 + DX 34460-34461;
2.03	with paraplegia	Stage 1.01-2.02 AND paraplegia	STAGE 1.01-2.02 + DX 3441;
2.04	with quadriplegia	Stage 1.01-2.03 AND quadriplegia	STAGE 1.01-2.03 + (DX 34400-34404);
2.05	with pneumonia (aspiration or bacterial)	Stage 1.01-2.04 AND pneumonia:	STAGE 1.01-2.04 + (DXCAT RES15 OR DX 5070);
3.01	with sepsis	Stage 2.05 AND sepsis:	STAGE 2.05 + GROUP SEPSIS;
3.02	with shock	Stage 2.05-3.01 AND shock:	STAGE 2.05-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.05-3.02 AND death	NO;

References:

Boden SD. The use of radiographic imaging studies in the evaluation of patients who have degenerative disorders of the lumbar spine. *Journal of Bone & Joint Surgery - American Volume*. 1996;78(1):114-24.

Brandt KD. Osteoarthritis. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. *Harrison's Principles of Internal Medicine*. 14th ed. New York, NY: McGraw-Hill; 1998:1935-1941.

Hellmann DB. Arthritis & musculoskeletal disorders. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. *Current Medical Diagnosis & Treatment*. Stamford, CT: Appleton & Lange; 1998:774-824.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS26

MultiStage: No

DXCat Label: Infectious Arthritis

Specificity: A

Etiology: Infection

Stage	Description	Diagnostic findings	ICD-9-CM Codes
2.01	Acute infectious arthritis	Infectious arthritis:	DX 71100-71199;
2.02	with contiguous osteomyelitis	Stage 2.01 AND osteomyelitis:	STAGE 2.01 + GROUP OSTEOMYELIT;
3.01	with sepsis	Stage 2.01-2.02 AND sepsis:	STAGE 2.01-2.02 + GROUP SEPSIS;
3.02	with shock	Stage 2.01-3.01 AND shock:	STAGE 2.01-2.03 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.01-3.02 AND death	NO;

References:

Goldenberg DL. Septic arthritis Lancet. 1998;351(9097):197-202.

Hellmann DB. Arthritis & musculoskeletal disorders. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:774-824.

Thaler SJ, Maguire JH. Infectious arthritis and injections of prosthetic joints. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1944-1949.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS27

MultiStage: No

DXCat Label: Injury, Chest Wall

Specificity: A

Etiology: Trauma

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Closed trauma to the chest wall or closed trauma to the breast or chest wall sprain or dislocation of sternum or ribs	Closed trauma to the chest wall OR closed trauma to the breast OR sprain of sternum OR sprain of ribs OR closed dislocation of sternum OR closed dislocation of ribs	DX 83961, 83969, 8483, 84840-84849, 9221, 94800, 95911;
1.02	Closed fracture of chest wall, ribs or sternum without displacement	Closed fracture of the chest wall without displacement [x-ray report] OR closed fracture of rib without displacement [x-ray report] OR closed fracture of sternum without displacement [x-ray report]	DX 80700-80709, 8072;
1.03	Open wound of chest wall, ribs or sternum	Open wound of chest wall OR open wound of rib OR open wound of sternum	DX 8750-8751, 8790-8791; STAGE 1.01-1.02 + DX 04042;
2.01	Open fracture or dislocation of the chest wall or rib or sternum	Fracture or dislocation of the chest wall, rib, or sternum AND chest wall fracture with exposure of bones OR rib fracture with exposure of bones OR sternal fracture with exposure of bones	DX 80710-80719, 8073, 83971, 83979;
2.02	Fracture of the ribs or sternum with displacement of bone or flail chest	Fracture of the chest wall with displacement of bone [x-ray report] OR fracture of the rib or sternum with displacement of bone [x-ray report] OR fracture of the rib or sternum with flail chest [x-ray report]	DX 8074;
2.03	with subcutaneous emphysema	Stage 1.01-2.02 AND subcutaneous emphysema [x-ray report or physical examination]	STAGE 1.01-2.02 + DX 9587;
2.04	with pneumothorax or hemothorax	Stage 1.01-2.03 AND pneumothorax [x-ray report] OR hemothorax [x-ray or thoracentesis report]	DX 8600-8605; STAGE 1.01-2.03 + (DX 33811, 33821);
2.05	with tension pneumothorax	Stage 1.01-2.04 AND tension pneumothorax [x-ray report]	STAGE 1.01-2.04 + DX 5120;
2.06	with laceration of the thoracic duct	Stage 1.01-2.05 AND lacerated thoracic duct [operative/pathology report] OR chylous effusion [thoracentesis report]	DX 86229, 86239;
2.07	with laceration of the diaphragm	Stage 1.01-2.06 AND laceration of the diaphragm [operative/pathology report or endoscopy report]	DX 8620-8621;
2.08	with laceration of trachea, bronchi, lung or esophagus	Stage 1.01-2.07 AND laceration of the trachea [bronchoscopy report] OR laceration of the bronchus [bronchoscopy report] OR injury to the lung OR laceration of the esophagus [operative/pathology report or endoscopy report]	DX 86120-86122, 86130-86132, 86221, 86231, 8744-8745;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS27

DXCat Label: Injury, Chest Wall

Etiology: Trauma

MultiStage: No

Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
2.09	with laceration of the heart, great vessels or cardiac tamponade	Stage 1.01-2.08 AND laceration of the heart [operative/pathology report] OR laceration of the aorta[operative/pathology report] OR laceration of the vena cava [operative/pathology report] OR laceration of the pulmonary artery [operative/pathology report] OR laceration of the pulmonary vein [operative/pathology report] OR cardiac tamponade	DX 86100-86103, 86110-86113, 9010, 9020, 9012, 90140-90142;
3.01	with respiratory failure	Stage 1.01-2.09 AND respiratory failure:	STAGE 1.01-2.09 + GROUP RESP_FAIL;
3.02	with shock	Stage 1.01-3.01 AND shock:	STAGE 1.01-3.01 + GROUP SHOCKA;
4.00	with death	Stage 1.01-3.02 AND death	NO;

References:

Light RW. Disorders of the pleura, mediastinum, and diaphragm. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1472-1476.

Pretre R, Chilcott M. Blunt trauma to the heart and great vessels. N Engl J Med. 1997;336(9):626-32.

Stauffer JL. Lung. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:251-33.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS28

MultiStage: No

DXCat Label: Injury, Knee, Ligamentous

Specificity: A

Etiology: Trauma

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Partial tear of knee ligament	Medial collateral ligament [stress x-ray report or physical examination] OR lateral collateral ligament [stress x-ray report or physical examination] OR anterior cruciate ligament [stress x-ray report or physical examination] OR posterior cruciate ligament [stress x-ray report or physical examination]	DX 8442-8443, 8448-8449, 71781-7179;
1.02	Complete rupture of the lateral collateral ligament	Complete rupture of the lateral collateral ligament [arthroscopy or stress x-ray report or physical examination]	DX 8440;
1.03	Complete rupture of the medial collateral ligament	Complete rupture of the medial collateral ligament [arthroscopy or arthrotomy report or operative/pathology report or stress x-ray report or physical examination]	DX 8441;
1.04	Complete rupture of the anterior cruciate ligament	Complete rupture of the anterior cruciate ligament [arthroscopy or arthrotomy report or operative/pathology report or stress x-ray report or physical examination]	NO;
1.05	Complete rupture of the posterior cruciate ligament	Complete rupture of the posterior cruciate ligament [arthroscopy or arthrotomy report or operative/pathology report or stress x-ray report or physical examination]	NO;
2.01	Collateral ligamentous tear with meniscus tear	Medial collateral ligament tear [arthroscopy or arthrotomy report or operative/pathology report or stress x-ray report or physical examination] OR lateral collateral ligament tear [arthroscopy or arthrotomy report or operative/pathology report or stress x-ray report or physical examination] AND medial meniscus tear [arthroscopy or arthrotomy report or operative/pathology report or stress x-ray report or physical examination] OR lateral meniscus tear [arthroscopy, arthrotomy, operative/pathology or stress x-ray report or physical examination]	STAGE 1.02-1.03 + DXCAT MUS29;
2.02	Cruciate ligamentous tear with meniscus tear	Anterior cruciate ligament tear [arthroscopy or arthrotomy report or operative/pathology report or stress x-ray report or physical examination] OR posterior cruciate ligament tear [arthroscopy, arthrotomy, operative/pathology or stress x-ray report or physical examination] AND medial meniscus tear [arthroscopy, arthrotomy, operative/pathology or stress x-ray report or physical examination] OR lateral meniscus tear [arthroscopy, arthrotomy, operative/pathology or stress x-ray report or physical examination]	STAGE 1.01 + DXCAT MUS29;
2.03	Ligamentous tear and meniscus tear and torn knee capsule	Stage 2.01-2.02 AND torn knee capsule [arthroscopy, arthrotomy, operative/pathology or stress x-ray report or physical examination]	NO;

References:

Clasby L, Young MA. Management of sports-related anterior cruciate ligament injuries. AORN Journal. 1997;66(4):609-30.

Vail TP, McCollum DE. Fractures and dislocations: fractures of the pelvis, femur, and knee. In: Sabiston DC, ed. Sabiston Textbook of Surgery. 15th ed. Philadelphia, PA: WB Saunders; 1998:1432-1443.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS29

MultiStage: No

DXCat Label: Injury, Knee, Semilunar Cartilages

Specificity: A

Etiology: Trauma

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Isolated peripheral tear of the medial or lateral meniscus	Isolated peripheral tear of the medial or lateral meniscus [arthroscopy, arthrotomy, operative/pathology or stress x-ray report or physical examination]	DX 8360-8362, 7170-7175;
1.02	Torn discoid medial or lateral meniscus	Isolated discoid tear of the medial or lateral meniscus [arthroscopy, arthrotomy, operative/pathology or stress x-ray report or physical examination]	NO;
1.03	Torn cystic medial or lateral meniscus	Isolated cystic tear of the medial or lateral meniscus [arthroscopy, arthrotomy, operative/pathology or stress x-ray report or physical examination]	NO;
1.04	Tear of the medial or lateral meniscus with displacement of the internal fragment	Tear of the medial or lateral meniscus with displacement of the internal fragment [arthroscopy, arthrotomy, operative/pathology or stress x-ray report or physical examination]	NO;
1.05	Tear of the anterior horn of the lateral or medial meniscus	Tear of the anterior horn of the lateral or medial menisci [arthroscopy, arthrotomy, operative/pathology or stress x-ray report or physical examination]	NO;
1.06	Tear of the posterior horn of the lateral or medial meniscus	Tear of the posterior horn of the lateral or medial menisci [arthroscopy, arthrotomy, operative/pathology or stress x-ray report or physical examination]	NO;
2.01	Tear of the medial or lateral meniscus with tear of the medial collateral ligament	Tear of the medial or lateral meniscus with tear of the medial collateral ligament [arthroscopy, arthrotomy, operative/pathology or stress x-ray report or physical examination]	STAGE 1.01 + DX 8441;
2.02	Tear of the medial or lateral meniscus with tear of the cruciate ligament	Tear of the medial or lateral meniscus with tear of the medial collateral ligament [arthroscopy, arthrotomy, operative/pathology or stress x-ray report or physical examination]	STAGE 1.01-2.01 + (DX 33811, 33821, 8442);
2.03	Ligamentous tear and meniscus tear and torn knee capsule	Stage 2.01-2.02 AND torn knee capsule [arthroscopy, arthrotomy, operative/pathology or stress x-ray report or physical examination]	NO;

References:

Clasby L, Young MA. Management of sports-related anterior cruciate ligament injuries. AORN Journal. 1997;66(4):609-30.

Vail TP, McCollum DE. Fractures and dislocations: fractures of the pelvis, femur, and knee. In: Sabiston DC, ed. Sabiston Textbook of Surgery. 15th ed. Philadelphia, PA: WB Saunders; 1998:1432-1443.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS30

MultiStage: No

DXCat Label: Injury, Open Wound, or Blunt Trauma: Lower Extremity

Specificity: A

Etiology: Trauma

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Superficial injury or contusion of the lower extremity not penetrating beyond the subcutaneous tissue	Incision or stab wound of the lower extremity not penetrating beyond the subcutaneous tissue [operative/pathology report]	DX 9160, 9162, 9164, 9166, 9168, 9170, 9172, 9174, 9176, 9178, 92400-9249, 9596-9597;
1.02	Avulsion wound of the lower extremity not penetrating beyond the subcutaneous tissue	Avulsion wound of the lower extremity not penetrating beyond the subcutaneous tissue [operative/pathology report]	DX 8900, 8910, 8920, 8930, 8940;
1.03	with infection	Stage 1.01-1.02 AND infected wound [wound culture reports growth of pathologic organism(s)]	DX 8901, 8911, 8921, 8931, 8941, 9161, 9163, 9165, 9167, 9169, 9171, 9173, 9175, 9177, 9179; STAGE 1.01-1.02 + DX 04042;
1.04	with cellulitis	Stage 1.01-1.03 AND cellulitis: AND involvement of lower extremity	STAGE 1.01-1.03 + (DX 6826, 6827);
2.01	Open wound of the lower extremity extending into the deep fascia or crush injury of the lower extremity	Open wound or trauma of the lower extremity extending into the deep fascia [operative/pathology report] OR crush injury of the lower extremity	DX 92800-9289; STAGE 1.01-1.04 + (DX 33811, 33821);
2.02	with abscess formation	Stage 1.01-2.01 AND abscess formation [operative/pathology report]	NO;
2.03	with laceration of muscles or tendons	Stage 1.01-2.02 AND laceration of muscle tissue OR laceration of tendons	DX 8902, 8912, 8922, 8932, 8942;
2.04	with injury or laceration of the nerves of the lower extremity	Stage 1.01-2.03 AND sciatic nerve laceration or trauma [operative/pathology report] OR femoral nerve laceration or trauma [operative/pathology report] OR tibial nerve laceration or trauma [operative/pathology report] OR peroneal nerve laceration or trauma [operative/pathology report] OR sural nerve laceration or trauma [operative/pathology report] OR plantar nerve laceration or trauma [operative/pathology report] OR saphenous nerve laceration or trauma [operative/pathology report]	DX 9560-9565, 9568, 9569;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS30

MultiStage: No

DXCat Label: Injury, Open Wound, or Blunt Trauma: Lower Extremity

Specificity: A

Etiology: Trauma

Stage	Description	Diagnostic findings	ICD-9-CM Codes
2.05	with trauma to blood vessels of the lower extremity	Stage 2.01-2.04 AND laceration or trauma of the femoral artery [operative/pathology report] OR laceration or trauma of the femoral vein [operative/pathology report] OR laceration or trauma of the popliteal artery [operative/pathology report] OR laceration or trauma of the popliteal vein [operative/pathology report] OR laceration or trauma of the iliac artery [operative/pathology report] OR laceration or trauma of the iliac vein [operative/pathology report] OR laceration or trauma of the tibial artery [operative/pathology report] OR laceration or trauma of the saphenous vein [operative/pathology report]	DX 9040-9043, 90440-90442, 90450-90454, 9046-9049;
2.06	Traumatic amputation involving the lower extremity	Amputation of the lower extremity [operative/pathology report]	DX 8970-8977, 8950-8951, 8960-8963;
2.07	with osteomyelitis	Stage 1.03-2.06 AND osteomyelitis:	STAGE 2.01-2.06 + GROUP OSTEOMYELIT;
2.08	with gangrene	Stage 1.03-2.07 AND gangrene	STAGE 2.01-2.07 + DX 7854;
3.01	with sepsis	Stage 1.03-2.08 AND sepsis:	STAGE 2.01-2.08 + GROUP SEPSIS;
3.02	with shock	Stage 1.03-3.01 AND shock:	STAGE 2.01-3.01 + (GROUP SHOCKA);
4.00	with death	Stage 1.03-3.02 AND death	NO;

References:

Bowyer GW, Rossiter ND. Management of gunshot wounds of the limbs. *Journal of Bone & Joint Surgery - British Volume*. 1997;79(6):1031-6.

Cooper C. The crippling consequences of fractures and their impact on quality of life. *American Journal of Medicine*. 1997;103(2A):12S-17S.

Jurkovich GJ, Carrico CJ. Trauma: management of the acutely injured patient. In: Sabiston DC, ed. *Sabiston Textbook of Surgery*. 15th ed. Philadelphia, PA: WB Saunders; 1998:296-340.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS31

MultiStage: No

DXCat Label: Injury, Open Wound, or Blunt Trauma: Upper Extremity

Specificity: A

Etiology: Trauma

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Superficial injury or contusion of the upper extremity not penetrating beyond the subcutaneous tissue	Incision or stab wound of the upper extremity not penetrating beyond the subcutaneous tissue [operative/pathology report]	DX 9120, 9122, 9124, 9126, 9128, 9130, 9132, 9134, 9136, 9138, 9140, 9142, 9144, 9146, 9148, 9150, 9152, 9154, 9156, 9158, 92300-9239, 9592-9595;
1.02	Avulsion wound of the upper extremity not penetrating beyond the subcutaneous tissue	Avulsion wound of the upper extremity not penetrating beyond the subcutaneous tissue [operative/pathology report]	DX 88000-88009, 88100-88102, 8820, 8830, 8840;
1.03	with infection	Stage 1.01-1.02 AND infected wound [wound culture reports growth of pathologic organism(s)]	DX 88010-88013, 88019, 88110-88112, 8821, 8831, 8841, 9121, 9123, 9125, 9127, 9129, 9131, 9133, 9135, 9137, 9139, 9141, 9143, 9145, 9147, 9149, 9151, 9153, 9155, 9157, 9159 ; STAGE 1.01-1.02 + DX 04042;
1.04	with cellulitis	Stage 1.01-1.03 AND cellulitis: AND involvement of extremity	STAGE 1.01-1.03 + (DX 6823, 6824);
2.01	Open wound of the upper extremity extending into the deep fascia or crush injury of upper extremity	Open wound of the upper extremity extending into the deep fascia [operative/pathology report] OR crush injury of upper extremity	DX 92700-92703, 92709-9279; STAGE 1.01-1.04 + (DX 33811, 33821);
2.02	with abscess formation	Stage 1.01-2.01 AND abscess formation [operative/pathology report]	NO;
2.03	with laceration of muscles or tendons	Stage 1.01-2.02 AND laceration of muscle tissue OR laceration of tendons	DX 88020-88023, 88029, 88120-88122, 8822, 8832, 8842;
2.04	with trauma to the upper extremity nerves	Stage 1.01-2.03 AND axillary nerve laceration or trauma [operative/pathology report] OR radial nerve laceration or trauma [operative/pathology report] OR median nerve laceration or trauma [operative/pathology report] OR ulnar nerve laceration or trauma [operative/pathology report]	DX 9550-9559;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS31

MultiStage: No

DXCat Label: Injury, Open Wound, or Blunt Trauma: Upper Extremity

Specificity: A

Etiology: Trauma

Stage	Description	Diagnostic findings	ICD-9-CM Codes
2.05	with trauma to the blood vessels of the upper extremity	Stage 2.01-2.04 AND laceration or trauma of the brachial artery [operative/pathology report] OR laceration or trauma of the brachial vein [operative/pathology report] OR laceration or trauma of the axillary artery [operative/pathology report] OR laceration or trauma of the axillary vein [operative/pathology report] OR laceration or trauma of the radial artery [operative/pathology report] OR laceration or trauma of the ulnar artery [operative/pathology report]	DX 90300-90302, 9031-9035, 9038, 9039;
2.06	Traumatic amputation involving upper extremity	Amputation of upper extremity [operative/pathology report]	DX 8850-8851, 8860-8861, 8870-8877;
2.07	with osteomyelitis	Stage 1.03-2.06 AND osteomyelitis:	STAGE 2.01-2.06 + GROUP OSTEOMYELIT;
2.08	with gangrene	Stage 1.03-2.07 AND gangrene	STAGE 2.01-2.07 + DX 7854;
3.01	with sepsis	Stage 1.03-2.08 AND sepsis:	STAGE 2.01-2.08 + GROUP SEPSIS;
3.02	with shock	Stage 1.03-3.01 AND shock:	STAGE 2.01-3.01 + GROUP SHOCKA;
4.00	with death	Stage 1.03-3.02 AND death	NO;

References:

Bowyer GW, Rossiter ND. Management of gunshot wounds of the limbs. Journal of Bone & Joint Surgery - British Volume. 1997;79(6):1031-6.

Jurkovich GJ, Carrico CJ. Trauma: management of the acutely injured patient. In: Sabiston DC, ed. Sabiston Textbook of Surgery. 15th ed. Philadelphia, PA: WB Saunders; 1998:296-340.

Lillegard WA, Zukowski C, Butcher J. Common upper-extremity injuries. Archives of Family Medicine. 1996;5(3):159-68.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS32
 DXCat Label: Muscular Dystrophy
 Etiology: Genetic (or hereditary)

MultiStage: No
 Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Distal muscular dystrophy	Distal muscular dystrophy [physical examination or genetic analysis report]	DX 3591;
1.02	Becker muscular dystrophy or limb-girdle dystrophy	Becker muscular dystrophy [physical examination or genetic analysis report or Western Blot analysis report] OR limb-girdle dystrophy [physical examination or Western Blot analysis report or genetic analysis reports limb-girdle dystrophy subtype]	NO;
1.03	Myotonic dystrophy or ocular muscular dystrophy or fascioscapulohumeral dystrophy or congenital muscular dystrophy or oculopharyngeal muscular dystrophy	Myotonic dystrophy [physical examination or genetic analysis report an unstable expansion of a CTG trinucleotide repeat sequence in a gene at 19q13.3] OR ocular muscular dystrophy [physical examination] OR facioscapulohumeral dystrophy [physical examination or genetic analysis report defect at chromosome 4q35] OR congenital muscular dystrophy [physical examination or laminin α 2 deficiency by muscle biopsy or defect in chromosome 6q22-23 by genetic analysis report] OR oculopharyngeal muscular dystrophy [physical examination or genetic defect in chromosome 14q]	DX 3590, 3592-35923, 35929;
2.01	Duchennic type muscular dystrophy	Duchennic type muscular dystrophy [physical examination or dystrophin in muscle tissue by Western Blot analysis report or dystrophin gene at short arm of the X chromosome at Xp21 by	NO;
2.02	with hypertension	Stage 1.01-2.01 AND hypertension:	STAGE 1.01-1.03 + DXCAT CVS13;
2.03	with mental retardation	Stage 1.01-2.02 AND mental retardation:	STAGE 1.01-2.02 + DXCAT NEU15;
2.04	with pneumonia	Stage 1.01-2.03 AND pneumonia:	STAGE 1.01-2.03 + (DXCAT RES15 OR DXCAT RES16 OR DXCAT RES17 OR DXCAT RES12 OR DXCAT RES19 OR DX 5070);
2.05	with cardiomyopathy or cardiac conduction abnormalities	Stage 1.01-2.04 Cardiomyopathy [echocardiogram report] OR cardiac conduction abnormalities:	STAGE 1.01-2.04 + (DX 4250-4254, 4257-4259 OR DXCAT CVS08);
3.01	with congestive heart failure	Stage 1.01-2.05 AND congestive heart failure:	STAGE 1.01-2.05 + (GROUP CHF_HTNIVE OR GROUP CHF_NON_HTN);
3.02	with respiratory failure	Stage 1.01-3.01 AND respiratory failure:	STAGE 1.01-3.01 + GROUP RESP_FAIL;
3.03	with shock	Stage 1.01-3.02 AND shock:	STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN);
4.00	with death	Stage 1.01-3.03 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS32

MultiStage: No

DXCat Label: Muscular Dystrophy

Specificity: A

Etiology: Genetic (or hereditary)

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

Aminoff MJ. Nervous system. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:916-973.

Anderson JR. Recent advances in muscular dystrophies and myopathies. Journal of Clinical Pathology. 1995;48(7):597-601.

Mendell JR, Griggs RC, Ptacek LJ. Diseases of muscle. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:2473-2483.

Worton R. Muscular dystrophies: diseases of the dystrophin-glycoprotein complex. Science. 1995;270(5237):755-6.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS33

MultiStage: No

DXCat Label: Neoplasm, Malignant: Primary Bone

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	History of primary malignant neoplasm of bone		DX V1081;
1.01	Osteosarcoma or osteogenic sarcoma or ossifying parosteal sarcoma or peripheral chondrosarcoma or medullary fibrosarcoma or osteoclastoma or Ewing's sarcoma of the long bones or reticulum cell sarcoma or lymphosarcoma or clasmocytoma or monocytoma	Osteosarcoma [operative/pathology report] OR osteogenic sarcoma [operative/pathology report] OR ossifying parosteal sarcoma [operative/pathology report] OR chondrosarcoma of the long bones [operative/pathology report] OR medullary fibrosarcoma [operative/pathology report] OR osteoclastoma [operative/pathology report] OR Ewing's sarcoma of the long bones [operative/pathology report] OR reticulum cell sarcoma [operative/pathology report] OR lymphosarcoma [operative/pathology report] OR clasmocytoma [operative/pathology report] OR monocytoma [operative/pathology report]	DX 1700-1709;
1.02	Chondrosarcoma or Ewing's sarcoma of the axial skeleton or endothelial myeloma	Chondrosarcoma of the axial skeleton [operative/pathology report] OR Ewing's sarcoma of the axial skeleton [operative/pathology report] OR endothelial myeloma [operative/pathology report]	NO;
2.01	Osteosarcoma with Paget's disease of the bones or parosteal osteosarcoma Grade III or chondrosarcoma with skeletal enchondromatosis or diffuse fibrosarcoma or giant cell tumor in soft tissues	Osteosarcoma with Paget's disease of the bones [operative/pathology report] OR parosteal osteosarcoma Grade III [operative/pathology report] OR chondrosarcoma with skeletal enchondromatosis [operative/pathology report] OR diffuse fibrosarcoma [operative/pathology report] OR giant cell tumor in soft tissues [operative/pathology report]	NO;
2.02	Primary malignant bone tumors with tumor involving regional lymph nodes	Stage 1.01-2.01 AND tumor involving regional lymph nodes [operative/pathology report]	STAGE 0.00-1.01 + DX 1960-1969;
3.01	Primary malignant bone tumors with metastasis to other bones	Stage 1.01-2.02 AND metastasis to other bones	STAGE 0.00-2.02 + (DX 1985, 3383);
3.02	Primary malignant bone tumors with metastasis to the lungs	Stage 1.01-3.01 AND pulmonary metastasis [operative/pathology report]	STAGE 0.00-3.01 + DX 1970-1972;
3.03	Primary malignant bone tumors with metastasis to the central nervous system	Stage 1.01-3.02 AND metastasis to the central nervous system [operative/pathology report]	STAGE 0.00-3.02 + DX 1983-1984;
3.04	Primary malignant bone tumors with shock	Stage 2.02-3.03 AND shock:	STAGE 0.00-3.03 + (DX 78951 OR GROUP SHOCKC OR GROUP SHOCKN);
4.00	with death	Stage 2.02-3.04 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS33

MultiStage: No

DXCat Label: Neoplasm, Malignant: Primary Bone

Specificity: A

Etiology: Neoplasm

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

Abdu WA, Provencher M. Primary bone and metastatic tumors of the cervical spine. <i>Spine</i> . 1998;23:2767-77.
Bridwell KH, DeWald RL. The Textbook of Spinal Surgery, Second Edition. In: Lippincott-Raven. Philadelphia, PA; 1997:1957-1982, 2007-2050.
Maher de Leon ME, Schnell S, Rozental JM. Tumors of the spine and spinal cord. <i>Seminars in Oncology Nursing</i> . 1998;14:43-52.
Marcuzzi A, Maiorana A, Adani R, Spina V, Busa R, Caroli A. Osteosarcoma of the scaphoid. A case report and review of the literature. <i>Journal of Bone & Joint Surgery - British Volume</i> . 1996;78(5):699-701.
Peyser AB, Makley JT, Callewart CC, Brackett B, Carter JR, Abdul-Karim FW. Osteoma of the long bones and the spine. A study of eleven patients and a review of the literature. <i>Journal of Bone & Joint Surgery -American Volume</i> . 1996;78(8):1172-80.
Scully SP, Harrelsoon JM. Fractures and dislocations: infections and neoplasms of bone. In: Sabiston DC, ed. <i>Sabiston Textbook of Surgery</i> . 15th ed. Philadelphia, PA: WB Saunders; 1998:1458-1469.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS34

DXCat Label: Osteoarthritis, Except Spine

Etiology: Degenerative; Immune; Metabolic; Trauma

MultiStage: No

Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Osteoarthritis of the hands	Osteoarthritis of the hands [x-ray report] OR Heberden's nodes OR Bouchard's nodes	DX 71504, 71514, 71524, 71534, 71594, 71500, 71509-71510, 71518, 71520, 71528, 71530, 71538, 71580, 71589-71590, 71598, 71600, 71604, 71608-71610, 71614, 71618-71620, 71624, 71628-71630, 71634, 71638-71640, 71644, 71648-71650, 71654, 71658-71660, 71664, 71668, 71680, 71684, 71688-71690, 71694, 71698-71699;
1.02	Osteoarthritis of the ankle and foot	Osteoarthritis of the ankle [x-ray report] OR osteoarthritis of the foot [x-ray report]	DX 71517, 71527, 71537, 71597, 71607, 71617, 71627, 71637, 71647, 71657, 71667, 71687, 71697;
1.03	Osteoarthritis of the elbow	Osteoarthritis of the elbow [x-ray report]	DX 71512-71513, 71522-71523, 71532-71533, 71592-71593, 71602-71603, 71612-71613, 71622-71623, 71632-71633, 71642-71643, 71652-71653, 71662-71663, 71682-71683, 71692-71693;
1.04	Osteoarthritis of the shoulder area	Osteoarthritis of the shoulder [x-ray report]	DX 71511, 71521, 71531, 71591, 71601, 71611, 71621, 71631, 71641, 71651, 71661, 71681, 71691;
1.05	Osteoarthritis of the hip area	Osteoarthritis of the hip [x-ray report]	DX 71515, 71525, 71535, 71595, 71605, 71615, 71625, 71635, 71645, 71655, 71665, 71685, 71695;
1.06	Osteoarthritis of the knee	Osteoarthritis of the knee [x-ray report]	DX 71516, 71526, 71536, 71596, 71606, 71616, 71626, 71636, 71646, 71656, 71666, 71686, 71696;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS34

MultiStage: No

DXCat Label: Osteoarthritis, Except Spine

Specificity: A

Etiology: Degenerative; Immune; Metabolic; Trauma

Stage	Description	Diagnostic findings	ICD-9-CM Codes
2.01	with radiculopathy	Stage 1.03-1.06 AND radiculopathy [EMG report] OR no history of trauma to areas of pain AND pain in either arm OR pain in shoulders	STAGE 1.03-1.06 + (DX 71941-71943, 7211, 72191);
2.02	with compression of the metacarpophalangeal joints or compression of the interphalangeal joints	Stage 1.01 AND no range of motion of fingers OR compression of the metacarpophalangeal joints [x-ray report] OR compression of the interphalangeal joints [x-ray report]	STAGE 1.01 + DX 3450-3459;
2.03	with compression of the knee joints or hip joints	Stage 1.05-2.01 AND no range of motion of the lower extremities OR compression of the knee joints [knee x-ray report] OR compression of the hip joints [pelvic x-ray report or CT scan report]	STAGE 1.05-2.01 + (DX 3530-3539, 3550-3559);
2.04			NO;

References:

- Brandt KD. Osteoarthritis. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1935-1941.
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- Dowling J. Musculoskeletal disease: staged for rapid comprehension. Year Book Medical Publishers Inc. 1985:32-35.
- Hellmann DB. Arthritis & musculoskeletal disorders. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:774-824.
- Lane NE, Thompson JM. Management of osteoarthritis in the primary-care setting: an evidence-based approach to treatment. *American Journal of Medicine*. 1997;103(6A):25S-30S.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS35

MultiStage: No

DXCat Label: Osteochondrodysplasia

Specificity: A

Etiology: Genetic (or hereditary)

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Osteochondrodysplasia	Achondroplasia [physical examination or genetic analysis report defect in chromosome 4p] OR hypochoondroplasia [physical examination or genetic analysis report] OR pseudoachondroplasia [physical examination or genetic analysis report] OR diastrophic dysplasia [physical examination or genetic analysis report] OR multiple epiphyseal dysplasia [physical examination or genetic analysis report] OR spondyloepiphyseal dysplasia [physical examination or genetic analysis report] OR metaphyseal chondrodysplasia [physical examination or genetic analysis report] OR mesomelic dysplasia [physical examination or genetic analysis report] OR chondrodysplasia punctata, rhizomelic form [physical examination or genetic analysis report] OR chondrodysplasia punctata, Conradi-Hünermann form [physical examination or genetic analysis report]	DX 7564, 75655, 75656, 75659, 7569;
2.01	with hydrocephalus	Stage 1.01 AND hydrocephalus [physical examination or CT scan report]	STAGE 1.01 + (DX 3314, 7423);
2.02	with mental retardation	Stage 1.01-2.01 AND mental retardation:	STAGE 1.01-2.01 + DXCAT NEU15;
3.01	with respiratory failure	Stage 1.01-2.02 AND respiratory failure:	STAGE 1.01-2.02 + GROUP RESP_FAIL;
3.02	with coma	Stage 1.01-3.01 AND coma:	STAGE 1.01-3.01 + GROUP COMA;
3.03	with shock	Stage 1.01-3.02 AND shock:	STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 1.01-3.03 AND death	NO;

References:

Krane SM, Schiller AL. Polyostotic fibrous dysplasia, hyperostosis and other disorders of bone and metabolism. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:2269-2277.

Newbury-Ecob R. Atelosteogenesis type 2. Journal of Medical Genetics. 1998;35(1):49-53.

Ozaki T, Lindner N, Blasius S. Dedifferentiated chondrosarcoma in Albright syndrome. A case report and review of the literature. Journal of Bone & Joint Surgery - American Volume. 1997;79(10):1545-51.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS36

MultiStage: No

DXCat Label: Osteomalacia

Specificity: A

Etiology: Metabolic; Nutritional

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Osteomalacia	Osteomalacia [x-ray report]	DX 2682, 7310;
2.01	with pathologic fracture	Pathological fracture [x-ray report]	STAGE 1.01 + (DX 73310-73316, 73319);

References:

Fitzgerald PA. Endocrinology. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:1031-1095.

Losowsky MS, Hussaini SH. Bone disease after liver transplantation Gut. 1996;39(4):505-7.

Wilkin TJ. Changing perceptions in osteoporosis BMJ. 1999;318(7187):862-4.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS37
 DXCat Label: Osteomyelitis
 Etiology: Infection

MultiStage: No
 Specificity: B

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Intervertebral disc infection	Disk space narrowing with endplate blurring [spine x-ray report or MRI report or CT scan report or physical examination] OR Intervertebral Disc Infection [changes include decreased enhancement on T1 and increased intensity on T2 weighted images with characteristic enhancement with gadolinium administration on MRI report]	NO;
1.02	Vertebral osteomyelitis	Vertebral osteomyelitis [growth of pathologic organism(s) by bone culture report or bone scan or areas of hypodensity and trabecular, cortical or endplate destruction by CT report or changes include decreased enhancement on T1 and increased intensity on T2 weighted images with characteristic enhancement with gadolinium administration by MRI report]	NO;
2.01	Osteomyelitis	Growth of pathologic organism(s) in bone other than vertebra [bone culture report] OR involved area of bone consistent with osteomyelitis [bone scan, MRI or x-ray report]	DX 73000-73029;
2.02	with extension into soft tissues	Stage 2.01 AND soft tissue abscess OR sinus tract formation between overlying skin and bone lesion	NO;
2.03	with sequestrum formation	Stage 2.01-2.02 AND sequestrum formation [skeletal x-ray report]	STAGE 2.01 + (DX 6869, 73340-73349);
2.04	with epidural abscess	Stage 2.01-2.03 AND epidural abscess [MRI report]	STAGE 2.01-2.03 + (DX 3240-3249);
2.05	with paraspinal abscess	Stage 2.01-2.04 AND paraspinal abscess [MRI report or cultures sensitivity report]	NO;
2.06	with pathologic fracture	Stage 2.01-2.05 AND pathologic fracture [x-ray report]	STAGE 2.01-2.04 + (DX 73310-73316, 73319);
2.07	involving the spinal column	Stage 2.01-2.06 AND extension into spinal column	DX 73008, 73018, 73028;
2.08	with paraplegia or paraparesis	Stage 2.01-2.07 AND paraplegia OR paraparesis	STAGE 2.01-2.07 + DX 3441;
3.01	with sepsis	Stage 2.01-2.08 AND sepsis:	STAGE 2.01-2.08 + GROUP SEPSIS;
3.02	with respiratory failure	Stage 2.01-3.01 AND respiratory failure:	STAGE 2.01-3.01 + GROUP RESP_FAIL;
3.03	with shock	Stage 2.01-3.02 AND shock:	STAGE 2.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.01-3.02 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS37

MultiStage: No

DXCat Label: Osteomyelitis

Specificity: B

Etiology: Infection

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

Hellmann DB. Arthritis & musculoskeletal disorders. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:774-824.

Lew DP, Waldvogel FA. Osteomyelitis. N Engl J Med. 1997;336(14):999-1007.

Maguire JH. Osteomyelitis. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:824-827.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS38

MultiStage: No

DXCat Label: Osteoporosis

Specificity: A

Etiology: Degenerative; Genetic (or hereditary); Metabolic; Nutritional

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Osteopenia	osteopenia: [bone density analysis, DEXA scan, reports \leq 2.5 standard deviation below standard adult mean value]	NO;
1.02	Osteoporosis	osteoporosis: [bone density analysis, DEXA scan, reports $>$ 2.5 standard deviation below standard adult mean value]	DX 73300-73303, 73309;
2.01	Osteoporosis with fracture of the lumbar vertebra or hip or extremities	Stage 1.02 AND compression fracture of the lumbar vertebra [x-ray report] OR compression fracture of the hip [x-ray report] OR fracture of the extremities [x-ray report]	STAGE 1.02 + DX 73310-73319;
2.02	Osteoporosis with fracture of the thoracic vertebra	Stage 1.02-2.01 AND compression fracture of the thoracic vertebra [x-ray report]	NO;
2.03	Osteoporosis with fracture of the cervical vertebra	Stage 1.02-2.02 AND compression fracture of the cervical vertebra [x-ray report]	NO;
3.01	with renal failure	Stage 1.02-2.03 AND renal failure:	STAGE 1.01-2.01 + (GROUP REN_FAIL_ACU OR GROUP REN_FAIL_CHR);
3.02	with shock	Stage 1.02-3.01 AND shock:	STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 1.02-3.02 AND death	NO;

References:

Deal CL. Osteoporosis: prevention, diagnosis and management. *American Journal of Medicine.* 1997;102(1A): 35S-39S.

Fitzgerald PA. Endocrinology. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. *Current Medical Diagnosis & Treatment.* Stamford, CT: Appleton & Lange; 1998:1031-1095.

Krane SM, Holick MF. Metabolic bone disease. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. *Harrison's Principles of Internal Medicine.* 14th ed. New York, NY: McGraw-Hill; 1998:2247-2259.

Wasnich RD. Epidemiology of osteoporosis. In: Favus MJ ed. *Primer on the Metabolic Bone Diseases and Disorders of Mineral Metabolism.* 3rd ed. Philadelphia, PA. Lippincott-Raven; 1996:249-251.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS39

MultiStage: No

DXCat Label: Progressive Systemic Sclerosis

Specificity: A

Etiology: Immune

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Progressive systemic sclerosis, scleroderma or CREST syndrome	Scleroderma [skin biopsy report] OR CREST syndrome: OR calcinosis AND Raynaud's phenomenon AND dysphagia AND sclerodactyly AND telangiectasias <u>Presumptive Diagnostic Findings:</u> Raynaud's phenomenon AND thickening of the skin proximal to the metacarpal-phalangeal joints OR swelling of acral portions of the digits	DX 7101-7102;
1.02	with flexion contractures of the hands or arthralgias	Stage 1.01 AND flexion contractures of one or both hands OR polyarthralgia	STAGE 1.01 + (DX 71844, 71944, 71949);
2.01	with trophic ulcers of the hands	Stage 1.01-1.02 AND trophic skin ulcers of the hand	STAGE 1.01-1.02 + DX 7078;
2.02	with gastroesophageal reflux or pneumatosis intestinalis	Stage 1.01-2.01 AND reflux esophagitis [endoscopy report or UGI series report] OR pneumatosis cystoides intestinalis [abdominal x-ray report]	STAGE 1.01-2.01 + (DX 53011, 53081, 56989);
2.03	with biliary cirrhosis or jaundice	Stage 1.01-2.02 AND biliary cirrhosis [liver biopsy report] OR jaundice:	STAGE 1.01-2.02 + (DX 5716, 7824);
2.04	with lung fibrosis	Stage 1.01-2.03 AND lung fibrosis [x-ray report or CT scan report]	STAGE 1.01-2.03 + (DX 5163, 5178); DX 5172;
2.05	with cardiac conduction abnormalities	Stage 1.01-2.04 AND cardiac conduction abnormalities:	STAGE 1.01-2.04 + GROUP COND_BBBS;
2.06	with hypertension	Stage 1.01-2.05 AND hypertension:	STAGE 1.01-2.05 + DXCAT CVS13;
3.01	with renal failure	Stage 1.01-2.06 AND renal failure:	STAGE 1.01-2.06 + (GROUP REN_FAIL_ACU OR GROUP REN_FAIL_CHR);
3.02	with pulmonary hypertension	Stage 1.01-3.01 AND pulmonary artery pressure > 30.5 mmHg [cardiac catheterization report]	STAGE 1.01-3.01 + DX 4168;
3.03	with congestive heart failure	Stage 1.01-3.02 AND congestive heart failure:	STAGE 1.01-3.02 + (GROUP CHF_HTNIVE OR GROUP CHF_NON_HTN);

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS39

MultiStage: No

DXCat Label: Progressive Systemic Sclerosis

Specificity: A

Etiology: Immune

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.04	with respiratory failure	Stage 1.01-3.03 AND respiratory failure:	STAGE 1.01-3.03 + GROUP RESP_FAIL;
3.05	with shock	Stage 1.01-3.04 AND shock:	STAGE 1.01-3.04 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 1.01-3.05 AND death	NO;

References:

Anonymous. Systemic sclerosis: current pathogenetic concepts and future prospects for targeted therapy. *Lancet*. 1996;347(9013):1453-8.

Gilliland BC. Systemic sclerosis (scleroderma). In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. *Harrison's Principles of Internal Medicine*. 14th ed. New York, NY: McGraw-Hill; 1998:1888-1896.

Hellmann DB. Arthritis & musculoskeletal disorders. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. *Current Medical Diagnosis & Treatment*. Stamford, CT: Appleton & Lange; 1998:774-824.

Herrick AL, Clark S. Quantifying digital vascular disease in patients with primary Raynaud's phenomenon and systemic sclerosis. *Annals of the Rheumatic Diseases*. 1998;57(2):70-8.

Mullinax F. Chimerism in scleroderma. *Lancet*. 1998;351(9119):1886-1997.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS40
 DXCat Label: Rheumatoid Arthritis
 Etiology: Immune

MultiStage: No
 Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Rheumatoid arthritis	rheumatoid arthritis: Any 4 of the <u>1987</u> criteria of the American College of Rheumatology: history of morning stiffness \geq 6 weeks AND \geq 3 joints with swelling or effusion for \geq 6 weeks: elbow, knee, ankle or metatarsalphalangeal joints OR swelling or effusion of the hand or wrist joints for \geq 6 weeks OR symmetrical bilateral joint swelling \geq 6 weeks OR subcutaneous nodules OR rheumatoid arthritis [x-ray report of any joint] OR rheumatoid factor titer \geq 1:160 [chemistry report]	DX 7140, 7142, 7144;
1.02	with uveitis	Stage 1.01 AND uveitis [ophthamologist's report]	STAGE 1.01 + (DX 36400, 36404, 36411, 3643);
1.03	with fusion of metacarpophalangeal or interphalangeal joint spaces	Stage 1.01-1.02 AND fusion of metacarpophalangeal or interphalangeal joint spaces [x-ray report]	STAGE 1.01-1.02 + DX 71854;
1.04	with carpal tunnel syndrome	Stage 1.01-1.03 AND carpal tunnel syndrome [operative/pathology report] OR atrophy of thenar muscles OR Tinel's sign	STAGE 1.01-1.03 + DX 3540;
2.01	Juvenile onset rheumatoid arthritis	Age \leq 16 years old AND Still's disease OR fever: AND splenomegaly AND generalized lymphadenopathy AND serositis AND leukocytosis:	DX 71430-71433; DX 71430-71433 + GROUP FEVER;
2.02	with anemia	Stage 1.01-2.01 AND anemia:	STAGE 1.01-2.01 + (GROUP ANEM_OTH_CHR OR GROUP ANEM_DEF_OTH OR GROUP ANEM_OTH_UN);
2.03	with Felty's syndrome	Stage 1.01-2.02 AND splenomegaly AND leukopenia:	DX 7141;
2.04	with pneumoconiosis or interstitial fibrosis	Stage 1.01-2.03 AND interstitial fibrosis [chest x-ray report] OR pulmonary nodules [x-ray report] OR pneumoconiosis or Caplan's syndrome [x-ray report]	STAGE 1.01-2.03 + DX 515; DX 71481;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS40
 DXCat Label: Rheumatoid Arthritis
 Etiology: Immune

MultiStage: No
 Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
2.05	with cardiac conduction abnormalities or pericarditis or cardiomyopathy	Stage 1.01-2.04 AND pericarditis: OR cardiomyopathy [echocardiogram report] OR cardiac conduction abnormalities:	STAGE 1.01-2.04 + (GROUP COND_BBBS OR DX 4200, 4258);
3.01	with vasculitides	Stage 1.01-2.05 AND vasculitis [operative/pathology report]	STAGE 1.01-2.05 + DXCAT MUS45;
3.02	with amyloidosis	Stage 1.01-3.01 AND amyloidosis [operative/pathology report]	STAGE 1.01-3.01 + DX 2773-27739;
3.03	with congestive heart failure	Stage 1.01-3.02 AND congestive heart failure:	STAGE 1.01-3.02 + GROUP CHF_NON_HTN;
3.04	with respiratory failure	Stage 1.01-3.03 AND respiratory failure:	STAGE 1.01-3.03 + GROUP RESP_FAIL;
3.05	with shock	Stage 2.01-3.04 AND shock:	STAGE 1.01-3.04 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.01-3.05 AND death	NO;

References:

- Alarcon GS. Predictive factors in rheumatoid arthritis. *American Journal of Medicine.* 103(6A):19S-24S, 1997 Dec 29.
- Hellmann DB. "Arthritis & Musculoskeletal Disorders." In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. *Current Medical Diagnosis & Treatment.* Stamford, CT: Appleton & Lange, 1998:774-824.
- Lipsky PE. "Rheumatoid Arthritis." In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. *Harrison's Principles of Internal Medicine,* 14th Ed. New York: McGraw-Hill, 1998:1880-1888.
- Wolfe F. The prognosis of rheumatoid arthritis: assessment of disease activity and disease severity in the clinic. *American Journal of Medicine.* 103(6A):12S-18S, 1997 Dec 29.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS41

MultiStage: No

DXCat Label: Scoliosis of the Lumbar Spine

Specificity: A

Etiology: Congenital; Degenerative; Idiopathic

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Dysplastic scoliosis	Scoliosis < 30 degrees [spine x-ray report or MRI report or CT scan report or physical examination] AND Neurofibromatosis Type I [genetic analysis report] OR cutaneous neurofibromatosis [operative/pathology report] OR subcutaneous neurofibromatosis [operative/pathology report] OR Autosomal dominant, chromosome 17, gene codes for neurofibromin [genetic analysis report] OR Two or more of the following must be present: cafe-au-lait spot ≥ 1.5 cm in diameter for age > 13 years old OR cafe-au-lait spot ≥ 0.5 cm in diameter for < age 13 years old AND total of ≥ 6 cafe-au-lait spots OR ≥ two neurofibromas of any type OR ≥ 1 plexiform neurofibroma OR freckling in the axillary and inguinal regions OR ≥ 1 optic pathways glioma OR ≥ 2 Lisch nodules (iris amartomas) OR osseous lesion, such as sphenoid wing dysplasia or thinning of the cortex of long bones OR a first-degree relative with NF1 by the above criteria	NO;
1.02	Marfan's Scoliosis	Scoliosis < 30 degrees [spine x-ray report or MRI report or CT scan report or physical examination] AND Marfan's Scoliosis	NO;
1.03	with skeletal dysplasia	Scoliosis ≥ 30 degrees [spine x-ray report or MRI report or CT scan report or physical examination] AND diastrophic dysplasia OR mucopolysaccharidosis OR pseudoachondroplasia OR spondyloepiphyseal dysplasia OR chondroplasia	NO;
1.04	with osteogenesis imperfecta	Scoliosis ≥ 30 degrees [spine x-ray report or MRI report or CT scan report or physical examination] AND osteogenesis imperfecta [pathology report]	NO;
1.05	with familial dysautonomia	Scoliosis ≥ 30 degrees [spine x-ray report or MRI report or CT scan report or physical examination] AND Riley-Tay syndrome or familial dysautonomia	NO;
1.06	Congenital scoliosis	Scoliosis ≥ 30 degrees [spine x-ray report or MRI report or CT scan report or physical examination] AND Type I: Failure of formation OR Type II: Failure of segmentation OR Type III: Mixture with rib abnormalities	NO;
1.07	Infantile and juvenile scoliosis	Scoliosis ≥ 30 degrees [spine x-ray report or MRI report or CT scan report or physical examination] AND infantile scoliosis present from birth to three years of age OR juvenile scoliosis present from four to ten years of age	NO;
1.08	Adolescent idiopathic scoliosis	Scoliosis ≥ 30 degrees [spine x-ray report or MRI report or CT scan report or physical examination] AND adolescent idiopathic scoliosis between ten and twenty years of age	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS41

MultiStage: No

DXCat Label: Scoliosis of the Lumbar Spine

Specificity: A

Etiology: Congenital; Degenerative; Idiopathic

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.09	Paralytic scoliosis	Scoliosis \geq 30 degrees [spine x-ray report or MRI report or CT scan report or physical examination] AND neuromuscular scoliosis OR cerebral palsy OR Friedreich's ataxia OR syringomyelia OR Charcot-Marie Tooth Disease OR spinal muscular atrophy OR secondary to spinal cord injury OR Duchenne's muscular dystrophy OR arthrogyposis	NO;
1.10	Degenerative scoliosis	Scoliosis \geq 30 degrees [spine x-ray report or MRI report or CT scan report or physical examination] AND degenerative scoliosis	NO;
2.01	Scoliosis of the lumbar spine of \geq 30 degrees and \leq 50 degrees	Scoliosis of the lumbar spine of \geq 30 degrees and $<$ 50 degrees [x-ray report]	NO;
2.02	Scoliosis of the lumbar spine of \geq 50 degrees [x-ray report]	Scoliosis of the lumbar spine of \geq 50 degrees [x-ray report]	NO;
2.03	Scoliosis of the lumbar spine with cauda equina syndrome	Stage 1.01-2.02 AND cauda equina syndrome:	NO;

References:

Anonymous. Screening for adolescent idiopathic scoliosis. Review article. US Preventive Services Task Force. JAMA. 1993;269(20):2667-72.

Dowling J. Musculoskeletal disease: staged for rapid comprehension. Year Book Medical Publishers Inc. 1985:97-99.

Hellmann DB. Arthritis & musculoskeletal disorders. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:774-824.

Lonstein JE. Adolescent idiopathic scoliosis. Lancet. 1994;344(8934):1407-12.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS42

MultiStage: No

DXCat Label: Scoliosis of the Thoracic Spine

Specificity: A

Etiology: Congenital; Degenerative; Idiopathic

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Dysplastic scoliosis	Scoliosis < 30 degrees [spine x-ray report or MRI report or CT scan report or physical examination] AND neurofibromatosis Type I [genetic analysis report] OR cutaneous neurofibromatosis [operative/pathology report] OR subcutaneous neurofibromatosis [operative/pathology report] OR autosomal dominant, chromosome 17, gene codes for neurofibromin [genetic analysis report] OR two or more of the following must be present: cafe-au-lait spot ≥ 1.5 cm in diameter for age > 13 years old OR cafe-au-lait spot ≥ 0.5 cm in diameter for < age 13 years old AND total of ≥ 6 cafe-au-lait spots OR ≥ two neurofibromas of any type OR ≥ 1 plexiform neurofibroma OR freckling in the axillary and inguinal regions OR ≥ 1 optic pathways glioma OR ≥ 2 Lisch nodules (iris amartomas) OR osseous lesion, such as sphenoid wing dysplasia or thinning of the cortex of long bones OR a first-degree relative with NF1 by the above criteria	DX 73730, 73743, 73733-73739, 7378, 7379;
1.02	Marfan's scoliosis	Scoliosis ≥ 30 degrees [spine x-ray report or MRI report or CT scan report or physical examination] AND Marfan's syndrome	STAGE 1.01 + DX 75982;
1.03	with skeletal dysplasia	Scoliosis ≥ 30 degrees [spine x-ray report or MRI report or CT scan report or physical examination] AND dystrophic dysplasia OR mucopolysaccharidosis OR pseudoachondroplasia OR sondyloepiphyseal dysplasia OR chondroplasia	STAGE 1.01-1.02 + DX 2775;
1.04	with osteogenesis imperfecta	Scoliosis ≥ 30 degrees [spine x-ray report or MRI report or CT scan report or physical examination] AND osteogenesis imperfecta [pathology report]	STAGE 1.01-1.03 + DX 75651;
1.05	with familial dysautonomia	Scoliosis ≥ 30 degrees [spine x-ray report or MRI report or CT scan report or physical examination] AND Riley-Day syndrome or familial dysautonomia	STAGE 1.01-1.04 + DX 7428;
1.06	Congenital scoliosis	Scoliosis ≥ 30 degrees [spine x-ray report or MRI report or CT scan report or physical examination] AND Type I: Failure of formation OR Type II: Failure of segmentation OR Type III: Mixture with rib abnormalities	DX 7542;
1.07	Infantile and juvenile scoliosis	Scoliosis ≥ 30 degrees [spine x-ray report or MRI report or CT scan report or physical examination] AND infantile scoliosis present from birth to three years of age OR juvenile scoliosis present from four to ten years of age	DX 73731-73732;
1.08	Adolescent idiopathic scoliosis	Scoliosis ≥ 30 degrees [spine x-ray report or MRI report or CT scan report or physical examination] AND adolescent idiopathic scoliosis between ten and twenty years of age	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS42

MultiStage: No

DXCat Label: Scoliosis of the Thoracic Spine

Specificity: A

Etiology: Congenital; Degenerative; Idiopathic

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.09	Paralytic scoliosis	Scoliosis \geq 30 degrees [spine x-ray report or MRI report or CT scan report or physical examination] AND Neuromuscular scoliosis OR cerebral palsy OR Friedreich's ataxia OR syringomyelia OR Charcot-Marie Tooth Disease OR spinal muscular atrophy OR secondary to spinal cord injury OR Duchenne's muscular dystrophy OR arthrogyposis	NO;
1.10	Degenerative scoliosis	Scoliosis \geq 30 degrees [spine x-ray report or MRI report or CT scan report or physical examination] AND degenerative scoliosis	NO;
2.01	Scoliosis of the thoracic spine of \geq 30 degrees and < 50 degrees	Scoliosis of the thoracic spine of \geq 30 degrees and < 50 degrees [x-ray report]	NO;
2.02	Scoliosis of the thoracic spine of \geq 50 degrees	Scoliosis of the thoracic spine of \geq 50 degrees [x-ray report] OR kyphoscoliosis [x-ray report]	NO;
2.03	with cauda equina syndrome	Stage 1.01-2.02 AND cauda equina syndrome:	STAGE 1.01-1.07 + DX 34460;
2.04	with hypoxemia	Stage 1.01-2.03 AND hypoxemia:	STAGE 1.01-2.03 + GROUP HYPOXEMIA;
3.01	with cor pulmonale	Stage 1.01-2.04 AND cor pulmonale:	STAGE 1.01-2.04 + GROUP COR_PULMONAL;
3.02	with shock	Stage 2.04-3.01 AND shock:	STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.04-3.02 AND death	NO;

References:

Anonymous. Screening for adolescent idiopathic scoliosis. Review article. US Preventive Services Task Force JAMA. 1993;269(20):2667-72.

Dowling J. Musculoskeletal disease: staged for rapid comprehension. Year Book Medical Publishers Inc. 1985:97-99.

Hellmann DB. Arthritis & musculoskeletal disorders. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:774-824.

Lonstein JE. Adolescent idiopathic scoliosis. Lancet. 1994;344(8934):1407-12.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS43

DXCat Label: Spondylitis, Ankylosing

Etiology: Immune

MultiStage: No

Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Ankylosing spondylitis	Sacroiliitis [sacroiliac x-ray report or axial skeleton report describes 'bamboo' appearance of spine x-ray report] OR New York criteria (1984): a history of inflammatory back pain OR back pain onset ≤ 40 years old AND insidious onset AND ≥ 3 months before medical attention is sought AND morning stiffness improves with exercise OR limitation of motion of the lumbar spine in both the sagittal and frontal planes OR positive Schober test OR ≤ 4 cm separation of horizontal line markers between the posterosuperior iliac spines OR limited chest expansion OR maximal inspiration and maximal forced expiration at 4 th intercostal space < 5 cm	DX 7200-7202, 72089-7209, 7216, 72081;
2.01	with cervical fusion or atlantoaxial subluxation	Stage 1.01 AND cervical fusion [x-ray report] OR atlantoaxial subluxation [x-ray report]	STAGE 1.01 + (DX 83910, 83911, 71828); DX 7215;
2.02	with uveitis	Stage 1.01-2.01 AND uveitis [ophthalmologist's report]	STAGE 1.01-2.01 + (DX 36400, 36404, 36411, 3643) ;
2.03	with pulmonary fibrosis	Stage 1.01-2.02 AND pulmonary fibrosis [x-ray report]	STAGE 1.01-2.02 + DX 5163;
2.04	with cardiac conduction abnormalities	Stage 1.01-2.03 AND cardiac conduction abnormalities:	STAGE 1.01-2.03 + GROUP COND_BBBS;
2.05	with cauda equina syndrome	Stage 1.01-2.04 AND cauda equina syndrome:	STAGE 1.01-2.04 + (DX 34460-34461);
2.06	with quadriparesis	Stage 1.01-2.05 AND quadriparesis	STAGE 1.01-2.05 + (DX 34400-34409);
3.01	with renal failure	Stage 1.01-2.06 AND renal failure:	STAGE 1.01-2.06 + (GROUP REN_FAIL_ACU OR GROUP REN_FAIL_CHR);
3.02	with respiratory failure	Stage 1.01-3.01 AND respiratory failure:	STAGE 1.01-3.01 + GROUP RESP_FAIL;
3.03	with shock	Stage 2.01-3.03 AND shock:	STAGE 1.01-3.02 + GROUP SHOCKA;
4.00	with death	Stage 2.01-3.03 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS43

MultiStage: No

DXCat Label: Spondylitis, Ankylosing

Specificity: A

Etiology: Immune

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

Archer JR. Ankylosing spondylitis, IgA, and transforming growth factors. *Annals of the Rheumatic Diseases*. 1995;54(7):544-6.

Bridwell KH, DeWald RL. *The Textbook of Spinal Surgery, Second Edition*. Lippincott-Raven, Philadelphia, PA, 1997, pp. 1109-1158.

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Taurog JD, Lipsky PE. Ankylosing spondylitis, reactive arthritis, and undifferentiated spondyloarthritis. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. *Harrison's Principles of Internal Medicine*. 14th ed. New York: McGraw-Hill; 1998:1904-1910.

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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS44

MultiStage: Yes

DXCat Label: Systemic Lupus Erythematosus

Specificity: A

Etiology: Immune

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Systemic lupus erythematosus	Systemic lupus erythematosus OR Four or more of the following criteria: Malar rash OR Discoid rash OR Photosensitivity OR Oral ulcers OR arthritis: OR Serositis OR 0.5 g/d proteinuria [urinalysis report] OR 3 + dipstick proteinuria [urinalysis report] OR Cellular casts [urinalysis report] OR Seizures [EEG report] OR Psychosis OR hemolysis: OR leukopenia: OR lymphocytopenia: OR thrombocytopenia: OR Positive LE cell preparation [chemistry report] OR Double stranded anti-DNA antibody titer ≥ 1:40 [chemistry report] OR Smith antigen titer ≥ 1:40 [chemistry report] OR positive serologic test for syphilis [chemistry report] OR antiphospholipid antibodies OR ANA antibody titer ≥ 1:40[chemistry report]	DX 7100;
2.01	with lupus anticoagulant or deep vein thrombosis	Stage 1.01 AND anticardiolipin antibodies positive [serology report] OR history of recurrent deep vein thrombosis OR DVT:	STAGE 1.01 + GROUP DVT;
2.02	with pneumonia or lupus pneumonitis	Stage 1.01-2.01 AND pneumonia: OR lupus pneumonitis	STAGE 1.01-2.01 + (GROUP PNEUMONIA OR DX 5070, 5178);
2.03	with pleural effusion	Stage 1.01-2.02 AND pleural effusion [x-ray report or thoracentesis report]	STAGE 1.01-2.02 + (DX 5111, 5118-5119);
2.04	with lupus nephritis	Stage 1.01-2.03 AND lupus nephritis [renal biopsy report]	STAGE 1.01-2.03 + (DX 58181, 58381);
2.05	with peritonitis	Stage 1.01-2.04 AND peritonitis [operative/pathology report]	STAGE 1.01-2.04 + (DX 5672-5679, 56983);
2.06	with pericarditis	Stage 1.01-2.05 AND pericarditis:	STAGE 1.01-2.05 + DX 4200;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS44

MultiStage: Yes

DXCat Label: Systemic Lupus Erythematosus

Specificity: A

Etiology: Immune

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.01	with renal failure	Stage 1.01-2.06 AND renal failure:	STAGE 1.01-2.06 + (GROUP REN_FAIL_ACU OR GROUP REN_FAIL_CHR);
3.02	with endocarditis or myocarditis	Stage 1.01-3.01 AND endocarditis: OR myocarditis:	STAGE 1.01-3.01 + (DX 4220, 42491);
3.03	with respiratory failure	Stage 1.01-3.02 AND respiratory failure:	STAGE 1.01-3.02 + GROUP RESP_FAIL;
3.04	with coma	Stage 1.01-3.03 AND coma:	STAGE 1.01-3.03 + GROUP COMA;
3.05	with shock	Stage 2.01-3.04 AND shock:	STAGE 1.01-3.04 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.01-3.05 AND death	NO;

References:

Hahn BH. Antibodies to DNA. N Engl J Med. 1998;338(19):1359-68.

Hahn BH. Systemic lupus erythematosus. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1874-1880.

Hellmann DB. Arthritis & musculoskeletal disorders. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:774-824.

Sathananthan R, David J. The adolescent with rheumatic disease. Archives of Disease in Childhood. 1997;77(4):355-8.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS45
 DXCat Label: Vasculitis
 Etiology: Idiopathic; Immune

MultiStage: No
 Specificity: C

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Vasculitis	Unspecified disorder of coccyx OR Unspecified disorder of cervical region OR Unspecified disorder of other back region	DX 4476;
2.01	with myositis	Stage 1.01 AND myositis [operative/pathology report]	STAGE 1.01 + DX 7291;
2.02	with neuropathy	Stage 1.01-2.01 AND neuropathy [EMG report]	STAGE 1.01-2.01 + (DX 3564-3569, 3571, 3574, 3578-3579);
2.03	with pulmonary involvement	Stage 1.01-2.02 AND pulmonary involvement [operative/pathology report]	STAGE 1.01-2.02 + GROUP PNEUMONIA;
2.04	with cardiac conduction abnormalities	Stage 1.01-2.03 AND cardiac conduction defects:	STAGE 1.01-2.03 + GROUP COND_BBBS;
2.05	with gastrointestinal involvement	Stage 1.01-2.04 AND ileus [abdominal x-ray report] OR heme positive stools OR bowel obstruction [abdominal x-ray report]	STAGE 1.01-2.04 + (DX 5372-5373, 5601, 56089-5609);
3.01	with renal failure	Stage 1.01-2.05 AND renal failure:	STAGE 1.01-2.05 + GROUP REN_FAIL_ACU;
3.02	with cerebrovascular accident	Stage 1.01-3.01 AND cerebrovascular accident [MRI scan report or CT scan report]	STAGE 1.01-3.01 + (DX 430, 431, 4320-4321, 4329, 43301, 43311, 43321, 43331, 43381, 43391, 43401, 43411, 43491, 436);
3.03	with sepsis	Stage 1.01-3.02 AND sepsis:	STAGE 1.01-3.02 + GROUP SEPSIS;
3.04	with respiratory failure	Stage 1.01-3.03 AND respiratory failure:	STAGE 1.01-3.03 + GROUP RESP_FAIL;
3.05	with shock	Stage 1.01-3.04 AND shock:	STAGE 1.01-3.04 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 1.01-3.04 AND death	NO;

References:

Calabrese LH, Duna GF, Lie JT. Vasculitis in the central nervous system Arthritis & Rheumatism. 40(7):1189-201, 1997 Jul.
 Hellmann DB. "Arthritis & Musculoskeletal Disorders." In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange, 1998:774-824.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS46

MultiStage: No

DXCat Label: Osteoarthritis, Cervical Spine

Specificity: A

Etiology: Degenerative

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Osteoarthritis or degeneration of the cervical spine	Osteoarthritis or degeneration of the cervical spine [x-ray or CT scan report]	DX 7210, 7224;
2.01	with cervical radiculopathy	Stage 1.01 AND cervical radiculopathy [EMG report] OR no history of trauma to areas of pain AND pain in either arm OR pain in shoulders	DX 7211;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS47

MultiStage: No

DXCat Label: Osteoarthritis, Thoracic Spine

Specificity: A

Etiology: Degenerative

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Osteoarthritis or degeneration of the thoracic spine	Osteoarthritis or degeneration of the thoracic spine (x-ray or CT scan report)	DX 7212, 72251;
1.02			NO;
2.01	with thoracic radiculopathy	Stage 1.01 AND thoracic radiculopathy [EMG report] OR no history of trauma to areas of pain AND pain in either arm OR pain in shoulders	DX 72141;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS48

MultiStage: No

DXCat Label: Osteoarthritis, Lumbar Spine

Specificity: A

Etiology: Degenerative

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Osteoarthritis of the lumbar spine	Osteoarthritis of the lumbar spine [x-ray report or CT scan report]	DX 7213, 72190, 72252-7226;
2.01	with lumbar radiculopathy	Stage 1.01 AND pain on straight leg raise OR lumbar radiculopathy [EMG report]	DX 72191, 72142;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS49

MultiStage: No

DXCat Label: Intervertebral Disc Disorders: Cervical

Specificity: A

Etiology:

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Asymptomatic prolapse of the intervertebral disc	Herniated intervertebral disc [spine x-ray or MRI or myelogram report]	DX 7220;
1.02	Symptomatic prolapse of intervertebral disc	Stage 1.01 AND pain radiating to arm(s) OR weakness of arm(s) OR cervical radiculopathy [physical examination or EMG report]	STAGE 1.01 + (DX 3368, 7230-7239, 72281); DX 72271;
1.03			NO;
2.01	with loss of bladder or bowel control	Stage 1.01-1.02 AND incontinence of urine OR incontinence of bowels	STAGE 1.01-1.02 + (DX 78830, 78838, 7876);
2.02	with cauda equina syndrome or conus medullaris syndrome	Stage 1.01-2.01 AND cauda equina syndrome: OR conus medullaris syndrome:	STAGE 1.01-2.01 + DX 34460-34461;
2.03	with paraplegia	Stage 1.01-2.02 AND paraplegia	STAGE 1.01-2.02 + DX 3441;
2.04	with quadriplegia	Stage 1.01-2.03 AND quadriplegia	STAGE 1.01-2.03 + DX 34400-34404;
2.05	with pneumonia (aspiration or bacterial)	Stage 1.01-2.04 AND pneumonia:	STAGE 1.01-2.04 + (DXCAT RES15 OR DX 5070);
2.06			NO;
3.01	with sepsis	Stage 2.05 AND sepsis:	STAGE 2.05 + GROUP SEPSIS;
3.02	with shock	Stage 2.05-3.01 AND shock:	STAGE 2.05-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.05-3.02 AND death	NO;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS50

MultiStage: No

DXCat Label: Intervertebral Disc Disorders: Thoracic

Specificity: A

Etiology:

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Asymptomatic prolapse of thoracic intervertebral disc	Herniated intervertebral disc [spine x-ray or MRI or myelogram report]	DX 72211, 72231;
1.02	Symptomatic prolapse of thoracic intervertebral disc	Stage 1.01 AND pain radiating to arm(s) OR weakness of arm(s) OR thoracic radiculopathy [physical examination or EMG report]	STAGE 1.01 + (DX 3368, 72282); DX 72272;
1.03			NO;
2.01	with loss of bladder or bowel control	Stage 1.01-1.02 AND incontinence of urine OR incontinence of bowels	STAGE 1.01-1.02 + (DX 78830, 78838, 7876);
2.02	with cauda equina syndrome or conus medullaris syndrome	Stage 1.01-2.01 AND cauda equina syndrome: OR conus medullaris syndrome:	STAGE 1.01-2.01 + DX 34460-34461;
2.03	with paraplegia	Stage 1.01-2.02 AND paraplegia	STAGE 1.01-2.02 + DX 3441;
2.04	with quadriplegia	Stage 1.01-2.03 AND quadriplegia	STAGE 1.01-2.03 + DX 34400-34404;
2.05	with pneumonia (aspiration or bacterial)	Stage 1.01-2.04 AND pneumonia:	STAGE 1.01-2.04 + (DXCAT RES15 OR DX 5070);
2.06			NO;
3.01	with sepsis	Stage 2.05 AND sepsis:	STAGE 2.05 + GROUP SEPSIS;
3.02	with shock	Stage 2.05-3.01 AND shock:	STAGE 2.05-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.05-3.02 AND death	NO;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS80

MultiStage: No

DXCat Label: Anomaly: Musculoskeletal System

Specificity: C

Etiology: Congenital

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Congenital dislocations and anomalies of bone, soft tissue anomalies, spondylolisthesis		DX 7541, 75430-75616, 75619-7563, 75650-75654, 75670-75682, 75689;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS81

MultiStage: No

DXCat Label: Injury: Other and Ill-Defined Musculoskeletal Sites

Specificity: C

Etiology: Trauma

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Closed nonspecific fracture, sprain or multiple fractures, internal injury, or late effects of musculoskeletal trauma		DX 81380-81383, 8170, 8180, 8190, 8270, 8280, 8290, 8398, 8488-8489, 8628, 9050-9064, 73395;
2.01	Nonspecific open fracture or injury		DX 81390-81393, 8171, 8181, 8191, 8271, 8281, 8291, 8399, 8629;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS82

MultiStage: No

DXCat Label: Neoplasm, Benign: Musculoskeletal System or Connective Tissue

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Benign neoplasm of musculoskeletal system		DX 2131-2139, 2380, 2392;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS83

MultiStage: No

DXCat Label: Other Arthropathies, Bone and Joint Disorders

Specificity: C

Etiology:

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Crystal arthropathies, polymyalgia rheumatica, or somatic dysfunction		DX 71210-71299, 71489-7149, 7176-7177, 71800-71820, 71828, 71830, 71838, 71840-71865, 71870, 71878, 71880, 71888, 71890, 71898, 71900-71908, 71910-71918, 71920-71928, 71930-71938, 71940-71948, 71950-71958, 71960-71968, 7197-71978, 71980-71988, 71990-71998, 72691, 72700-72705, 72709, 7272-72749, 72781-72885, 72887-7289, 7290-72972, 7311-7318, 7320-7329, 73310, 73319, 73320-73322, 7333, 7336-73392, 73399-734, 7354-7369, 7380-7383, 7386-7389, 7390, 7396-7399, 32752, 72981-72999, 7937, 71110-71189, 7130-7138;
2.01	Pathological or recurrent dislocation or derangement of multiple joints or infections of bone and joints		DX 71829, 71839, 71879, 71889, 71899, 71909, 71919, 71929, 71939, 71949, 71959, 71969, 71979, 71989, 71999, 73030-73039, 73080-73099, 73340-7335;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS84

MultiStage: No

DXCat Label: Other Disorders of Connective Tissue

Specificity: C

Etiology:

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Polymyositis, ganglion cysts, synovial and tendon ruptures		DX 7103-7104, 7108-7109, 72750-72769, 72973-72979;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS85

MultiStage: No

DXCat Label: Other Spinal and Back Disorders: Low Back

Specificity: C

Etiology:

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Lumbago, sciatica, torticollis, other back symptoms and disorders		DX 7217-7218, 72280, 72283, 72290, 72293, 7242-7249, 73720-73729, 73740, 73742, 7384-7385, 7393-7395;
1.02	Spinal Stenosis, Low Back		DX 72400, 72402-72409, 7243;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS86

MultiStage: No

DXCat Label: Other Spinal and Back Disorders: Cervical

Specificity: C

Etiology:

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Other Disorders of Cervical Region		DX 7231-7239, 72281, 72291, 7391, 73741;
1.02	Cervical spinal stenosis		DX 7230;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: MUS87

MultiStage: No

DXCat Label: Other Spinal and Back Disorders: Thoracic

Specificity: C

Etiology:

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Other Disorders of Thoracic Region		DX 72282, 72292, 7241, 7370-73719, 7392;
1.02	Stenosis of Thoracic Spine		DX 72401;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU01

MultiStage: No

DXCat Label: Amyotrophic Lateral Sclerosis

Specificity: A

Etiology: Idiopathic

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Early lumbar amyotrophic lateral sclerosis	Weakness of calves OR asymmetric ankle reflexes OR asymmetric toe reflexes OR asymmetric "footdrop" OR muscle wasting of the lower extremities AND lower extremity muscular fibrillation [EMG report] OR lower extremity muscular fasciculations [EMG report] OR lower extremity giant motor unit potentials [EMG report] OR lower extremity positive waves [EMG report] OR familial amyotrophic lateral sclerosis, mutation in the copper-zinc superoxide dismutase gene on the long arm of chromosome 21 [genotype report]	DX 33520;
1.02	Cervicothoracic amyotrophic lateral sclerosis	Asymmetric weakness of hands OR asymmetric weakness of forearms OR muscle wasting of upper extremities AND upper extremity muscular fibrillation [EMG report] OR upper extremity muscular fasciculations [EMG report] OR upper extremity giant motor unit potentials [EMG report] OR upper extremity positive waves [EMG report]	NO;
2.01	Advanced lumbar amyotrophic lateral sclerosis	Asymmetric weakness of the hamstring group of muscles OR asymmetric weakness of the quadriceps group of muscles	NO;
2.02	with early craniobulbar involvement	Stage 1.01-2.01 AND dysphagia OR regurgitation OR dysarthria	STAGE 1.01 + (DX 78703, 7872-78729, 7845);
3.01	with pneumonia	Stage 1.01-2.02 AND pneumonia:	STAGE 1.01-2.02 + (DXCAT RES15 OR DXCAT RES16 OR DXCAT RES17 OR DXCAT RES12 OR DXCAT RES19) ;
3.02	with sepsis	Stage 1.01-3.01 AND sepsis:	STAGE 1.01-3.01 + GROUP SEPSIS;
3.03	with respiratory failure	Stage 1.01-3.02 AND respiratory failure:	STAGE 1.01-3.02 + GROUP RESP_FAIL;
4.00	with death	Stage 1.01-3.03 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU01

MultiStage: No

DXCat Label: Amyotrophic Lateral Sclerosis

Specificity: A

Etiology: Idiopathic

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

Aminoff MJ. Nervous system. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:916-973.

Brown Jr RH. Amyotrophic lateral sclerosis. Insights from genetics. Archives of Neurology. 1997;54(10):1246-50.

Brown, Jr RH. The motor neuron disorders. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:2368-2372.

Radunovic A, Leigh PN. Cu/Zn superoxide dismutase gene mutations in amyotrophic lateral sclerosis: correlation between genotype and clinical. Journal of Neurology, Neurosurgery & Psychiatry. 1996;61(6):565-72.

Wokke J. Riluzole. Lancet. 1996;348(9030):795-9.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU02

MultiStage: No

DXCat Label: Carpal Tunnel Syndrome

Specificity: A

Etiology: Trauma

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Carpal tunnel syndrome	Carpal tunnel syndrome OR median nerve sensory and motor conduction delay [EMG report] OR Tinel's sign positive OR tingling or shock-like pain on volar wrist percussion OR Phalen's sign positive OR pain or paresthesia in the distribution of the median nerve when the patient flexes both wrists to 90 degrees with the dorsal aspects of the hands held in apposition for 60 seconds. OR carpal compression test positive OR pain or paresthesia on direct pressure on the carpal tunnel for 60 seconds	DX 3540;
1.02	with abductor pollicis brevis muscle or thenar eminence weakness or atrophy	Stage 1.01 AND abductor pollicis brevis muscle weakness or atrophy OR eminentia thenar weakness or atrophy	STAGE 1.01 + (DX 7282, 7289);

References:

Dawson DM. Entrapment neuropathies of the upper extremities. *N Engl J Med.* 1993;329(27):2013-8.

Gilliland BC. Relapsing polychondritis and other arthritides. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. *Harrison's Principles of Internal Medicine.* 14th ed. New York, NY: McGraw-Hill; 1998:1951-1965.

Hellmann DB. Arthritis & musculoskeletal disorders. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. *Current Medical Diagnosis & Treatment.* Stamford, CT: Appleton & Lange; 1998:774-824.

Yassi A. Repetitive strain injuries. *Lancet.* 1997;349(9056):943-7.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU03

MultiStage: No

DXCat Label: Cerebral Palsy

Specificity: A

Etiology: Congenital; Genetic (or hereditary)

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Cerebral palsy manifested as spastic monoplegia	Cerebral palsy manifested as spastic monoplegia	DX 3433, 3438, 3439;
2.01	manifested as choreoathetosis	Cerebral palsy manifested as choreoathetosis	DX 3335;
2.02	manifested as spastic hemiplegia	Cerebral palsy manifested as spastic hemiplegia	DX 3431, 3434;
2.03	manifested as spastic diplegia	Cerebral palsy manifested as spastic diplegia	DX 3430;
2.04	manifested as spastic quadriplegia	Cerebral palsy manifested as spastic quadriplegia	DX 3432;
2.05	with spastic and dyskinetic features	Stage 1.01-2.04 AND spasticity and choreoathetosis	STAGE 1.01 + STAGE 2.01; STAGE 2.01 + STAGE 2.02-2.04;
2.06	with mental retardation	Stage 1.01-2.05 AND mental retardation:	STAGE 1.01-2.05 + GROUP MENT_RETARD;
2.07	with grand mal seizures	Stage 1.01-2.06 AND Grand mal seizure [EEG report] OR tonic-clonic contraction of the muscles of the extremities OR tonic seizures OR clonic seizures OR atonic seizures OR myoclonic seizures OR infantile spasms AND loss of consciousness	STAGE 1.01-2.06 + DX 3453;
2.08	with aspiration pneumonia	Stage 1.01-2.07 AND aspiration pneumonia	STAGE 1.01-2.07 + DX 5070;
3.01	with sepsis	Stage 1.01-2.08 AND sepsis:	STAGE 1.01-2.08 + GROUP SEPSIS;
3.02	with respiratory failure	Stage 1.01-3.01 AND respiratory failure:	STAGE 1.01-3.01 + GROUP RESP_FAIL;
3.03	with shock	Stage 1.01-3.02 AND shock:	STAGE 3.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 1.01-3.03 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU03

MultiStage: No

DXCat Label: Cerebral Palsy

Specificity: A

Etiology: Congenital; Genetic (or hereditary)

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

Eicher PS, Batshaw ML. Cerebral palsy. *Pediatric Clinics of North America*. 1993;40:537-551.

Haslam RHA. The nervous system/cerebral palsy. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. *Nelson Textbook of Pediatrics*, 15th ed. Philadelphia, PA: WB Saunders; 1996:1713-1714.

Kuban KC, Levitan A. Cerebral palsy. *N Engl J Med*. 1994;330:188-95.

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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU04

MultiStage: No

DXCat Label: Cerebrovascular Disease

Specificity: A

Etiology: Degenerative; Genetic (or hereditary)

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Cerebral atherosclerosis or cerebral aneurysm or vascular malformation	Cerebral atherosclerosis [CT scan or MRI report or cranial angiography report] OR cerebral or precerebral aneurysm [CT scan or MRI report or cranial angiography report] OR vascular malformation [CT scan or MRI report or cranial angiography report] OR carotid artery dissection [CT scan or MRI report or cranial angiography report] OR vertebral artery dissection [CT scan or MRI report or cranial angiography report] OR fibromuscular dysplasia [CT scan or MRI report or cranial angiography report]	DX 436, 4370-4371, 4373-4374, 4378-4379, 74781;
2.01	Transient ischemic attack or occlusion or stenosis of precerebral arteries	No new infarct [CT scan report] AND acute paralysis resolving in ≤ 24 hours OR acute inability to communicate verbally resolving in ≤ 24 hours OR > 50% occlusion or stenosis of precerebral arteries [CT scan or MRI report or cranial angiography report] OR (the following new findings occur and persist ≤ 24h): cranial nerve palsy:	DX 43300, 43310, 43320, 43330, 43380, 43390, 43400, 43410, 43490, 4350-4359, 4377;
3.01	Intracranial hemorrhage or intracranial infarction or nonpyogenic thrombosis of intracranial venous sinus or Moyamoya disease	Intracranial infarction [CT scan or MRI report] OR intracranial hemorrhage [CT scan or MRI report] OR nonpyogenic thrombosis of intracranial sinus [angiography report] OR Moyamoya disease [angiography report]	DX 430, 431, 4320-4329, 43301, 43311, 43321, 43331, 43381, 43391, 43401, 43411, 43491, 4375-4376, 44321;
3.02	Cerebrovascular accident with cranial nerve involvement	Stage 3.01 AND (the following new findings occur and persist beyond 3 days after therapy): cranial nerve palsy:	STAGE 3.01 + (GROUP CRAN_NRV_PAL OR GROUP BLINDNESS); DX 4380-43819, 4386-4389;
3.03	Cerebrovascular accident with cerebellar or pyramidal tract signs	Stage 3.01-3.02 AND acute loss of balance unresolved ≥ 24 hours OR acute nystagmus unresolved ≥ 24 hours OR acute spasticity unresolved ≥ 24 hours OR acute poor finger-to-nose or heel-to-shin tests unresolved ≥ 24 hours	STAGE 3.01-3.02 + (DX 37950, 7804, 7810, 7812, 7813, 7817);
3.04	Cerebrovascular accident with hemiparesis or hemiplegia	Stage 3.01-3.03 AND acute hemiparesis unresolved ≥ 24 hours OR acute hemiplegia unresolved ≥ 24 hours	STAGE 3.01-3.03 + (DX 34200-34202, 34210-34282, 34290-34292); DX 43820-43853;
3.05	Cerebrovascular accident with quadriplegia	Stage 3.01-3.04 AND acute quadriplegia unresolved ≥ 24 hours	STAGE 3.01-3.04 + (DX 34400-34409);
3.06	with sepsis	Stage 3.01-3.05 AND sepsis:	STAGE 3.01-3.05 + GROUP SEPSIS;
3.07	Cerebrovascular accident with respiratory failure	Stage 3.01-3.06 AND respiratory failure:	STAGE 3.01-3.06 + GROUP RESP_FAIL;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU04

MultiStage: No

DXCat Label: Cerebrovascular Disease

Specificity: A

Etiology: Degenerative; Genetic (or hereditary)

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.08	Cerebrovascular accident with coma	Stage 3.01-3.07 AND coma:	STAGE 3.01-3.07 + GROUP COMA;
4.00	Cerebrovascular accident with death	Stage 3.01-3.07 AND death	NO;

References:

Abram HS, Lenn NJ and Haas RJ. Vascular disease. In: David RB, ed. Child and Adolescent Neurology. 1998:271-293.

Aminoff MJ. Transient ischemic attack. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. 1998:927-936.

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Haslam, RHA. The nervous system/acute stroke syndromes. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics, 15th ed. Philadelphia, PA: WB Saunders; 1996:1728-1730.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU05

MultiStage: No

DXCat Label: Alzheimer's Disease and Other Dementias

Specificity: A

Etiology: Degenerative; Idiopathic

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Primary degenerative dementia (Alzheimer's disease or Pick's disease)	Alzheimer or Picks' Disease [neuropsychiatrist report] OR Loss of recent memory AND able to maintain employment routines AND maintains personal hygiene AND senile plaques and neurofibrillary tangles [operative/pathology report] OR amyloid angiopathy with lobar hemorrhage [operative/pathology report] OR circumscribed convolational atrophy of the frontal and temporal lobes [operative/pathology report] OR diffuse Lewy body disease [operative/pathology report]	DX 2900, 29010-29020, 2903, 29040-2909, 3310-3312, 33182, 797;
1.02	Early dementia	Substantial loss of recent memory AND slowed brain wave activity [EEG report] OR inability to remember names OR inability to recall new information	STAGE 1.01 + (DX 29410, 2948); DX 29021;
2.01	Midstage dementia	Stage 1.01-1.02 AND become lost on > 1 occasion while driving a car OR become lost on > 1 occasion as a pedestrian in familiar city AND unresolved impairment of remote memory AND unresolved aphasia AND disorientation:	STAGE 1.01-1.02 + (DX 29411, 7843 OR GROUP DISORIENT);
2.02	with invalidism	Stage 1.01-2.01 AND difficulty feeding self OR unable to maintain personal hygiene OR has become lost within own dwelling	STAGE 1.01-2.01 + (DX 29410, 33189, 7812, 7998);
2.03	with decubitus ulcer	Stage 1.01-2.02 AND decubitus ulcer	STAGE 1.01-2.02 + DXCAT SKN01;
3.01	with sepsis	Stage 1.01-2.03 AND sepsis:	STAGE 1.01-2.03 + GROUP SEPSIS;
3.02	with respiratory failure	Stage 1.01-3.01 AND respiratory failure:	STAGE 1.01-3.01 + GROUP RESP_FAIL;
3.03	with coma	Stage 1.01-3.02 AND coma:	STAGE 3.01-3.02 + GROUP COMA;
3.04	with shock	Stage 1.01-3.03 AND shock:	STAGE 3.01-3.03 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 1.01-3.04 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU05

MultiStage: No

DXCat Label: Alzheimer's Disease and Other Dementias

Specificity: A

Etiology: Degenerative; Idiopathic

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

Aminoff MJ. Huntington's disease. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:946.
Bird TD. Alzheimer's disease and other primary dementias. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine, 14th ed. New York, NY: McGraw-Hill; 1998:2348-2356.
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Selkoe DJ. Alzheimer's disease: genotypes, phenotypes, and treatments. Science. 1997;275(5300):630-631.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU06

MultiStage: No

DXCat Label: Disease of the Nervous System Secondary to Implants or Grafts

Specificity: A

Etiology: Trauma

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Disease of the nervous system secondary to implanted devices or grafts	Disease of the nervous system secondary to implanted devices or grafts	DX 3491, 9962;
1.02	Reaction to spinal or lumbar puncture or from surgically implanted device	Reaction to spinal or lumbar puncture or from surgically implanted device	DX 3490, 99675;
2.01	with infection due to nervous system device implantation or graft	Infection of the nervous system secondary to implanted devices or grafts	DX 99663;
3.01	with sepsis	Stage 1.01-2.01 AND sepsis:	STAGE 1.01-2.01 + GROUP SEPSIS;
3.02	with shock	Stage 1.01-3.01 AND shock:	STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 1.01-3.02 AND death	NO;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU07
 DXCat Label: Epilepsy
 Etiology: Idiopathic

MultiStage: No
 Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Partial seizures with elementary symptomatology	Partial seizures [EEG report] AND no loss of consciousness at time of seizures OR no disorientation :	DX 34550, 34560, 34570, 34580, 34590;
1.02	Partial seizures with complex symptomatology	Partial seizures [EEG report] AND loss of consciousness at time of seizures OR loss of "contact with environment" OR disorientation :	DX 34540;
2.01	Absence seizures	Petit mal seizures [EEG report] OR atypical absence seizures	DX 34500-34501, 3452;
2.02	Tonic clonic seizures	Grand mal seizure [EEG report] OR tonic-clonic contraction of the muscles of the extremities OR tonic seizures OR clonic seizures OR atonic seizures OR myoclonic seizures OR infantile spasms AND loss of consciousness	DX 34510;
3.01	Status epilepticus	Stage 1.01-2.02 AND loss of consciousness for \geq 24 hours AND seizures recurring < 24 hour period	DX 34511, 3453, 34541, 34551, 34561, 34571, 34581, 34591;
3.02	with respiratory failure	Stage 1.02-3.01 AND respiratory failure :	STAGE 1.01-3.01 + GROUP RESP_FAIL;
4.00	with death	Stage 1.02-3.02 AND death	NO;

References:

Aminoff MJ. Epilepsy. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:921-926.
 Lowenstein DH. Seizures and epilepsy. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine, 14th ed. New York, NY: McGraw-Hill; 1998:2311-2356.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU08

MultiStage: No

DXCat Label: Guillain-Barre Syndrome

Specificity: A

Etiology: Idiopathic; Infection

Stage	Description	Diagnostic findings	ICD-9-CM Codes
2.01	Guillain-Barre syndrome	Guillain-Barre syndrome OR progression of paresis or paresthesia ceases ≤ 4 weeks AND progressive symmetric paresis within 6 weeks of a viral infection or vaccination or surgical procedure OR progressing symmetric paresthesias of lower extremities within 6 weeks of a viral infection or vaccination or surgical procedure OR nerve conduction slowing or block [EMG report] CSF proteins > 50 mg/dl AND CSF lymphocytes < 50/mm ³	DX 3570;
2.02	with ascending paralysis	Stage 2.01 AND progressing weakness leading to monoplegia or paraplegia within 6 weeks AND no cerebral infarction [CT scan report or MRI report]	STAGE 2.01 + (DX 3441, 34430-34432 OR DX 34440-3445 + NOT (DX 430, 431, 4320-4329, 43301, 43311, 43321, 43331, 43381, 43391, 43401, 43411, 43491));
2.03	with cranial nerve palsy	Stage 2.01-2.02 AND cranial nerve palsy:	STAGE 2.01-2.02 + (GROUP CRAN_NRV_PAL OR GROUP BLINDNESS);
3.01	with arrhythmias or bundle branch block	Stage 2.01-2.03 AND arrhythmias: OR bundle branch block:	STAGE 2.01-2.03 + DXCAT CVS06; STAGE 2.01-2.03 + (DX 4260, 42610, 42611, 42613, 4262-42654, 4269);
3.02	with respiratory failure	Stage 2.01-3.01 AND respiratory failure:	STAGE 2.01-3.01 + GROUP RESP_FAIL;
3.03	with shock	Stage 2.01-3.02 AND shock:	STAGE 2.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.01-3.03 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU08

MultiStage: No

DXCat Label: Guillain-Barre Syndrome

Specificity: A

Etiology: Idiopathic; Infection

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

Aminoff MJ. Nervous system. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:916-973.

Asbury AK. Diseases of the peripheral nervous system. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:2457-2469.

Dalakas MC. Intravenous immune globulin therapy for neurologic diseases. Annals of Internal Medicine. 1997;126(9):721-30.

Tuttle J, Chen RT, Rantala H, Cherry JD, Rhodes PH, Hadler S. The risk of Guillain-Barre syndrome after tetanus-toxoid-containing vaccines in adults and children in the United States. American Journal of Public Health. 1997;87(12):2045-8.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU09
 DXCat Label: Headache
 Etiology: Idiopathic

MultiStage: No
 Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Muscle tension headache	Band-like constriction around head or feeling of tightness of the head, neck and occiput	DX 30781, 7840, 33905-33912, 33920-3393, 33942-33989;
1.02	Migraine headache	Migraine OR history of five attacks of the following symptoms: spreading unilateral or bilateral headache AND headache is throbbing or pulsatile AND headache is aggravated by activities of daily living AND headache duration ≤ 72 hrs OR headache duration is ≤ 48 hours in children AND history of prior migraine 'aura' OR nausea OR dizziness OR vomiting OR photophobia OR phonophobia OR family history of migraine OR diarrhea AND no coexisting intracranial disease	DX 34600, 34601, 34610-34611, 34690, 34691, 33903-33904, 33941, 34602-34623, 34640-34643, 34650-34653, 34670-34693;
1.03	Cluster headache	Severe unilateral throbbing headache around entire half of face and head AND periorbital edema OR conjunctival injection OR ipsilateral Horner's syndrome OR rhinorrhea OR unilateral lacrimation AND daily attacks for ≤ 90 minutes for ≤ 6 weeks	DX 34620, 34621, 33900-33902;
2.01	Acute confusional or dysphoric migraine	Stage 1.02-1.03 AND agitation AND disorientation: AND amnesia of the event	STAGE 1.02-1.03 + GROUP DISORIENT + (DX 3079, 4377, 7809);
2.02	Vertebrobasilar migraine	Stage 1.02-2.01 AND vertigo resolves when headache remits OR Romberg's sign resolves when headache remits OR dysarthria resolves when headache remits	NO;
2.03	Migraine headache with retinal ischemia	Stage 1.02-2.02 AND visual disturbance in one eye	STAGE 1.02-2.01 + DX 36284;
2.04	Migraine headache with ophthalmoplegia	Stage 1.02-2.03 AND ophthalmoplegia remits when headache remits	DX 34680, 34681;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU09
 DXCat Label: Headache
 Etiology: Idiopathic

MultiStage: No
 Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
2.05	Migraine headache with transient hemiparesis or monoparesis	Stage 1.02-2.04 AND hemiparesis which remits when headache remits OR monoparesis which remits when headache remits OR familial hemiplegic migraine gene on chromosome 19	DX 34630-34633; ((DX 34630-34633 OR STAGE 1.02-2.04) + (DX 34200-34202, 34210-34282, 34290-34292));
2.06	Alternating hemiplegic migraine syndrome	Stage 1.02-2.05 AND Alternating hemiplegic migraine syndrome OR recurrent alternating episodes of hemiplegia at < 3 years of age AND progressive intellectual and motor impairment	NO;
2.07			NO;
3.01	Persistent migraine with cerebral infarction		DX 34660-34663;

References:

Aminoff MJ. Headache. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:916-919.

Capobianco DJ, Cheshire WP, Campbell JK. An overview of the diagnosis and pharmacologic treatment of migraine. Mayo Clinic Proceedings. 1996;71(11):1055-1066.

Goadsby PJ, Olesen J. Diagnosis and management of migraine. BMJ. 1996;312(7041):1279-1283.

Haslam, RHA. The nervous system/headaches. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics, 15th ed. Philadelphia, PA: WB Saunders; 1996:1702-1705.

Parker C. Complicated migraine syndromes and migraine variants. Pediatric Annals 1997;26: 417-421.

Pryse-Phillips WE, Dodick DW, Edmeads JG, Gawel MJ, Nelson RF, Purdy RA, Robinson G, Stirling D, Worthington I. Guidelines for the diagnosis and management of migraine in clinical practice. Canadian Headache Society. Canadian Medical Association Journal. 1997;156(9):1273-1287.

Raskin NH. Migraine and the cluster headache syndrome. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine, 14th ed. New York, NY: McGraw-Hill; 1998:2307-2311.

Raskin NH. Headache. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine, 14th ed. New York, NY: McGraw-Hill; 1998:68-73.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU10
 DXCat Label: Huntington's Chorea
 Etiology: Genetic (or hereditary)

MultiStage: No
 Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Huntington's Chorea	CAG sequences \geq 38 in the Huntington's disease gene, chromosome 4p16.3 [laboratory report] OR Family history of Huntington's disease AND orofacial dyskinesia OR choreoathetosis OR rigidity or dystonia in children OR dysphagia OR motor imperistence OR clinical depression: OR atrophy of the caudate nucleus and putamen [operative/pathology report or MRI report] AND enlargement of lateral ventricles [operative/pathology report or MRI report] AND cerebellar atrophy in children [operative/pathology report or MRI report] OR with degeneration of medium sized spiny neurons of the caudate nucleus [operative/pathology report]	DX 3334;
2.01	with seizures	Stage 1.01 AND seizures [EEG report]	STAGE 1.01 + (DX 78032, 78039);
2.02	with dementia	Stage 1.01-2.01 AND dementia:	STAGE 1.01-2.01 + GROUP DEMENTIA;
2.03	with invalidism or cachexia	Stage 1.01-2.02 AND activities of daily living require 100% supervision OR cachexia: ideal body weight < 85% of body weight	STAGE 1.01-2.02 + GROUP CACHEXIA; STAGE 1.01-2.02 + DX 7998;
2.04	with decubitus ulcer	Stage 1.01-2.03 AND decubitus ulcer	STAGE 1.01-2.03 + DXCAT SKN01;
2.05	aspiration pneumonia	Stage 1.01-2.04 AND aspiration pneumonia	STAGE 1.01-2.04 + DX 5070;
3.01	with sepsis	Stage 1.01-2.05 AND sepsis:	STAGE 1.01-2.05 + GROUP SEPSIS;
3.02	with respiratory failure	Stage 1.01-3.01 AND respiratory failure:	STAGE 1.01-3.01 + GROUP RESP_FAIL;
3.03	with coma	Stage 1.01-3.02 AND coma:	STAGE 1.01-3.02 + GROUP COMA;
3.04	with shock	Stage 1.01-3.03 AND shock:	STAGE 1.01-3.03 + (GROUP SHOCKC OR GROUP SHOCKN) ;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU10

MultiStage: No

DXCat Label: Huntington's Chorea

Specificity: A

Etiology: Genetic (or hereditary)

Stage	Description	Diagnostic findings	ICD-9-CM Codes
4.00	with death	Stage 1.01-3.04 AND death	NO;

References:

Aminoff MJ. Huntington's disease. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:946.
Binedell J, Soldan JR, Scourfield J, Harper PS. Huntington's disease predictive testing: the case for an assessment approach to requests from adolescents. Journal of Medical Genetics. 1996;33(11):912-8.
Bird TD. Alzheimer's disease and other primary dementias. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine, 14th ed. New York, NY: McGraw-Hill; 1998:2348-2356.
Brett EM. Spinocerebellar degenerations and some related conditions/Huntington's disease. In: Brett EM, ed. Pediatric Neurology. 1997:248-251.
Brinkman RR, et al. The likelihood of being affected with Huntington disease by a particular age, for a specific CAG size. American Journal of Human Genetics 1997; 60:1202-1210.
Rosenberg RN, Iannaccone ST. The prevention of neurogenetic disease. Archives of Neurology. 1995;52(4):356-362.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU11

MultiStage: No

DXCat Label: Injury: Craniocerebral

Specificity: A

Etiology: Trauma

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Head injury with or without intracranial involvement	Injury to the head with or without intracranial involvement	DX 85400-85401, 95901-95909;
1.02	with or without intracranial involvement and cellulitis	Stage 1.01 AND cellulitis:	STAGE 1.01 + (DX 6820-6821, 6828-6829); DX 85410-85411;
1.03	with concussion	Head injury AND transient loss of consciousness	DX 8500-8509, 85409, 85419;
2.01	Linear or basilar skull fracture	linear skull fracture [skull x-ray report or CT scan report] OR basilar skull fracture [skull x-ray report or CT scan report]	DX 80000-80049, 80100-80149, 80300-80302, 80306-80309, 80400-80402, 80406-80409;
2.02	Crushing injury to the head and neck	Crushing injury to the head and neck	DX 9252;
2.03	Depressed or compound skull fracture	Depressed or compound skull fracture [skull x-ray report or CT scan report]	DX 80050-80099, 80150-80199, 80350-80352, 80356-80359, 80390-80392, 80396-80399, 80450-80452, 80456-80459, 80490-80492, 80496-80499;
2.04	with cranial nerve involvement	Stage 1.01 -2.03 AND (the following new findings occur and persist beyond 3 days after therapy): cranial nerve palsy:	STAGE 1.01-2.03 + (DX 33811, 33821 OR GROUP CRAN_NRV_PAL OR GROUP BLINDNESS); DX 80340-80342, 80346-80349, 80440-80442, 80446-80449, 9070-9071, 9501-9519;
2.05	with carotid or vertebral artery dissection	Stage 1.01 -2.04 AND carotid artery dissection [MRI angiography report or angiography report] OR vertebral artery dissection [MRI angiography report or angiography report]	DX 90000-9009;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU11

DXCat Label: Injury: Craniocerebral

Etiology: Trauma

MultiStage: No

Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
2.06	with intracranial hemorrhage or cerebral laceration	Stage 1.01-2.05 AND epidural hemorrhage, blood at or above the dura mater [CT or MRI report] OR subdural hemorrhage, blood at or below the dura mater [CT or MRI report] OR cerebral laceration [CT or MRI report]	DX 80310-80312, 80316-80319, 80320-80322, 80326-80329, 80330-80332, 80336-80339, 80360-80362, 80366-80369, 80370-80372, 80376-80379, 80380-80382, 80386-80389, 80410-80412, 80416-80419, 80420-80422, 80426-80429, 80430-80432, 80436-80439, 80460-80462, 80466-80469, 80470-80472, 80476-80479, 80480-80482, 80486-80489, 85100-85319;
2.07	with hyponatremia or syndrome of inappropriate antidiuretic hormone secretion	Stage 1.01 -2.06 AND hyponatremia: OR SIADH:	STAGE 1.01-2.06 + (GROUP HYPONATREMIA OR GROUP SIADH);
3.01	with cerebral infarction	Stage 1.01-2.07 AND cerebral infarction: [CT or MRI reports]	STAGE 1.01-2.07 + (DX 430, 431, 4320-4329, 43301, 43311, 43321, 43331, 43381, 43391, 43401, 43411, 43491);
3.02	with paraparesis or quadriparesis	Stage 1.01-3.01 AND paraparesis OR quadriparesis	STAGE 1.01-3.01 + (DX 34400-3441);
3.03	with Glasgow coma scale rating \geq 11	Stage 1.01-3.02 AND Glasgow coma scale rating \geq 11*	DX 80303, 80313, 80323, 80333, 80343, 80353, 80363, 80373, 80383, 80393, 80403, 80413, 80423, 80433, 80443, 80453, 80463, 80473, 80483, 80493, 85402-85403, 85406, 85412-85413, 85416;
3.04	with Glasgow coma scale rating \geq 4 and < 11*	Stage 1.01-3.03 AND Glasgow coma scale rating \geq 4 and < 11*	STAGE 1.01-3.03 + DX 78009;
3.05	with pulmonary embolism	Stage 1.01-3.04 AND pulmonary embolism:	STAGE 1.01-3.04 + GROUP PULMEMB;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU11

DXCat Label: Injury: Craniocerebral

Etiology: Trauma

MultiStage: No

Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.06	with bacterial meningitis	Stage 1.01-3.05 AND meningitis:	STAGE 1.01-3.05 + GROUP MENGIT__BACT;
3.07	with sepsis	Stage 1.01-3.06 AND sepsis:	STAGE 1.01-3.06 + GROUP SEPSIS;
3.08	with respiratory failure	Stage 1.01-3.07 AND respiratory failure:	STAGE 1.01-3.07 + GROUP RESP_FAIL;
3.09	with Glasgow coma scale rating < 4	Stage 1.01-3.08 AND Glasgow coma scale rating < 4*	STAGE 1.01-3.08 + DX 78001; DX 80304-80305, 80314-80315, 80324-80325, 80334-80335, 80344-80345, 80354-80355, 80364-80365, 80374-80375, 80384-80385, 80394-80395, 80404-80405, 80414-80415, 80424-80425, 80434-80435, 80444-80445, 80454-80455, 80464-80465, 80474-80475, 80484-80485, 80494-80495, 85404-85405, 85414-85415;
3.10	with shock	Stage 1.01-3.09 AND shock:	STAGE 3.01-3.09 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 1.01-3.10 AND death	NO;

References:

- Aminoff MJ. Head injury. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:954.
- Aminoff MJ. Spinal trauma. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:956.
- Chesnut RM. Guidelines for the management of severe head injury: what we know and what we think we know. Journal of Trauma. 1997;42(5 Suppl):S19-22.
- Gentleman D, Dearden M, Midgley S, Maclean D. Guidelines for resuscitation and transfer of patients with serious head injury. BMJ. 1993;307(6903):547-552.
- Ropper AH. Traumatic injuries of the head and spine. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine, 14th ed. New York, NY: McGraw-Hill; 1998:2390-2398.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU12

MultiStage: No

DXCat Label: Injury: Spine and Spinal Cord: Cervical

Specificity: A

Etiology: Trauma

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Sprain of cervical back	Cervical back pain	DX 8470;
1.02	Spinal cord concussion	Spinal cord concussion	DX 95200-95209, 9530;
1.03	Dislocations(s) or fracture(s) of the vertebrae without injury to the cord	Fracture(s) or dislocation(s) of vertebrae [CT or MRI or spine x-ray report]	DX 80500-80508, 83900-83908;
2.01	Open fracture or dislocation of vertebrae without injury to the cord	Stage 1.02 AND open fracture	DX 80510-80518, 83910-83918;
2.02	Trauma to spine and spinal cord with paresis	Stage 1.02-2.01 AND quadriparesis OR paraparesis OR monoparesis OR hemiparesis	STAGE 1.02-2.01 + (DX 34200-34292, 34430-3445) ; DX 80600;
2.03	with monoplegia or cauda equina syndrome or conus medullaris syndrome	Stage 2.02 AND monoplegia OR cauda equina syndrome:	STAGE 1.01-2.02 + (DX 34460, 34461);
2.04	with paraplegia or hemiplegia	Stage 2.02 AND paraplegia OR hemiplegia	STAGE 2.02 + (DX 34200-34292, 3441);
2.05	with segmental sensory loss	Stage 2.02 AND sensory loss distributed to a spinal segment [neurological exam report]	STAGE 1.01-2.01 + DX 7820;
2.06	with Brown-Sequard Syndrome	Stage 2.02 AND Brown-Sequard Syndrome [neurological exam report]	STAGE 2.02-2.03 + DX 7820;
2.07	with cellulitis	Stage 2.01-2.06 AND cellulitis:	STAGE 1.01-2.06 + DX 68100-6829;
2.08	with urinary tract infections	Stage 2.03-2.07 AND UTI:	STAGE 1.01-2.07 + DXCAT GUS10;
2.09	with osteomyelitis	Stage 2.01-2.08 AND osteomyelitis:	STAGE 1.01-2.08 + GROUP OSTEOMYELIT;
2.10	with deep vein thrombosis	Stage 2.01-2.09 AND DVT:	STAGE 1.01-2.10 + (GROUP DVT OR DX 33811, 33821) ;
2.11	with quadriplegia	Stage 2.01-2.10 AND quadriplegia	STAGE 1.01-2.10 + (DX 34400-34404, 34409); DX 80601-80609, 80610-80619, 95200-95209;
3.01	with pulmonary embolism or fat embolism	Stage 2.01-2.11 AND pulmonary embolism:	STAGE 1.01-2.11 + GROUP PULMEMB;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU12

MultiStage: No

DXCat Label: Injury: Spine and Spinal Cord: Cervical

Specificity: A

Etiology: Trauma

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.02	with renal failure	Stage 2.01-3.01 AND renal failure:	STAGE 1.01-3.01 + (GROUP REN_FAIL_ACU OR GROUP REN_FAIL_CHR);
3.03	with sepsis	Stage 2.01-3.02 AND sepsis:	STAGE 1.01-3.02 + GROUP SEPSIS;
3.04	with respiratory failure	Stage 2.01-3.04 AND respiratory failure:	STAGE 1.01-3.03 + (GROUP RESP_FAIL OR DX 5185);
3.05	with shock	Stage 2.01-3.05 AND shock:	STAGE 1.01-3.04 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.01-3.06 AND death	NO;

References:

Aminoff MJ. Spinal Trauma. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:956.

Atkinson PP, Atkinson JL. Spinal shock. Mayo Clinic Proceedings. 1996;71(4):384-389.

Ditunno JF Jr. Formal CS. Chronic spinal cord injury. N Engl J Med. 1994;330(8):550-556.

Haslam, RHA. The nervous system/spinal cord trauma. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics, 15th ed. Philadelphia, PA: WB Saunders; 1996:1736-1737.

Ropper AH. Traumatic injuries of the head and spine. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:2390-2398.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU13

MultiStage: No

DXCat Label: Meningitis, Encephalitis, and Myelitis: Viral

Specificity: A

Etiology: Infection, Viral

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Viral meningitis or aseptic meningitis	Viral meningitis [virus isolated from CSF tissue cultures or CSF virus specific antibody titers with convalescent/acute phase serum > 4.0 OR aseptic meningitis:	GROUP MENING__VIR OR DX 3229;
2.01	Viral meningoencephalitis	Stage 1.01 AND lethargy OR delirium OR seizures OR encephalopathy:	DX 0460-0469, 048, 0498-0499, 0620-064, 3230-32302, 32341-3239;
2.02	with acute cerebellar ataxia	Stage 1.01-2.01 AND acute cerebellar ataxia	STAGE 1.01-2.01 + (DX 7813, 3334);
2.03	with cranial nerve involvement	Stage 1.01-2.02 AND [the following new findings occur and persist beyond 3 days after therapy]: cranial nerve palsy:	STAGE 1.01-2.02 + (GROUP CRAN_NRV_PAL OR GROUP BLINDNESS); DX 1390;
2.04	with acute hemiplegia	Stage 1.01-2.03 AND acute hemiplegia	STAGE 1.01-2.03 + (DX 34200-34202, 34210-34282, 34290-34292);
2.05	with viral pneumonia	Stage 1.01-2.04 AND new infiltrate [chest x-ray report] AND infected sputum [microbiology gram stain report] AND no pathologic bacterial organisms in sputum [microbiology report]	STAGE 1.01-2.04 + (DX 4800-4809, 4870);
2.06	with aspiration pneumonia	Stage 1.01-2.05 AND aspiration pneumonia	STAGE 1.01-2.05 + DX 5070;
2.07	with syndrome of inappropriate diuretic hormone secretion	Stage 1.01-2.06 AND SIADH:	STAGE 1.01-2.06 + GROUP SIADH;
3.01	with myocarditis	Stage 1.01-2.07 AND myocarditis:	STAGE 1.01-2.07 + (DX 4220, 42290, 42292, 42299, 4290);
3.02	with myelitis	Stage 1.01-3.01 AND asymmetric flaccid paralysis of any limb	STAGE 1.01-3.01 + (DX 3442, 34430-34432, 34440-3445);
3.03	with sepsis	Stage 1.01-3.02 AND sepsis:	STAGE 1.01-3.02 + GROUP SEPSIS;
3.04	with respiratory failure	Stage 1.01-3.03 AND respiratory failure:	STAGE 1.01-3.03 + GROUP RESP_FAIL;
3.05	with coma	Stage 1.01-3.04 AND coma:	STAGE 1.01-3.04 + GROUP COMA;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU13

MultiStage: No

DXCat Label: Meningitis, Encephalitis, and Myelitis: Viral

Specificity: A

Etiology: Infection, Viral

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.06	with shock	Stage 1.01-3.05 AND shock:	STAGE 1.01-3.05 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 1.01-3.06 AND death	NO;

References:

Centers for Disease Control. Case definitions for Infectious Conditions Under Public Health Surveillance. MMWR 1997;46(No. RR-10):43-44.

Jacobs RA. Infections of the central nervous system. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:1187-1189.

Tyler KL. Aseptic meningitis, viral encephalitis, and prion diseases. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine, 14th ed. New York, NY: McGraw-Hill; 1998:1197-1202.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU14

MultiStage: No

DXCat Label: Meningitis: Bacterial

Specificity: A

Etiology: Infection, Bacterial

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	Observation for suspected mental condition	Added stage 5/8/06 cb	DX V0184;
3.01	of hematogenous origin or primary meningitis		DX 0360-0361, 03682-0369, 3200-3207, 32081-3209 ; DX 9588 + (DX 0360-0361, 03682-0369, 3200-3207, 32081-3209);
3.02	with syndrome of inappropriate antidiuretic hormone secretion	Stage 3.01 AND SIADH, syndrome of inappropriate anti-diuretic hormone secretion OR water load test positive for SIADH OR hyponatremia: AND urine osmolality > 300 mmol/kg [urine chemistry report] AND lethargy	STAGE 3.01 + DX 2536; STAGE 3.01 + DX 2761 + DX 78079;
3.03	with obstructive hydrocephalus or subdural effusion	Stage 3.02 AND papilledema OR hydrocephalus [CT scan of head or MRI of the head report] OR subdural effusion [CT scan of head or MRI of the head report]	STAGE 3.01-3.02 + (DX 3314, 3485, 37700);
3.04	with lateralizing neurological deficits	Stage 3.01-3.03 AND cerebral infarction [CT scan of the head or MRI of the head report] OR (the following new physical findings occur and persist beyond 3 days): OR focal seizure OR cranial nerve palsy:	DX 03681; STAGE 3.01-3.03 + (DX 3455, 43301, 43311, 43321, 43331, 43381, 43391, 43401, 43411, 43491 OR GROUP CRAN_NRV_PAL OR GROUP BLINDNESS);
3.05	with disseminated intravascular coagulation	Stage 3.01-3.03 AND DIC, or disseminated intravascular coagulation OR hypofibrinogenemia [hematology report] AND thrombocytopenia: AND elevated fibrin degradation split products [hematology report] AND elevated D-Dimer [hematology report] AND INR > 1.0 [hematology report]	DX 03640-03643; STAGE 3.01-3.04 + (DX 2863, 2866, 7762 OR GROUP DIC OR GROUP THRMBCYTPEN);
3.06	with adrenal insufficiency or Waterhouse-Friderichsen syndrome	Stage 3.01-3.05 AND hypoadrenalism:	DX 0363; STAGE 3.01-3.05 + DXCAT END01;
3.07	with sepsis	Stage 3.01-3.06 AND sepsis:	DX 0362; STAGE 3.01-3.06 + GROUP SEPSIS;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU14

DXCat Label: Meningitis: Bacterial

Etiology: Infection, Bacterial

MultiStage: No

Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.08	with hypoventilation syndrome	Stage 3.01-3.07 AND hypoxemia: OR hypercarbia:	STAGE 3.01-3.07 + (DX 78609 OR GROUP HYPOXEMIA);
3.09	with cerebellar or temporal lobe uncal herniation or respiratory failure	Stage 3.01-3.08 AND cerebellar herniation [CT of the head or MRI of head report] OR temporal lobe herniation [CT of the head or MRI of head report] OR respiratory failure:	STAGE 3.01-3.08 + (DX 3484 OR GROUP RESP_FAIL);
3.10	with coma	Stage 3.01-3.09 AND coma:	STAGE 3.01-3.09 + GROUP COMA;
3.11	with shock	Stage 3.01-3.10 AND shock:	STAGE 3.01-3.10 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 3.01-3.11 AND death	NO;

References:

Jacobs RA. Infections of the central nervous system. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:1187-1189.

Prober CG. Infections of the central nervous system. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics, 15th ed. Philadelphia, PA: WB Saunders; 1996:707-713.

Quagliarello VJ, Scheld WM. Treatment of bacterial meningitis. N Engl J Med. 1997;336(10):708-716.

Scheld WM. Bacterial meningitis, brain abscess, and other suppurative intracranial infections. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine, 14th ed. New York, NY: McGraw-Hill; 1998:2419-2434.

Tunkel AR, Scheld WM. Acute bacterial meningitis. Lancet. 1995;346(8991-8992):1675-1680.

Tureen J. Meningitis. In: Rudolph AM, Hoffman JIE and Rudolph CD, eds. Rudolph's Pediatrics, Stamford, CT: Appleton & Lange; 1996:544-548.

Wubbel L and McCracken GH Jr. Management of bacterial meningitis. Pediatrics in Review 1998;19:78-84.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU15

MultiStage: No

DXCat Label: Mental Retardation

Specificity: A

Etiology: Congenital; Genetic (or hereditary); Toxicologic; Trauma

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Borderline mental retardation	Wechsler I.Q. \geq 70 AND \leq 85	DX 319;
1.02	Mild	Wechsler I.Q. \geq 55 AND \leq 69	DX 317;
2.01	Moderate	Wechsler I.Q. \geq 40 AND \leq 54	DX 3180;
2.02	Severe	Wechsler I.Q. \geq 25 AND \leq 39	DX 3181;
2.03	Profound	Wechsler I.Q. $<$ 25	DX 3182;
3.01	with vegetative existence	Stage 1.01-2.03 AND complete inability to provide self-care	STAGE 1.01-2.03 + DX 78003;

References:

Balshaw ML. Mental retardation. *Pediatric Clinics of North America*. 1993;40:507-521.

Camp BW, Kozleski EB. Developmental disorders/mental retardation. In: Hay WW, Groosthius JR, Hayward AR, Levin MJ, eds. *Current Pediatric Diagnosis and Treatment*. 13th ed. Stamford, CT: Appleton & Lange; 1997:103-106.

Palmer FB, Capute AJ. Mental retardation. *Pediatrics in Review*. 1994;15:473-479.

Shonkoff JP. Mental retardation. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. *Nelson Textbook of Pediatrics*, 15th ed. Philadelphia, PA: WB Saunders; 1996:128-131.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU16
 DXCat Label: Multiple Sclerosis
 Etiology: Idiopathic

MultiStage: No
 Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Relapsing-remitting multiple sclerosis	Relapsing-remitting multiple sclerosis [MRI report] OR oligoclonal bands in CSF OR myelin basic protein elevated in CSF OR sheathing of the retinal veins AND involvement of two or more areas of the CNS by history and examination: OR optic neuritis [ophthalmologist's report] OR abnormal visual evoked response [neurology report] OR diplopia [ophthalmologist's report] OR extremity weakness OR parasthesias OR hypesthesias OR incontinence OR ataxia AND two separate episodes ≥ 24 hours apart, one month from initial onset	DX 340;
2.01	with optic atrophy	Stage 1.01 AND pale white disc [ophthalmoscopy report]	STAGE 1.01 + (DX 37710, 37711, 37715);
2.02	with vision limited to light perception	Stage 1.01-2.01 AND blindness: AND intact light perception	STAGE 1.01-2.01 + GROUP BLINDNESS;
2.03	with memory loss or impaired attention or problem-solving difficulties or slowed information processing	Stage 1.01-2.02 AND memory loss OR impaired attention OR problem-solving difficulties OR slowed information processing	STAGE 1.01-2.02 + DX 7809;
2.04	Secondary progressive multiple sclerosis	Secondary progressive multiple sclerosis	NO;
2.05	Primary progressive multiple sclerosis	Primary progressive multiple sclerosis	NO;
2.06	Progressive-relapsing multiple sclerosis	Progressive-relapsing multiple sclerosis	NO;
2.07	with decubitus ulcer	Stage 1.01-2.06 AND decubitus ulcer	STAGE 1.01-2.03 + DXCAT SKN01;
2.08	with pneumonia	Stage 1.01-2.07 AND pneumonia:	STAGE 1.01-2.07 + (DXCAT RES15 OR DXCAT RES16 OR DXCAT RES17 OR DXCAT RES12 OR DXCAT RES19) ;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU16

DXCat Label: Multiple Sclerosis

Etiology: Idiopathic

MultiStage: No

Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.01	with permanent neurological deficits	Stage 1.01-2.08 AND monoparesis OR monoplegia OR paraplegia OR paraparesis OR hemiparesis OR hemiplegia OR incontinence OR cranial nerve palsy:	STAGE 1.01-2.08 + GROUP CRAN_NRV_PAL; STAGE 1.01-2.08 + (DX 34200-34202, 34210-34282, 34290-34292, 3441, 34430-34432, 34440-3445, 78830-78832, 78834-78838);
3.02	with sepsis	Stage 1.01-3.01 AND sepsis:	STAGE 1.01-3.01 + GROUP SEPSIS;
3.03	with shock	Stage 1.01-3.02 AND shock:	STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 1.01-3.03 AND death	NO;

References:

Aminoff MJ. Multiple sclerosis. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:949-950.

Brett EM. Spinocerebellar degenerations and some related conditions/multiple sclerosis." In: Brett EM, ed. Pediatric Neurology. 3rd ed. 1997:258-261.

Compston A. Genetic epidemiology of multiple sclerosis. Journal of Neurology, Neurosurgery & Psychiatry. 1997;62(6):553-561.

Haslam, RHA. The nervous system/neurodegenerative disorders of childhood. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics, 15th ed. Philadelphia, PA: WB Saunders; 1996:1723-1728.

Hauser SL, Goodkin DE. Multiple sclerosis and other demyelinating diseases. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine, 14th ed. New York, NY: McGraw-Hill; 1998:2409-2419.

Lucchinetti CF, Rodriguez M. The controversy surrounding the pathogenesis of the multiple sclerosis lesion. Mayo Clinic Proceedings. 1997;72(7):665-678.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU17

MultiStage: No

DXCat Label: Myasthenia Gravis

Specificity: A

Etiology: Immune

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Localized myasthenia gravis	Acetylcholine receptor antibodies [chemistry report] OR positive response to edrophonium test OR positive response to anti-cholinesterase agent OR decline in height of muscle action potential [EMG report] AND ptosis OR diplopia OR easy fatigability of ocular muscles OR dysarthria OR dysphonia	DX 3580-35801, 7752;
2.01	with dysphagia or thymoma	Stage 1.01 AND dysphagia OR thymoma OR thymic hyperplasia	STAGE 1.01 + (DX 1640, 2126, 2409, 24220, 7872-78729);
2.02	with generalized weakness	Stage 1.01-2.01 AND weakness in any extremity	STAGE 1.01-2.01 + DX 78079;
3.01	with myasthenic crisis or respiratory failure	Stage 1.01-2.02 AND respiratory failure:	STAGE 1.01-2.02 + GROUP RESP_FAIL;
3.02	with shock	Stage 3.01 AND shock:	STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 3.01-3.02 AND death	NO;

References:

Aminoff MJ. Nervous system. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:916-973.

Drachman DB. Myasthenia gravis and other diseases of the neuromuscular junction. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:2469-2473.

Keesey J. Myasthenia gravis. Archives of Neurology. 1998;55(5):745-6.

Wittbrodt ET. Drugs and myasthenia gravis. An update. Archives of Internal Medicine. 1997;157(4):399-408, 1997 Feb 24.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU18

MultiStage: No

DXCat Label: Neoplasm: Central Nervous System

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	History of Central Nervous System Neoplasia	History of central nervous system neoplasia	DX V1085, V1086;
1.01	Central Nervous System Neoplasia	Meningiomas [operative/pathology report] OR gliomas [operative/pathology report] OR schwannomas [operative/pathology report] OR glioblastoma multiforme [operative/pathology report] OR astrocytoma [operative/pathology report] OR oligodendroglioma [operative/pathology report] OR ependymoma [operative/pathology report] OR medulloblastoma [operative/pathology report] OR craniopharyngioma [operative/pathology report] OR pituitary adenoma [operative/pathology report] <u>Presumptive Diagnostic Findings:</u> Central nervous system neoplasia [CT scan or MRI report]	DX 1910-1929, 2250, 2252-2259, 22802, 2375, 2376 , 2379, 2396;
1.02	with ataxia	Stage 1.01 AND ataxia	STAGE 0.00-1.01 + (DX 33189, 3344, 7813);
2.01	with cranial nerve deficits	Stage 1.01 AND (the following new findings occur and persist beyond 3 days after therapy): cranial nerve palsy:	STAGE 0.00-1.02 + (GROUP CRAN_NRV_PAL OR GROUP BLINDNESS OR DX 3383);
2.02	with hydrocephalus or papilledema	Stage 1.01-2.01 AND hydrocephalus [CT Scan or MRI report] OR papilledema	STAGE 0.00-2.01 + (DX 3314, 3485, 37700, 37701);
3.01	with grand mal (or simple or complex partial) seizures	Stage 1.01-3.01 AND seizure disorder [EEG report or physical examination] OR tonic-clonic convulsions OR simple seizures [EEG report or physical examination] OR complex partial seizures [EEG report or physical examination]	STAGE 0.00-2.02 + (DX 34500-34501, 34510-3453, 34540-34541, 34550-34551, 34570-34571, 34580-34581, 34590-34591, 78032, 78039);
3.02	with hemiparesis or hemiplegia or paraplegia or paraparesis	Stage 1.01-2.02 AND hemiparesis OR hemiplegia OR paraplegia OR paraparesis	STAGE 0.00-3.01 + (DX 34200-34202, 34210-34282, 34290-34292, 3441);
3.03	with decerebrate rigidity	Stage 1.01-3.02 AND decerebrate rigidity OR flaccid generalized paralysis	STAGE 0.00-3.02 + (DX 34400-34409, 34481);

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU18

MultiStage: No

DXCat Label: Neoplasm: Central Nervous System

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.04	with cerebral herniation or respiratory failure	Stage 1.01-3.03 AND cerebral herniation [CT scan or MRI report] OR respiratory failure:	STAGE 0.00-3.03 + (DX 3484, 5185, 78951 OR GROUP RESP_FAIL);
3.05	with coma	Stage 1.01-3.04 AND coma:	STAGE 0.00-3.04 + GROUP COMA;
3.06	with shock	Stage 1.01-3.05 AND shock:	STAGE 0.00-3.05 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 1.01-3.06 AND death	NO;

References:

Aminoff MJ. Intracranial and spinal space-occupying lesions. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:937-941.

Pollack IF. Brain tumors in children. N Engl J Med. 1994;331(22):1500-1507.

Sagar SM, Israel MA. Tumors of the nervous system. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine, 14th ed. New York, NY: McGraw-Hill; 1998:2409-2419.

Whittle IR. Management of primary malignant brain tumors. Journal of Neurology, Neurosurgery & Psychiatry. 1996;60(1):2-5.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU19

MultiStage: No

DXCat Label: Neurofibromatosis Type I [Von Recklinghausen's Disease]

Specificity: A

Etiology: Genetic (or hereditary)

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Nuerofibromatosis Type I	Neurofibromatosis Type I [genetic analysis report] OR cutaneous neurofibromatosis [operative/pathology report] OR subcutaneous neurofibromatosis [operative/pathology report] OR Autosomal dominant, chromosome 17, gene codes for neurofibromin [genetic analysis report] OR Two or more of the following must be present: cafe-au-lait spot \geq 1.5 cm in diameter for age > 13 years old OR cafe-au-lait spot \geq 0.5 cm in diameter for < age 13 years old AND total of \geq 6 cafe-au-lait spots OR \geq two neurofibromas of any type OR \geq 1 plexiform neurofibroma OR freckling in the axillary and inguinal regions OR \geq 1 optic pathways glioma OR \geq 2 Lisch nodules (iris amartomas) OR osseous lesion, such as sphenoid wing dysplasia or thinning of the cortex of long bones	DX 23770-23772;
2.01	with paresthesias or hypesthesia	Stage 1.01 AND paresthesias OR hypesthesia	STAGE 1.01 + DX 7820;
2.02	with macroencephaly or learning disability	Stage 1.01-2.01 AND learning disability OR head diameter \geq 95th percentile	STAGE 1.01-2.01 + (DX 3152, 7424);
2.03	with pheochromocytoma or medullary thyroid carcinoma or dysplastic scoliosis or rhabdomyosarcoma or sarcomatous degeneration	Stage 1.01-2.02 AND sarcomatous degeneration [operative/pathology report] OR neurofibrosarcoma [operative/pathology report] OR malignant schwannomma [operative/pathology report] OR pheochromocytoma [operative/pathology report] OR medullary thyroid carcinoma [operative/pathology report] OR dysplastic scoliosis [operative/pathology report] OR rhabdomyosarcoma [operative/pathology report]	STAGE 1.01-2.02 + (DXCAT END15 OR DXCAT END14 OR DX 73743, 1710-1719, 2150-2159);
3.01	with hemiparesis or paraparesis	Stage 1.01-2.03 AND hemiparesis OR paraparesis	STAGE 1.01-2.03 + (DX 34200-34202, 34210-34282, 34290-34292, 3441);
3.02	with hemiplegia or paraplegia	Stage 1.01-3.01 AND hemiplegia OR paraplegia	NO;
3.03	with respiratory failure	Stage 1.01-3.02 AND respiratory failure:	STAGE 1.01-3.02 + GROUP RESP_FAIL;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU19

MultiStage: No

DXCat Label: Neurofibromatosis Type I [Von Recklinghausen's Disease]

Specificity: A

Etiology: Genetic (or hereditary)

Stage	Description	Diagnostic findings	ICD-9-CM Codes
4.00	with death	Stage 1.01-3.03 AND death	NO;

References:

Aminoff MJ. Nervous system. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:916-973.

Gutmann DH, Aylsworth A, Carey JC, et al. The diagnostic evaluation and multidisciplinary management of neurofibromatosis 1 and neurofibromatosis 2. JAMA. 1997;278(1):51-7.

Rosenberg RN, Iannaccone ST. The prevention of neurogenetic disease. Archives of Neurology. 1995;52(4):356-62.

Sagar SM, Israel MA. Tumors of the nervous system. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:2398-2409.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU20

MultiStage: No

DXCat Label: Parkinson's Disease

Specificity: A

Etiology: Degenerative; Idiopathic; Infection; Toxicologic

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Parkinson's disease	'Pill rolling' resting tremors involving a single upper extremity	DX 3320, 3321;
1.02	with rigidity or tremor involving both lower or upper extremities	Resting tremor involving both arms OR Resting tremor involving both legs OR rigidity involving both arms OR rigidity involving both legs OR hemilateral rigidity	STAGE 1.01 + (DX 7810, 7813);
1.03	with bradykinesia	Stage 1.01-1.02 AND slowness of movement OR shuffling gait OR difficulty initiating movement OR akinesia OR masklike facies	STAGE 1.01-1.02 + DX 78199;
2.01	with gait disturbances	Stage 1.01-1.03 AND festination, tendency to quicken steps or run when initiating walking OR retropulsion, tendency to fall backwards with shift in patient's center of gravity OR propulsion, tendency to fall forwards with shift in patient's center of gravity OR loss of postural reflexes	STAGE 1.01-1.03 + DX 7812;
2.02	with impairment of dexterity	Stage 1.01-2.01 AND loss of capacity to use hands	NO;
2.03	with midstage dementia	Stage 1.01-2.02 AND dementia: AND become lost on > 1 occasion while driving a car OR become lost on > 1 occasion as a pedestrian in familiar city AND unresolved impairment of remote memory AND unresolved aphasia AND disorientation	STAGE 1.01-2.01 + (DX 29410, 29411, 2948, 7843 OR GROUP DISORIENT OR GROUP DEMENTIA);
2.04	with decubitus ulcer	Stage 1.01-2.03 AND decubitus ulcer	STAGE 1.01-2.03 + DXCAT SKN01;
2.05	with pneumonia	Stage 1.01-2.04 AND pneumonia:	STAGE 1.01-2.04 + (DXCAT RES15 OR DXCAT RES16 OR DXCAT RES17 OR DXCAT RES12 OR DXCAT RES19) ;
3.01	with sepsis	Stage 1.01-2.05 AND sepsis:	STAGE 1.01-2.05 + GROUP SEPSIS;
3.02	with shock	Stage 1.01-3.01 AND shock:	STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 1.01-3.02 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU20

MultiStage: No

DXCat Label: Parkinson's Disease

Specificity: A

Etiology: Degenerative; Idiopathic; Infection; Toxicologic

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

Aminoff MJ. Nervous system. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:916-973.

Aminoff MJ. Parkinson's disease and other extrapyramidal disorders. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:2356-2363.

Geldmacher DS, Whitehouse PJ. Evaluation of dementia. N Engl J Med. 1996;335(5):330-6.

Kalra S, Bergeron C, Lang AE. Lewy body disease and dementia. Archives of Internal Medicine. 1996;156(5):487-93.

Manyam BV. Practical guidelines for management of Parkinson's disease. Journal of the American Board of Family Practice. 1997;10(6):412-24.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU21

MultiStage: No

DXCat Label: Tuberos Sclerosis

Specificity: A

Etiology: Genetic (or hereditary)

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Asymptomatic tuberous sclerosis	Tuberous sclerosis gene on chromosome 9q and 16p [genetics report] OR cerebral cortical focal dysplastic island [MRI report] OR subependymal nodule [CT scan report] OR giant cell astrocytoma [CT scan report] OR retinal astrocytic hamartoma [ultrasonography report] OR facial angiofibroma ("adenoma sebaceum") OR unguual fibroma OR pulmonary lymphangiomyomatosis OR a "shagreen patch" OR hypopigmented ash-leaf shaped macules	DX 7595;
2.01	with seizures	Stage 1.01 AND seizures	STAGE 1.01 + (DX 78032, 78039);
2.02	with mental retardation	Stage 1.01-2.01 AND mental retardation:	STAGE 1.01-2.01 + DXCAT NEU15;
2.03	with renal cysts	Stage 1.01-2.02 AND renal cysts [ultrasonography report]	STAGE 1.01-2.02 + (DX 75310, 75311);
2.04	with renal angiomyolipomas	Stage 1.01-2.03 AND renal angiomyolipomas [operative/pathology report]	STAGE 1.01-2.03 + (DX 2143, 2155);
2.05	with rhabdomyomas of the heart	Stage 1.01-2.04 AND rhabdomyomas of the heart [ultrasonography report or cardiac catheterization report or operative/pathology report]	STAGE 1.01-2.04 + DX 2127;
2.06	with rhabdomyomas of the heart and ventricular premature contractions or atrial premature contractions or atrial premature contractions or supraventricular tachycardias or ectopic atrial rhythm or atrial fibrillation or atrial flutter	Stage 2.05 AND ventricular premature contractions [EKG report] OR atrial premature contractions [EKG report] OR supraventricular tachycardia [EKG report] OR ectopic atrial rhythm [EKG report] OR atrial fibrillation [EKG report] OR atrial flutter [EKG report]	STAGE 2.05 + (DX 42731, 42732, 42760, 42761, 42769, 42789);
2.07	with Wolff-Parkinson-White syndrome	Stage 1.01-2.06 AND Wolff-Parkinson-White syndrome[EKG report]	STAGE 1.01-2.06 + DX 4267;
3.01	with renal failure	Stage 1.01-2.07 AND renal failure:	STAGE 1.01-2.07 + GROUP REN_FAIL_ACU;
3.02	with hydrocephalus	Stage 1.01-3.01 AND hydrocephalus [CT scan or MRI report]	STAGE 1.01-3.01 + (DX 74100, 7423);
3.03	with renal carcinoma or sarcoma	Stage 1.01-3.02 AND renal carcinoma [operative/pathology report] OR renal sarcoma [operative/pathology report]	STAGE 1.01-3.02 + DXCAT GUS06;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU21

MultiStage: No

DXCat Label: Tuberos Sclerosis

Specificity: A

Etiology: Genetic (or hereditary)

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.04	with rhabdomyomas of the heart and congestive heart failure	Stage 2.05 -S2.07 AND congestive heart failure:	STAGE 2.05-2.07 + GROUP CHF__NON_HTN;
3.05	with shock	Stage 1.01-3.04 AND shock:	STAGE 1.01-3.04 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 1.01-3.04 AND death	NO;

References:

Haslam, RHA. The nervous system/neurocutaneous syndromes In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics, 15th ed. Philadelphia, PA: WB Saunders; 1996:1705-1709.

Moe PG, Seay AR. Neurologic & muscular disorders/neurocutaneous dysplasias. In: Hay WW, Groosthius JR, Hayward AR, Levin MJ, eds. Current Pediatric Diagnosis and Treatment. 13th ed. Stamford, CT: Appleton & Lange; 1997:672-675.

Sagar SM, Israel MA. Tumors of the nervous system/neurocutaneous syndromes. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine, 14th ed. New York, NY: McGraw-Hill; 1998:24504.

Stowens D. Congenital malformations of the central nervous system I: neurocutaneous syndromes. In: David RB, ed. Child and Adolescent Neurology. St. Louis, MO: Mosby; 1998:419-440.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU22

MultiStage: No

DXCat Label: Injury: Spine and Spinal Cord: Thoracic

Specificity: A

Etiology:

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Sprain of thoracic back	Thoracic back pain	DX 8471;
1.02	Spinal cord concussion	Thoracic spinal cord concussion	DX 95210-95219, 9531, 9534;
1.03	Dislocations(s) or fracture(s) of the vertebrae without injury to the cord	Fracture(s) or dislocation(s) of vertebrae [CT or MRI or spine x-ray report]	DX 8052, 83921;
2.01	Open fracture or dislocation of vertebrae without injury to the cord	Stage 1.02 AND open fracture	DX 8091, 8053, 83931;
2.02	Trauma to spine and spinal cord with paresis	Stage 1.02-2.01 AND quadriparesis OR paraparesis OR monoparesis OR hemiparesis	STAGE 1.02-2.01 + (DX 34200-34292, 34430-3445) ; DX 80620-80639;
2.03	with monoplegia or cauda equina syndrome or conus medullaris syndrome	Stage 2.02 AND monoplegia OR cauda equina syndrome:	STAGE 1.01-2.02 + DX 34460-34461;
2.04	with paraplegia or hemiplegia	Stage 2.02 AND paraplegia OR hemiplegia	STAGE 2.02 + (DX 34200-34292, 3441);
2.05	with segmental sensory loss	Stage 2.02 AND sensory loss distributed to a spinal segment [neurological exam report]	STAGE 1.01-2.01 + DX 7820;
2.06	with Brown-Sequard syndrome	Stage 2.02 AND Brown-Sequard Syndrome [neurological exam report]	STAGE 2.02-2.03 + DX 7820;
2.07	with cellulitis	Stage 2.01-2.06 AND cellulitis:	STAGE 1.01-2.06 + DX 68100-6829;
2.08	with urinary tract infections	Stage 2.03-2.07 AND UTI:	STAGE 1.01-2.07 + DXCAT GUS10;
2.09	with osteomyelitis	Stage 2.03-2.08 AND osteomyelitis:	STAGE 1.01-2.08 + GROUP OSTEOMYELIT;
2.10	with deep vein thrombosis	Stage 2.03-2.09 AND DVT:	STAGE 1.01-2.09 + (GROUP DVT OR DX 33811, 33821) ;
2.11	with quadriplegia	Stage 2.01-2.10 AND quadriplegia	STAGE 1.01-2.10 + (DX 34400-34404, 34409);
3.01	with pulmonary embolism or fat embolism	Stage 2.01-2.11 AND pulmonary embolism:	STAGE 1.01-2.11 + GROUP PULMEMB;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU22

MultiStage: No

DXCat Label: Injury: Spine and Spinal Cord: Thoracic

Specificity: A

Etiology:

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.02	with renal failure	Stage 2.01-3.01 AND renal failure:	STAGE 1.01-3.01 + (GROUP REN_FAIL_ACU OR GROUP REN_FAIL_CHR);
3.03	with sepsis	Stage 2.01-3.02 AND sepsis:	STAGE 1.01-3.02 + GROUP SEPSIS;
3.04	with respiratory failure	Stage 2.01-3.03 AND respiratory failure:	STAGE 1.01-3.03 + (GROUP RESP_FAIL OR DX 5185);
3.05	with shock	Stage 2.01-3.04 AND shock:	STAGE 1.01-3.04 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.01-3.06 AND death	NO;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU23

MultiStage: No

DXCat Label: Injury: Spine and Spinal Cord: Low Back

Specificity: A

Etiology:

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Sprain of low back	Lumbar back pain	DX 8460-8469, 8472-8479, 73313;
1.02	Spinal cord concussion	Lumbar spinal cord concussion	DX 9522-9529, 9532-9533, 9535-9539;
1.03	Dislocations(s) or fracture(s) of the vertebrae without injury to the cord	Fracture(s) or dislocation(s) of vertebrae [CT or MRI or spine x-ray report]	DX 8054, 8056, 8058, 8090, 83920, 83940-83949;
2.01	Open fracture or dislocation of vertebrae without injury to the cord	Stage 1.02 AND open fracture	DX 8055, 8057, 8059, 83950-83959, 83930;
2.02	Trauma to spine and spinal cord with paresis	Stage 1.02-2.01 AND quadriparesis OR paraparesis OR monoparesis OR hemiparesis	STAGE 1.02-2.01 + (DX 34200-34292, 34430-3445) ; DX 8064-8069, 9072;
2.03	with monoplegia or cauda equina syndrome or conus medullaris syndrome	Stage 2.02 AND monoplegia OR cauda equina syndrome:	STAGE 1.02-2.02 + DX 34460-34461;
2.04	with paraplegia or hemiplegia	Stage 2.02 AND paraplegia OR hemiplegia	STAGE 2.02 + (DX 34200-34292, 3441);
2.05	with segmental sensory loss	Stage 2.02 AND sensory loss distributed to a spinal segment [neurological exam report]	STAGE 1.01-2.01 + DX 7820;
2.06	with Brown-Sequard syndrome	Stage 2.02 AND Brown-Sequard Syndrome [neurological exam report]	STAGE 2.02-2.03 + DX 7820;
2.07	with cellulitis	Stage 2.01-2.06 AND cellulitis:	STAGE 1.01-2.06 + DX 68100-6829;
2.08	with urinary tract infections	Stage 2.03-2.07 AND UTI:	STAGE 1.01-2.07 + DXCAT GUS10;
2.09	with osteomyelitis	Stage 2.01-2.08 AND osteomyelitis:	STAGE 1.01-2.08 + GROUP OSTEOMYELIT;
2.10	with deep vein thrombosis	Stage 2.03-2.09 AND DVT:	STAGE 1.01-2.09 + (GROUP DVT OR DX 33811, 33821) ;
2.11	with quadriplegia	Stage 2.01-2.10 AND quadriplegia	STAGE 1.01-2.10 + (DX 34400-34404, 34409);
3.01	with pulmonary embolism or fat embolism	Stage 1.01-2.11 AND pulmonary embolism:	STAGE 1.01-2.11 + GROUP PULMEMB;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU23

MultiStage: No

DXCat Label: Injury: Spine and Spinal Cord: Low Back

Specificity: A

Etiology:

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.02	with renal failure	Stage 1.01-3.01 AND renal failure:	STAGE 1.01-3.01 + (GROUP REN_FAIL_ACU OR GROUP REN_FAIL_CHR);
3.03	with sepsis	Stage 1.01-3.02 AND sepsis:	STAGE 1.01-3.02 + GROUP SEPSIS;
3.04	with respiratory failure	Stage 2.01-3.03 AND respiratory failure:	STAGE 1.01-3.03 + (GROUP RESP_FAIL OR DX 5185);
3.05	with shock	Stage 2.01-3.04 AND shock:	STAGE 1.01-3.04 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.01-3.06 AND death	NO;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU80

MultiStage: No

DXCat Label: Other CNS Inflammation, Infection, or Disorder

Specificity: C

Etiology:

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Tremor or dystonias		DX 3331-3333, 3336-33389, 33511;
2.01	Extrapyramidal conditions, cerebral degeneration, narcolepsy or cataplexy		DX 3300-3309, 3317, 33189-3319, 3330, 33390-3340, 3342-3344, 3349-33510, 33519, 33521-3359, 3361-33709, 33720-3379, 3410-34292, 3442-34461, 34489-3449, 347-34701, 3480, 3482, 3488-3489, 3492, 34981-3499;
2.02	Intraspinal abscess and late effects of CNS infections		DX 3241-3249, 326;
2.03	Paraplegia		DX 3341, 3441;
3.01	Intracranial abscess, thrombus of intracranial sinus, communicating hydrocephalus or quadriplegia		DX 3240, 325, 3313-3315, 34400-34409, 34481, 3481, 3483-3485;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU81

MultiStage: No

DXCat Label: Other Cranial Nerve Disorders

Specificity: C

Etiology:

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Other cranial nerve disorders		DX 3501-3509, 3510-3529, V4985;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU82

MultiStage: No

DXCat Label: Other Neurological Conditions

Specificity: C

Etiology:

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Neuropathies; abnormal movement; gait, coordination, sensory disturbances, meningismus, transient paralysis, clubbing		DX 3577-3579, 7810-78199, 7843-78469, 79400-79409;
1.02	Neuropathy due to drugs, tetany		DX 3576;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU83

MultiStage: No

DXCat Label: Other Peripheral Nerve Disorders

Specificity: C

Etiology:

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Other mononeuritis, polyneuropathy, or myoneural disorders or late effect of nerve injury		DX 3541-3569, 3571, 3573-3574, 3581-3589, 35924, 3594-3599, 9073-9079, 3371, 34121;
1.02	Familial periodic paralysis		DX 3593;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NEU84

MultiStage: No

DXCat Label: Other Spinal Lesions

Specificity: C

Etiology:

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Other spinal lesions		DX 3530-3539;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NUT01

MultiStage: No

DXCat Label: Beriberi, Thiamine Deficiency

Specificity: A

Etiology: Nutritional

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Thiamine deficiency	Urinary thiamine excretion \leq 50 ug/24 hours [urine chemistry report] AND serum pyruvate \geq 1 mg/dl [chemistry report] OR thiamine deficiency [RBC transketolase assay report] AND bilateral lower extremity paresthesias OR loss of bilateral patellar reflexes OR loss of vibratory sense on bilateral lower extremities OR loss of bilateral lower extremity position sense	DX 2650, 2651;
1.02	with toxic amblyopia	Stage 1.01 AND central scotomas AND visual acuity \leq 20/50 [Snellen test report]	STAGE 1.01 + (DX 37734, 36841);
1.03	with nystagmus or ophthalmoplegia	Stage 1.01-1.02 AND gaze evoked nystagmus OR ophthalmoplegia	STAGE 1.01-1.02 + (DX 37950, 3789);
2.01	with peripheral edema	Stage 1.01-1.03 AND bilateral lower extremity edema	STAGE 1.01-1.03 + DX 7823;
2.02	with pleural effusion	Stage 1.01-2.01 AND pleural effusion [thoracentesis report or chest x-ray report]	STAGE 1.01-2.01 + DX 51189-5119;
3.01	with Wernicke-Korsakoff syndrome	Stage 1.03 AND confabulation AND disorientation: AND ataxia	STAGE 1.01-2.02 + DX 2940;
3.02	with congestive heart failure	Stage 1.01-3.01 AND congestive heart failure:	STAGE 1.01-3.01 + GROUP CHF__NON_HTN;
3.03	with coma	Stage 1.01-3.02 AND coma:	STAGE 1.01-3.02 + GROUP COMA;
4.00	with death	Stage 2.01-3.03 AND death	NO;

References:

- Baron RB. Nutrition. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:1150-1180.
- Kopelman MD. The Korsakoff syndrome. British Journal of Psychiatry. 1995;166(2):154-73.
- Wilson JD. Vitamin deficiency and excess. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:480-489.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NUT02

MultiStage: No

DXCat Label: Obesity

Specificity: A

Etiology: Genetic (or hereditary); Metabolic; Nutritional

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Simple obesity, overweight and other hyperalimentation	Body weight \geq 1.2 times ideal body weight AND body weight < 1.4 times ideal body weight OR Body mass index \geq 7.5 kg/m ² AND Body mass index < 30 kg/m ²	DX 27800, 2781, 27802, V8521-V8525;
1.02	Moderate obesity	Body weight \geq 1.4 times ideal body weight AND body weight < 2.0 times ideal body weight OR Body Mass Index \geq 30 kg/m ² AND Body Mass Index < 40 kg/m ²	DX V8530-V8539;
2.01	Severe obesity	Body weight \geq 2.0 times ideal body weight OR Body mass index > 40 kg/m ²	DX 27801, V854;
2.02	with dyslipidemia	Stage 1.01-2.01 AND hypercholesterolemia: OR hypertriglyceridemia: OR low high density lipoprotein, HDL, cholesterol: OR high low density lipoprotein, LDL, cholesterol:	STAGE 1.01 + (DX 2721, 2723, 2724, 2725, 2726, 2727, 2728, 2729 OR GROUP HYPR_CHOLEST);
2.03	with the Pickwickian syndrome	Stage 1.01-2.02 AND Pickwickian syndrome OR obesity hypoventilation syndrome OR sleep apnea	DX 2788; STAGE 1.01-2.02 + (DX 78051, 78053, 78057, 78609, 32720, 32726, 32723-32724, 32729);
3.01	with respiratory failure	Stage 2.03 AND respiratory failure:	STAGE 1.01-2.03 + GROUP RESP_FAIL;
3.02	with shock	Stage 2.03-3.01 AND shock:	STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.03-3.02 AND death	NO;

References:

Baron RB. Obesity. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:1161-1164.

Bjorntorp P. Obesity. Lancet. 1997;350(9075):423-426.

Bray GA. Obesity. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:454-462.

Rosenbaum M, Leibel RL, Hirsch J. Obesity. N Engl J Med. 1997;37(6):396-407.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NUT03
 DXCat Label: Pellagra
 Etiology: Nutritional

MultiStage: No
 Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Pellagra	History of dietary intake of American corn or maize as staple food OR history of alcoholism or gastrointestinal disease or psychiatric disturbance OR Hartnup disease OR 'neutral' aminoaciduria (urinary chemistry report) OR carcinoid syndrome OR 5-HIAA \geq 25 mg/dl (chemistry report) OR urinary N-methylnicotinamide < 1.5 mg/d (urinary chemistry report) AND symmetrically reddened and roughened skin when exposed to light	DX 2652;
2.01	with dermatitis or mucositis	Stage 1.01 AND acute sunburn type skin when exposed to light (butterfly eruption on face and Casal's necklace) OR proctitis OR vaginitis OR diarrhea OR abdominal distention OR peripheral neuritis and myelitis OR atrophy of papillae of the tongue OR dementia	STAGE 1.01 + (DX 69272, 69282, 6929, 56944-56949, 61610, 78791, 7873, 3574, 5294, 29410, 29411, 3238);
3.01	with renal failure	Stage 1.01-2.01 AND renal failure:	STAGE 1.01-2.01 + (GROUP REN_FAIL_ACU OR GROUP REN_FAIL_CHR);
3.02	with coma	Stage 1.01-3.01 AND coma:	STAGE 1.01-3.01 + GROUP COMA;
4.00	with death	Stage 3.01-3.02 AND death	NO;

References:

Baron RB. Nutrition. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:1150-1180.

Black MM, Gawkrödger DJ, Seymour CA, Weismann K. Metabolic and nutritional disorders. In: Champion RH, Burton JL, Burns DA, Breathnach SM. Rook/Wilkson/Ebling Textbook of Dermatology. Oxford: Blackwell Science Ltd.; 1998:2659-2660.

Lanska DJ. Stages in the recognition of epidemic pellagra in the United States: 1865-1960. Neurology. 1996;47(3):829-34.

Stratigos JD, Katsambas A. Pellagra, a still existing disease. Br J Dermatol. 1977;(96):99-106.

Wilson JD. Vitamin deficiency and excess. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:480-489.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NUT80

MultiStage: No

DXCat Label: Other Electrolyte Disorders

Specificity: C

Etiology:

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Hyposmolality, alkalosis, hypovolemia, hyper- or hypopotassemia, or fluid overload		DX 2753, 2761, 2763-2769;
3.01	Hyperosmolality or acidosis		DX 2760, 2762;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NUT81

MultiStage: No

DXCat Label: Other Nutritional and Metabolic Disorders

Specificity: C

Etiology: Metabolic; Nutritional

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Other malnutrition and dietary deficiencies or other disorders of amino-acids or metabolism		DX 260-2639, 2660-2669, 2690-2699, 2701-2719, 2730-2732, 2738-2739, 2750, 2752, 2754-2759, 2758-2759, 2771-2772, 2775, 2777-2779, 2782-2784, 7830-7833, 7947, V850, V8551-V8552;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: NUT82

MultiStage: No

DXCat Label: Lipid Abnormalities

Specificity: C

Etiology: Nutritional; Metabolic; Genetic (or hereditary)

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Hyperlipidemia, hypercholesterolemia, lipid deficiencies and other lipid disorders.		DX 2720-2729;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: OTH80

MultiStage: No

DXCat Label: Abnormal Lab, X-ray and Clinical Findings

Specificity: C

Etiology:

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Abnormal lab, X-ray or clinical findings		DX 7900-7901, 7903-7906, 79091-79092, 79094-79099, 7910-7921, 7924-7930, 7936, 7938, 7939-79399, 79410, 79417-79419, 7949, 7951, 7954, 79581-79589, 7956-79589, 7961-7966, 79670-79674, 79677-79678, 7969;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: OTH81

MultiStage: No

DXCat Label: Complications of Surgical and Medical Care

Specificity: C

Etiology:

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Malfunction of or reaction to implanted genitourinary, gastric, vascular, ocular, skin or orthopedic device		DX 53087, 9961, 99630-99655, 99659-99660, 99662, 99664-99667, 99669-99670, 99674, 99676-99679, 99690-99699, 99700-99701, 99709, 9972-9973, 99739-9975, 99760-99799, 99813, 9982-99851, 9987-9989, 9992, 99981-9999, 33812, 33818, 33822, 33828, 34931-34939, 78062;
2.01	Malfunction of or reaction to implanted cardiac or neurologic device, dialysis catheter, iatrogenic cardiac events, hemorrhage, infection, embolism		DX 53086, 99600-99602, 99604-99609, 99656-99657, 99661, 99668, 99671-99673, 99702, 9971, 99811-99812, 99859-9986, 9991, 9993-99939;
2.02	Complications of transplanted organs or acute lung injury related to transfusion		DX 99680-99684, 99686-99689, 5187, 27950-27953, 23877;
3.01	Postoperative shock		DX 9980;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: OTH82

MultiStage: No

DXCat Label: Encounter for Chemotherapy

Specificity: C

Etiology:

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Encounter for chemotherapy or immunotherapy		DX V581-V5812;
1.02	with nausea, vomiting, volume depletion or diarrhea		STAGE 1.01 + (DX 2760-2769, 78701-78703, 78791);

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: OTH83

MultiStage: No

DXCat Label: Encounter for Dialysis

Specificity: C

Etiology:

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Dialysis related encounters		DX V560-V568;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: OTH84

MultiStage: No

DXCat Label: Encounter for Other Administrative Reasons

Specificity: C

Etiology:

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	Observation for suspected exposure to unspecified biological agent		DX V7183;
1.01	Administrative encounters		DX V600-V689, V851;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: OTH85

MultiStage: No

DXCat Label: Encounter for Preventive Health Services

Specificity: C

Etiology:

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	Encounter for vaccination, examinations, screening for other disease conditions or prophylactic use of medications		DX V030-V070, V072-V0739, V0751-V0759, V078-V079 , V202, V280-V289, V700-V709, V721-V7241, V725-V726, V7285-V7286, V729, V760-V799, V800-V801, V803, V810-V829, V8553-V8554, V8901-V8909;
1.01			NO;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: OTH86

MultiStage: No

DXCat Label: Encounter for Radiation Therapy

Specificity: C

Etiology:

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Encounter for radiation therapy		DX V580;
1.02	with nausea, vomiting, volume depletion or diarrhea		STAGE 1.01 + (DX 2760-2569, 78701-78703, 78791);

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: OTH87

MultiStage: No

DXCat Label: Encounter Related to Other Treatment

Specificity: C

Etiology:

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	Preoperative examinations or desensitization to allergens		DX V071, V7281-V7284;
1.01	Elective surgery, physical therapy, rehabilitation, or other aftercare encounters, procreative treatment and management, artificial opening status, donor		DX V2501-V269, V440-V449, V500-V559, V570-V579, V582-V5843, V5849-V585, V5871-V589, V5901-V599;
1.02	Joint replacement status		DX V436-V4389;
1.03	Organ transplant status		DX V420, V423-V431, V434-V435, V5844;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: OTH88

MultiStage: No

DXCat Label: Factors Influencing Health Status

Specificity: C

Etiology:

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	Supervision of healthy child or constitutional states in development		DX V201, V210-V219;
1.01	Tobacco use, infectious disease carrier, personal or family history of disease, allergy, abuse, exposure, dialysis status, other post-operative status, respirator dependent		DX 3051, V023, V025-V0259, V026-V0260, V0262-V0269, V028-V029, V110-V1202, V1204, V1209-V198, V451-V4579, V4582-V4589, V460-V469, V4960-V4984, V4989-V499, V5861-V5869, V690-V694, V698-V699, V8401-V8489, V860-V861, V8701-V8749, V8801-V8803;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: OTH89

MultiStage: No

DXCat Label: Neoplasm, Benign: Other Sites

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Benign neoplasm of other and unspecified sites		DX 2143, 2150-2156, 2157-2159, 22800, 22804-22809, 2298-2299, 2381, 2388-2389, 2398-2399, 20969, 20960;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: OTH90

MultiStage: No

DXCat Label: Neoplasm, Malignant: Nonspecific Sites

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	History of malignancy, nonspecific site or observation for suspected malignancy		DX V1088-V1089, V1045, V1049, V1083, V109, V711;
1.01	Primary malignant neoplasm of other and nonspecific sites		DX 1762, 1768-1769, 1958, 1992, 20929;
2.01	with lymph node involvement		STAGE 1.01 + DX 1960-1969;
2.02	with anemia or neuropathy of neoplastic disease		STAGE 1.01-2.01 + (DX 3383, 28522); DX 28522, 3573;
3.01	with distant metastases		STAGE 1.01-2.02 + (DX 1970-1991, 78951);
3.02	with shock		STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: OTH91

MultiStage: No

DXCat Label: Neoplasm, Malignant: Unspecified Primary Site

Specificity: B

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Primary malignant neoplasm of body area with unspecified tissue involved		DX 1950-1955, 2348-2349, 3383, 20920;
2.01	Secondary malignant neoplasm of lymph nodes with unstated primary		DX 1960-1969;
2.02	with anemia of neoplastic disease		STAGE 1.01-2.01 + DX 28522;
3.01	Secondary malignant neoplasm of other sites with unstated primary		DX 1970-1991, 78951;
3.02	with shock		STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: OTH92

MultiStage: No

DXCat Label: General Signs, Symptoms, and Ill-Defined Conditions

Specificity: C

Etiology:

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	Observation for unspecified suspected conditions		DX V7189-V719, V718, 33819, 33829;
1.01	General signs, symptoms and ill-defined conditions		DX 70521-70522, 7802, 7804, 7806-78061, 78063-78099, 7820-7822, 78261-7829, 7834-7839, 7842, 7992-7999, V400-V401, V414-V415, V417-V419, V470-V472, V475-V495, 32720-32725, 3278, 32751, 32759, 32740-32743, 32749, 32719, 3380, 3384;
2.01	Jaundice or edema		DX 7823, 7824;
2.02	Alteration of consciousness, persistent vegetative state, hallucinations, convulsions		DX 78002-7801, 7803-78039;
3.01	Coma, asphyxia, cyanosis or respiratory arrest		DX 78001, 7825, 7990-7991;
4.00	Death		DX 7982-7989;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: OTH93

MultiStage: No

DXCat Label: Sleep Disorders

Specificity: C

Etiology:

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Insomnia, Hypersomnia, Irregular sleep-wake rhythm, Sleep related movement disorder		DX 78050, 78052, 78054-78056, 78058, 78059, 32700-32702, 32709-32715, 32730-32739, 32744, 34710-34711;
2.01	Sleep Apnea		DX 78051, 78053, 78057, 32726-32729;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED01

MultiStage: No

DXCat Label: Anomaly: Adrenal Hyperplasia

Specificity: A

Etiology: Congenital; Genetic (or hereditary)

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	21-Hydroxylase deficiency	Urinary 17-hydroxyprogesterone \geq normal value/24 hrs. [chemistry report] OR positive urine pregnanediol [chemistry report] AND clitoral hypertrophy in females OR macrogenitosomia in males	DX 2552;
1.02	11-Beta hydroxylase deficiency	Serum elevations of 11-deoxycorticosterone [chemistry report] AND serum elevations of 11-deoxycortisol [chemistry report] OR urine elevations of tetrahydro 11-deoxycortisol [chemistry report]	NO;
1.03	3-Beta hydroxysteroid dehydrogenase deficiency	Serum elevations of dehydroepiandrosterone [chemistry report] OR serum elevation of DHEA-sulfate [chemistry report] AND normal 17-hydroxyprogesterone level [chemistry report] OR low 17-hydroxyprogesterone level [chemistry report]	NO;
2.01	Salt losing congenital adrenal hyperplasia	Stage 1.01-1.03 AND hyponatremia:	STAGE 1.01 + GROUP HYPONATREMIA;
3.01	with shock	Stage 1.01-2.01 AND shock:	STAGE 1.01-2.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 1.01-3.01 AND death	NO;

References:

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- Orth DN, Kovacs WJ, DeBold CR. The adrenal cortex. In: Wilson JD, Foster DW, eds. Williams Textbook of Endocrinology. 8th ed. Philadelphia, PA: WB Saunders; 1992:489-620.
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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED02

MultiStage: No

DXCat Label: Anomaly: Atrial Septal Defect

Specificity: A

Etiology: Congenital

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Atrial septal defect secundum	Atrial septal defect secundum [cardiac catheterization report or cardiac surgery report or echocardiogram report]	DX 7455;
1.02	Atrial septal defect primum	Atrial septal defect primum [cardiac catheterization report or cardiac surgery report or echocardiogram report]	DX 74561;
2.01	with atrial fibrillation or atrial flutter or reentrant atrial tachycardia	Stage 1.01-1.02 AND atrial fibrillation [EKG report] OR atrial flutter [EKG report] OR re-entrant atrial tachycardia [EKG report]	STAGE 1.01-1.02 + (DX 42731, 42732, 42789);
2.02	with mitral regurgitation	Stage 1.01-2.01 AND mitral regurgitation [echocardiogram report or cardiac catheterization report or cardiac surgery report]	STAGE 1.01-2.01 + DX 7466;
3.01	with pulmonary hypertension	Stage 1.01-2.02 AND pulmonary hypertension:	STAGE 1.01-2.02 + (DX 4150, 4160, 4168);
3.02	with congestive heart failure	Stage 1.01-3.01 AND congestive heart failure:	STAGE 1.01-3.01 + GROUP CHF_NON_HTN;
3.03	with respiratory failure	Stage 1.01-3.02 AND respiratory failure:	STAGE 1.01-3.02 + GROUP RESP_FAIL;
3.04	with shock	Stage 1.01-3.03 AND shock:	STAGE 1.01-3.03 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 1.01-3.04 AND death	NO;

References:

- Bernstein D. Acyanotic congenital heart disease: the left to right shunt lesions. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:1288-1296.
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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED03

MultiStage: No

DXCat Label: Anomaly: Atrioventricular Defects

Specificity: A

Etiology: Congenital

Stage	Description	Diagnostic findings	ICD-9-CM Codes
2.01	Endocardial cushion defect	Contiguous atrial and ventricular defects with a single atrioventricular valve [cardiac catheterization report or cardiac surgery report or echocardiogram report]	DX 74560, 74569;
2.02	Endocardial cushion defect with pneumonia	Stage 2.01 AND pneumonia:	STAGE 2.01 + (GROUP PNEUMONIA OR DX 5070);
3.01	Endocardial cushion defect with pulmonary hypertension	Stage 2.01-2.02 AND pulmonary hypertension:	STAGE 2.01-2.02 + (DX 4150, 4160, 4168);
3.02	Endocardial cushion defect with infectious endocarditis	Stage 2.02-3.01 AND infectious endocarditis:	STAGE 2.01-3.01 + GROUP ENDOCARDITIS;
3.03	Endocardial cushion defect with congestive heart failure	Stage 2.02-3.02 AND congestive heart failure:	STAGE 2.01-3.02 + GROUP CHF_NON_HTN;
3.04	Endocardial cushion defect with sepsis	Stage 2.02-3.03 AND sepsis:	STAGE 2.01-3.03 + GROUP SEPSIS; STAGE 2.01-3.03 + DX 41512;
3.05	Endocardial cushion defect with respiratory failure	Stage 2.02-3.04 AND respiratory failure:	STAGE 2.01-3.04 + GROUP RESP_FAIL;
3.06	Endocardial cushion defect with shock	Stage 2.02-3.05 AND shock:	STAGE 2.01-3.05 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	Endocardial cushion defect with death	Stage 2.02-3.06 AND death	NO;

References:

- Bernstein D. Acyanotic congenital heart disease: the left to right shunt lesions. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:1288-1296.
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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED04

DXCat Label: Anomaly: Coarctation of the Aorta

Etiology: Congenital

MultiStage: No

Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Asymptomatic post-ductal coarctation of the aorta	Post-ductal coarctation of the aorta [cardiac catheterization report or MRI report or echocardiogram report] OR absent femoral pulses AND upper extremity hypertension: AND rib notching [x-ray report]	DX 74710-74711;
1.02	Asymptomatic pre-ductal coarctation of the aorta	Pre-ductal coarctation of the aorta [cardiac catheterization report or MRI report or echocardiogram report] OR absent femoral pulses AND upper extremity hypertension: AND rib notching [x-ray report]	NO;
1.03	with intermittent claudication	Stage 1.01 AND intermittent claudication	STAGE 1.01 + DX 4439;
2.01	with aortic insufficiency	Stage 1.01-1.02 AND aortic valve insufficiency [cardiac catheterization report or echocardiogram report]	STAGE 1.01-1.03 + DX 7464;
3.01	with endocarditis	Stage 1.01-2.01 AND endocarditis:	STAGE 1.01-2.01 + DX 4253;
3.02	with acute myocardial infarction	Stage 1.01-3.01 AND acute myocardial infarction:	STAGE 1.01-3.01 + (DX 41001, 41011, 41021, 41031 , 41041, 41051, 41061, 41071, 41081, 41091);
3.03	with congestive heart failure	Stage 1.01-3.02 AND congestive heart failure:	STAGE 1.01-3.02 + GROUP CHF__NON_HTN;
3.04	with new cerebrovascular accident	Stage 1.01-3.03 AND new cerebrovascular accident [MRI report or CT scan report]	STAGE 1.01-3.03 + (DX 430, 431, 4320-4321, 4329, 43301, 43311, 43321, 43331, 43381, 43391, 43401, 43411, 43491, 436, 77210-77214);
3.05	with sepsis	Stage 1.01-3.04 AND sepsis:	STAGE 1.01-3.04 + GROUP SEPSIS;
3.06	with aortic dissection	Stage 1.01-3.05 AND aortic dissection [CT scan or MRI report]	STAGE 1.01-3.05 + DX 44100-44103;
3.07	with respiratory failure	Stage 3.01-3.06 AND respiratory failure:	STAGE 1.01-3.06 + GROUP RESP_FAIL;
3.08	with shock	Stage 1.01-3.07 AND shock:	STAGE 1.01-3.07 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 1.01-3.08 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED04

MultiStage: No

DXCat Label: Anomaly: Coarctation of the Aorta

Specificity: A

Etiology: Congenital

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

Backer CL, Paape K, Zales VR, Weigel TJ, Mavroudis C. Coarctation of the aorta. Repair with polytetrafluoroethylene patch aortoplasty. <i>Circulation</i> . 1995;92(9 Suppl):II132-6.
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Freed M. Congenital heart disease: acyanotic and cyanotic. In: Gewitz MH, ed. <i>Primary Pediatric Cardiology</i> . Armonk, NY: Futura; 1995:145-220.
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Massie BM, Amidon TM. Heart: coarctation of the aorta. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. <i>Current Medical Diagnosis & Treatment</i> . Stamford, CT: Appleton & Lange; 1998:341.
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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED05

DXCat Label: Anomaly: Congenital Megacolon

Etiology: Congenital

MultiStage: No

Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Congenital megacolon	Congenital megacolon [rectal biopsy report or barium enema report] OR absence of colonic ganglion cells [operative/pathology report]	DX 7513;
2.01	with toxic enterocolitis or dehydration or electrolyte imbalance	Stage 1.01 AND watery stools with movements \geq 5 times a day OR dehydration: OR hyponatremia: OR hyperkalemia:	STAGE 1.01 + (GROUP DEHYDRATION OR GROUP HYPR_NATREM OR GROUP HYPER_KALEM OR DX 5582);
2.02	with peritonitis	Stage 1.01-2.01 AND peritonitis [operative/pathology report]	STAGE 1.01-2.01 + (DX 5670-5679, 56983, 7776);
3.01	with sepsis	Stage 1.01-2.02 AND sepsis:	STAGE 1.01-2.02 + GROUP SEPSIS;
3.02	with shock	Stage 1.01-3.01 AND shock:	STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 1.01-3.02 AND death	NO;

References:

Eng C. Seminars in medicine of the Beth Israel Hospital, Boston. The RET proto-oncogene in multiple endocrine neoplasia type 2 and Hirschsprung's disease. N Engl J Med. 1996;335(13):943-951.

Holmes SJK. Emergencies in the newborn. In: Ellis BW, Paterson-Brown, S, eds. Hamilton Bailey's Emergency Surgery. 12th ed. Butterworth-Heinemann. 1995;530-550.

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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED06

MultiStage: No

DXCat Label: Anomaly: Defects of Kidney

Specificity: A

Etiology: Congenital

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Unilateral renal agenesis or unilateral renal hypoplasia	Renal agenesis [intravenous urography report or CT scan report or sonogram report] OR renal hypoplasia [intravenous urography report or CT scan or sonogram report]	DX 7530, 7534, 7537, 7539;
2.01	Horseshoe kidney or supernumerary kidney or fusion of the kidney	Horseshoe kidney [intravenous urography report or CT scan or sonogram report] OR supernumerary kidney [intravenous urography report or CT scan or sonogram report] OR fusion of the kidney [intravenous urography report CT scan or sonogram report]	DX 7533;
2.02	Renal dysplasia or juvenile polycystic kidney, or medullary cystic or sponge kidney or juvenile nephronophthisis	Renal dysplasia [intravenous urography report or CT scan or sonogram report or operative/pathology report] OR polycystic kidney [intravenous urography report or CT scan or sonogram report or operative/pathology report] OR medullary cystic or sponge kidney[intravenous urography report or CT scan or sonogram report or operative/pathology report] OR juvenile nephronophthisis [intravenous urography report or CT scan or sonogram report or operative/pathology report]	DX 75310-75312, 75314-75317, 75319;
2.03	Segmental renal hypoplasia or Ask-Upmark syndrome	Segmental renal hypoplasia [operative/pathology report]	NO;
2.04	Adult polycystic kidney	Adult polycystic kidney [intravenous urography report or CT scan or sonogram report or operative/pathology report]	DX 75313;
2.05	Hydronephrosis	Hydronephrosis [intravenous urography report or CT scan or sonogram report]	STAGE 1.01-2.04 + DX 591; DX 75320-75329;
2.06	Hypoplastic kidneys	Hypoplastic kidneys [intravenous urography report or CT scan or sonogram report]	NO;
2.07	with pyelonephritis	Stage 1.01-2.06 AND pyelonephritis:	STAGE 1.01-2.05 + (DX 59000, 59010, 59011, 59080);
3.01	with renal failure	Stage 1.01-2.07 AND renal failure:	STAGE 1.01-2.07 + (GROUP REN_FAIL_ACU OR GROUP REN_FAIL_CHR); STAGE 1.01-2.07 + (DX 40301, 40391) + AGE 0;
3.02	with sepsis	Stage 1.01-3.01 AND sepsis:	STAGE 1.01-3.01 + GROUP SEPSIS;
3.03	with shock	Stage 3.02 AND shock:	STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 3.01-3.03 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED06

MultiStage: No

DXCat Label: Anomaly: Defects of Kidney

Specificity: A

Etiology: Congenital

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

Asplin JR, Coe FL. Hereditary tubular disorders. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1562-1569.

Brenner BM, Levy E, Hostetler TH. Tubulointerstitial diseases of the kidney. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1553-1558.

Morrison G. Kidney. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:850-878.

Woo D. Apoptosis and loss of renal tissue in polycystic kidney diseases. N Engl J Med. 1995;333(1):18-25.

Zerres K, Mucher G, Rudnik-Schoneborn S. Early morphological evidence of autosomal recessive polycystic kidney disease. Lancet. 1995;345(8955):987.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED07

MultiStage: No

DXCat Label: Anomaly: Defects of Lower Genitourinary Tract

Specificity: A

Etiology: Congenital

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Congenital hydrocele	Congenital hydrocele	DX 7786;
1.02	Hypospadias	Hypospadias	DX 75261, 7538;
1.03	Epispadias	Epispadias	DX 75262;
1.04	Posterior urethral valves	Posterior urethral valves [voiding cystourethrogram report]	DX 7536;
1.05	with urinary tract infection	Stage 1.01-1.04 AND UTI:	STAGE 1.01-1.04 + DXCAT GUS10;
2.01	Hydronephrosis	Hydronephrosis [intravenous urography report or CT scan or sonogram report]	STAGE 1.01-1.05 + (DX 591, 75329);
2.02	Ectopic bladder	Ectopic bladder [intravenous urography report or CT scan or sonogram report]	DX 7535;
2.03	with pyelonephritis	Stage 1.01-2.02 AND pyelonephritis:	STAGE 1.01-2.02 + (DX 59000, 59010, 59011, 59080);
3.01	with renal failure	Stage 1.01-2.03 AND renal failure:	STAGE 1.01-2.03 + (GROUP REN_FAIL_ACU OR GROUP REN_FAIL_CHR);
3.02	with sepsis	Stage 1.02-3.01 AND sepsis:	STAGE 1.01-3.01 + GROUP SEPSIS;
3.03	with shock	Stage 3.01 AND shock:	STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 3.01-3.02 AND death	NO;

References:

- Asplin JR, Coe FL. Hereditary tubular disorders. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1562-1569.
- Brenner BM, Levy E, Hostetler TH. Tubulointerstitial diseases of the kidney. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1553-1558.
- Morrison G. Kidney. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:850-878.
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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED08

MultiStage: No

DXCat Label: Anomaly: Integument (Genodermatoses)

Specificity: A

Etiology: Genetic (or hereditary)

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Congenital dermatoses, Ichthyosis, Keratosis palmaris et plantaris, Pachyonychia congenita, Dyskeratosis congenita, Porokeratosis, Xeroderma pigmentosum, Ectodermal dysplasia, Focal dermal hypoplasia syndrome, Aplasia cutis congenita, Poikiloderma congenitale, Bloom's syndrome, Ataxia-telangiectasia, Epidermolysis bullosa, Familial benign pemphigus, Keratosis follicularis, Acrokeratosis verruciformis of hopf, Psuedoxanthoma elasticum, Connective tissue nevus, Ehlers-danlos syndrome, Cutis laxa, Urticaria pigmentosa, Incontinentia pigmenti, or Hypomelanosis of ito	Congenital dermatoses [operative/pathology report] OR Ichthyosis [operative/pathology report] OR Keratosis palmaris et plantaris [operative/pathology report] OR Pachyonychia congenita [operative/pathology report] OR Dyskeratosis congenita [operative/pathology report] OR Porokeratosis [operative/pathology report] OR Xeroderma pigmentosum [operative/pathology report] OR Ectodermal dysplasia [operative/pathology report] OR Focal dermal hypoplasia syndrome [operative/pathology report] OR Aplasia cutis congenita [operative/pathology report] OR Poikiloderma congenitale [operative/pathology report] OR Bloom's syndrome [operative/pathology report] OR Ataxia-telangiectasia [operative/pathology report] OR Epidermolysis bullosa [operative/pathology report] OR Familial benign pemphigus [operative/pathology report] OR Keratosis follicularis [operative/pathology report] OR Acrokeratosis verruciformis of hopf [operative/pathology report] OR Pseudoxanthoma elasticum [operative/pathology report] OR Connective tissue nevus [operative/pathology report] OR Ehlers-danlos syndrome [operative/pathology report] OR Cutis laxa OR Urticaria pigmentosa [operative/pathology report] OR Incontinentia pigmenti [operative/pathology report] OR Hypomelanosis of ito [operative/pathology report]	DX 3348, 75683, 7570-7579, 7788;
2.01	Bullous congenital ichthyosiform erythroderma, Harlequin ichthyosis, Epidermolysis bullosa dystrophicans, recessive type	Bullous congenital [operative/pathology report] OR ichthyosiform erythroderma [operative/pathology report] OR Harlequin ichthyosis [operative/pathology report] OR Epidermolysis bullosa dystrophicans, recessive type [operative/pathology report]	NO;

References:

Harper JL. Genetics and genodermatoses. In: Champion RH, Burton JL, Burns DA, Breathnach SM. Rook/Wilkinson/Ebling Textbook of Dermatology. 6th ed. Oxford: Blackwell Science Ltd.; 1998:357-436.

Johnson B Jr., Honig P. Congenital diseases (Genodermatoses). In: Elder D, Elnitsas R, Jaworsky C, Johnson B Jr. Lever's Histopathology of the skin. 8th ed. Philadelphia, PA: Lippincott; 1997:117-150.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED09

MultiStage: No

DXCat Label: Anomaly: Neural Tube Defects

Specificity: A

Etiology: Congenital; Genetic (or hereditary)

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Dermal sinus	Dermal sinus, lumbosacral defect with connection to the subarachnoid [operative/pathology report]	NO;
1.02	Spina bifida occulta	Spina bifida occulta, failure of fusion of vertebral laminae without protrusion of the spinal cord or meninges [operative/pathology report or lumbosacral x-ray report or CT scan or MRI or myelogram report]	DX 75617;
1.03	Spina bifida occulta with tethered umbilical cord	Stage 1.02 AND tethered umbilical cord	NO;
1.04	Spinal bifida occulta with diastematomyelia	Stage 1.02-1.03 AND diastematomyelia	DX 74251;
2.01	Meningocele	Meningocele, failure of fusion of vertebral laminae with protrusion of the meninges [operative/pathology report or lumbosacral x-ray report or CT scan or MRI or myelogram report]	DX 74190-74193;
2.02	Defects of the neural tube with hemiparesis or paraparesis	Stage 1.01-2.01 AND hemiparesis OR paraparesis	STAGE 1.01-2.01 + (DX 3430-3431, 3434);
2.03	Defects of the neural tube with bladder dysfunction	Stage 1.01-2.02 AND bladder dysfunction [urology report]	STAGE 1.01-2.02 + (DX 34461, 5965, 59651-59659);
2.04	Defects of the neural tube with urinary tract infection	Stage 1.01-2.03 AND UTI:	STAGE 1.01-2.04 + DXCAT GUS10;
2.05	Syringomyelia	Syringomyelia [operative/pathology report]	DX 3360;
2.06	Defects of the neural tube with paralysis	Stage 1.01-2.05 AND quadriplegia OR hemiplegia OR paraplegia	STAGE 1.01-2.05 + DX 34400-34409;
3.01	Myelomeningocele	Myelomeningocele, failure of fusion of vertebral laminae with protrusion of the meninges and spinal cord [operative/pathology report or lumbosacral x-ray report or CT scan or MRI report]	NO;
3.02	Encephalocele	Encephalocele, cyst or cavity in the cerebral hemispheres with a ventricle connection [CT scan	DX 7420;
3.03	with meningitis	Stage 1.01-3.02 AND meningitis:	STAGE 1.01-3.02 + (GROUP MENGIT__BACT OR GROUP MENING__VIR);
3.04	with hydrocephalus	Stage 1.01-3.03 AND hydrocephalus, ventricular dilatation [CT scan report or operative/pathology report]	DX 74100-74103, 7423;
3.05	Hydrocephalus with herniation of the medulla and cerebellar tonsils ("Chiari crisis") or respiratory failure	Stage 1.01-3.03 AND hydrocephalus, ventricular dilatation [CT scan report or operative/pathology report]	STAGE 3.04 + (DX 3484 OR GROUP RESP_FAIL);
3.06	Defects of the neural tube with renal failure	Stage 1.01-3.05 AND renal failure:	STAGE 1.01-3.05 + (GROUP REN_FAIL_ACU OR GROUP REN_FAIL_CHR);

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED09

MultiStage: No

DXCat Label: Anomaly: Neural Tube Defects

Specificity: A

Etiology: Congenital; Genetic (or hereditary)

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.07	Defects of the neural tube with sepsis	Stage 1.01-3.06 AND sepsis:	STAGE 1.01-3.06 + GROUP SEPSIS;
3.08	Anencephaly	Anencephaly, absence of the cerebral hemispheres [CT scan report]	DX 7400;
3.09	Defects of the neural tube with shock	Stage 2.01-3.08 AND shock:	STAGE 1.01-3.08 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	Defects of the neural tube with death	Stage 2.01-3.09 AND death	NO;

References:

Aminoff MJ. Syringomyelia. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:956.

Haller JS. Congenital malformations of the central nervous system II. In: David RB, ed. Child and Adolescent Neurology. St. Louis, MO: Mosby; 1998:441-452.

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Hauser SL. Diseases of the spinal cord. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine, 14th ed. New York, NY: McGraw-Hill; 1998:2381-2390.

Perandones C, Cerretini RI, Vargas VRM, Aranda EI, Alba LG, Pivetta OH. Microcephaly, characteristic facies, joint abnormalities, and deficient leucocyte chemotaxis: a further case of the syndrome of Say et al. Journal of Medical Genetics. 1996;33(3):227-229.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED10

MultiStage: No

DXCat Label: Anomaly: Other Congenital Heart Disease

Specificity: A

Etiology: Congenital

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Tricuspid atresia or truncus arteriosus or single ventricle or Ebstein's anomaly or hypoplastic left heart	Tricuspid atresia [cardiac catheterization report or cardiac surgery report or echocardiogram report] OR truncus arteriosus [cardiac catheterization report or cardiac surgery report or echocardiogram report] OR single ventricle [cardiac catheterization report or cardiac surgery report or echocardiogram report] OR Ebstein's anomaly OR hypoplastic left ventricle [cardiac catheterization report or cardiac surgery report or echocardiogram report]	DX 7450, 7453, 7457-7459, 74600-74601, 74609-7462, 7467, 74682, 74684-7469;
2.01	with hypoxemia	Stage 1.01 AND hypoxemia:	STAGE 1.01 + GROUP HYPOXEMIA;
3.01	with congestive heart failure	Stage 1.01-2.01 AND congestive heart failure:	STAGE 1.01-2.01 + (DX 514 OR GROUP CHF_NON_HTN) ;
3.02	with sepsis	Stage 1.01-3.01 AND sepsis:	STAGE 1.01-3.01 + GROUP SEPSIS;
3.03	with respiratory failure	Stage 1.01-3.02 AND respiratory failure:	STAGE 1.01-3.02 + GROUP RESP_FAIL;
3.04	with shock	Stage 1.01-3.03 AND shock:	STAGE 1.01-3.03 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 1.01-3.04 AND death	NO;

References:

- Bernstein D. Cyanotic congenital heart disease: the left to right shunt lesions. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:1310-1329.
- Freed M. Congenital heart disease: acyanotic and cyanotic. In: Gewitz MH, ed. Primary Pediatric Cardiology. Armonk, NY: Futura; 1995:145-220.
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- Perloff JK. The hypoplastic left heart. In: The Clinical Recognition of Congenital Heart Disease. 4th ed. Philadelphia, PA: WB Saunders; 1994:727-737.
- Perloff JK. The univentricular heart. In: The Clinical Recognition of Congenital Heart Disease. 4th ed. Philadelphia, PA: WB Saunders; 1994:635-657.
- Perloff JK. Tricuspid atresia. In: The Clinical Recognition of Congenital Heart Disease. 4th ed. Philadelphia, PA: WB Saunders; 1994:686-702.
- Perloff JK. Truncus arteriosus. In: The Clinical Recognition of Congenital Heart Disease. 4th ed. Philadelphia, PA: WB Saunders; 1994:614-634.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED11

DXCat Label: Anomaly: Pulmonary Valve Stenosis

Etiology: Congenital

MultiStage: No

Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Pulmonary valve stenosis	Pulmonary valve stenosis with an intact ventricular septum [echocardiogram report or cardiac catheterization report or cardiac surgery report] AND ≤ 30 mm Hg gradient across the valve [echocardiogram report or cardiac catheterization report] AND > 10 mm Hg gradient across the valve [echocardiogram report or cardiac catheterization report]	DX 74602, 74683;
1.02	Moderate pulmonary valve stenosis	Pulmonary valve stenosis with an intact ventricular septum [echocardiogram report or cardiac catheterization report or cardiac surgery report] AND ≤ 60 mm Hg gradient across the valve [echocardiogram report or cardiac catheterization report] AND > 30 mm Hg gradient across the valve [echocardiogram report or cardiac catheterization report]	NO;
1.03	Severe pulmonary valve stenosis	Pulmonary valve stenosis with an intact ventricular septum [echocardiogram report or cardiac catheterization report or cardiac surgery report] AND > 60 mm Hg gradient across the valve [echocardiogram report or cardiac catheterization report]	NO;
2.01	with hypoxemia	Stage 1.01-1.03 AND hypoxemia:	STAGE 1.01 + GROUP HYPOXEMIA;
3.01	with infectious endocarditis	Stage 1.01-2.01 AND infectious endocarditis:	STAGE 1.01-2.01 + GROUP ENDOCARDITIS;
3.02	with congestive heart failure	Stage 1.01-3.01 AND congestive heart failure:	STAGE 1.01-3.01 + GROUP CHF_NON_HTN;
3.03	with sepsis	Stage 1.01-3.02 AND sepsis:	STAGE 1.01-3.02 + GROUP SEPSIS;
3.04	with respiratory failure	Stage 1.01-3.03 AND respiratory failure:	STAGE 1.01-3.03 + GROUP RESP_FAIL;
3.05	with shock	Stage 1.01-3.04 AND shock:	STAGE 1.01-3.04 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 1.01-3.05 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED11

MultiStage: No

DXCat Label: Anomaly: Pulmonary Valve Stenosis

Specificity: A

Etiology: Congenital

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

- | |
|--|
| Bernstein D. Acyanotic congenital heart disease: obstructive lesions. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:1297-1305. |
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| Massie BM, Amidon TM. Congenital heart disease: pulmonary stenosis. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:340-341. |
| Perloff JK. Congenital pulmonary stenosis. In: The Clinical Recognition of Congenital Heart Disease. 4th ed. Philadelphia, PA: WB Saunders; 1994:198-229. |
| Perloff JK. Survival patterns without cardiac surgery or interventional catheterization: a narrowing base. In: Perloff JK and Child JS. Congenital Heart Disease in Adults. 2nd ed. Philadelphia, PA: WB Saunders; 1998:15-52. |
| Wolfe RR, Boucek M, Schaffer MS, and Wiggins, JW. Noncyanotic heart disease: malformations associated with obstruction of blood to the right side of the heart. In: Hay WW, Groothuis JR, Hayward AR, Levin MJ, eds. Current Pediatric Diagnosis and Treatment. 13th ed. Stamford, CT: Appleton & Lange; 1997:496-498. |

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED12

DXCat Label: Anomaly: Tetralogy of Fallot

Etiology: Congenital

MultiStage: No

Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Tetralogy of Fallot	Tetralogy of Fallot [cardiac catheterization report or cardiac surgery report]	DX 7452;
2.01	with hypercarbia	Stage 1.01 AND hypercarbia:	STAGE 1.01 + (DX 2764, 7708, 78609);
2.02	with anemia	Stage 1.01-2.01 AND anemia:	STAGE 1.01-2.01 + (GROUP ANEM_OTH_UN OR GROUP ANEM_APLAST OR DXCAT HEM03 OR DXCAT HEM05 OR DXCAT HEM06 OR DXCAT HEM07 OR DXCAT HEM08 OR DX 2820-2821, 2823, 2827-2829 OR GROUP ANEM_HEM_ACQ);
2.03	with polycythemia	Stage 1.01-2.02 AND polycythemia:	STAGE 1.01-2.02 + DX 7764;
2.04	with aortic stenosis	Stage 1.01-2.03 AND aortic stenosis [echocardiogram report or cardiac surgery report]	STAGE 1.01-2.03 + DX 7463;
2.05	with aortic regurgitation	Stage 1.01-2.04 AND aortic regurgitation [echocardiogram report or cardiac surgery report]	STAGE 1.01-2.04 + DX 7464;
3.01	with brain abscess	Stage 1.01-2.05 AND brain abscess [CT report or MRI report or op/.path report]	STAGE 1.01-2.06 + DX 3240;
3.02	with infectious endocarditis	Stage 1.01-3.01 AND infectious endocarditis:	STAGE 1.01-3.01 + GROUP ENDOCARDITIS;
3.03	with congestive heart failure	Stage 1.01-3.02 AND congestive heart failure:	STAGE 1.01-3.02 + GROUP CHF_NON_HTN;
3.04	with cerebrovascular accident	Stage 1.01-3.01 AND cerebrovascular accident [CT report or MRI report or op/path report]	STAGE 1.01-3.03 + (DX 430-4329, 43301, 43311, 43321, 43331, 43381, 43391, 43401, 43411, 43491, 436, 77210-77214);
3.05	with sepsis	Stage 1.01-3.04 AND sepsis:	STAGE 1.01-3.04 + GROUP SEPSIS;
3.06	with respiratory failure	Stage 1.01-3.05 AND respiratory failure:	STAGE 1.01-3.05 + GROUP RESP_FAIL;
3.07	with shock	Stage 1.01-3.06 AND shock:	STAGE 1.01-3.06 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 1.01-3.07 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED12

MultiStage: No

DXCat Label: Anomaly: Tetralogy of Fallot

Specificity: A

Etiology: Congenital

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

Bernstein D. Cyanotic congenital heart disease: cyanotic lesions associated with decreased pulmonary blood flow. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:1311-1315.

Freed M. Congenital heart disease: acyanotic and cyanotic. In: Gewitz MH, ed. Primary Pediatric Cardiology. Armonk, NY: Futura; 1995:145-220.

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Wolfe RR, Boucek M, Schaffer MS, and Wiggins, JW. Cyanotic heart disease: tetralogy of fallot. In: Hay WW, Groosthius JR, Hayward AR, Levin MJ, eds. Current Pediatric Diagnosis and Treatment. 13th ed. Stamford, CT: Appleton & Lange; 1997:506-507.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED13

MultiStage: No

DXCat Label: Anomaly: Tracheoesophageal Malformations

Specificity: A

Etiology: Congenital

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Esophageal atresia	Tracheoesophageal atresia [operative/pathology report or esophagoscopy report]	DX 7503;
1.02	Tracheoesophageal fistula with or without esophageal atresia	Tracheoesophageal fistula [operative/pathology report or esophagoscopy report]	NO;
2.01	with reactive airways disease	Stage 1.01-1.02 AND paroxysms of wheezing or bronchoconstriction	STAGE 1.01 + (DX 49300-49392, 5191-51919);
2.02	with pneumonia	Stage 1.01-2.01 AND pneumonia:	STAGE 1.01-2.01 + (DX 7700-7701, 5070 OR GROUP PNEUMONIA);
2.03	with chemical pneumonitis	Stage 1.01-2.02 AND aspiration of gastric contents via distal fistula with pneumonitis [chest x-ray report]	STAGE 1.01-2.02 + DX 5060;
2.04	with lung abscess	Stage 1.01-2.03 AND lung abscess [chest x-ray report]	STAGE 1.01-2.03 + DX 5130;
3.01	with sepsis	Stage 1.01-2.04 AND sepsis:	STAGE 1.01-2.04 + GROUP SEPSIS;
3.02	with shock	Stage 1.01-3.01 AND shock:	STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 1.01-3.02 AND death	NO;

References:

- Bartels HE, Stein HJ, Siewert JR. Tracheobronchial lesions following oesophagectomy: prevalence, predisposing factors and outcome. *British Journal of Surgery*. 1998;85(3):403-6.
- Cook TA, Dehn TC. Use of covered expandable metal stents in the treatment of oesophageal carcinoma and tracheo-oesophageal fistula. *British Journal of Surgery*. 1996;83(1):1417-8.
- Goyal RK. Dysphagia. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. *Harrison's Principles of Internal Medicine*. 14th ed. New York, NY: McGraw-Hill; 1998:228-230.
- Herbst JJ. Atresia and tracheoesophageal fistulas. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. *Nelson Textbook of Pediatrics*. 15th ed. Philadelphia, PA: WB Saunders; 1996:1052-53.
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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED14

MultiStage: No

DXCat Label: Anomaly: Transposition of the Great Arteries

Specificity: A

Etiology: Congenital

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Transposition of the great arteries	Transposition of the great arteries [cardiac catheterization report or cardiac surgery report or echocardiogram report]	DX 74510-74519;
2.01	with ventricular septal defect	Stage 1.01 AND ventricular septal defect [cardiac catheterization report or cardiac surgery report or echocardiogram report]	STAGE 1.01 + DXCAT PED15;
2.02	with pulmonary stenosis	Stage 1.01-2.01 AND pulmonic stenosis [cardiac catheterization report or cardiac surgery report or echocardiogram report]	STAGE 1.01-2.01 + DXCAT PED11;
2.03	with polycythemia	Stage 1.01-2.02 AND polycythemia:	STAGE 1.01-2.02 + DX 7764;
3.01	with pulmonary hypertension	Stage 1.01-2.03 AND pulmonary hypertension	STAGE 1.01-2.03 + (DX 4150, 4160, 4168);
3.02	with infectious endocarditis	Stage 1.01-3.01 AND infectious endocarditis:	STAGE 1.01-3.01 + GROUP ENDOCARDITIS;
3.03	with congestive heart failure	Stage 1.01-3.02 AND congestive heart failure:	STAGE 1.01-3.02 + GROUP CHF__NON_HTN;
3.04	with sepsis	Stage 1.01-3.03 AND sepsis:	STAGE 1.01-3.03 + GROUP SEPSIS; STAGE 1.01-3.03 + DX 41512;
3.05	with respiratory failure	Stage 1.01-3.04 AND respiratory failure:	STAGE 1.01-3.04 + GROUP RESP_FAIL;
3.06	with shock	Stage 1.01-3.05 AND shock:	STAGE 1.01-3.05 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 1.01-3.06 AND death	NO;

References:

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- Perloff JK. Complete transposition of the great arteries. In: The Clinical Recognition of Congenital Heart Disease. 4th ed. Philadelphia, PA: WB Saunders; 1994:658-685.
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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED15

MultiStage: No

DXCat Label: Anomaly: Ventricular Septal Defects

Specificity: A

Etiology: Congenital

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Ventricular septal defect < 1.0 sq. cm.	Ventricular septal defects < 1.0 cm ² [echocardiogram report or Doppler report or cardiac catheterization report or cardiac surgery report]	DX 7454;
2.01	Ventricular septal defect ≥ 1.0 sq. cm	Ventricular septal defects ≥ 1.0 cm ² [echocardiogram report or Doppler report or cardiac catheterization report or cardiac surgery report]	NO;
2.02	with aortic insufficiency	Stage 1.01-2.01 AND aortic insufficiency [echocardiogram report or Doppler report or cardiac catheterization report or cardiac surgery report]	STAGE 1.01 + DX 7464;
3.01	with pulmonary hypertension	Stage 1.01-2.02 AND pulmonary hypertension:	STAGE 1.01-2.02 + (DX 4150, 4160, 4168);
3.02	with Eisenmenger syndrome	Stage 1.01-3.01 AND Eisenmenger syndrome	STAGE 1.01-3.01 + DX 7458;
3.03	with infectious endocarditis	Stage 1.01-3.02 AND infectious endocarditis:	STAGE 1.01-3.02 + GROUP ENDOCARDITIS;
3.04	with congestive heart failure	Stage 1.01-3.03 AND congestive heart failure:	STAGE 1.01-3.03 + GROUP CHF_NON_HTN;
3.05	with sepsis	Stage 1.01-3.04 AND sepsis:	STAGE 1.01-3.04 + GROUP SEPSIS; STAGE 1.01-3.04 + DX 41512;
3.06	with respiratory failure	Stage 1.01-3.05 AND respiratory failure:	STAGE 1.01-3.05 + GROUP RESP_FAIL;
3.07	with shock	Stage 1.01-3.06 AND shock:	STAGE 1.01-3.06 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 1.01-3.07 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED15

MultiStage: No

DXCat Label: Anomaly: Ventricular Septal Defects

Specificity: A

Etiology: Congenital

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

- | |
|---|
| Bernstein D. Acyanotic congenital heart disease: the left to right shunt lesions. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:1288-1296. |
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| Massie BM, Amidon TM. Congenital heart disease: ventricular septal defects. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:343-344. |
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| Perloff JK. Survival patterns without cardiac surgery or interventional catheterization: a narrowing base. In: Perloff JK and Child JS. Congenital Heart Disease in Adults. 2nd ed. Philadelphia, PA: WB Saunders; 1998:15-52. |
| Perloff JK. Ventricular septal defect. In: The Clinical Recognition of Congenital Heart Disease. 4th ed. Philadelphia, PA: WB Saunders; 1994:396-439. |
| Wolfe RR, Boucek M, Schaffer MS, and Wiggins, JW. Noncyanotic heart disease: ventricular septal defects. In: Hay WW, Groothuis JR, Hayward AR, Levin MJ, eds. Current Pediatric Diagnosis and Treatment. 13th ed. Stamford, CT: Appleton & Lange; 1997:490-492. |

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED16

MultiStage: No

DXCat Label: Bacterial and Fungal Infections of the Newborn

Specificity: A

Etiology: Infection

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	Newborn born to mother with suspected infection at time of parturition	Newborn AND mother with temperature \leq 100.4 OR delivery at < 37 weeks gestation OR previous infant with invasive GBS disease OR Group B Streptococcus in mother's rectum or vagina [culture report without adequate treatment] OR rupture of membranes \geq 18 hours before delivery of infant	DX 7602;
1.01	Candidal infection of the newborn	Newborn AND vesicopustules in the intertriginous areas of the skin OR generalized scaling of the skin OR white, friable plaques on an erythematous base over the tongue, palate, buccal mucosa and palate AND <i>Candida albicans</i> seen in scraping from lesion OR <i>Candida albicans</i> [report of culture of lesion]	DX 7717-7718, 77189;
1.02	Conjunctivitis of the newborn	Newborn AND purulent discharge from eyes with conjunctival hyperemia and chemosis AND eye culture reports growth of pathologic bacterial organism(s) [culture report]	AGE 0 + DX 09840; DX 7716;
1.03	Staphylococcal pustulosis in the newborn	Newborn AND pustular lesions on skin AND <i>Staphylococcus aureus</i> reported on culture of material from pustules [culture report]	NO;
1.04	Mastitis of the newborn	Newborn AND localized swelling of breast tissue with erythema and warmth of overlying skin AND aspirate culture reports growth of pathologic bacterial organism(s) [culture report]	DX 7715;
1.05	Omphalitis of the newborn	Newborn AND malodorous, wet umbilical stump with inflammation of the surrounding skin AND umbilical stump culture reports growth of pathologic bacterial organism(s) [culture report]	DX 7714;
1.06	Scalded skin syndrome of the newborn	Newborn AND bullous lesions of the skin AND <i>Staphylococcus aureus</i> [culture report] OR scalded skin syndrome [report of skin biopsy]	STAGE 1.01-1.05 + DX 6951;
2.01	Bacteremia or fungemia in the newborn or infant botulism	Newborn AND bacteremia: OR fungemia:	STAGE 1.01-1.06 + (GROUP BACTEREMIA OR GROUP FUNGEMIA); DX 77183, 04041;
2.02	Septic arthritis in the newborn	Newborn AND septic arthritis [synovial fluid culture report]	STAGE 1.01-2.01 + GROUP ARTHR_SEPTIC;
2.03	Osteomyelitis in the newborn	Newborn AND osteomyelitis:	STAGE 1.01-2.02 + GROUP PULMEMB;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED16

MultiStage: No

DXCat Label: Bacterial and Fungal Infections of the Newborn

Specificity: A

Etiology: Infection

Stage	Description	Diagnostic findings	ICD-9-CM Codes
2.04	Urinary tract infection in the newborn	Newborn AND UTI:	STAGE 1.01-2.03 + GROUP UTI; DX 77182;
2.05	Pneumonia in the newborn	Newborn AND pneumonia: OR infected tracheal aspirate [Gram's stain report or culture reports]	STAGE 1.01-2.04 + (DX 7700, 7701, 5070 OR GROUP PNEUMONIA);
2.06	Peritonitis in the newborn	Newborn AND peritonitis:	STAGE 1.01-2.05 + (DX 5670- 5679, 56983);
3.01	with Infective endocarditis	Newborn AND endocarditis:	STAGE 1.01-2.06 + GROUP ENDOCARDITIS;
3.02	Meningitis in the newborn	Newborn AND meningitis, pediatric:	STAGE 1.01-3.01 + GROUP MENGIT__BACT;
3.03	Sepsis of the newborn	Newborn AND sepsis, infant:	STAGE 1.01-3.02 + GROUP SEPSIS; DX 77181;
3.04	with disseminated intravascular coagulation	Newborn AND DIC:	STAGE 1.01-3.03 + GROUP DIC;
3.05	with shock	Newborn AND shock:	STAGE 1.01-3.04 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 0.0-3.05 AND death	NO;

References:

- Bone RC et al. Definitions for sepsis and organ failure and guidelines for the use of innovative therapies in sepsis. *Chest*. 1992;101(6):1644-1655.
- Boyer KM, Hayden WR. Sepsis and septic shock. In: Oski FA, DeAngelis CD, Feigin RD, McMillan JA and Warshaw JB eds. *Principles and Practice of Pediatrics*. 2nd ed. Philadelphia, PA: JB Lippincott; 1994:1119-1124.
- Cole FS. Bacterial Infections in the Newborn. In: Tausch HW and Ballard RA, eds. *Avery's Diseases of the Newborn*. 7th ed. Philadelphia, PA: WB Saunders; 1998:490-512.
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- Proulx F, Fayon M, Farrell CA, Lacroix J, Gauthier M. Epidemiology of sepsis and multiple organ dysfunction syndrome in children. *Chest*. 1996;109(4):1033-1037.
- Rosenberg AA, Thilo EH. The newborn infant/infections in the newborn. In: Hay WW, Groothuis JR, Hayward AR, Levin MJ, eds. *Current Pediatric Diagnosis and Treatment*. 13th ed. Stamford, CT: Appleton & Lange; 1997:52-59.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED17

MultiStage: No

DXCat Label: Cytomegalovirus Disease (Congenital)

Specificity: A

Etiology: Infection, Viral

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Asymptomatic congenital cytomegalovirus infection	Newborn AND isolation of cytomegalovirus from maternal amniotic fluid or infant's uring or saliva at < 2 weeks of age [virology culture report] OR detection of IgM-specific cytomegalovirus virus antibody in the serum [serology report] AND no signs or symptoms of infection	DX 7711;
2.01	Congenital cytomegalovirus infection with preterm delivery	Newborn AND Isolation of cytomegalovirus from maternal amniotic fluid or infant's urine or saliva [virology culture report] OR detection of IgM or IgG-specific cytomegalovirus antibody in the serum [serology report] AND delivery at < 37 weeks gestation	STAGE 1.01 + DX 76500-76519;
2.02	Congenital cytomegalovirus infection with intrauterine growth retardation	Newborn AND Isolation of cytomegalovirus from maternal amniotic fluid or infant's urine or saliva [virology culture report] OR detection of IgM or IgG -specific cytomegalovirus antibody in the serum [serology report] AND weight ≤ 10 th percentile for gestational age	STAGE 1.01-2.01 + (DX 76400-76409, 76490-76499);
2.03	Cytomegalovirus retinitis	Stage 2.01-2.02 AND retinitis [ophthalmomolscopy report]	STAGE 1.01-2.02 + DX 36300-36322;
2.04	Cytomegalovirus retinitis with retinal hemorrhages or infiltrates or disk edema	Stage 2.01-2.03 AND retinal hemorrhages [ophthalmomolscopy report] OR sectoral infiltrates [ophthalmomolscopy report] OR optic disk edema [ophthalmomolscopy report]	STAGE 1.01-2.03 + (DX 36281, 36289, 37700);
2.05	Cytomegalovirus retinitis with retinal detachment	Stage 2.01-2.04 AND retinal detachment [ophthalmomolscopy report] OR iris neovascularization [ophthalmomolscopy report]	STAGE 1.01-2.04 + DXCAT EYE07;
2.06	with hepatosplenomegaly and jaundice	Stage 2.01-2.05 AND hepatosplenomegaly [sonography report or CT scan report or MRI report] AND hyperbilirubinemia:	STAGE 1.01-2.05 + (GROUP HYPERBILI OR DX 5718);
2.07	with sensorineural hearing loss	Stage 1.01-2.06 AND sensorineural hearing loss [audiology report of BAEP report]	STAGE 1.01-2.06 + DX 38910-38922;
2.08	with anemia	Stage 2.01-2.07 AND anemia:	STAGE 1.01-2.07 + (GROUP ANEM_HEM_ACQ OR GROUP ANEM_CON_HEM OR GROUP ANEM_OTH_UN OR GROUP ANEM_DEF_B12 OR GROUP ANEM_DEF_FE OR GROUP ANEM_DEF_FOL OR GROUP ANEM_DEF_OTH);

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED17

MultiStage: No

DXCat Label: Cytomegalovirus Disease (Congenital)

Specificity: A

Etiology: Infection, Viral

Stage	Description	Diagnostic findings	ICD-9-CM Codes
2.09	with thrombocytopenia	Stage 2.01-2.08 AND thrombocytopenia:	STAGE 1.01-2.08 + GROUP THRMBCYTPEN;
2.10	with microcephaly	Stage 1.01-2.09 AND head circumference < 10 th percentile for gestational age	STAGE 1.01-2.09 + DX 7421;
2.11	with seizures	Stage 2.01-2.10 AND seizures [EEG report]	STAGE 1.01-2.10 + DX 7790;
2.12	with mental retardation	Stage 1.01-2.11 AND mental retardation:	STAGE 1.01-2.11 + DXCAT NEU15;
3.01	with glomerulopathy or renal failure	Stage 2.01-2.13 AND renal failure:	STAGE 1.01-2.12 + (GROUP REN_FAIL_ACU OR GROUP REN_FAIL_CHR);
3.02	with meningoencephalitis	Stage 2.01-3.01 AND aseptic meningitis:	STAGE 1.01-3.01 + DXCAT NEU13;
3.03	with respiratory failure	Stage 2.01-3.02 AND respiratory failure:	STAGE 1.01-3.02 + GROUP RESP_FAIL;
3.04	with coma	Stage 1.02-3.03 AND coma:	STAGE 1.01-3.03 + GROUP COMA;
3.05	with shock	Stage 1.02-3.04 AND shock:	STAGE 1.01-3.04 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.01-3.05 AND death	NO;

References:

- Beers MH, Berkow R. eds. Congenital and perinatal cytomegalovirus infection. In: Merck Manual. 17th ed. Whitehouse Station, NJ: Merck Research Laboratories; 1999:1288-1290.
- Cole FS. Viral infections of the fetus and newborn. In: Taeusch HW and Ballard RA, eds. Avery's Diseases of the Newborn. 7th ed. Philadelphia, PA: WB Saunders; 1998:467-489.
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- Stagno S. Cytomegalovirus. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics, 15th ed. Philadelphia, PA: WB Saunders; 1996:895-897.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED18

MultiStage: No

DXCat Label: Drug Withdrawal Syndromes in Neonates

Specificity: A

Etiology: Toxicologic

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Newborn infant with maternal drug addiction	Newborn AND maternal addiction to narcotics OR maternal addiction to cocaine OR maternal addiction to barbiturates OR positive urine drug screen of the newborn as [toxicology report]	(DX 76071, 76072, 76073, 76075) + AGE 0;
2.01	Newborn infant with maternal drug addiction, small for gestational age, with asymmetric intrauterine growth retardation	Stage 1.01 AND birth weight < 10th percentile for gestational age AND head circumference ≥ 10th percentile for gestational age	STAGE 1.01 + (DX 76400-76409, 76490-76499);
2.02	Newborn infant with maternal drug addiction, small for gestational age, with symmetric in utero growth retardation	Stage 1.01 AND birth weight < 10th percentile for gestational age AND head circumference < 10th percentile for gestational age	NO;
2.03	with acute withdrawal syndrome	Stage 1.01-2.02 AND irritability AND increased tone AND tremors AND feeding difficulty AND abnormal sleep patterns	DX 7795; STAGE 1.01-2.02 + (DX 33385, 76077-76078);
2.04	with apnea	Stage 1.01-2.03 AND respiratory pause > 20 seconds OR respiratory pause < 20 seconds AND cyanosis AND pallor AND hypotonia AND heart rate < 100 bpm	STAGE 1.01-2.03 + (DX 33372, 35924, 7708);
2.05	with seizures	Stage 1.01-2.04 AND seizures	STAGE 1.01-2.04 + DX 7790;
3.01	with cerebral vascular accident	Stage 1.01-2.05 AND Perinatal cerebral infarction, usually in the distribution of the middle cerebral artery [CT or MRI report]	STAGE 1.01-2.05 + DX 77210-77214;
3.02	with respiratory failure	Stage 1.01-3.01 AND respiratory failure:	STAGE 1.01-3.01 + GROUP RESP_FAIL;
3.03	with asphyxia	Stage 1.01-3.02 AND asphyxia AND ph < 7.0 on umbilical artery sample [chemistry report] AND Apgar score 0-3 for > 5 minutes AND seizures OR hypotonia OR Stage 3.2 AND multiple organ dysfunction (cardiovascular, GI, hematologic, pulmonary or renal)	STAGE 1.01-3.02 + (DX 7680-7689, 77088, 79901);

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED18

MultiStage: No

DXCat Label: Drug Withdrawal Syndromes in Neonates

Specificity: A

Etiology: Toxicologic

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.04	with coma	Stage 1.01-3.03 AND coma:	STAGE 1.01-3.03 + GROUP COMA;
3.05	with shock	Stage 1.01-3.04 AND shock:	STAGE 1.01-3.04 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 1.01-3.05 AND death	NO;

References:

Charlton V. Perinatal and long-term consequences of abnormal fetal growth and nutrition. In: Taeusch HW and Ballard RA, eds. Avery's Diseases of the Newborn. 7th ed. Philadelphia, PA: WB Saunders; 1998:52-54.

Martinez A, Partridge JC, Beam X, Taeusch HW. Perinatal substance abuse. In: Taeusch HW and Ballard RA, eds. Avery's Diseases of the Newborn, 7th Ed. Philadelphia: WB Saunders, 1998:103-118.

Rosenberg AA, Thilo EH. The newborn infant/infants of mothers who abuse drugs. In: Hay WW, Groosthius JR, Hayward AR, Levin MJ, eds. Current Pediatric Diagnosis and Treatment. 13th ed. Stamford, CT: Appleton & Lange; 1997:68-70.

Schechner S. Drug abuse and withdrawal. In: Cloherty JP and Stark AR, eds. Manual of Neonatal Care. 4th ed. Philadelphia, PA: Lippincott-Raven; 1998:211-223.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED19

MultiStage: No

DXCat Label: Full Term Infant with Abnormal Birth Weight

Specificity: A

Etiology: Congenital

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Full term infant, large for gestational age	Infant \geq 38 weeks and \leq 42 weeks gestational age AND birth weight \geq 90th percentile for gestational age	DX 7660; DX V3000-V392 + DX 7660;
1.02	Full term infant, small for gestational age, with asymmetric intrauterine growth retardation	Infant \geq 38 weeks and \leq 42 weeks gestational age AND birth weight $<$ 10th percentile for gestational age AND head circumference \geq 10th percentile for gestational age	DX 76400-76419, 76490-76499; DX V3000-V392 + (DX 76400-76419, 76490-76499);
1.03	Full term infant, small for gestational age, with symmetric intrauterine growth retardation	Infant \geq 38 weeks and \leq 42 weeks gestational age AND birth weight $<$ 10th percentile for gestational age AND head circumference $<$ 10th percentile for gestational age	NO;
2.01	with hypocalcemia	Stage 1.01-1.03 AND hypocalcemia:	STAGE 1.01-1.02 + GROUP HYPOCALCEMIA;
2.02	with hypoglycemia	Stage 1.01-2.01 AND hypoglycemia:	STAGE 1.01-2.01 + GROUP HYPOGLYCEMIA;
2.03	with hyperbilirubinemia	Stage 1.01-2.02 AND Infants $<$ 1 day old total serum bilirubin \geq 8.0 mg/dl [chemistry report] OR Infants 1-2 days old total serum bilirubin \geq 12mg/dl [chemistry report] OR Infants 2-5 days old total serum bilirubin \geq 16mg/dl [chemistry report] OR Infants $>$ 5 days old total serum bilirubin \geq 2mg/dl [chemistry report]	STAGE 1.01-2.02 + GROUP HYPERBILI;
2.04	with polycythemia	Stage 1.01-2.03 AND Central hematocrit $>$ 65%	STAGE 1.01-2.03 + DX 7764;
2.05	with seizures	Stage 1.01-2.04 AND seizures	STAGE 1.01-2.04 + DX 7790;
3.01	with persistent pulmonary hypertension	Stage 1.01-2.05 AND Right to left shunting through a patent ductus arteriosus or patent foramen ovale [ultrasound report] AND PaO ₂ $<$ 60mmHg unresponsive to 100% O ₂ OR PaO ₂ gradient between the radial artery and the umbilical artery $>$ 20mmHg [ABG report] AND normal pCO ₂ [ABG report]	STAGE 1.01-2.05 + (DX 4150, 4160, 4168);
3.02	with heart failure	Stage 1.01-3.01 congestive heart failure:	STAGE 1.01-3.01 + GROUP CHF_NON_HTN;
3.03	with respiratory failure	Stage 1.01-3.02 AND respiratory failure:	STAGE 1.01-3.02 + GROUP RESP_FAIL;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED19

MultiStage: No

DXCat Label: Full Term Infant with Abnormal Birth Weight

Specificity: A

Etiology: Congenital

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.04	with asphyxia	Stage 1.01-3.03 AND asphyxia AND ph < 7.0 on umbilical artery sample [chemistry report] AND Apgar score 0-3 for > 5 minutes AND seizures OR hypotonia OR congestive heart failure: AND multiple organ dysfunction (cardiovascular, GI, hematologic, pulmonary or renal)	STAGE 1.01-3.03 + (DX 7680-7689, 77088, 79901);
3.05	with coma	Stage 1.01-3.04 AND coma:	STAGE 1.01-3.04 + GROUP COMA;
3.06	with shock	Stage 1.01-3.05 AND shock:	STAGE 1.01-3.05 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 1.01-3.06 AND death	NO;

References:

- Academy of Pediatrics. Use and abuse of the Apgar score. *Pediatrics*. 1996;98(1):141-142.
- DeWayne MP, Cloherty JP. Identifying the high-risk infant. In: Cloherty JP and Stark AR, eds. *Manual of Neonatal Care*. 4th ed. Philadelphia, PA: Lippincott-Raven; 1998:37-51.
- Goorin AM. Polycythemia. In: Cloherty JP and Stark AR, eds. *Manual of Neonatal Care*. 4th ed. Philadelphia, PA: Lippincott-Raven; 1998:466-470.
- Kliegman RM. The fetus and the neonatal infant. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. *Nelson Textbook of Pediatrics*. 15th ed. Philadelphia, PA: WB Saunders; 1996:431-513.
- Phibbs RH. Neonatal polycythemia. In: Rudolph AM, Hoffman JIE, Rudolph CD and Sagan P, eds. *Rudolf's Pediatrics*. 20th ed. Stamford CT: Appleton & Lange; 1996:252-255.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED20

MultiStage: No

DXCat Label: Hyaline Membrane Disease/Respiratory Distress Syndrome

Specificity: A

Etiology: Congenital

Stage	Description	Diagnostic findings	ICD-9-CM Codes
2.01	Newborn infant with respiratory distress syndrome	Newborn AND RR ≥ 60 within several hours of birth AND grunting, flaring or retractions AND lung parenchyma with a reticular granularity ("ground glass" appearance) with air bronchograms [chest x-ray report]	DX 769, 7704-77083;
2.02	Respiratory distress syndrome with interstitial emphysema or pneumothorax or pneumomediastinum	Stage 2.01 AND Interstitial emphysema [x-ray report] OR pneumothorax [x-ray report] OR pneumomediastinum [x-ray report]	DX 7702-7703, 77087-7709;
3.01	with respiratory failure	Stage 2.01-2.02 AND respiratory failure:	STAGE 2.01-2.02 + GROUP RESP_FAIL; DX 77084, 77087;
3.02	with asphyxia	Stage 2.01-3.01 AND asphyxia AND ph < 7.0 on umbilical artery sample [chemistry report] AND Apgar score 0-3 for > 5 minutes AND seizures OR hypotonia OR Stage 3.2 AND multiple organ dysfunction (cardiovascular, GI, hematologic, pulmonary or renal)	STAGE 1.01-3.01 + (DX 79901); DX 7682-7689;
3.03	with shock	Stage 1.01-3.02 AND shock:	STAGE 2.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.01-3.03 AND death	DX 7680-7681;

References:

Academy of Pediatrics. Use and abuse of the Apgar score. *Pediatrics*. 1996; 98(1):141-142.

Hansen T, Corbet A. Disorders of transition. In: Tausch HW and Ballard RA, eds. *Avery's Diseases of the Newborn*. 7th ed. Philadelphia, PA: WB Saunders; 1998:602-629.

Kliegman RM. Respiratory tract disorders. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. *Nelson Textbook of Pediatrics*. 15th ed. Philadelphia, PA: WB Saunders; 1996:476-490.

Liley HG, Stark AR. Respiratory distress syndrome/hyaline membrane disease. In: Cloherty JP and Stark AR, eds. *Manual of Neonatal Care*. 4th ed. Philadelphia, PA: Lippincott-Raven; 1998:329-336.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED21

DXCat Label: Injury: To Newborn During Delivery

Etiology: Trauma

MultiStage: No

Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Nonspecific trauma to newborn or fetus	Newborn AND trauma not specified below	DX 7678-7679;
1.02	Caput succedaneum	Newborn AND caput succedaneum (edema of the presenting portion of the scalp)	DX 7671, 76719;
1.03	Cephalohematoma of the newborn	Newborn AND cephalohematoma OR localized cranial periosteal hemorrhage	NO;
1.04	Soft tissue injuries of the newborn	Newborn AND bruises on face OR bruises on torso	NO;
1.05	Linear skull fracture of the newborn	Newborn AND linear skull fracture [x-ray report] AND no associated neurological findings on physical examination	DX 7673;
1.06	Midclavicular, humeral or femoral fractures of the newborn	Newborn AND fracture of the clavicle [x-ray report] OR fracture of the humerus [x-ray report] OR fracture of the femur [x-ray report]	DX 7672;
1.07	Subgaleal hemorrhage of the newborn	Newborn AND subgaleal hemorrhage OR boggy feeling over the entire scalp and temporal regions	DX 76711;
2.01	Facial nerve palsy of the newborn	Newborn AND drooping of the mouth OR flattened nasolabial fold OR widening of the palpebral fissure AND decreased movement of one side of the face	DX 7675;
2.02	Brachial plexus injuries of the newborn	Newborn AND adduction and internal rotation of the shoulder with pronation of the forearm (Erb-Duchenne paralysis) OR paralysis of either hand(s) (Klumpke paralysis) OR ipsilateral ptosis and miosis	DX 7676;
2.03	Phrenic nerve paralysis of the newborn	Newborn AND Stage 2.02 AND phrenic nerve paralysis determined by absence of diaphragm movements [fluoroscopic or ultrasonic x-ray reports]	DX 7677;
2.04	Depressed skull fracture of the newborn	Newborn AND depressed skull fracture [x-ray report]	NO;
2.05	Gastrointestinal hemorrhage or intestinal perforation of the newborn		DX 7724, 7776;
2.06	Rupture of the liver or spleen	Newborn AND rupture of the liver [ultrasound or operative or pathology report] OR rupture of the spleen [ultrasound or operative or pathology report]	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED21

MultiStage: No

DXCat Label: Injury: To Newborn During Delivery

Specificity: A

Etiology: Trauma

Stage	Description	Diagnostic findings	ICD-9-CM Codes
2.07	Adrenal hemorrhage	Newborn AND bleeding into one or both of the adrenals [ultrasound or operative or pathology report]	DX 7725;
2.08	Intracranial bleeding of the newborn	Newborn AND intracranial hemorrhage [CT scan report]	DX 7670;
2.09	Trauma to the spinal cord of the newborn	Newborn AND total flaccidity OR paralysis of intercostal muscles AND incontinence of stools and urine AND grossly bloody cerebrospinal fluid	DX 7674;
3.01	with respiratory failure	Stage 1.01-2.08 AND respiratory failure:	STAGE 1.01-2.08 + GROUP RESP_FAIL;
3.02	with coma	Stage 1.01-3.01 AND coma:	STAGE 1.01-3.01 + GROUP COMA;
3.03	with asphyxia	Stage 1.01-3.02 AND asphyxia AND ph < 7.0 on umbilical artery sample [chemistry report] AND Apgar score 0-3 for > 5 minutes AND seizures OR hypotonia OR coma: AND multiple organ dysfunction (cardiovascular, GI, hematologic, pulmonary or renal)	STAGE 1.01-3.02 + (DX 7680- 7689, 77088, 79901);
3.04	with shock	Stage 1.01-3.03 AND shock:	STAGE 1.01-3.03 + GROUP SHOCKA;
4.00	with death	Stage 1.01-3.04 AND death	NO;

References:

Academy of Pediatrics. Use and abuse of the Apgar score. *Pediatrics* 1996; 98(1):141-142.

Kliegman RM. Birth Injury. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. *Nelson Textbook of Pediatrics*. 15th ed. Philadelphia, PA: WB Saunders; 1996:465-471.

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Tausch HW, Sniderman S. Initial evaluation: history and physical examination of the newborn. In: Tausch HW and Ballard RA, eds. *Avery's Diseases of the Newborn*. 7th ed. Philadelphia: WB Saunders; 1998:334-353.

Tsuji, M. Birth trauma. In: Cloherty JP and Stark AR, eds. *Manual of Neonatal Care*. 4th ed. Philadelphia, PA: Lippincott-Raven; 1998:225-232.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED22

DXCat Label: Meconium Aspiration Syndrome

Etiology: Congenital

MultiStage: No

Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Meconium stained amniotic fluid with no signs of respiratory distress	Newborn AND Meconium stained amniotic fluid with no signs of respiratory distress	DX 77984, 76384, 77011;
1.02	Meconium aspiration with no complications	Newborn AND Presence of meconium below the vocal cords at the time of delivery AND Tachypnea AND Normal blood pH [ABG report] AND hypocarbica: AND Resolution of symptoms in 2-3 days	DX 7701, 77010, 77013, 77015, 77017, 77085;
2.01	Meconium aspiration with pneumonitis	Newborn AND Presence of meconium below the vocal cords at the time of delivery AND Patchy infiltrates and coarse streaking in both lung fields, increased AP diameter and flattened diaphragm [x-ray report]	DX 77012, 77014, 77016, 77018, 77086;
2.02	with pneumothorax or pneumomediastinum	Stage 2.01 AND Pneumothorax or pneumomediastinum [x-ray report]	STAGE 1.02-2.01 + DX 7702;
2.03	with secondary bacterial pneumonia	Stage 2.01-2.02 AND pneumonia: OR tracheal aspirate culture reports growth of pathologic organism(s) [culture report]	STAGE 1.02-2.02 + (DX 7700 OR DXCAT RES15);
3.01	with persistent pulmonary hypertension	Stage 2.01-2.03 AND Right to left shunting through a patent ductus arteriosus or patent foramen ovale [ultrasound report] AND PaO ₂ < 60mmHg unresponsive to 100% O ₂ OR PaO ₂ gradient between the radial artery and the umbilical artery > 20mmHg [ABG report] AND normal pCO ₂ [ABG report]	STAGE 1.02-2.03 + (DX 4150, 4160, 4168);
3.02	with heart failure	Stage 2.01-3.01 AND congestive heart failure:	STAGE 1.02-3.01 + GROUP CHF_NON_HTN;
3.03	with sepsis	Stage 2.01-3.02 AND sepsis, infant:	STAGE 1.02-3.02 + GROUP SEPSIS; STAGE 1.02-3.02 + DX 41512;
3.04	with DIC	Stage 2.01-3.03 AND DIC:	STAGE 1.02-3.03 + GROUP DIC;
3.05	with respiratory failure	Stage 2.01-3.04 AND respiratory failure:	STAGE 1.02-3.04 + GROUP RESP_FAIL;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED22

DXCat Label: Meconium Aspiration Syndrome

Etiology: Congenital

MultiStage: No

Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.06	with asphyxia	Stage 2.01-3.05 AND asphyxia AND ph < 7.0 on umbilical artery sample [chemistry report] AND Apgar score 0-3 for > 5 minutes AND seizures OR hypotonia OR Stage 3.2 AND multiple organ dysfunction (cardiovascular, GI, hematologic, pulmonary or renal)	STAGE 1.01-3.05 + (DX 7680-7689, 77088, 79901);
3.07	with coma	Stage 2.01-3.06 AND coma:	STAGE 1.02-3.06 + GROUP COMA;
3.08	with shock	Stage 2.01-3.07 AND shock:	STAGE 1.02-3.07 + GROUP SHOCKA;
4.00	with death	Stage 2.01-3.08 AND death	NO;

References:

Academy of Pediatrics. Use and abuse of the Apgar score. *Pediatrics*. 1996; 98(1):141-142.

Bone RC et al. Definitions for sepsis and organ failure and guidelines for the use of innovative therapies in sepsis. *Chest*. 1992;101(6):1644-1655.

Eichenwald EC. Meconium Aspiration. In: Cloherty JP and Stark AR, eds. *Manual of Neonatal Care*. 4th ed. Philadelphia, PA: Lippincott-Raven; 1998:388-391.

Hansen T, Corbet A. Disorders of transition. In: Taeusch HW and Ballard RA, eds. *Avery's Diseases of the Newborn*. 7th ed. Philadelphia, PA: WB Saunders, 1998:602-629.

Kliegman RM. Respiratory tract disorders. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. *Nelson Textbook of Pediatrics*. 15th ed. Philadelphia: WB Saunders, 1996:476-490.

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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED23

MultiStage: No

DXCat Label: Neonatal Necrotizing Enterocolitis

Specificity: A

Etiology: Congenital

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Necrotizing enterocolitis	Neonate AND temperature instability OR apnea: OR bradycardia: AND feeding problems AND abdominal distention and absent bowel sounds OR ileus [x-ray report] AND abdominal tenderness AND blood in the stool AND pneumatosis intestinalis [x-ray report of abdomen]	DX 7775-77752;
2.01	with localized peritonitis	Stage 1.01 AND abdominal cellulitis AND RLQ mass AND portal vein gas [x-ray report of ultrasound of the abdomen]	STAGE 1.01 + (DX 5672-5679, 7776); DX 77753;
2.02	with stricture of the bowel	Stage 1.01-2.01 AND abdominal distention 2-3 weeks after recovery from acute necrotizing enterocolitis AND stricture of bowel [report of barium enema]	STAGE 1.01-2.01 + (DX 56089, 5609, 5373, 7511, 7512);
2.03	with generalized peritonitis	Stage 1.01-2.02 AND peritonitis:	NO;
2.04	with bowel perforation	Stage 1.01-2.03 AND pneumoperitoneum [x-ray report]	STAGE 1.01-2.02 + DX 56983;
3.01	with sepsis	Stage 1.01-2.04 AND sepsis, infant:	STAGE 1.01-2.04 + GROUP SEPSIS;
3.02	with DIC	Stage 1.01-3.01 AND DIC:	STAGE 1.01-3.01 + GROUP DIC;
3.03	with shock	Stage 1.01-3.02 AND shock:	STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 1.01-3.03 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED23

MultiStage: No

DXCat Label: Neonatal Necrotizing Enterocolitis

Specificity: A

Etiology: Congenital

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

Berseth CL, Abrams SA. Special gastrointestinal concerns. In: Taeusch HW and Ballard RA, eds. Avery's Diseases of the Newborn. 7th ed. Philadelphia, PA: WB Saunders; 1998:965-978.

Bone RC et al. Definitions for sepsis and organ failure and guidelines for the use of innovative therapies in sepsis. Chest. 1992; 101(6):1644-1655.

Kliegman RM. Digestive system disorders/neonatal necrotizing enterocolitis. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:492-493.

McAlmon KR. Necrotizing enterocolitis. In: Cloherty JP and Stark AR, eds. Manual of Neonatal Care. 4th ed. Philadelphia, PA: Lippincott-Raven; 1998:609-615.

Prouix F, Fayon M, Farrell CA, Lacroix J, Gauthier M. Epidemiology of sepsis and multiple organ dysfunction syndrome in children. Chest. 1996;109(4):1033-1037.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED24

MultiStage: No

DXCat Label: Perinatal Jaundice

Specificity: B

Etiology: Genetic (or hereditary); Idiopathic; Infection; Nutritional; Trauma

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Unspecified fetal and neonatal jaundice		NO;
2.01	Perinatal jaundice from excessive hemolysis, Kernicterus not due to isoimmunization, Neonatal jaundice associated with preterm delivery or unspecified or other delayed conjugation		DX 77431, 7745;
2.02	Perinatal jaundice due to hepatocellular damage		NO;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED25
 DXCat Label: Postmaturity
 Etiology: Congenital

MultiStage: No
 Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Postmature infant	Infant born > 42 week gestation	DX 7662-76622; DX V3000-V392 + DX 7662-76622;
1.02	with large for gestational age	Stage 1.01 AND birthweight greater than 90th percentile for gestational age	DX 7661; DX V3000-V392 + DX 7661;
1.03	with small for gestational age (intrauterine growth retardation)	Stage 1.01-1.02 AND birthweight less than 10th percentile for gestational age	STAGE 1.01-1.02 + (DX 76400-76409, 76490-76499);
2.01	with hypocalcemia	Stage 1.01-1.03 AND hypocalcemia:	STAGE 1.01-1.03 + GROUP HYPOCALCEMIA;
2.02	with hypoglycemia	Stage 1.01-2.01 AND hypoglycemia:	STAGE 1.01-2.01 + GROUP HYPOGLYCEMIA;
2.03	with hyperbilirubinemia	Stage 1.01-2.02 AND Infants < 1 day old total serum bilirubin ≥ 8.0mg/dl [chemistry report] OR Infants 1-2 days old total serum bilirubin ≥ 12mg/dl [chemistry report] OR Infants 2-5 days old total serum bilirubin ≥ 16mg/dl [chemistry report] OR Infants >5 days old total serum bilirubin ≥ 2mg/dl [chemistry report]	STAGE 1.01-2.02 + GROUP HYPERBILI;
2.04	with polycythemia	Stage 1.01-2.03 AND Central hematocrit > 65%	STAGE 1.01-2.03 + DX 7764;
2.05	with seizures	Stage 1.01-2.04 AND seizures	STAGE 1.01-2.04 + DX 7790;
3.01	with persistent pulmonary hypertension	Stage 1.1-2.5 AND right to left shunting through a patent ductus arteriosus or patent foramen ovale [ultrasound report] AND PaO ₂ < 60mmHg unresponsive to 100% O ₂ OR PaO ₂ gradient between the radial artery and the umbilical artery > 20mmHg [ABG report] AND normal pCO ₂ [ABG report]	STAGE 1.01-2.05 + (DX 4150, 4160, 4168);
3.02	with heart failure	Stage 1.01-3.01 AND congestive heart failure:	STAGE 1.01-3.01 + GROUP CHF_NON_HTN;
3.03	with respiratory failure	Stage 1.01-3.02 AND respiratory failure:	STAGE 1.01-3.02 + GROUP RESP_FAIL;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED25

DXCat Label: Postmaturity

Etiology: Congenital

MultiStage: No

Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.04	with asphyxia	Stage 1.01-3.03 AND asphyxia AND ph < 7.0 on umbilical artery sample [chemistry report] AND Apgar score 0-3 for > 5 minutes AND seizures OR hypotonia OR congestive heart failure: AND multiple organ dysfunction (cardiovascular, GI, hematologic, pulmonary or renal)	STAGE 1.01-3.03 + (DX 7680-7689, 77088, 79901);
3.05	with coma	Stage 1.01-3.04 AND coma:	STAGE 1.01-3.04 + GROUP COMA;
3.06	with shock	Stage 1.01-3.05 AND shock:	STAGE 1.01-3.05 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 1.01-3.06 AND death	NO;

References:

Academy of Pediatrics. Use and abuse of the Apgar score. *Pediatrics*. 1996;98(1):141-142.

DeWayne MP and Cloherty JP. Identifying the high-risk infant. In: Cloherty JP and Stark AR, eds. *Manual of Neonatal Care*. 4th ed. Philadelphia, PA: Lippincott-Raven; 1998:37-51.

Goorin AM. Polycythemia. In: Cloherty JP and Stark AR, eds. *Manual of Neonatal Care*. 4th ed. Philadelphia: Lippincott-Raven; 1998:466-470.

Kliegman RM. The fetus and the neonatal infant. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. *Nelson Textbook of Pediatrics*. 15th ed. Philadelphia, PA: WB Saunders; 1996:431-513.

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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED26

MultiStage: No

DXCat Label: Prematurity: Extremely Low Birthweight

Specificity: A

Etiology: Congenital

Stage	Description	Diagnostic findings	ICD-9-CM Codes
2.01	Premature infant with extremely low birthweight	Infant born at < 38 weeks gestation AND birthweight of < 1000g	DX 76501-76503, 76511-76513; DX V3000-V392 + (DX 76501-76503, 76511-76513); DX V2131-V2132;
2.02	with intrauterine growth retardation	Stage 2.01 AND birthweight less than 10 th percentile for gestational age	DX 76421-76423; STAGE 2.01 + (DX 76411-76413, 76491-76493) ; DX V3000-V392 + DX 76421-76423;
2.03	with hypocalcemia	Stage 2.01-2.02 AND hypocalcemia:	STAGE 2.01-2.02 + GROUP HYPOCALCEMIA;
2.04	with hypoglycemia	Stage 2.01-2.03 AND hypoglycemia:	STAGE 2.01-2.03 + GROUP HYPOGLYCEMIA;
2.05	with hyperbilirubinemia	Stage 2.01-2.04 AND Infants < 1 day old total serum bilirubin ≥ 8.0mg/dl [chemistry report] OR Infants 1-2 days old total serum bilirubin ≥ 12mg/dl [chemistry report] OR Infants 2-5 days old total serum bilirubin ≥ 16mg/dl [chemistry report] OR Infants > 5 days old total serum bilirubin ≥ 2mg/dl [chemistry report]	STAGE 2.01-2.04 + GROUP HYPERBILI;
2.06	with anemia	Stage 2.01-2.05 AND anemia:	STAGE 2.01-2.05 + (GROUP ANEM_OTH_UN OR GROUP ANEM_APLAST OR GROUP ANEM_HEM_ACQ OR DXCAT HEM03 OR DXCAT HEM05 OR DXCAT HEM06 OR DXCAT HEM07 OR DXCAT HEM08 OR DX 2820-2821 , 2823, 2827-2829);
2.07	with apnea of prematurity	Stage 2.01-2.06 AND apnea: respiratory pause > 20 seconds OR respiratory pause < 20 seconds AND cyanosis AND pallor AND hypotonia AND heart rate < 100 bpm	STAGE 2.01-2.06 + DX 7708;
2.08	with seizures	Stage 2.01-2.07 AND seizures	STAGE 2.01-2.07 + DX 7790;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED26

DXCat Label: Prematurity: Extremely Low Birthweight

Etiology: Congenital

MultiStage: No

Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.01	with intraventricular hemorrhage	Stage 2.01-2.08 AND intraventricular hemorrhage [ultrasound report]	STAGE 2.01-2.08 + DX 77210-77214;
3.02	with posthemorrhagic hydrocephalus	Stage 2.01-3.01 AND hydrocephalus [ultrasound report]	STAGE 2.01-3.01 + DX 7423;
3.03	with heart failure	Stage 2.01-3.02 AND congestive heart failure:	STAGE 2.01-3.02 + GROUP CHF_NON_HTN;
3.04	with sepsis	Stage 2.01-3.03 AND sepsis, infant:	STAGE 2.01-3.03 + GROUP SEPSIS;
3.05	with disseminated intravascular coagulation	Stage 2.01-3.04 AND DIC:	STAGE 2.01-3.04 + GROUP DIC;
3.06	with respiratory failure	Stage 2.01-3.05 AND respiratory failure:	STAGE 2.01-3.05 + GROUP RESP_FAIL;
3.07	with coma	Stage 2.01-3.06 AND coma:	STAGE 2.01-3.06 + GROUP COMA;
3.08	with shock	Stage 2.01-3.07 AND shock:	STAGE 2.01-3.07 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.01-3.08 AND death	NO;

References:

Bone RC et al. Definitions for sepsis and organ failure and guidelines for the use of innovative therapies in sepsis. *Chest*. 1992;101(6):1644-1655.

DeWayne MP, Coherty JP. Identifying the high-risk infant. In Coherty JP and Stark, AR, eds. *Manual of Neonatal Care*. 4th ed. Philadelphia, PA: Lippincott-Raven; 1998:37-51.

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Prouix F, Fayon M, Farrell CA, Lacroix J, Gauthier M. Epidemiology of sepsis and multiple organ dysfunction syndrome in children. *Chest*. 1996;109(4):1033-1037.

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Volpe JJ. Brain injury in the premature infant. *Clinics in Perinatology*. 1997;24(3)567-587.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED27

MultiStage: No

DXCat Label: Prematurity: Low Birthweight

Specificity: A

Etiology: Congenital

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Premature infant with low birthweight	Infant born at < 38 weeks gestation AND birthweight of < 2500g and ≥ 1500g	DX 76500, 76506-76510, 76516-76519; DX V3000-V392 + (DX 76500, 76506-76510, 76516-76519); DX V2130, V2134-V2135;
2.01	and small for gestational age (intrauterine growth retardation)	Stage 1.01 AND birthweight less than 10 th percentile for gestational age	DX 76420, 76426-76429; STAGE 1.01 + DX 76496-76499; DX V3000-V392 + (DX 76420, 76426-76429);
2.02	with hypocalcemia	Stage 1.01-2.01 AND hypocalcemia:	STAGE 1.01-2.01 + GROUP HYPOCALCEMIA;
2.03	with hypoglycemia	Stage 1.01-2.02 AND hypoglycemia:	STAGE 1.01-2.02 + GROUP HYPOGLYCEMIA;
2.04	with hyperbilitubinemia	Stage 1.01-2.03 AND Infants < 1 day old total serum bilirubin ≥ 8.0mg/dl [chemistry report] OR Infants 1-2 days old total serum bilirubin ≥ 12mg/dl [chemistry report] OR Infants 2-5 days old total serum bilirubin ≥ 16mg/dl [chemistry report] OR Infants >5 days old total serum bilirubin ≥ 2mg/dl [chemistry report]	STAGE 1.01-2.03 + GROUP HYPERBILI;
2.05	with anemia	Stage 1.01-2.04 AND anemia:	STAGE 1.01-2.04 + (GROUP ANEM_OTH_UN OR GROUP ANEM_APLAST OR GROUP ANEM_HEM_ACQ OR DXCAT HEM03 OR DXCAT HEM05 OR DXCAT HEM06 OR DXCAT HEM07 OR DXCAT HEM08 OR DX 2820-2821 , 2823, 2827-2829);
2.06	with apnea of prematurity	Stage 1.01-2.05 AND apnea: respiratory pause > 20 seconds OR respiratory pause < 20 seconds AND cyanosis AND pallor AND hypotonia AND heart rate < 100 bpm	STAGE 1.01-2.05 + DX 7708;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED27

MultiStage: No

DXCat Label: Prematurity: Low Birthweight

Specificity: A

Etiology: Congenital

Stage	Description	Diagnostic findings	ICD-9-CM Codes
2.07	with seizures	Stage 1.01-2.06 AND seizures	STAGE 1.01-2.06 + DX 7790;
3.01	with intraventricular hemorrhage	Stage 1.01-2.07 AND intraventricular hemorrhage [ultrasound report]	STAGE 1.01-2.07 + DX 77210-77214;
3.02	with posthemorrhagic hydrocephalus	Stage 1.01-3.01 AND hydrocephalus [ultrasound report]	STAGE 1.01-3.01 + DX 7423;
3.03	with heart failure	Stage 1.01-3.02 AND congestive heart failure:	STAGE 1.01-3.02 + GROUP CHF_NON_HTN;
3.04	with sepsis	Stage 1.01-3.03 AND sepsis, infant:	STAGE 1.01-3.03 + GROUP SEPSIS;
3.05	with disseminated intravascular coagulation	Stage 1.01-3.04 AND DIC:	STAGE 1.01-3.04 + GROUP DIC;
3.06	with respiratory failure	Stage 1.01-3.05 AND respiratory failure:	STAGE 1.01-3.05 + GROUP RESP_FAIL;
3.07	with coma	Stage 1.01-3.06 AND coma:	STAGE 1.01-3.06 + GROUP COMA;
3.08	with shock	Stage 1.01-3.07 AND shock:	STAGE 1.01-3.07 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 1.01-3.08 AND death	NO;

References:

Bone RC et al. Definitions for sepsis and organ failure and guidelines for the use of innovative therapies in sepsis. *Chest*. 1992;101(6):1644-1655.

DeWayne MP, Coherty JP. Identifying the high-risk infant. In: Coherty JP and Stark, AR, eds. *Manual of Neonatal Care*. 4th ed. Philadelphia, PA: Lippincott-Raven; 1998:37-51.

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Roland, EH. Intraventricular hemorrhage and posthemorrhagic hydrocephalus. *Clinics in Perinatology*. 1997;24(3)589-605.

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Volpe JJ. Brain injury in the premature infant. *Clinics in Perinatology*. 1997;24(3)567-587.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED28

DXCat Label: Prematurity: Very Low Birthweight

Etiology: Congenital

MultiStage: No

Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
2.01	Premature infant with very low birthweight	Infant born at < 38 weeks gestation AND birthweight of < 1500g and ≥ 1000g	DX 76504-76505, 76514-76515; DX V3000-V392 + (DX 76504-76505, 76514-76515); DX V2133;
2.02	and small for gestational age (intrauterine growth retardation)	Stage 2.01 AND birthweight less than 10 th percentile for gestational age	DX 76424-76425; STAGE 2.01 + DX 76494-76495; DX V3000-V392 + DX 76424-76425;
2.03	with hypocalcemia	Stage 2.01-2.02 AND hypocalcemia:	STAGE 2.01-2.02 + GROUP HYPOCALCEMIA;
2.04	with hypoglycemia	Stage 2.01-2.03 AND hypoglycemia:	STAGE 2.01-2.03 + GROUP HYPOGLYCEMIA;
2.05	with hyperbilirubinemia	Stage 2.01-2.04 AND Infants < 1 day old total serum bilirubin ≥ 8.0mg/dl [chemistry report] OR Infants 1-2 days old total serum bilirubin ≥ 12mg/dl [chemistry report] OR Infants 2-5 days old total serum bilirubin ≥ 16mg/dl [chemistry report] OR Infants >5 days old total serum bilirubin ≥ 2mg/dl [chemistry report]	STAGE 2.01-2.04 + GROUP HYPERBILI;
2.06	with anemia	Stage 2.01-2.05 AND anemia:	STAGE 2.01-2.05 + (GROUP ANEM_OTH_UN OR GROUP ANEM_APLAST OR GROUP ANEM_HEM_ACQ OR DXCAT HEM03 OR DXCAT HEM05 OR DXCAT HEM06 OR DXCAT HEM07 OR DXCAT HEM08 OR DX 2820-2821 , 2823, 2827-2829);
2.07	with apnea of prematurity	Stage 2.01-2.06 AND apnea: respiratory pause > 20 seconds OR respiratory pause < 20 seconds AND cyanosis AND pallor AND hypotonia AND heart rate < 100 bpm	STAGE 2.01-2.06 + DX 7708;
2.08	with seizures	Stage 2.01-2.07 AND seizures	STAGE 2.01-2.07 + DX 7790;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED28

DXCat Label: Prematurity: Very Low Birthweight

Etiology: Congenital

MultiStage: No

Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.01	with intraventricular hemorrhage	Stage 2.01-2.08 AND intraventricular hemorrhage [ultrasound report]	STAGE 2.01-2.08 + DX 77210-77214;
3.02	with posthemorrhagic hydrocephalus	Stage 2.01-3.01 AND hydrocephalus [ultrasound report]	STAGE 2.01-3.01 + DX 7423;
3.03	with heart failure	Stage 2.01-3.02 AND congestive heart failure:	STAGE 2.01-3.02 + GROUP CHF_NON_HTN;
3.04	with sepsis	Stage 2.01-3.03 AND sepsis, infant:	STAGE 2.01-3.03 + GROUP SEPSIS;
3.05	with disseminated intravascular coagulation	Stage 2.01-3.04 AND DIC:	STAGE 2.01-3.04 + GROUP DIC;
3.06	with respiratory failure	Stage 2.01-3.05 AND respiratory failure:	STAGE 2.01-3.05 + GROUP RESP_FAIL;
3.07	with coma	Stage 2.01-3.06 AND coma:	STAGE 2.01-3.06 + GROUP COMA;
3.08	with shock	Stage 2.01-3.07 AND shock:	STAGE 2.01-3.07 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.01-3.08 AND death	NO;

References:

Bone RC et al. Definitions for sepsis and organ failure and guidelines for the use of innovative therapies in sepsis. *Chest*. 1992; 101(6);1644-1655.

DeWayne MP, Coherty JP. Identifying the high-risk infant. In: Coherty JP and Stark, AR, eds. *Manual of Neonatal Care*. 4th ed. Philadelphia, PA: Lippincott-Raven; 1998:37-51.

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Prouix F, Fayon M, Farrell CA, Lacroix J, Gauthier M. Epidemiology of sepsis and multiple organ dysfunction syndrome in children. *Chest*. 1996;109(4);1033-1037.

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Volpe JJ. Brain injury in the premature infant. *Clinics in Perinatology*. 1997;24(3)567-587.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED29

DXCat Label: Rubella: Congenital

Etiology: Infection, Viral

MultiStage: No

Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
2.01	Congenital rubella infections	Newborn AND Isolation of cytomegalovirus from maternal amniotic fluid or infant's urine or saliva [virology culture report] OR detection of IgM or IGG-specific cytomegalovirus antibody in the serum [serology report]	DX 7710;
2.02	with intrauterine growth retardation	Newborn AND Isolation of cytomegalovirus from maternal amniotic fluid or infant's urine or saliva [virology culture report] OR detection of IgM or IGG-specific cytomegalovirus antibody in the serum [serology report] AND birthweight ≤ 10 th percentile for gestational age	STAGE 2.01 + (DX 76400-76409, 76490-76499);
2.03	with hepatosplenomegaly and jaundice	Stage 2.01-2.02 AND hepatosplenomegaly [sonography report or CT scan report or MRI report] AND hyperbilirubinemia:	STAGE 2.01-2.02 + (GROUP HYPERBILI OR DX 5718);
2.04	with sensorineural hearing loss	Stage 2.01-2.03 AND sensorineural hearing loss [audiology report or BAEP report]	STAGE 2.01-2.03 + DX 38910-38922;
2.05	with microcephaly	Stage 2.01-2.04 AND head circumference < 10 th percentile for gestational age	STAGE 2.01-2.04 + DX 7421;
2.06	with retinopathy, glaucoma or cataracts	Stage 2.01-2.05 AND retinopathy [ophthalmoscopy report] OR glaucoma OR cataracts	STAGE 2.01-2.05 + (DXCAT EYE01 OR DXCAT EYE13 OR DX 36210, 36212-36218, 36229, 74330-74334, 74339);
2.07	with mental retardation	Stage 2.01-2.06 AND mental retardation:	STAGE 2.01-2.06 + DXCAT NEU15;
2.08	with interstitial pneumonitis	Stage 2.01-2.07 AND interstitial pneumonitis [radiology report]	STAGE 2.01-2.07 + DX 7700;
2.09	with congenital heart disease	Stage 2.01-2.08 AND pulmonary artery stenosis [cardiac catheterization report or echocardiography report] OR patent ductus arteriosus [cardiac catheterization report or echocardiography report] OR ventricular septal defect [cardiac catheterization report or echocardiography report]	STAGE 2.01-2.08 + (DX 7470, 7473 OR DXCAT PED15) ;
2.10	with seizures	Stage 2.01-2.09 AND seizures [EEG report]	STAGE 2.01-2.09 + DX 7790;
3.01	with meningoencephalitis	Stage 2.01-2.10 AND aseptic meningitis:	STAGE 2.01-2.10 + DXCAT NEU13;
3.02	with congestive heart failure	Stage 2.01-3.01 AND congestive heart failure:	STAGE 2.01-3.01 + GROUP CHF__NON_HTN;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED29

MultiStage: No

DXCat Label: Rubella: Congenital

Specificity: A

Etiology: Infection, Viral

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.03	with respiratory failure	Stage 2.01-3.02 AND respiratory failure:	STAGE 2.01-3.02 + GROUP RESP_FAIL;
3.04	with coma	Stage 2.01-3.03 AND coma:	STAGE 2.01-3.03 + GROUP COMA;
3.05	with shock	Stage 2.01-3.04 AND shock:	STAGE 2.01-3.04 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.01-3.05 AND death:	NO;

References:

Banatvala JE. Rubella--could do better. *Lancet*. 1998;351(9106):849-50.

Beers MH, Berkow R, eds. Congenital rubella. In: *Merck Manual*. 17th ed. Whitehouse Station, NJ: Merck Research Laboratories; 1999:2185-2186.

Cole FS. Viral infections of the fetus and newborn. In: Tausch HW and Ballard RA, eds. *Avery's Diseases of the Newborn*. 7th ed. Philadelphia, PA: WB Saunders, 1998:467-489.

Gershon A. Rubella (German measles). In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. *Harrison's Principles of Internal Medicine*. 14th ed. New York, NY: McGraw-Hill; 1998:1125-1127.

Ogle JW. Infections: viral and rickettsial/rubella. In: Hay WW, Groosthius JR, Hayward AR, Levin MJ, eds. *Current Pediatric Diagnosis and Treatment*, 13th Ed. Stamford, CT: Appleton & Lange; 1997:987-989.

Shandera WX, Carlini ME. Infectious diseases: viral & rickettsial. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. *Current Medical Diagnosis & Treatment*. Stamford, CT: Appleton & Lange; 1998:1231-1267.

Thomas DR, Salmon RL, King J. Rates of first measles-mumps-rubella immunisation in Wales (UK). *Lancet*. 1998;351(9120):1927.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED30

MultiStage: No

DXCat Label: Syphilis: Congenital

Specificity: A

Etiology: Infection, Bacterial

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Congenital syphilis	Newborn AND Maculopapular skin rash OR mucocutaneous lesions OR generalized lymphadenopathy OR syphilitic pemphigus OR snuffles OR osteochondritis OR osteitis AND FTA test > 1:4 dilutions.[serology report] OR Treponema pallidum isolated from lesions [op/path report]	DX 0900-0902, 0909;
2.01	Congenital syphilis with malformations or late congenital syphilis	Osteochondritis OR interstitial keratitis OR sensorineural deafness OR Hutchinson's triad OR Hutchinson's incisors OR saddle nose OR knee effusions or Clutton's joints AND 2 years after birth FTA test > 1:4 dilutions [serology report] OR Treponema pallidum isolated from lesions [op/path report]	DX 0903, 0905, 0906, 0907;
2.02	Congenital syphilis involving the liver or spleen or kidney or joints or bones	Stage 2.01 AND mass lesion in liver demonstrates treponema pallidum [biopsy report] OR mass lesion in spleen demonstrates treponema pallidum [biopsy report] OR treponema pallidum glomerulitis [biopsy report] OR osteomyelitis:	STAGE 2.01 + GROUP OSTEOMYELIT;
3.01	Cardiovascular congenital syphilis	Stage 2.01-2.02 AND aortitis [op/path report] OR thoracic aneurysm [op/path report] OR myocarditis: OR aortic insufficiency [echocardiogram report]	STAGE 2.01-2.02 + (DX 0930, 0931, 09322, 09382);
3.02	Congenital neurosyphilis	Aseptic meningitis: AND FTA of spinal fluid > 1:4 dilutions (serology report). AND tabes dorsalis OR locomotor ataxia OR dementia paralytica OR generalized paresis	DX 09040-09049;
3.03	with congestive heart failure	Stage 2.01-3.02 AND congestive heart failure:	STAGE 1.01-3.02 + GROUP CHF__HTNIVE;
3.04	with shock	Stage 2.03-3.03 AND shock:	STAGE 1.01-3.03 + (GROUP SHOCKC OR GROUP SHOCKN) ;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED30

MultiStage: No

DXCat Label: Syphilis: Congenital

Specificity: A

Etiology: Infection, Bacterial

Stage	Description	Diagnostic findings	ICD-9-CM Codes
4.00	with death	Stage 2.01-3.04 AND death	NO;

References:

- Anonymous. High-dose intravenous penicillin G in patients with human immunodeficiency virus infection. *N Engl J Med.* 1994;331(22):1469-73.
- Jacobs RA. Infectious diseases: spirochetal. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. *Current Medical Diagnosis & Treatment.* Stamford, CT: Appleton & Lange; 1998:1304-1324.
- Lukehart SA, Holmes KK. Syphilis. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. *Harrison's Principles of Internal Medicine,* 14th ed. New York, NY: McGraw-Hill; 1998:1023-1033.
- Malone JL, Wallace MR, Hendrick BB, et al. Syphilis and neurosyphilis in a human immunodeficiency virus type-1 seropositive population: evidence for frequent serologic relapse after therapy. *American Journal of Medicine.* 1995;99(1):55-63.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED31

MultiStage: No

DXCat Label: Toxoplasmosis: Congenital

Specificity: A

Etiology: Infection

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Asymptomatic congenital toxoplasmosis	Congenital toxoplasma gondii [Toxoplasma gondii from placenta fetal blood or Toxoplasma gondii from amniotic fluid or Toxoplasma gondii from infant's cord blood or Toxoplasma gondii from peripheral blood] OR B1 gene [amniotic fluid PCR report, infant's blood PCR report or CSF PCR report OR detection of Toxoplasma-specific IgM, IgA or IgE [double sandwich ELISA or ISAGA report]	DX 7712;
1.02	with lymphadenitis	Enlarged lymph nodes AND antibodies present against Toxoplasma gondii in high titers [IgG Sabin-Feldman dye test \geq 1:1000 or indirect fluorescent antibody \geq 1:1000 or indirect hemagglutination test \geq 1:1000 or complement fixation test \geq 1:4 or ELISA titer \geq 6] OR isolation of Toxoplasma gondii from body fluids [tissue culture report]	STAGE 1.01 + (DX 683, 7856);
2.01	Generalized congenital toxoplasmosis	Stage 1.01-1.02 AND hepatosplenomegaly OR generalized lymphadenopathy OR jaundice: OR anemia:	STAGE 1.01-1.02 + (DX 2893, 5718 OR GROUP HYPERBILI OR GROUP ANEM_OTH_UN OR GROUP ANEM_APLAST OR GROUP ANEM_HEM_ACQ OR DXCAT HEM03 OR DXCAT HEM05 OR DXCAT HEM06 OR DXCAT HEM07 OR DXCAT HEM08 OR DX 2820-2821 , 2823, 2827-2829);
2.02	with chorioretinitis	Stage 1.01-2.01 AND chorioretinitis [ophthalmologist's report]	STAGE 1.01-2.01 + DX 36330;
2.03	with chorioretinitis and blindness	Stage 2.02 AND blindness AND macular scar [ophthalmologist's report] OR retinal detachment [ophthalmologist's report] OR optic nerve atrophy [ophthalmologist's report]	STAGE 2.02 + GROUP BLINDNESS;
2.04	Toxoplasma pneumonia	Stage 1.02-2.03 AND pneumonia:	DX 7700;
2.05	with hemolytic anemia of the newborn or erythroblastosis fetalis	Stage 1.01-2.04 AND erythroblastosis fetalis OR Rh-negative antibody in mother AND Rh-positive antibody in father AND Rh-positive antibody in newborn AND cord blood hematocrit < 40% [hematology report] AND cord blood bilirubin > 5mg/dl [hematology report] AND cord blood reticulocytes > 15% [hematology report]	STAGE 1.01-2.04 + (DX 7730-7732, 7735);

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED31

MultiStage: No

DXCat Label: Toxoplasmosis: Congenital

Specificity: A

Etiology: Infection

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.01	with meningoencephalitis	Abnormal CSF (pleocytosis and elevated protein) AND Intracerebral calcifications OR microcephaly OR hydrocephalus OR seizures OR mental retardation OR deafness	STAGE 1.01-2.05 + DX 3234;
3.02	Toxoplasma myocarditis	Stage 1.02-3.01 AND myocarditis:	STAGE 1.01-3.01 + (DX 1303, 42292);
3.03	with hydrops fetalis	Stage 1.01-3.02 AND hydrops fetalis [fetal ultrasound report] OR newborn scalp edema AND newborn cardiomegaly [chest x-ray report] AND newborn hepatomegaly AND newborn pleural effusions [chest x-ray report] AND newborn ascites AND newborn generalized edema AND newborn hepatosplenomegaly	STAGE 1.01-3.02 + (DX 7733, 7780);
3.04	with coma	Stage 1.01-3.03 AND coma:	STAGE 1.01-3.03 + GROUP COMA;
4.00	with death	Stage 2.02-3.04 AND death	NO;

References:

American Academy of Pediatrics. Toxoplasma gondii infections. In Peter G, ed. 1997 Red Book: Report on the Committee on Infectious Diseases. 24th ed. Elk Grove Village, IL: American Academy of Pediatrics; 1997:531-535.

Lynfield R, Guerina NG. Toxoplasmosis. Pediatrics in Review. 1997;18:75-83.

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Remington, JS, McLeod, R and Desmonts, G. Toxoplasmosis. In: Remington JS, Klein JO, eds. Infectious Diseases of the Fetus and Newborn Infant. 4th ed. Philadelphia, PA: WB Saunders; 1995:180-222.

Weinberg A and Levin MJ. Parasitic and mycotic infections/toxoplasmosis. In: Hay WW, Groosthous JR, Hayward AR, Levin MJ, eds. Current Pediatric Diagnosis and Treatment. 13th ed. Stamford, CT: Appleton & Lange; 1997: 1074-76.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED80

MultiStage: No

DXCat Label: Anomaly: Other Circulatory System

Specificity: C

Etiology: Congenital

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Peripheral and visceral vessel anomalies		DX 7475-74769, 74782-7479;
1.02	Great vessel anomalies		DX 74720-74749;
2.01	with hypoxemia		STAGE 1.01-1.02 + GROUP HYPOXEMIA;
3.01	with CHF		STAGE 1.01-2.01 + GROUP CHF__NON_HTN;
3.02	with sepsis		STAGE 1.01-3.01 + GROUP SEPSIS;
3.03	with respiratory failure		STAGE 1.01-3.02 + GROUP RESP_FAIL;
3.04	with shock		STAGE 1.01-3.03 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	Death, including SIDS		DX 7980;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED81

MultiStage: No

DXCat Label: Anomaly: Other Digestive or Hepatobiliary System

Specificity: C

Etiology: Congenital

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Gastrointestinal, hepatobiliary or pancreatic anomaly, Meckel's diverticulum, intestinal fixation or congenital cystic liver		DX 7504, 7507-7510, 7514, 75160, 75162, 75169-7517, 7519;
2.01	Atresia of intestine or colon		DX 7511-7512;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED82

MultiStage: No

DXCat Label: Anomaly: Other Genitalia

Specificity: C

Etiology: Congenital

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Congenital chordee, micropenia, indeterminate sex		DX 75263-75269, 7528-7529; DX 7527 + MALE;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED83

MultiStage: No

DXCat Label: Anomaly: Other Nervous System

Specificity: C

Etiology: Congenital

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Unspecified anomalies of nervous system		DX 7421-7422, 7424, 74253-7429;
2.01	Craniorachischisis or iniencephaly		DX 7401-7402;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED84

MultiStage: No

DXCat Label: Other Maternal Conditions Affecting Newborn

Specificity: C

Etiology:

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Maternal or labor and delivery conditons affecting the newborn, weeks of gestation		DX 7600-7601, 7603-76070, 76074, 76076-7636, 7637-76383, 76389-7639, 76520-76529;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED85

MultiStage: No

DXCat Label: Other Neonatal Conditions

Specificity: C

Etiology:

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	Health supervision of foundling or observation and evaluation of infant for suspected condition not found	Added stage 5/8/06 cb	DX V200, V290-V299;
1.01	Newborn with blood loss, cutaneous hemorrhage, anemia, hypothermia, integumentary conditions		DX 7720, 7723, 7726-7729, 7754-7759, 7761, 7763-7774, 7778-7779, 7781-7785, 7787, 7789, 7793, 7798-77983, 77989-7799;
2.01	Newborn with intraventricular hemorrhage, meconium obstruction, inspissated milk, cerebral irritation, periventricular leukomalacia		DX 7721-7722, 7760, 7791, 7797;
3.01	Newborn with DIC, hydrops fetalis, convulsions, CNS dysfunction, cardiac arrest, or terminated pregnancy		DX 7762, 7780, 7790, 7792, 7794, 7796, 77985;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PED86

MultiStage: No

DXCat Label: Live Newborns

Specificity: C

Etiology:

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	Newborn		DX V3000-V392 + NOT (DXCAT PED19 OR DXCAT PED25 OR DXCAT PED26 OR DXCAT PED27 OR DXCAT PED28);

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PSY01

MultiStage: No

DXCat Label: Antisocial Personality Disorder

Specificity: A

Etiology: Psychogenic; Toxicologic

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Antisocial behavior	Antisocial behavior which meets DSM-IV criteria [psychiatrist report]	DX 3017, 3093, 31200-3129, V7101-V7102;
2.01	with major crimes	Stage 1.01 AND history of felony conviction OR history of voluntary manslaughter OR history of first or second degree murder conviction	STAGE 1.01 + DX V625;
3.01	with coma	Stage 1.01-2.01 AND coma:	STAGE 1.01-2.01 + GROUP COMA;
3.02	with shock	Stage 3.01 AND shock:	STAGE 1.01-3.01 + GROUP SHOCKA;
4.00	with death	Stage 2.01-3.02 AND death	NO;

References:

American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders. 4th ed. American Psychiatric Association. 1994:645-650.

Gunderson JG, Phillips KA. Personality disorders. In.: Kaplan HI, Sadock BJ, eds. Comprehensive Textbook of Psychiatry. 6th ed. Baltimore, MD: Williams & Wilkins; 1995:1441-1444.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PSY02

MultiStage: No

DXCat Label: Bipolar Disorder - Major Depressive Episode

Specificity: A

Etiology: Genetic (or hereditary); Psychogenic

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	Bipolar Disorder - major depression in full remission	Major depressive episode which met DSM-IV criteria [psychiatrist report] AND absence of significant signs or symptoms in < two months	DX 29636, 29656;
1.01	Bipolar Disorder - major depression in partial remission	Major depressive episode which meets DSM-IV criteria [psychiatrist report] AND four (or less) of the following symptoms depressed mood OR loss of pleasure or interest OR significant weight loss OR insomnia OR hypersomnia OR psychomotor agitation OR psychomotor retardation OR fatigue OR feelings of worthlessness OR feelings of excessive guilt OR decreased ability to think OR recurrent thoughts of death AND one of the following symptoms: impaired ability to maintain employment OR impaired ability to care for self OR reduced capability for social relationships	DX 29635, 29655;
2.01	Bipolar Disorder - major depression	Major Depressive Episode which meets DSM- IV criteria [psychiatrist report] Depressed Mood AND loss of interest or pleasure in usual activities AND five or more of the following symptoms in the same 2 week period: depressed mood most of the day, nearly daily OR marked loss of interest and pleasure OR significant weight loss (5% body weight in a month) OR insomnia or hypersomnia almost daily OR psychomotor agitation or retardation, almost daily OR fatigue or loss of energy, nearly daily OR feelings of worthlessness OR feelings of excessive guilt OR decreased ability to think OR recurrent thoughts of death AND one of the following symptoms: impaired ability to maintain employment OR impaired ability to care for self OR reduced capability for social relationships	DX 29650-29652;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PSY02

MultiStage: No

DXCat Label: Bipolar Disorder - Major Depressive Episode

Specificity: A

Etiology: Genetic (or hereditary); Psychogenic

Stage	Description	Diagnostic findings	ICD-9-CM Codes
2.02	Major depression severe	Stage 1.01- 2.01 AND > 5 criteria necessary for DSM-IV diagnosis of major depression [psychiatrist report] AND marked impairment of occupational functioning OR marked impairment of self care OR marked impairment of social relationships	DX 29653;
2.03	Major depression severe with psychotic features	Stage 2.02 AND delusions, mood congruent or incongruent OR hallucinations, mood congruent or incongruent	DX 29654;
3.01	with suicidal attempt	Stage 1.01 - 2.03 AND Suicide attempt OR self-inflicted injuries AND loss of consciousness OR self-inflicted injury penetrating the pleural space [chest x-ray report] OR self-inflicted injury lacerating any artery [operative/pathology report] OR self-inflicted injury lacerating any nerve [operative/pathology report] OR self-inflicted injury penetrating the peritoneal space [operative/pathology report] OR fracture of the spinal column [x-ray report] OR fracture of the tibia or fibula [x-ray report] OR fracture of the femur [x-ray report]	STAGE 1.01-2.03 + DX E9500-E9589;
3.02	with renal failure	Stage 3.01 AND renal failure:	STAGE 1.01-3.01 + (GROUP REN_FAIL_ACU OR GROUP REN_FAIL_CHR);
3.03	with intracranial injury	Stage 3.01-3.02 AND intracranial injury [CT scan report or MRI report]	STAGE 1.01-3.02 + DX 8500-8509;
3.04	with respiratory failure	Stage 3.01-3.03 AND respiratory failure:	STAGE 3.01-3.03 + GROUP RESP_FAIL;
3.05	with coma	Stage 3.01-3.04 AND coma:	STAGE 3.01-3.04 + GROUP COMA;
3.06	with shock	Stage 3.03-3.05 AND shock:	STAGE 3.01-3.05 + GROUP SHOCKA;
4.00	with death	Stage 3.06 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PSY02

MultiStage: No

DXCat Label: Bipolar Disorder - Major Depressive Episode

Specificity: A

Etiology: Genetic (or hereditary); Psychogenic

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

Akiskal HS. Mood disorders: clinical features. In Kaplan HI, Sadock BJ. eds., Comprehensive Textbook of Psychiatry. 6th ed. Baltimore, MD: Williams & Wilkins; 1995:1123-1152.

American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders. 4th ed. American Psychiatric Association. 1994:317-391.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PSY03

MultiStage: No

DXCat Label: Bipolar Disorder - Manic Episode

Specificity: A

Etiology: Genetic (or hereditary); Psychogenic

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	Manic episode in full remission	Manic episode which met DSM-IV criteria [psychiatrist report] AND absence of significant signs or symptoms in past 2 months	DX 29605-29606, 29615-29616, 29645-29646, 29665-29666;
1.01	Hypomanic episode	Hypomanic episode which meets DSM-IV criteria [psychiatrist report] persistently elevated, expansive, or irritable mood for at least 4 days AND during the mood disturbance, 3 (or more) or the following (4, if mood is only irritable): inflated self-esteem or grandiosity OR decreased need for sleep OR more talkative than usual OR flight of ideas, or racing thoughts OR distractibility OR increased activity or psychomotor agitation OR excessive involvement in pleasurable, risk - taking activities AND no impairment in functioning AND absence of necessity for hospitalization AND absence of psychotic features	DX 29600-29602, 29610, 29680;
2.01	Manic episode	Manic episode which meets DSM-IV criteria [psychiatrist report] abnormally elevated, expansive or irritable mood, for at least one week AND during the mood disturbance, 3 (or more) of the following, (4, if mood is only irritable): inflated self-esteem or grandiosity OR decreased need for sleep OR more talkative than usual OR flight of ideas or racing thoughts OR distractibility OR increased activity or psychomotor agitation OR excessive involvement in pleasurable, risk-taking activities AND one of the following: marked impairment in occupational functioning OR marked impairment in social activities OR marked impairment in interpersonal relationships	DX 29611-29612, 29640-29642, 29660-29662, 2967, 29681-29689;
2.02	Manic episode, severe	Stage 2.01 AND almost continual supervision necessary to prevent physical harm to self or others OR threats to harm self or others OR attempted assaults on others	DX 29603, 29613, 29643, 29663;
2.03	Manic episode, severe with psychotic features	Stage 2.02 AND delusions, mood congruent or incongruent OR hallucinations, mood congruent or incongruent	DX 29604, 29614, 29644, 29664;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PSY03

MultiStage: No

DXCat Label: Bipolar Disorder - Manic Episode

Specificity: A

Etiology: Genetic (or hereditary); Psychogenic

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.01	with suicide attempt	Stage 2.01-2.03 AND Suicide attempt OR self-inflicted injuries AND loss of consciousness OR self-inflicted injury penetrating the pleural space [chest x-ray report] OR self-inflicted injury lacerating any artery [operative/pathology report] OR self-inflicted injury lacerating any nerve [operative/pathology report] OR self-inflicted injury penetrating the peritoneal space [operative/pathology report] OR fracture of the spinal column [x-ray report] OR fracture of the tibia or fibula [x-ray report] OR fracture of the femur [x-ray report]	STAGE 1.01-2.03 + DX E9500-E9589;
3.02	with shock	Stage 2.01-3.01 AND shock:	STAGE 2.01-3.01 + GROUP SHOCKA;
4.00	with death	Stage 2.02-3.02 AND death	NO;

References:

American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders. 4th ed. American Psychiatric Association. 1994:393-444.

Papp LA, Gorman JM. Generalized anxiety disorder. In.: Kaplan HI, Sadock BJ, eds. Comprehensive Textbook of Psychiatry. 6th ed. Baltimore, MD: Williams & Wilkins; 1995:1236-1249.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PSY04

MultiStage: No

DXCat Label: Depression

Specificity: A

Etiology: Genetic (or hereditary); Psychogenic

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Adjustment disorder with depressed mood (loss of interest or pleasure in usual activities)	Depressed mood OR loss of interest or pleasure AND life stress situation occurring within 3 months prior to onset AND distress in excess of expected degree OR significant social or occupational or academic dysfunction	DX 29625-29626, 3090, 30928, 3099, 3131;
1.02	Depression with loss of interest or pleasure in usual activities	Depressed Mood OR loss of interest or pleasure AND absence of life stress situation OR life stress situation occurred ≥ 3 months ago AND at least two (but < 5) of the following, while depressed: poor appetite and weight loss OR over eating and weight gain OR insomnia OR hypersomnia OR low energy or fatigue OR low self esteem OR poor concentration or difficulty making decisions OR feelings of hopelessness	DX 3004, 3091, 311;
1.03	Depression with substance abuse	Stage 1.01- 1.02 AND drug abuse OR alcohol abuse	STAGE 1.01-1.02 + (DX 30300-30503, 30520-30593);
2.01	Major Depression	Depressed Mood OR loss of interest or pleasure in usual activities AND five (or more) of the following symptoms in the same 2 week period: depressed mood most of day, nearly daily OR marked loss of interest or pleasure OR significant weight loss (5% body weight in a month) OR insomnia or hypersomnia almost daily OR psychomotor agitation or retardation, nearly daily OR fatigue or loss of energy, nearly daily OR feelings of worthlessness OR feelings of excessive guilt OR decreased ability to think OR recurrent thoughts of death AND one of the following symptoms: impaired ability to maintain employment OR impaired ability to care for self OR reduced capability for social relationships	DX 29620-29623, 29630-29633;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PSY04

MultiStage: No

DXCat Label: Depression

Specificity: A

Etiology: Genetic (or hereditary); Psychogenic

Stage	Description	Diagnostic findings	ICD-9-CM Codes
2.02	with psychotic features	Stage 2.01 AND impairment in reality testing OR delusions OR auditory hallucinations OR visual hallucinations	DX 29624, 29634, 2980;
3.01	with suicide attempt	Stage 1.01-2.02 AND Suicide attempt OR self-inflicted injuries AND loss of consciousness OR self-inflicted injury penetrating the pleural space [chest x-ray report] OR self-inflicted injury lacerating any artery [operative/pathology report] OR self-inflicted injury lacerating any nerve [operative/pathology report] OR self-inflicted injury penetrating the peritoneal space [operative/pathology report] OR fracture of the spinal column [x-ray report] OR fracture of the tibia or fibula [x-ray report] OR fracture of the femur [x-ray report]	STAGE 1.01-2.02 + DX E9500- E9589;
3.02	with respiratory failure	Stage 1.02-3.01 AND respiratory failure:	STAGE 3.01 + GROUP RESP_FAIL;
3.03	with intracranial injury	Stage 1.02-3.02 AND intracranial injury [CT scan report or MRI report]	STAGE 3.01-3.02 + DX 8500- 8509;
3.04	with coma	Stage 1.02-3.03 AND coma:	STAGE 3.01-3.03 + GROUP COMA;
3.05	with shock	Stage 1.02-3.04 AND shock:	STAGE 3.01-3.04 + GROUP SHOCKA;
4.00	with death	Stage 2.01-3.05 AND death	NO;

References:

Akiskal HS. Mood disorders: clinical features. In: Kaplan HI, Sadock BJ, eds. Comprehensive Textbook of Psychiatry. 6th ed. Baltimore, MD: Williams & Wilkins; 1995:1123-1152.

American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders. 4th ed. American Psychiatric Association. 1994:317-349.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PSY05

MultiStage: Yes

DXCat Label: Drug Abuse, Dependence, Intoxication: Alcohol

Specificity: A

Etiology: Genetic (or hereditary); Psychogenic; Toxicologic

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Alcohol abuse	Alcohol use which meets DSM-IV criteria for abuse [psychiatrist report] history of use AND failure to fulfill major role obligations OR recurrent alcohol use in physically dangerous situations OR recurrent alcohol related legal problems OR continued alcohol use despite social or interpersonal use related problems	DX 30500-30503;
1.02	Alcohol dependence	Depressed Mood OR loss of interest or pleasure AND absence of life stress situation OR life stress situation occurred \geq 3 months ago AND at least two (but < 5) of the following, while depressed: poor appetite and weight loss OR over eating and weight gain OR insomnia OR hypersomnia OR low energy or fatigue OR low self esteem OR poor concentration or difficulty making decisions OR feelings of hopelessness	DX 30390-30393, 29182;
2.01	Alcohol intoxication	Stage 1.01 - 1.02 AND recent ingestion of alcohol AND 1 (or more) of the following during of after use: slurred speech OR incoordination OR unsteady gait OR nystagmus OR impaired attention or memory OR stupor or coma	DX 2914, 30300-30303;
2.02	Alcoholism with hepatomegaly or alcoholic polyneuropathy or chronic pancreatitis	Stage 1.01-1.02 AND hepatomegaly: OR hepatitis: OR coagulation defect: OR polyneuropathy [EMG report] OR chronic pancreatitis	DX 3575, 5710-5711, 5713; STAGE 1.01-2.01 + (DX 5771 OR GROUP COAG_DEFECT);

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PSY05

MultiStage: Yes

DXCat Label: Drug Abuse, Dependence, Intoxication: Alcohol

Specificity: A

Etiology: Genetic (or hereditary); Psychogenic; Toxicologic

Stage	Description	Diagnostic findings	ICD-9-CM Codes
2.03	with gastritis or anemia	Stage 1.01-2.02 AND gastritis [endoscopy report] OR anemia:	DX 53530-53531; STAGE 1.01-2.02 + (DX 2859, 2875, 7863); STAGE 1.01-2.02 + (GROUP ANEM_DEF_B12 OR GROUP ANEM_DEF_FE OR GROUP ANEM_DEF_FOL OR GROUP ANEM_DEF_OTH OR GROUP ANEM_OTH_CHR OR GROUP ANEM_OTH_UN);
2.04	with acute pancreatitis	Stage 1.01-2.03 AND pancreatitis:	STAGE 1.01-2.03 + DX 5770;
2.05	with cirrhosis	Stage 1.01-2.04 AND cirrhosis [sonogram report or liver biopsy report]	DX 5712; STAGE 1.01-2.04 + (DX 2760- 2769, 7948);
3.01	with Wernicke-Korsakoff's syndrome	Stage 1.01-2.05 AND ophthalmoplegia OR Korsakoff's psychosis OR confabulation	DX 2911-2913, 2915-2919; STAGE 1.01-2.05 + (DX 37852, 37855-37856, 3789);
3.02	with cardiomegaly or congestive heart failure	Stage 1.01-3.01 AND alcoholic cardiomyopathy [operative pathology report or echocardiogram report] OR congestive heart failure:	DX 4255; STAGE 1.01-3.01 + GROUP CHF_NON_HTN;
3.03	Delirium tremens	Stage 1.1-3.2 AND history of alcohol abstinence for ≥ 24 hours AND seizure disorder [physical examination or EEG report] OR visual hallucinations OR auditory hallucinations OR nausea and vomiting OR insomnia	DX 2910;
3.04	with coma	Stage 1.01-3.03 AND coma:	STAGE 1.01-3.03 + GROUP COMA;
3.05	with shock	Stage 1.01-3.04 AND shock:	STAGE 1.01-3.04 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.01-3.05 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PSY05

MultiStage: Yes

DXCat Label: Drug Abuse, Dependence, Intoxication: Alcohol

Specificity: A

Etiology: Genetic (or hereditary); Psychogenic; Toxicologic

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders. 4th ed. American Psychiatric Association. 1994:194-204.

Schuckit MA. Alcohol- related disorders. In.: Kaplan HI, Sadock BJ, eds. Comprehensive Textbook of Psychiatry. 6th ed. Baltimore, MD: Williams & Wilkins; 1995:775-791.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PSY06

MultiStage: No

DXCat Label: Drug Abuse, Dependence, Overdose: Amphetamine

Specificity: A

Etiology: Psychogenic; Toxicologic

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Amphetamine abuse	Amphetamine use which meets DSM- IV criteria for abuse [Psychiatrists report] OR history of use AND failure to fulfil major role obligations OR recurrent use in physically dangerous situations OR recurrent amphetamine related legal problems OR continued use despite related social or interpersonal use related	DX 30570-30573;
1.02	Amphetamine dependence	Stage 1.01 AND Amphetamine use which meets DSM-IV criteria for dependence (3 or more criteria in a 12 month period) [Psychiatrists report]: tolerance OR withdrawal OR increased use OR desire or efforts to decrease use OR increased time spent obtaining amphetamines OR reduced social or occupational activities OR recurrent use despite negative physical OR psychological or social effects	DX 30440-30443; STAGE 1.01 + (DX 2920, 29211-29212, 29281-2929);
2.01	Amphetamine intoxication	Stage 1.01-1.02 AND two of following develop > one hour after ingestion of dose and not due to other disorder: psychomotor excitement OR elation OR grandiosity OR psychomotor agitation or retardation OR hypervigilance OR resistance to fatigue OR tachycardia: OR bradycardia: OR pupillary dilation OR perspiration or chills OR nausea or vomiting OR anorexia OR insomnia OR hypertension: OR hypotension:	DX 9697, E8542, E9397; STAGE 1.01-1.02 + (DX 29211-2922, 29282-2929, 7830, 7808, 78701-78702 OR GROUP TACHYCARDIA OR GROUP BRADYCARDIA OR GROUP HYPERTENSION OR GROUP HYPOTENSION);

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PSY06

MultiStage: No

DXCat Label: Drug Abuse, Dependence, Overdose: Amphetamine

Specificity: A

Etiology: Psychogenic; Toxicologic

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.01	with suicide attempt	Stage 1.01-2.01 AND Suicide attempt OR self-inflicted injuries AND loss of consciousness OR self-inflicted injury penetrating the pleural space [chest x-ray report] OR self-inflicted injury lacerating any artery [operative/pathology report] OR self-inflicted injury lacerating any nerve [operative/pathology report] OR self-inflicted injury penetrating the peritoneal space [operative/pathology report] OR fracture of the spinal column [x-ray report] OR fracture of the tibia or fibula [x-ray report] OR fracture of the femur [x-ray report]	STAGE 1.01-2.01 + DX E9500-E9589;
3.02	with disorientation or seizure disorder	Stage 1.01-3.01 AND disorientation: OR seizures [EEG report or physical examination]	STAGE 1.01-3.01 + (DX 29281, 78031-78039 OR GROUP DISORIENT);
3.03	with shock	Stage 1.01-3.02 AND shock:	STAGE 1.01-3.02 + GROUP SHOCKA;
4.00	with death	Stage 1.03-3.03 AND death	NO;

References:

American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders. 4th ed. American Psychiatric Association, 1994:204–212.

Jaffe JH. Amphetamine (or Amphetamine-like) – related disorder. In: Kaplan HI, Sadock BJ, eds. Comprehensive Textbook of Psychiatry. 6th ed. Baltimore, MD: Williams & Wilkins; 1995:791–799.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PSY07

MultiStage: No

DXCat Label: Drug Abuse, Dependence, Overdose: Barbiturate

Specificity: A

Etiology: Psychogenic; Toxicologic

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Barbiturate abuse	Barbiturate use which meets DMS-IV criteria for abuse [psychiatrist report] OR History of use AND failure to fulfill major role obligations OR recurrent use in physically dangerous situations OR recurrent barbiturate related legal problems OR continued use despite related social or interpersonal use related problems	DX 30540-30543;
1.02	Barbiturate dependence	Stage 1.01 AND Barbiturate use which meets DSM-IV criteria for dependence [psychiatrist report] [3 or more criteria in a 12 month period]: Tolerance OR withdrawal OR increased use OR desire or efforts to decrease use OR increased time spent obtaining barbiturates OR reduced social or occupational activities OR recurrent use despite negative physical psychological or social effects.	DX 30410-30413;
2.01	Barbiturate dependence with withdrawal syndrome	Stage 1.01 - 1.02 AND two (or more) of the following on cessation of drug: autonomic hyperactivity OR increased hand tremor OR insomnia OR nausea or vomiting OR hallucinations or illusions: visual, tactile, or auditory OR psychomotor agitation OR anxiety	STAGE 1.01-1.02 + (DX 2920, 29211-29212, 29281-2929, 35924);
2.02	Barbiturate dependence with electrolyte imbalance or dehydration	Stage 1.02 - 2.01 AND dehydration: OR hypernatremia: OR hyponatremia: OR hypokalemia: OR hyperkalemia:	STAGE 1.02-2.02 + (GROUP DEHYDRATION OR GROUP HYPR_NATREM OR GROUP HYPONATREMIA OR GROUP HYPOKALEMIA OR GROUP HYPER_KALEM);
2.03	Barbiturate intoxication	Stage 1.01 - 2.02 AND barbiturate serum drug level \geq normal [chemistry report] OR phenobarbital level > 50 ug/ml [chemistry report]	DX 9670, 9683; STAGE 1.01-2.02 + DX 2922;
3.01	with seizures	Stage 1.02-2.03 AND seizures [EEG report or physical examination]	STAGE 1.02-2.03 + DX 78031-78039;
3.02	with disorientation	Stage 1.02 - 3.01 AND disorientation:	STAGE 1.02-3.01 + GROUP DISORIENT;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PSY07

MultiStage: No

DXCat Label: Drug Abuse, Dependence, Overdose: Barbiturate

Specificity: A

Etiology: Psychogenic; Toxicologic

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.03	with respiratory failure	Stage 2.03 -3.02 AND respiratory failure:	STAGE 2.03-3.02 + GROUP RESP_FAIL;
3.04	with coma	Stage 2.03 - 3.03 AND coma:	STAGE 2.03-3.03 + GROUP COMA;
3.05	with shock	Stage 2.03 - 3.04 AND shock:	STAGE 2.03-3.04 + GROUP SHOCKA;
4.00	with death	Stage 2.03 -3.05 AND death	NO;

References:

American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders. 4th ed. American Psychiatric Association. 1994:261-270.

Craulo DA, Greenblatt DJ. Sedative, hypnotic -, or anxiolytic – related disorders. In: Kaplan HI, Sadock BJ, eds. Comprehensive Textbook of Psychiatry. 6th ed. Baltimore, MD: Williams & Wilkins; 1995:872-887.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PSY08

MultiStage: No

DXCat Label: Drug Abuse, Dependence, Overdose: Cannabis

Specificity: A

Etiology: Psychogenic; Toxicologic

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Cannabis abuse	Cannabis use which meets DSM-IV criteria for abuse [psychiatrist report] OR history of use AND failure to fulfill major role obligations OR recurrent cannabis use in physically dangerous situations OR recurrent cannabis related legal problems OR continued cannabis use despite social or interpersonal use related	DX 30520-30523;
1.02	Cannabis dependence	Stage 1.01 AND cannabis use which meets DSM-IV criteria for dependence (3 or more criteria in a 12 month period) [psychiatrist report]: tolerance OR withdrawal OR increased use OR desire or efforts to decrease use OR increased time spent obtaining cannabis OR reduced social or occupational activities OR recurrent use despite negative physical OR psychological or social effects	DX 30430-30433;
1.03	with panic reaction	Stage 1.01 - 1.02 AND panic reaction ≥ 10 minutes after ingestion of cannabis	STAGE 1.01-1.02 + DX 30001;
2.01	with schizophrenia	History of schizophrenia AND exacerbation of schizophrenia after use of cannabis	STAGE 1.01-1.03 + (DX 2920-2929, 29500-29595);
2.02	with reckless behavior	Stage 1.01-2.01 AND involvement in a life-threatening situation while intoxicated with cannabis	STAGE 1.01-2.01 + (DX 31200-31203, V403, V698);
2.03	with drug related injury	Stage 1.01-2.02 AND injury during period of drug effect	STAGE 1.01-2.02 + (DX 80000-9049, 9100-9599);
3.01	with coma	Stage 2.03 AND coma:	STAGE 1.01-2.03 + GROUP COMA;
3.02	with shock	Stage 2.03-3.01 AND shock:	STAGE 1.01-3.01 + GROUP SHOCKA;
4.00	with death	Stage 2.01-3.02 AND death	NO;

References:

American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders. 4th ed. American Psychiatric Association. 1994:215–221.

Woody GE, MacFadden W. Cannabis – related disorders. In : Kaplan HI, Sadock BJ, eds. Comprehensive Textbook of Psychiatry. 6th ed. Baltimore, MD: Williams & Wilkins; 1995:810–817.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PSY09

MultiStage: No

DXCat Label: Drug Abuse, Dependence, Overdose: Cocaine

Specificity: A

Etiology: Psychogenic; Toxicologic

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Cocaine abuse	Cocaine use which meets DSM-IV criteria for abuse [psychiatrist report] OR history of use AND failure to fulfill major role obligations OR recurrent cocaine use in physically dangerous situations OR recurrent cocaine related legal problems OR continued cocaine use despite social or interpersonal use related problems	DX 30560-30563;
1.02	Cocaine dependence	Stage 1.01 AND Cocaine use which meets DSM-IV criteria for dependence (3 or more criteria in a 12 month period) [psychiatrist report]: tolerance OR withdrawal OR increased use OR desire or efforts to decrease use OR increased time spent obtaining cocaine OR reduced social or occupational activities OR recurrent use despite negative physical OR psychological or social effects	DX 30420-30423;
2.01	Cocaine intoxication	Stage 1.01 - 1.02 AND recent use of cocaine AND two (or more) or the following, during or after use tachycardia: OR bradycardia: OR pupillary dilation OR hypotension: OR hypertension: OR perspiration or chills OR nausea or vomiting OR psychomotor agitation or retardation OR muscular weakness OR chest pain OR cardiac arrhythmias: OR dyskinesias OR dystonias	DX 9685, E8552, E9385; STAGE 1.01-1.02 + (DX 35924, 78701-78703 OR GROUP TACHYCARDIA OR GROUP BRADYCARDIA OR GROUP HYPOTENSION OR GROUP HYPERTENSION OR GROUP ARRHYTHM_CARD);
2.02	with hallucinations or psychosis	Stage 1.01 - 2.01 AND no history of schizophrenia prior to cocaine abuse AND no history of bipolar illness prior to cocaine abuse AND visual hallucinations OR auditory hallucinations OR psychosis	STAGE 1.01-2.01 + (DX 29212, 29281-29289);

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PSY09

MultiStage: No

DXCat Label: Drug Abuse, Dependence, Overdose: Cocaine

Specificity: A

Etiology: Psychogenic; Toxicologic

Stage	Description	Diagnostic findings	ICD-9-CM Codes
2.03	with suicidal ideation	Stage 1.01-2.02 AND suicidal ideation	STAGE 1.01-2.02 + (DX 3009, V6284);
3.01	with suicide attempt	Stage 1.01-2.03 AND Suicide attempt OR self-inflicted injuries AND loss of consciousness OR self-inflicted injury penetrating the pleural space [chest x-ray report] OR self-inflicted injury lacerating any artery [operative/pathology report] OR self-inflicted injury lacerating any nerve [operative/pathology report] OR self-inflicted injury penetrating the peritoneal space [operative/pathology report] OR fracture of the spinal column [x-ray report] OR fracture of the tibia or fibula [x-ray report] OR fracture of the femur [x-ray report]	STAGE 1.01-2.03 + DX E9500-E9589;
3.02	with seizures	Stage 1.01-3.01 AND seizures [EEG report or physical examination]	STAGE 1.01-3.01 + DX 78031-78039;
3.03	with myocardial infarction	Stage 1.01-3.02 AND acute myocardial infarction:	STAGE 1.01-3.02 + GROUP AMI;
3.04	with cerebrovascular accident	Stage 1.01-3.03 AND intracranial hemorrhage [CT scan report or MRI report] OR intracranial infarction [CT scan report or MRI report]	STAGE 1.01-3.03 + (DX 430-4329, 43301, 43311, 43321, 43331, 43381, 43391, 43401, 43411, 43491, 436);
3.05	with respiratory failure	Stage 1.01-3.04 AND respiratory failure:	STAGE 1.01-3.04 + GROUP RESP_FAIL;
3.06	with shock	Stage 2.01-3.05 AND shock:	STAGE 1.01-3.05 + GROUP SHOCKA;
4.00	with death	Stage 2.01-3.06 AND death	NO;

References:

American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders. 4th ed. American Psychiatric Association, 1994:221–229.

Jaffe JH. Cocaine – related disorders. In.: Kaplan HI, Sadock BJ, eds. Comprehensive Textbook of Psychiatry. 6th ed. Baltimore, MD: Williams & Wilkins; 1995:817–831.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PSY10

MultiStage: No

DXCat Label: Drug Abuse, Dependence, Overdose: Hallucinogen

Specificity: A

Etiology: Psychogenic; Toxicologic

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Hallucinogen abuse	Hallucinogen use which meets DMS-IV criteria for abuse [psychiatrist report] OR History of use AND failure to fulfill major role obligations OR recurrent use in physically dangerous situations OR recurrent hallucinogen related legal problems OR continued use despite use related social or interpersonal problems	DX 30530-30533;
1.02	Hallucinogen dependence	Stage 1.01 AND hallucinogen use which meets DSM-IV criteria for dependence (3 or more criteria in a 12 month period) [psychiatrist report] tolerance OR craving OR increased use OR desire or efforts to decrease use OR increased time spent using and recovering from hallucinogen OR reduced social or occupational activities OR recurrent use despite negative physical OR psychological or social effects	DX 30450-30453;
2.01	Hallucinogen intoxication	Stage 1.01 - 1.02 AND perceptual changes, in a state of full alertness, ≤ 1 hour after ingestion (depersonalization, derealization, illusions, hallucinations) AND two (or more) of the following, ≤ 1 hour after ingestion pupillary dilation OR tachycardia: OR sweating OR palpitations OR blurred vision OR tremors OR uncoordinated	DX 2922 + (DX E8541, E9396);
2.02	with psychotic reaction	Stage 1.01 - 2.01 History of hallucinogen abuse AND paranoia OR persistent personality changes OR persistent psychotic state OR "flashback" phenomenon	STAGE 1.01-2.01 + (DX 2920-29212, 29281-2929);
2.03	with drug related injury	Stage 1.01-2.02 AND injury during period of drug effect	STAGE 1.01-2.02 + GROUP INJURY;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PSY10

MultiStage: No

DXCat Label: Drug Abuse, Dependence, Overdose: Hallucinogen

Specificity: A

Etiology: Psychogenic; Toxicologic

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.01	with suicide attempt	Stage 1.01-2.03 AND Suicide attempt OR self-inflicted injuries AND loss of consciousness OR self-inflicted injury penetrating the pleural space [chest x-ray report] OR self-inflicted injury lacerating any artery [operative/pathology report] OR self-inflicted injury lacerating any nerve [operative/pathology report] OR self-inflicted injury penetrating the peritoneal space [operative/pathology report] OR fracture of the spinal column [x-ray report] OR fracture of the tibia or fibula [x-ray report] OR fracture of the femur [x-ray report]	STAGE 1.01-2.03 + DX E9500-E9589;
3.02	with seizure	Stage 1.01-3.01 AND seizure [EEG report or physical examination]	STAGE 1.01-3.01 + DX 78039;
3.03	with coma	Stage 1.01-3.02 AND coma:	STAGE 1.01-3.02 + GROUP COMA;
3.04	with shock	Stage 1.01-3.03 AND shock:	STAGE 1.01-3.03 + GROUP SHOCKA;
4.00	with death	Stage 2.01-3.04 AND death	NO;

References:

American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders. 4th ed. American Psychiatric Association. 1994:229-242, 255-261.

Crowley TJ. Hallucinogen – related disorders, inhalant – related disorders, Phencyclidine or Phencyclidine-like – related disorders. In: Kaplan HI, Sadock BJ, eds. Comprehensive Textbook of Psychiatry. 6th ed. Baltimore, MD: Williams & Wilkins; 1995:831–872.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PSY11

MultiStage: No

DXCat Label: Drug Abuse, Dependence, Overdose: Opioid

Specificity: A

Etiology: Psychogenic; Toxicologic

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Opioid abuse	Opioid use which meets DSM -IV criteria for abuse [psychiatrist report]: OR history of use AND failure to fulfill major role obligations OR recurrent use in physically dangerous situations OR recurrent opioid related legal problems OR continued use despite social or interpersonal use-related problems	DX 30550-30553;
1.02	Opioid dependence	Stage 1.01 AND opioid use which meets DSM-IV criteria for dependence (3 or more criteria in a 12 months period) [psychiatrist report]: tolerance OR withdrawal OR increased use OR desire or efforts to decrease use OR increased time spent obtaining opioids OR reduced social or occupational activities OR recurrent use despite negative physical OR psychological or social effects	DX 30400-30403, 30470-30473;
2.01	with cellulitis	Stage 1.01-1.02 AND cellulitis:	STAGE 1.01-1.02 + GROUP CELLULITIS;
2.02	with pulmonary complications	Stage 1.01-2.01 AND pulmonary fibrosis [chest x-ray report] OR COPD: OR pneumonia:	STAGE 1.01-2.01 + (GROUP COPD OR GROUP PNEUMONIA);
2.03	with osteomyelitis	Stage 1.01-2.02 AND osteomyelitis:	STAGE 1.01-2.02 + GROUP OSTEOMYELIT;
3.01	with endocarditis	Stage 1.01-2.03 AND endocarditis:	STAGE 1.01-2.03 + GROUP ENDOCARDITIS;
3.02	with sepsis	Stage 1.01-3.01 AND sepsis:	STAGE 1.01-3.01 + GROUP SEPSIS;
3.03	with respiratory failure	Stage 1.01-3.02 AND respiratory failure:	STAGE 1.01-3.02 + GROUP RESP_FAIL;
3.04	with coma	Stage 1.01-3.03 AND coma:	STAGE 1.01-3.03 + GROUP COMA;
3.05	with shock	Stage 1.01-3.04 AND shock:	STAGE 1.01-3.04 + GROUP SHOCKA;
4.00	with death	Stage 2.01-3.05 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PSY11

MultiStage: No

DXCat Label: Drug Abuse, Dependence, Overdose: Opioid

Specificity: A

Etiology: Psychogenic; Toxicologic

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders. 4th ed. American Psychiatric Association. 1994:247–255.

Jaffe JH. Opioid – related disorders. In: Kaplan HI, Sadock BJ, eds. Comprehensive Textbook of Psychiatry. 6th ed. Baltimore, MD: Williams & Wilkins; 1995:842–864.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PSY12

MultiStage: No

DXCat Label: Drug Abuse, Dependence, Overdose: Other

Specificity: C

Etiology:

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Other drug abuse		DX 30580-30593;
1.02	Other drug dependence		DX 30460-30463, 30480-30493;
2.01	Other drug dependence with withdrawal		DX 2920-29212, 29281-2929;
2.02	Other drug dependence with eletrolyte imbalance or dehydration		STAGE 1.01-2.01 + (GROUP DEHYDRATION OR GROUP HYPOKALEMIA OR GROUP HYPONATREMIA OR GROUP HYPR_NATREM OR GROUP HYPER_KALEM);
2.03	with intoxication		STAGE 1.01-2.02 + DX 2922; DX 2922;
3.01	with seizures		STAGE 1.01-2.03 + DX 78031-78039;
3.02	with disorientation		STAGE 1.01-3.01 + GROUP DISORIENT;
3.03	with respiratory failure		STAGE 1.01-3.02 + GROUP RESP_FAIL;
3.04	with coma		STAGE 1.01-3.03 + GROUP COMA;
3.05	with shock		STAGE 1.01-3.04 + GROUP SHOCKA;
4.00	with death		NO;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PSY13

MultiStage: No

DXCat Label: Eating disorders: Anorexia Nervosa

Specificity: A

Etiology: Psychogenic

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Anorexia nervosa	Refusal to maintain 85% of minimally normal body weight for age and height AND intense fear of becoming fat or gaining weight AND inability to perceive body size	DX 3071;
2.01	with anemia	Stage 1.01 AND anemia:	STAGE 1.01 + (GROUP ANEM_DEF_B12 OR GROUP ANEM_DEF_FE OR GROUP ANEM_DEF_FOL OR GROUP ANEM_DEF_OTH OR GROUP ANEM_OTH_CHR OR GROUP ANEM_OTH_UN);
2.02	with hypokalemia	Stage 1.01-2.01 AND hypokalemia:	STAGE 1.01-2.01 + GROUP HYPOKALEMIA;
2.03	with hypernatremia	Stage 1.01-2.02 AND hypernatremia:	STAGE 1.01-2.02 + GROUP HYPR_NATREM;
2.04	with hypoadrenalism	Stage 1.01-2.03 AND hypoadrenalism:	STAGE 1.01-2.03 + GROUP HYPOADRENAL;
3.01	with severe malnutrition	Stage 1.01-2.04 AND weight loss \geq 50% of ideal body weight AND pitting pedal edema AND hypoproteinemia:	STAGE 1.01-2.04 + (DX 260-262, 7823 OR GROUP HYPOPROTEIN);
3.02	with shock	Stage 2.01-3.01 AND shock:	STAGE 2.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.01-3.02 AND death	NO;

References:

American Psychiatric Association. Diagnostic and Statistic Manual of Mental Disorders. 4th ed. American Psychiatric Association. 1994:539–545.

Garfinkel PE. Eating disorders. In.: Kaplan HI, Sadock BJ, eds. Comprehensive Textbook of Psychiatry. 6th ed. Baltimore, MD: Williams & Wilkins; 1995:1361–1371.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PSY14

MultiStage: No

DXCat Label: Eating disorders: Bulimia Nervosa

Specificity: A

Etiology: Psychogenic

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Bulimia nervosa	Recurrent episodes of binge eating as defined in DSM-IV AND recurrent inappropriate efforts to prevent weight gain (laxatives, diuretics, enemas, fasting, excessive exercise) AND binge eating and weight control efforts both occur \geq twice weekly for three months	DX 30751;
1.02	with self induced vomiting	Stage 1.01 AND self induced vomiting as a significant method to control weight	DX 30754; STAGE 1.01 + (DX 3064, 5362, 78703);
2.01	with fluid and electrolyte disturbances	Stage 1.01 - 1.02 AND hypokalemia: OR hypernatremia: OR dehydration: OR alkalosis:	STAGE 1.01-1.02 + (GROUP HYPOKALEMIA OR GROUP HYPR_NATREM OR GROUP DEHYDRATION OR GROUP ALKALOSIS);
2.02	with cardiac arrhythmia	Stage 1.01 - 2.01 AND cardiac arrhythmias:	STAGE 1.01-2.01 + GROUP ARRHYTHM_CARD;
2.03	with esophageal tears	Stage 1.01 - 2.02 AND esophageal tear [operative/pathology report]	STAGE 1.01-2.02 + (DX 5304, 86222);
2.04	with gastric rupture	Stage 1.01 - 2.03 AND gastric rupture [operative/pathology report]	STAGE 1.01-2.03 + DX 8630;
3.01	with shock	Stage 1.01 - 2.04 AND shock:	STAGE 1.01-2.04 + GROUP SHOCKA;
4.00	with death	Stage 1.01 - 3.01 AND Death	NO;

References:

American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders. 4th ed. American Psychiatric Association. 1994:545-550.

Berkow R, Beers MH, eds. In. Merck Manual. 17th ed. Rahway, NJ: Merck & Co., Inc.; 1999:1597-1598.

Garfinkle PE. Eating disorders. In: Kaplan HI, Sadock BJ, eds. Comprehensive Textbook of Psychiatry. 6th ed. Baltimore, MD: Williams & Wilkins; 1995:1361-1371.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PSY15

MultiStage: No

DXCat Label: Generalized Anxiety Disorder

Specificity: A

Etiology: Psychogenic

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Generalized anxiety disorder	Generalized anxiety disorder which meets DSM-IV criteria [psychiatrist report] AND < 6% change in body weight > 1 year	DX 30000-30009, 3130;
2.01	with interference of normal function	Stage 1.01 AND history of ≥ 2 days of absence from employment a year AND ≥ 6% change in body weight > 1 year	NO;
2.02	with severe impairment of normal function	Stage 1.01-2.01 AND history of ≥ 5 days of absence from employment a year AND unable to maintain housing	NO;

References:

American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders. 4th ed. American Psychiatric Association. 1994:393–444.

Papp LA, Gorman JM. Generalized anxiety disorder. In.: Kaplan HI, Sadock BJ, eds. Comprehensive Textbook of Psychiatry. 6th ed. Baltimore, MD: Williams & Wilkins; 1995:1236–1249.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PSY16

MultiStage: No

DXCat Label: Obsessive-Compulsive Neurosis

Specificity: A

Etiology: Psychogenic

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Obsessive-compulsive disorder	Obsessive-compulsive disorder which meets DSM-IV criteria [psychiatrist report] Obsessions, defined by: recurrent, intrusive, inappropriate thoughts that cause marked distress AND thoughts that are not simply excessive worries about real life problems AND attempts to suppress or neutralize such thoughts with other thoughts AND recognition that obsessive thoughts are a product of one's own mind OR Compulsions defined by: repetitive behaviors or mental acts one is driven to perform AND repetitive behaviors or mental acts to prevent distress or a dreaded situation AND recognition that the obsessions and/or compulsions are excessive or unrealistic AND symptoms cause marked distress OR take more than one hour daily OR significantly interfere with occupational or social activities	DX 3003, 3014;
2.01	with somatic manifestations	Stage 1.1 AND obsessive-compulsive behavior significantly interferes with usual normal activities AND dermatological problems due to excessive washing, body cleansing, or hair pulling OR anorexia OR development of tics OR excessive use of alcohol, sedatives, hypnotics or anxiolytic medications OR marked fatigue	STAGE 1.01 + (DX 30500-30502, 30540-30542, 3071, 30720, 6920, 6924, 78071, 78079, 7830);
2.02	Obsessive-compulsive disorder with marked impairment of social, occupational or academic function	Stage 1.01-2.01 AND inability to maintain household OR inability to maintain job AND compulsion becomes the major life activity	NO;

References:

American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders. 4th ed. American Psychiatric Association. 1994:417-423.

Jenike MA. Obsessive-compulsive disorder. In.: Kaplan HI, Sadock BJ, eds. Comprehensive Textbook of Psychiatry. 6th ed. Baltimore, MD: Williams & Wilkins; 1995:1218-1226.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PSY80

MultiStage: No

DXCat Label: Schizophrenia

Specificity: A

Etiology: Genetic (or hereditary); Psychogenic

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Schizophrenia - Residual Type	Schizophrenia which has met DSM-IV criteria at some time in the past [psychiatrist report] AND absence of prominent psychotic symptoms AND presence of negative symptoms. (Affective flattening, poverty of speech, avolition, anhedonia)	DX 29560-29565;
1.02	Schizophreniform Disorder	A condition meeting DSM-IV criteria for Schizophrenia, but lasting > 1 month and < 6 months	DX 29540-29545;
1.03	Schizophrenia	Schizophrenia which meets DSM-IV criteria [psychiatrist report] AND two (or more) of the following symptoms delusions OR hallucinations OR disorganized speech OR grossly disorganized or catatonic behavior OR negative symptoms AND symptoms present for at least 6 months	DX 29500-29505, 29510-29515, 29530-29535, 29550-29555, 29570-29595;
2.01	Schizophrenia, Moderate	Stage 1.03 AND unable to maintain employment OR unable to maintain household OR unable to care for self OR unable to maintain prior level of relationships OR history of threats of bodily injury to self of others	NO;
2.02	Severe Schizophrenia	Stage 2.01 AND attempted physical injury to others OR catatonic excitement OR catatonia	DX 29520-29525;
2.03	with history of assault or murder conviction	Stage 2.01-2.02 AND inflicted physical injury to individuals OR convicted of murder	STAGE 1.01-2.02 + DX V625;
3.01	with suicide attempt or convicted of murder or assault	Stage 2.01-2.03 AND Suicide attempt OR self-inflicted injuries AND loss of consciousness OR self-inflicted injury penetrating the pleural space [chest x-ray report] OR self-inflicted injury lacerating any artery [operative/pathology report] OR self-inflicted injury lacerating any nerve [operative/pathology report] OR self-inflicted injury penetrating the peritoneal space [operative/pathology report] OR fracture of the spinal column [x-ray report]	STAGE 1.01-2.03 + DX E9500-E9589;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PSY80

MultiStage: No

DXCat Label: Schizophrenia

Specificity: A

Etiology: Genetic (or hereditary); Psychogenic

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.02	with shock	Stage 2.02-3.01 AND shock:	STAGE 2.02-3.02 + GROUP SHOCKA;
4.00	with death	Stage 2.02-3.02 AND death	NO;

References:

American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders. 4th ed. American Psychiatric Association. 1994:273–296.

Lipton AA, Cancro R. Schizophrenia: clinical features. In: Kaplan HI, Sadock BJ, eds. Comprehensive Textbook of Psychiatry. 6th ed. Baltimore, MD: Williams & Wilkins; 1995:968–987.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PSY81

MultiStage: No

DXCat Label: Autism

Specificity: C

Etiology:

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Infantile autism		DX 29900-29901;
2.01	with seizures or convulsions		STAGE 1.01 + (DX 34500-34591, 78031-78039);
3.01	with IQ < 50		STAGE 1.01-2.01 + DX 3180-3182;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PSY82

DXCat Label: Other Neuroses

Etiology:

MultiStage: No

Specificity: C

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Other neuroses, personality disorders and psychogenic disorders		DX 30010-30029, 3005-3013, 30150-3016, 30181-3029, 3060-3070, 30720-30750, 30752-30753, 30759-30780, 30789-3089, 30921-30924, 30929, 3094-30989, 3100-3109, 31321-316, 32753, 33183, V402-V409, V695;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: PSY83

MultiStage: No

DXCat Label: Other Psychoses

Specificity: C

Etiology:

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	Observation for suspected mental condition	Added stage 5/8/06 cb	DX V7109;
1.01	Organic delusions, hallucinosis, transient organic mental disorders and other psychoses		DX 29381-2939, 2940-2949, 29690-29699, 2970-2979 , 2981-2989, 29910-29991;
3.01	Delirium		DX 2930-2931;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES01

DXCat Label: Asbestosis

Etiology: Toxicologic

MultiStage: No

Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Asymptomatic pulmonary asbestosis	History of exposure to asbestos dust > 10 years AND small irregular or linear lung opacities consistent with asbestosis [chest x-ray report or CT scan report] OR pleural plaques [chest x-ray report or CT Scan report] OR pleural thickening [chest x-ray report or CT Scan report]	DX 501;
1.02	with symptomatic pulmonary fibrosis	Stage 1.01 AND COPD: OR pulmonary fibrosis [chest x-ray report]	STAGE 1.01 + GROUP COPD; STAGE 1.01 + (DX 515, 5163);
2.01	with progressive pulmonary fibrosis	Stage 1.01 AND forced expiratory volume in 1 second (FEV ₁) ≤ 60% of predicted value [pulmonary function tests]	NO;
3.01	with cor pulmonale	Stage 1.01-2.01 AND cor pulmonale:	STAGE 1.01-1.02 + GROUP COR_PULMONAL;
3.02	with respiratory failure	Stage 1.01-3.01 AND respiratory failure:	STAGE 1.01-3.01 + GROUP RESP_FAIL;
3.03	with shock	Stage 1.01-3.02 AND shock:	STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 1.02-3.03 AND death	NO;

References:

Madan I. ABC of work related disorders. occupational asthma and other respiratory diseases. BMJ. 1996;313(7052):291-4.

Rudd RM. New developments in asbestos-related pleural disease. Thorax. 1996;51(2):210-6.

Speizer FE. Environmental lung diseases. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1429-1437.

Stauffer JL. Lung. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:251-333.

Wagner GR. Asbestosis and silicosis. Lancet. 1997;349(9061):1311-5.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES02

MultiStage: No

DXCat Label: Asthma

Specificity: A

Etiology: Idiopathic; Immune

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Asymptomatic bronchial asthma	History of bronchial asthma OR history of paroxysms of wheezing or bronchoconstriction that resolve with treatment OR $\geq 15\%$ increase in forced expiratory volume in 1 second, FEV1, following two puffs of a beta-adrenergic agonist	DX 49300, 49310, 49320, 49381-49382, 49390;
2.01	Mild intermittent bronchial asthma	Stage 1.01 AND diffuse bilateral expiratory or inspiratory wheezing AND peak expiratory flow rate or forced expiratory volume/min $\geq 80\%$ predicted value [PEFR report] AND ≤ 2 days/week with asthma symptoms	DX 49302, 49312, 49322, 49392;
2.02	Mild persistent bronchial asthma	Stage 1.01 AND diffuse bilateral expiratory or inspiratory wheezing AND peak expiratory flow rate or forced expiratory volume/min $\geq 80\%$ predicted value [PEFR report] AND 3-6 days/week with asthma symptoms	NO;
2.03	Moderate persistent bronchial asthma	Stage 1.01 AND diffuse bilateral expiratory or inspiratory wheezing AND peak expiratory flow rate or forced expiratory volume/min $\leq 80\%$ predicted value [PEFR report] AND peak expiratory flow rate or forced expiratory volume/min $> 60\%$ predicted value [PEFR report] OR daily asthma symptoms	NO;
3.01	Severe persistent bronchial asthma	Stage 1.01 AND diffuse bilateral expiratory or inspiratory wheezing AND peak expiratory flow rate or forced expiratory volume/min $\leq 60\%$ predicted value [PEFR report] OR continuous asthma symptoms	NO;
3.02	Status asthmaticus or severe asthma	Stage 2.01-3.01 AND hypoxemia: AND peak expiratory flow rate or forced expiratory volume/min $< 30\%$ predicted value [PEFR report] OR PEFR < 100 L/min [PEFR report] OR status asthmaticus	DX 49301, 49311, 49321, 49391;
3.03	with respiratory failure	Stage 2.01-3.02 AND respiratory failure:	STAGE 1.01-3.02 + GROUP RESP_FAIL;
3.04	with shock	Stage 1.01-3.03 AND shock:	STAGE 1.01-3.03 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.01-3.04 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES02

MultiStage: No

DXCat Label: Asthma

Specificity: A

Etiology: Idiopathic; Immune

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

Bone RC. Goals of asthma management. a step-care approach. Chest. 1996;109(4):1056-65.

McFadden Jr ER. Asthma. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1419-1426.

National Institutes of Health Consensus Development Conference Consensus Statement. Practical guide for the diagnosis and management of asthma. October 1, 1997.

Niederman MS, Peters SP. Update in pulmonary medicine. Annals of Internal Medicine. 1998;128(3):208-15.

Sly RM. Asthma. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:628-641.

Stauffer JL. Lung. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:251-333.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES03

MultiStage: No

DXCat Label: Berylliosis

Specificity: A

Etiology: Toxicologic

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Berylliosis	History of exposure to beryllium dust of fumes OR beryllium toxicity [toxicology report] AND noncaseating pulmonary granuloma [operative/pathology report] OR hilar adenopathy [chest x-ray report] AND diffuse pulmonary infiltrates [chest x-ray report]	DX 503;
2.01	with pulmonary impairment	Stage 1.01 AND restrictive lung disease:	NO;
2.02	with spontaneous pneumothorax	Stage 1.01-2.01 AND pneumothorax [chest x-ray report]	STAGE 1.01-2.01 + (DX 5120, 5128);
3.01	with cor pulmonale	Stage 1.01-2.02 AND cor pulmonale:	STAGE 1.01-2.02 + GROUP COR_PULMONAL;
3.02	with respiratory failure	Stage 1.01-3.01 AND respiratory failure:	STAGE 1.01-3.01 + GROUP RESP_FAIL;
3.03	with shock	Stage 1.01-3.02 AND shock:	STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.01-3.03 AND death	NO;

References:

Kreiss K, Mroz MM, Zhen B, Wiedemann H, Barna B. Risks of beryllium disease related to work processes at a metal, alloy, and oxide production plant. *Occupational & Environmental Medicine*. 1997;54(8):605-12.

Newman LS. Immunology, genetics, and epidemiology of beryllium disease. *Chest*. 1996;109(3 Suppl):40S-43S.

Speizer FE. Environmental lung diseases. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. *Harrison's Principles of Internal Medicine*. 14th ed. New York, NY: McGraw-Hill; 1998:1429-1437.

Stauffer JL. Lung. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. *Current Medical Diagnosis & Treatment*. Stamford, CT: Appleton & Lange; 1998:251-333.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES04
 DXCat Label: Byssinosis
 Etiology: Toxicologic

MultiStage: No
 Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Early byssinosis	History of current employment in areas with cotton, flax and hemp dust AND history of dyspnea recurring on return to work after ≥ 48hour exposure free period OR Forced expiratory volume in 1 second (FEV ₁) diminished from baseline within 8 hours of return to work after 48 hour exposure free period [pulmonary function tests]	DX 504;
1.02	Symptomatic byssinosis	History of current employment in areas with cotton, flax and hemp dust AND wheezing that resolves ≥ 48 hours after cessation of exposure OR peak expiratory flow rate improves from baseline ≥ 48 hour exposure free period [pulmonary function tests] AND no new infiltrates [chest x-ray report]	NO;
2.01	with chronic bronchitis	Stage 1.01-1.02 AND productive cough for ≥ 3 months of the year for ≥ 2 consecutive years	STAGE 1.01 + (DX 490, 4910, 4911, 49120, 49121, 49122, 4918, 4919);
2.02	with early chronic obstructive pulmonary disease	Stage 1.01-2.01 AND COPD:	STAGE 1.01-2.01 + (DX 4920, 4928, 496);
3.01	with cor pulmonale	Stage 1.01-2.02 AND cor pulmonale:	STAGE 1.01-2.02 + GROUP COR_PULMONAL;
3.02	with respiratory failure	Stage 1.01-3.01 AND respiratory failure:	STAGE 1.01-3.01 + GROUP RESP_FAIL;
3.03	with shock	Stage 1.01-3.02 AND shock:	STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.01-3.03 AND death	NO;

References:

Fishwick D, Fletcher AM, Pickering CA, McL Niven R, Faragher EB. Lung function in Lancashire cotton and man made fibre spinning mill operatives. *Occupational & Environmental Medicine*. 1996;53(1):46-50.

McL Niven R, Pickering CA. Byssinosis: a review. *Thorax*. 1996;51(6):632-7.

Speizer FE. Environmental lung diseases. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. *Harrison's Principles of Internal Medicine*. 14th ed. New York, NY: McGraw-Hill; 1998:1429-1437.

Stauffer JL. Lung. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. *Current Medical Diagnosis & Treatment*. Stamford, CT: Appleton & Lange; 1998:251-333.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES05

MultiStage: No

DXCat Label: Chronic Obstructive Pulmonary Disease

Specificity: B

Etiology: Toxicologic; Genetic (or hereditary)

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Chronic bronchitis	History of a recurrent productive cough occurring for a minimum of three months during a year for two successive years	DX 4910-49120, 4918-4919;
1.02	Acute exacerbation of chronic bronchitis	Stage 1.01 AND history of malaise OR history of chills OR history of myalgia OR history of sore throat OR fever AND productive or nonproductive cough AND rhonchi AND no rales OR no lung parenchymal infiltrates (chest x-ray documents no infiltrate)	DX 49121-49122; STAGE 1.01 + (DX 485-486 OR GROUP FEVER) ; DX 49121-49122 + (DX 485-486 OR GROUP FEVER);
2.01	Chronic obstructive pulmonary disease, mild	Forced expiratory ventilation in 1 second (FEV ₁) < 75% of predicted value [pulmonary function tests] AND maximal voluntary ventilation (MVV) < 80% of predicted value [pulmonary function tests] AND residual volume (RV) > 120% of predicted value [pulmonary function tests]	DX 496;
2.02	Chronic obstructive pulmonary disease, moderate	Forced expiratory ventilation in 1 second (FEV ₁) < 60% of predicted value [pulmonary function tests] AND maximal voluntary ventilation (MVV) < 65% of predicted value [pulmonary function tests] AND residual volume (RV) > 150% of predicted value [pulmonary function tests]	NO;
2.03	Chronic obstructive pulmonary disease, severe	Forced expiratory ventilation in 1 second (FEV ₁) < 40% of predicted value [pulmonary function tests] AND maximal voluntary ventilation (MVV) < 45% of predicted value [pulmonary function tests] AND residual volume (RV) > 200% of predicted value [pulmonary function tests]	NO;
3.01	Chronic obstructive pulmonary disease with pulmonary hypertension	Stage 2.01-2.03 AND peak systolic pulmonary artery pressure > 30 mmHg [pulmonary artery catheter report]	STAGE 1.01-2.01 + (DX 4160, 4168);
3.02	Chronic obstructive pulmonary disease with cor pulmonale	Stage 2.01-3.01 AND cor pulmonale:	STAGE 1.01-3.01 + GROUP COR_PULMONAL;
3.03	Chronic obstructive pulmonary disease with acute respiratory failure	Stage 2.01-3.02 AND respiratory failure:	STAGE 1.01-3.02 + GROUP RESP_FAIL;
3.04	with shock	Stage 2.01-3.03 AND shock:	STAGE 1.01-3.03 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.01-3.04 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES05

MultiStage: No

DXCat Label: Chronic Obstructive Pulmonary Disease

Specificity: B

Etiology: Toxicologic; Genetic (or hereditary)

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

Anonymous. Strategies in preserving lung health and preventing COPD and associated diseases. The National Lung Health Education program (NLHEP). Chest. 1998;113(2 Suppl):123S-163S.

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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES06

MultiStage: No

DXCat Label: Coal Miner's Pneumoconiosis

Specificity: A

Etiology: Toxicologic

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Coal miner's pneumoconiosis	History of exposure to coal dust > 10 years AND multiple small rounded opacities ≤ 1 cm. in diameter throughout lung fields [chest x-ray report]	DX 500;
2.01	with progressive "massive" fibrosis	Stage 1.01 AND radiopacity ≥ 1 cm. in diameter in a background of coal miner's pneumoconiosis [chest x-ray report]	DX 515;
2.02	with chronic bronchitis	Stage 1.01-2.01 AND chronic bronchitis: productive cough ≥ 3 months/ year for ≥ 2 consecutive years	STAGE 1.01-2.01 + (DX 490, 4910, 4911, 49120, 49121, 49122, 4918, 4919);
2.03	with chronic obstructive pulmonary disease	Stage 1.01-2.02 AND COPD:	STAGE 1.01-2.02 + (DX 4920, 4928, 496);
3.01	with cor pulmonale	Stage 1.01-2.03 AND cor pulmonale:	STAGE 1.01-2.03 + GROUP COR_PULMONAL;
3.02	with respiratory failure	Stage 1.01-3.01 AND respiratory failure:	STAGE 1.01-3.01 + GROUP RESP_FAIL;
3.03	with shock	Stage 1.01-3.02 AND shock:	STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.01-3.03 AND death	NO;

References:

Love RG, Miller BG, Groat SK, et al. Respiratory health effects of opencast coalmining: a cross sectional study of current workers. *Occupational & Environmental Medicine*. 1997;54(6):416-23.

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Stauffer JL. Lung. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. *Current Medical Diagnosis & Treatment*. Stamford, CT: Appleton & Lange; 1998:251-333.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES07

DXCat Label: Croup

Etiology: Infection, Viral

MultiStage: No

Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Croupy cough or acute laryngotracheobronchitis	History of upper respiratory tract infection OR parainfluenza virus infection [respiratory culture] OR Hemophilus influenza infection [respiratory culture report] OR influenza A virus infection [respiratory culture] OR pertussis AND 'barking' raspy cough of croup OR subglottic narrowing [anteroposterior neck x-ray report] AND prolonged inspiration	DX 4644; ((DX 7862, 46420) + (AGE 10 OR AGE 0-9));
1.02	with hoarseness	Stage 1.01 AND hoarseness	STAGE 1.01 + DX 78449;
1.03	with inspiratory stridor	AND inspiratory stridor	STAGE 1.01-1.02 + DX 7861; DX 46421 + (AGE 10 OR AGE 0-9);
2.01	Pneumonia with croup	Stage 1.01 AND pneumonia:	STAGE 1.01-1.03 + (DXCAT RES15 OR DXCAT RES16 OR DXCAT RES17 OR DXCAT RES19);
2.02	with pneumothorax or subcutaneous emphysema	Stage 1.01-2.01 AND pneumothorax [chest x-ray report] OR subcutaneous emphysema [chest x-ray report]	STAGE 1.01-2.01 + (DX 5120, 5128, 5181);
3.01	with hypoxemia	Stage 1.01-2.01 AND hypoxemia:	STAGE 1.01-2.02 + GROUP HYPOXEMIA;
3.02	with respiratory failure	Stage 1.01-3.01 AND respiratory failure:	STAGE 1.01-3.01 + GROUP RESP_FAIL;
3.03	with shock	Stage 1.01-3.02 AND shock:	STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 1.01-3.03 AND death	NO;

References:

Durand M, Joseph M, Baker AS. Infections of the upper respiratory tract. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:179-185.

Macdonald WB, Geelhoed GC. Management of childhood croup. Thorax. 1997;52(9):757-9.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES08

MultiStage: No

DXCat Label: Cystic Fibrosis

Specificity: A

Etiology: Genetic (or hereditary)

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	Cystic fibrosis genetic carrier	Added stage 5/8/06 cb	DX V8381;
1.01	Cystic fibrosis	History of Mendelian inheritance pattern, autosomal recessive, for cystic fibrosis OR linkage markers for cystic fibrosis on chromosome 7 [chromosome study report] AND Sweat chloride concentration above > 80 meq/L ≥ age 20 on two occasions [quantitative pilocarpine iontophoresis sweat test] AND Sweat chloride concentration above > 60 meq/L ≤ age 20 on two occasions [quantitative pilocarpine iontophoresis sweat test]	DX 27700, 27709;
1.02	with chronic Pseudomonas aeruginosa or Staphylococcus aureus bronchitis	Stage 1.01 AND loss of cilia and destruction and fibrosis of bronchial walls [operative/pathology report] OR bronchiectasis [bronchogram x-ray report or CT scan report] OR hyperinflation [chest x-ray report] Stage 1.01 AND productive cough which ≥ 3 months/ year ≥ 2 consecutive years AND Pseudomonas aeruginosa in sputum [culture report] OR Staphylococcus aureus in sputum [culture report]	STAGE 1.01 + (DX 490, 4910, 4911-4912, 49120, 49121, 49122, 4918, 4919) + (DX 04111-04112, 0417); DX 27702;
1.03	with bronchiectasis or hyperinflation	Stage 1.01-1.02 AND loss of cilia and destruction and fibrosis of bronchial walls [operative/pathology report] OR bronchiectasis [bronchogram x-ray report or CT scan report] OR hyperinflation [chest x-ray report]	STAGE 1.01-1.02 + (DX 4940, 4941);
2.01	with chronic obstructive pulmonary disease or chronic restrictive lung disease	Stage 1.01-1.03 AND COPD: OR restrictive lung disease:	STAGE 1.01-1.03 + DX 496;
2.02	with pancreatic insufficiency	Stage 1.02-2.01 AND pancreatic insufficiency:	STAGE 1.01-2.01 + GROUP PANCR_INSUFF;
2.03	with diabetes mellitus	Stage 1.02-2.02 AND diabetes mellitus:	STAGE 1.01-2.02 + (DXCAT END04 OR DXCAT END05);
2.04	with meconium ileus	Stage 1.02-2.03 AND abnormally thick, tenacious and stringy meconium OR undigested albumin in stool (meconium/water, 1:1, mixture with trichloroacetic acid test yields precipitate) AND ileus pattern [KUB x-ray report]	DX 27701;
2.05	with pneumonia	Stage 1.02-2.04 AND pneumonia:	STAGE 1.01-2.04 + (DXCAT RES15 OR DXCAT RES16 OR DXCAT RES17 OR DXCAT RES12 OR DXCAT RES19) ;
2.06	with cirrhosis of the liver	Stage 1.02-2.05 AND cirrhosis of the liver [operative/pathology report or biopsy report or sonogram report or liver/spleen scan report]	STAGE 1.01-2.05 + DX 5715-5719;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES08

MultiStage: No

DXCat Label: Cystic Fibrosis

Specificity: A

Etiology: Genetic (or hereditary)

Stage	Description	Diagnostic findings	ICD-9-CM Codes
2.07	with volvulus or intestinal obstruction	Stage 1.02-2.06 AND volvulus [KUB x-ray report or operative/path report] OR large bowel obstruction [KUB x-ray report]	STAGE 1.01-2.06 + (DX 5602, 56089, 5609); DX 27703;
2.08	with pneumothorax	Stage 1.02-2.07 AND pneumothorax [chest x-ray report]	STAGE 1.01-2.07 + (DX 5120, 5128);
3.01	with cor pulmonale	Stage 1.02-2.08 AND cor pulmonale:	STAGE 1.01-2.08 + GROUP COR_PULMONAL;
3.02	with sepsis	Stage 1.02-3.01 AND sepsis:	STAGE 1.01-3.01 + GROUP SEPSIS;
3.03	with respiratory failure	Stage 1.02-3.02 AND respiratory failure:	STAGE 1.01-3.02 + GROUP RESP_FAIL;
3.04	with coma	Stage 1.02-3.03 AND coma:	STAGE 1.01-3.03 + GROUP COMA;
3.05	with shock	Stage 1.02-3.04 AND shock:	STAGE 1.01-3.04 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 1.02-3.05 AND death	NO;

References:

- Boat TE. Cystic fibrosis. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:1239-1251.
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- Stauffer JL. Lung. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:251-333.
- Wallis C. Diagnosing cystic fibrosis: blood, sweat, and tears. Archives of Disease in Childhood. 1997;76(2):85-8.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES09

MultiStage: No

DXCat Label: Emphysema

Specificity: A

Etiology: Genetic (or hereditary); Toxicologic

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Emphysema	Emphysema OR chronic obstruction of airways without bronchodilator response [pulmonary function test report] AND hyperinflation [chest x-ray report] AND reduced diffusing capacity [pulmonary function test report]	DX 4920, 4928;
2.01	Moderately severe emphysema	Stage 1.01 AND FEV ₁ < 65% predicted [pulmonary function test report]	NO;
2.03	Severe emphysema	Stage 1.01 AND FEV ₁ < 50% predicted [pulmonary function test report]	NO;
3.01	with cor pulmonale	Stage 2.01-2.02 AND cor pulmonale:	STAGE 1.01 + GROUP COR_PULMONAL;
3.02	with acute respiratory failure	Stage 2.01-3.01 AND respiratory failure:	STAGE 1.01-3.01 + GROUP RESP_FAIL;
3.03	with shock	Stage 2.01-3.02 AND shock:	STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.01-3.03 AND death	NO;

References:

Anonymous. Strategies in preserving lung health and preventing COPD and associated diseases. The National Lung Health Education Program (NLHEP). Chest. 1995;113(2 Suppl):123S-163S.

Honig EG, Ingram Jr RH. Chronic bronchitis, emphysema, and airway obstruction. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine, 14th ed. New York, NY: McGraw-Hill; 1998:1451-1460.

Niedermaier MS, Peters SP. Update in pulmonary medicine. Annals of Internal Medicine. 1998;128(3):208-15.

Stauffer JL. Lung. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:251-333.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES10

MultiStage: No

DXCat Label: Hypersensitivity Pneumonitis

Specificity: A

Etiology: Immune; Toxicologic

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Acute hypersensitivity pneumonitis or farmer's lung or bagassosis or bird-fancier's lung or suberosis or malt worker's lung or mushroom worker's lung or maple bark-stripper's lung or other extrinsic allergic alveolitis	History of exposure to allergen AND precipitating antibody to allergen [serology report] AND diffuse granulomatous interstitial pneumonitis [operative/pathology report or biopsy report or chest x-ray report] AND improvement in pneumonia with cessation of allergen exposure	DX 4950-4959;
1.02	with subacute hypersensitivity pneumonitis	Stage 1.01 AND subacute hypersensitivity pneumonitis OR chronic time span: symptoms or signs persists ≥ 3months/ year AND cough AND malaise AND dyspnea AND sputum production	NO;
2.01	with restrictive lung disease	Stage 1.01 AND restrictive lung disease:	NO;
2.02	with diffuse interstitial fibrosis	Stage 1.01-2.01 AND diffuse interstitial fibrosis [chest x-ray report]	STAGE 1.01 + DX 515;
3.01	with cor pulmonale	Stage 1.01-2.02 AND cor pulmonale:	STAGE 1.01-2.02 + GROUP COR_PULMONAL;
3.02	with respiratory failure	Stage 1.01-3.01 AND respiratory failure:	STAGE 1.01-3.01 + GROUP RESP_FAIL;
3.03	with shock	Stage 1.01-3.02 AND shock:	STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.01-3.03 AND death	NO;

References:

Greenberger PA. Immunologic aspects of lung diseases and cystic fibrosis. *JAMA*. 1997;278(22):1924-30.

Hunninghake GW, Richerson HB. Hypersensitivity pneumonitis and eosinophilic pneumonias. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. *Harrison's Principles of Internal Medicine*. 14th ed. New York, NY: McGraw-Hill; 1998:1426-1429.

Madan I. ABC of work related disorders. occupational asthma and other respiratory diseases. *BMJ*. 1996;313(7052):291-4.

Stauffer JL. Lung. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. *Current Medical Diagnosis & Treatment*. Stamford, CT: Appleton & Lange; 1998:251-333.

Stern RC. Hypersensitivity to inhaled materials. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. *Nelson Textbook of Pediatrics*. 15th ed. Philadelphia, PA: WB Saunders; 1996:1218.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES11

DXCat Label: Influenza

Etiology: Infection, Viral

MultiStage: No

Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Influenza	Influenza [tissue culture reports isolation of influenza virus or convalescent versus acute antibody titer shows \geq four fold increase] AND epidemic coryza OR fever: AND malaise AND productive cough AND myalgia	DX 4878, 488; (DX 4878 OR DX 488 + GROUP FEVER);
1.02	with acute sinusitis or otitis media or purulent bronchitis	Stage 1.01 AND acute sinusitis OR otitis media OR purulent bronchitis	DX 4871; STAGE 1.01 + (DXCAT ENT18 OR DXCAT ENT21 OR DX 4660, 4911);
2.01	with pneumonia	Stage 1.01-1.02 AND pneumonia:	DX 4870;
2.02	with rhabdomyolysis	Stage 1.01-2.01 AND rhabdomyolysis:	STAGE 1.01-2.01 + GROUP RHABDOMYO;
3.01	with Reye's syndrome	Stage 1.01-2.02 AND hypoglycemia: AND hyperammonemia: AND coagulation defect: OR jaundice:	STAGE 1.01-2.02 + (GROUP REYE_S OR DXCAT END08) ; STAGE 1.01-2.02 + (GROUP HYPR_AMMON OR GROUP COAG_DEFECT); STAGE 1.01-2.02 + DX 7824;
3.02	with aseptic meningitis	Stage 1.01-2.03 AND aseptic meningitis:	STAGE 1.01-3.01 + DXCAT NEU13;
3.03	with respiratory failure	Stage 1.01-3.01 AND respiratory failure:	STAGE 1.01-3.02 + GROUP RESP_FAIL;
3.04	with coma	Stage 1.01-3.03 AND coma:	STAGE 1.01-3.03 + GROUP COMA;
3.05	with shock	Stage 1.01-3.03 AND shock:	STAGE 1.01-3.04 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 1.03-3.05 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES11

MultiStage: No

DXCat Label: Influenza

Specificity: A

Etiology: Infection, Viral

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

Dolin R. Influenza. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1112-1116.

Hayden FG, Gwaltney Jr JM. Viral infections. In: Murray JF, Nadel JA, eds. Textbook of Respiratory Medicine. Vol. 1, 2nd ed. Philadelphia, PA: WB Saunders; 1988:977-1035.

Shandera WX, Carlini ME. Infectious diseases: viral & rickettsial. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1988:1231-1267.

Shortridge KF. The next pandemic influenza virus? Lancet. 1995;346(8984):1210-2.

Wiselka M. Influenza: diagnosis, management, and prophylaxis. BMJ. 1994;308(6940):1341-5.

Wright P. Influenza viral infection. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:901-903.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES12

MultiStage: No

DXCat Label: Mycoplasma pneumoniae Infection

Specificity: A

Etiology: Infection, Bacterial

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Mycoplasma pharyngitis or bullous myringitis or otitis media or sinusitis	Mycoplasma pneumonia titer increase 4 fold [microbiology/serology report] OR cold hemagglutinins > 1:32 [microbiology/serology report] AND pharyngitis OR bullous myringitis OR otitis media OR sinusitis [physical examination or sinus x-ray report] OR air/fluid level in tympanic membrane	DX 04181; DX 04181 + (DX 4610-4619, 38200-38202, 3821-3829, 462, 38400-38409);
1.02	Mycoplasma bronchopneumonia	Stage 1.01 AND new infiltrate [chest x-ray report]	DX 4830;
2.01	with pleural effusion	Stage 1.02 AND pleural effusion [chest x-ray report]	STAGE 1.01-1.02 + DX 5118-5119;
2.02	with polyarthrits	Stage 1.01-2.01 AND polyarthrits	STAGE 1.01-2.01 + (DX 71140-71149, 71190-71199);
2.03	with hemolytic anemia	Stage 1.01-2.02 AND hemolysis: AND anemia:	STAGE 1.01-2.02 + (DX 2820-2821, 2823, 2827-2829 OR GROUP ANEM_HEM_ACQ);
2.04	with Guillain-Barre syndrome	Stage 1.01-2.03 AND progressive monoparesis or paraparesis within 6 weeks of a viral infection OR progressing paresthesia of lower extremities within 6 weeks of a viral infection	STAGE 1.01-2.03 + DX 3570;
2.05	with Stevens-Johnson syndrome	Stage 1.01-2.04 AND erythema multiforme involving the skin and mucosae	STAGE 1.01-2.04 + DXCAT SKN02;
2.06	with cardiac arrhythmias	Stage 1.01-2.05 AND arrhythmias:	STAGE 1.01-2.05 + DXCAT CVS06;
3.01	with myocarditis or pericarditis	Stage 1.01-2.05 AND myocarditis: OR pericarditis:	STAGE 1.01-2.06 + (DX 4200, 42090-42099 OR GROUP MYOCARDITIS);
3.02	with aseptic meningitis	Stage 1.01-3.01 AND aseptic meningitis:	STAGE 1.01-3.01 + GROUP MENING_VIR;
3.03	with respiratory failure	Stage 2.01-3.02 AND respiratory failure:	STAGE 1.01-3.02 + GROUP RESP_FAIL;
3.04	with shock	Stage 1.01-3.03 AND shock:	STAGE 1.01-3.03 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.01-3.04	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES12

MultiStage: No

DXCat Label: Mycoplasma pneumoniae Infection

Specificity: A

Etiology: Infection, Bacterial

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

Cassell GH, Gray GC, Waites KB. Mycoplasma infections. In Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1052-1055.

Narita M, Matsuzono Y, Itakura O, Yamada S, Togashi T. Analysis of mycoplasmal pleural effusion by the polymerase chain reaction. Archives of Disease in Childhood. 1998;78(1):67-9.

O'Handley JG, Gray LD. The incidence of mycoplasma pneumoniae pneumonia. Journal of the American Board of Family Practice. 1997;10(6):425-9.

Powell DA. Mycoplasmal infections. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:824-827.

Stauffer JL. Lung. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:251-333.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES13

MultiStage: No

DXCat Label: Neoplasm, Malignant: Lungs, Bronchi, or Mediastinum

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	History of cancer of the lungs, bronchi or mediastinum	History of cancer of the lungs, bronchi or mediastinum	DX V1011, V1012;
1.01	Early carcinoma of the lungs or bronchi or mediastinum	Stage 1 of the American Joint Committee on staging of non-small cell lung cancer OR Stage T1N0M0 of the American Joint Committee on staging of lung cancer OR Stage T2N0M0 of the American Joint Committee on staging of lung cancer	DX 1622-1629, 1630-1639, 1642-1649, 1764, 2312, 20921;
2.01	Extension of carcinoma of the lungs or bronchi or mediastinum	Stage 2 of the American Joint committee on staging non-small cell of lung cancer OR Stage T2N1M0 of the American Joint Committee on staging of lung cancer OR Stage T1N1M0 of the American Joint Committee on staging of lung cancer OR Stage 1.1 AND non-small cell metastasis to lymph nodes in the peribronchial or the ipsilateral hilar region, or both, including direct extension [operative/pathology report]	STAGE 0.00-1.01 + DX 1961;
3.01	Advanced carcinoma of the lung or bronchi or mediastinum	Stage 3A of the American Joint Committee on staging non-small cell of lung cancer OR Stage T3 of the American Joint Committee on staging of lung cancer OR Stage T3N1 of the American Joint Committee on staging of lung cancer OR Stage T1N2 of the American Joint Committee on staging of lung cancer OR Stage T2N2 of the American Joint Committee on staging of lung cancer OR Stage T3N2 of the American Joint Committee on staging of lung cancer OR Stage 1.1-2.1 AND non-small cell tumor with direct extension into the chest wall , the diaphragm, the mediastinal pleura, or the parietal pericardium; or a tumor in the main bronchus < 2 cm distal to the carina without involving the carina; or associated atelectasis or obstructive pneumonitis of the entire lung [operative/pathology report] OR non-small cell metastasis to ipsilateral mediastinal lymph nodes and/or subcarinal lymph nodes [operative/pathology report] OR limited small cell carcinoma [operative/pathology report] OR small cell carcinoma confined to one hemithorax and hilar, mediastinal, and supraclavicular nodes [operative/pathology report]	STAGE 0.00-2.01 + (DX 1960, 1970-1972, 3383, 486 , 5180, 51181); DX 51181;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES13

MultiStage: No

DXCat Label: Neoplasm, Malignant: Lungs, Bronchi, or Mediastinum

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.02	with distant metastasis	Stage 3B of the American Joint Committee on staging of lung cancer OR Stage 4 of the American Joint Committee on staging of lung cancer OR Stage T4 of the American Joint Committee on staging of lung cancer OR Stage N3 of the American Joint Committee on staging of lung cancer OR Stage M1 of the American Joint Committee on staging of lung cancer OR Stage 1.01-3.01 AND non-small cell metastasis to contralateral mediastinal lymph nodes, contralateral hilar lymph nodes, ipsilateral or contralateral scalene or supraclavicular lymph nodes [operative/pathology report] OR non-small cell a tumor of any size with invasion of the mediastinum, heart, great vessels, trachea, esophagus, vertebral body, or carina; or with a malignant pleural or pericardial effusion; or with satellite tumor nodules within the ipsilateral lobe of the lung containing the primary tumor [operative/pathology report] OR non-small cell distant metastasis [operative/pathology report] OR extensive small cell carcinoma [operative/pathology report] OR small cell carcinoma spread to more distant sites[operative/pathology report]	STAGE 0.00-3.01 + (DX 1962-1969, 1973-1991, 78951);
3.03	with shock	Stage 2.01-3.02 AND shock:	STAGE 0.00-3.02 + GROUP SHOCKN;
4.00	with death	Stage 2.01-3.03 AND death	NO;

References:

Minna JD. Neoplasms of the lung. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:552-562.

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Strauss GM, Gleason RE, Sugarbaker DJ. Screening for lung cancer. another look; a different view. Chest. 1997;111(3):754-68.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES14

MultiStage: No

DXCat Label: Parainfluenza Virus Infection

Specificity: A

Etiology: Infection, Viral

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Parainfluenza virus infection	Parainfluenza virus infection [tissue culture reports isolation of influenza virus or convalescent versus acute antibody titer shows >four fold increase] AND coryza AND productive cough AND fever AND malaise AND myalgia <u>Presumptive Diagnostic Findings:</u> Parainfluenza virus infection >4 rise in antibody titer [hemagglutination inhibition or by complement-fixation or neutralization tests in acute-and convalescent-phase serology reports] OR immunofluorescence of viral antigens in exfoliated cells from the respiratory tract [serology report]	DX 07989; DX 07989 + GROUP FEVER;
1.02	with acute otitis media	Stage 1.01 AND otitis media	STAGE 1.01 + DXCAT ENT18;
1.03	with croup	Stage 1.01 AND barking cough of croup OR laryngotracheobronchitis	STAGE 1.01-1.02 + DXCAT RES07;
1.04	with bronchiolitis	Stage 1.01 AND prolonged expiratory phase with wheezing on physical examination AND hyperexpansion and increased peribronchial markings [chest x-ray report]	NO;
2.01	with pneumonia	Stage 1.01-1.04 AND pneumonia:	DX 4802;
2.02	with bacterial tracheitis	Stage 1.01-2.01 AND dyspnea and tachypnea AND purulent airway secretions AND infected tracheal aspirate [Gram's stain [presence of many WBCs AND a single predominant organism OR tracheal aspirate [culture reports growth of pathologic organism(s)]	STAGE 1.01-2.01 + (DX 46410, 46420);
2.03	with hypoxemia	Stage 1.03-2.02 AND hypoxemia:	STAGE 1.01-2.02 + GROUP HYPOXEMIA;
3.01	with acute upper airway obstruction	Stage 1.03-2.03 AND acute obstruction of the upper airway	STAGE 1.01-2.03 + (DX 46401, 46411, 46421, 46431 , 47875);
3.02	with respiratory failure	Stage 1.03-3.01 AND respiratory failure:	STAGE 1.01-3.01 + GROUP RESP_FAIL;
3.03	with shock	Stage 1.03-3.02 AND shock:	STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES14

MultiStage: No

DXCat Label: Parainfluenza Virus Infection

Specificity: A

Etiology: Infection, Viral

Stage	Description	Diagnostic findings	ICD-9-CM Codes
4.00	with death	Stage 1.03-3.03 AND death	NO;

References:

- Dolin R. Common viral respiratory infections. In: Fauci AS, Brawnwald E, Isselbacher KJ, Wilson JD, Martin JB, kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1100-1105.
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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES15

DXCat Label: Pneumonia: Bacterial

Etiology: Infection, Bacterial

MultiStage: Yes

Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Pneumonia in one lobe	Pneumonia:	DX 481, 4820-4822, 48230-48239, 4824-48249, 48281-48283, 48289-4829, 485-486;
2.01	with bacteremia	Stage 1.01 AND bacteremia:	STAGE 1.01 + GROUP BACTEREMIA;
2.02	with epiglottitis	Stage 1.01-2.01 AND H. influenza pneumonia [sputum c/s report or blood c/s report] AND epiglottitis	DX 4822 + DX 46430;
2.03	with empyema	Stage 1.1-2.2 AND empyema [thoracentesis report or effusion culture reports growth of pathologic organism(s)]	STAGE 1.01-2.02 + DX 5109; STAGE 1.01-2.02 + DX 5119;
2.04	with lung abscess or bronchopleural fistula or bronchopleural cutaneous fistula	Stage 1.01-2.03 AND lung abscess [operative/pathology report] OR air/fluid level [chest x-ray report] OR air/fluid levels in pleural space [chest x-ray report] OR cutaneous fistula [chest x-ray report and physical exam]	STAGE 1.01-2.03 + (DX 5100, 5130);
2.05	with diffuse involvement of multiple lobes	Stage 1.01-2.04 AND lobular pneumonia in \geq 2 lobes [chest x-ray report]	NO;
2.06	with septic arthritis	Stage 1.01-2.05 AND septic arthritis:	STAGE 1.01-2.04 + GROUP ARTHR_SEPTIC;
2.07	with osteomyelitis	Stage 1.01-2.06 AND osteomyelitis:	STAGE 1.01-2.06 + GROUP OSTEOMYELIT;
2.08	with peritonitis or subphrenic abscess	Stage 1.01-2.07 AND peritonitis [operative/pathology report or peritoneal fluid culture reports growth of same organism as pneumonia] OR subphrenic abscess [operative/pathology report]	STAGE 1.01-2.07 + (DX 5670-5679, 56983);
2.09	with pericarditis	Stage 1.01-2.08 AND pericarditis:	STAGE 1.01-2.08 + (DX 4200, 42091-42099);
3.01	with endocarditis	Stage 1.01-2.08 AND endocarditis:	STAGE 1.01-2.09 + GROUP ENDOCARDITIS;
3.02	with meningitis	Stage 1.01-3.01 AND meningitis:	STAGE 1.01-3.01 + GROUP MENGIT_BACT;
3.03	with congestive heart failure	Stage 1.01-3.02 AND congestive heart failure:	STAGE 1.01-3.02 + GROUP CHF_NON_HTN;
3.04	with sepsis	Stage 1.01-3.03 AND sepsis:	STAGE 1.01-3.03 + GROUP SEPSIS;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES15

MultiStage: Yes

DXCat Label: Pneumonia: Bacterial

Specificity: A

Etiology: Infection, Bacterial

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.05	with respiratory failure	Stage 1.01-3.04 AND respiratory failure:	STAGE 1.01-3.04 + GROUP RESP_FAIL;
3.06	with shock	Stage 1.01-3.05 AND shock:	STAGE 1.01-3.05 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.01-3.06 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES15

MultiStage: Yes

DXCat Label: Pneumonia: Bacterial

Specificity: A

Etiology: Infection, Bacterial

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

- Arvin AM. Infections due to pseudomonas. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:796-798.
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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES15

MultiStage: Yes

DXCat Label: Pneumonia: Bacterial

Specificity: A

Etiology: Infection, Bacterial

Stage	Description	Diagnostic findings	ICD-9-CM Codes
	Todd J. Pneumococcal infections. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:760-762.		
	Todd J. Streptococcal infections. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:750-754.		
	Tuomanen EI, Austrian R, Masure HR. Pathogenesis of pneumococcal infection. N Engl J Med. 1995;332(19):1280-4.		
	Wainwright RB. The US Arctic Investigations Program: infectious disease prevention and control research in Alaska. Lancet. 1996;347(9000):517-20.		
	Wessels MR. "Streptococcal and Enterococcal Infections." In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:885-892.		
	Wilson R. The role of infection in COPD. Chest. 1998;113(4 Suppl):242S-248S.		
	Yinnon AM, Butnaru A, Raveh D, Jerassy Z, Rudensky B. Klebsiella bacteraemia: community versus nosocomial infection. QJM. 1996;89(12):933-41.		

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES16

MultiStage: No

DXCat Label: Pneumonia: Chlamydial

Specificity: A

Etiology: Infection

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Chlamydia Pneumonia	pneumonia: AND Chlamydia psittaci titer increase 4 fold [complement fixation or microimmunofluorescent antibody microbiology/serology report] OR Chlamydia sp.titer increase 4 fold [complement fixation antibody microbiology/serology report]	DX 4831;
2.01	with involvement of multiple lobes	Stage 1.01 AND lobular pneumonia in \geq 2 lobes [chest x-ray report]	NO;
2.02	with hepatomegaly or splenomegaly	Stage 1.01-2.01 AND hepatomegaly [physical examination or ultrasound or CT scan report] splenomegaly [physical examination or ultrasound or CT scan report]	STAGE 1.01 + (DX 7891, 7892);
2.03	with pericarditis	Stage 1.01-2.02 AND pericarditis:	STAGE 1.01-2.02 + (DX 4200, 42090, 42091, 42099) ;
3.01	with endocarditis	Stage 1.01-2.03 AND endocarditis:	STAGE 1.01-2.03 + GROUP ENDOCARDITIS;
3.02	with respiratory failure	Stage 1.01-3.01 AND respiratory failure:	STAGE 1.01-3.01 + GROUP COR_PULMONAL;
3.03	with shock	Stage 1.01-3.02 AND shock:	STAGE 1.01-3.02 + GROUP RESP_FAIL;
4.00	with death	Stage 1.01-3.02 AND shock:	NO;

References:

- Hammerschlag MR. Chlamydia. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:827-831.
- Johnson CC, Finegold SM. Pyogenic bacterial pneumonia, lung abscess, and empyema. In: Murray JF, Nadel JA, eds. Textbook of Respiratory Medicine. Vol. 1, 2nd ed. Philadelphia, PA: WB Saunders; 1988:1036-1093.
- Juvonen J, Juvonen T, Laurila A, et al. Can degenerative aortic valve stenosis be related to persistent Chlamydia pneumoniae infection? Annals of Internal Medicine. 1998;128(9):741-4.
- Stamm WE. Chlamydial infections. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1055-1065.
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- Taylor-Robinson D, Thomas BJ. Antibodies to cytomegalovirus or Chlamydia pneumoniae and coronary heart disease. Lancet. 1998;351(9096):143.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES17

MultiStage: No

DXCat Label: Pneumonia: Legionella

Specificity: A

Etiology: Infection, Bacterial

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Legionella pneumonia	pneumonia: OR Legionella titer increase 4 fold \geq 1:128 [microbiology/serology report] OR Legionella by direct fluorescent antibody stain of exudate [microbiology/serology report] OR Legionella soluble urinary antigen [urine chemistry report] OR Legionella by PCR DNA probe [molecular medicine or genetic analysis report]	DX 48284;
1.02	with multiple lobe involvement	Stage 1.01 AND multilobular infiltrate [chest x-ray report]	NO;
1.03	with atelectasis	Stage 1.01-1.02 AND atelectasis [chest x-ray report]	STAGE 1.01 + DX 5180;
2.01	with diarrhea or hyponatremia	Stage 1.01-1.03 AND diarrhea OR hyponatremia:	STAGE 1.01-1.03 + (DX 00847, 0085, 0088, 0092, 0093, 78791 OR GROUP HYPONATREMIA);
2.02	with empyema	Stage 1.01-2.01 AND empyema [thoracentesis report or effusion culture reports growth of pathologic organism(s)]	STAGE 1.01-2.01 + (DX 5100, 5109);
2.03	with lung abscess or cavitation	Stage 1.01-2.02 AND lung abscess [operative/pathology report or CT scan report] OR air/fluid level [chest x-ray report or CT scan report]	STAGE 1.01-2.02 + (DX 5130, 51889);
2.04	with pericarditis	Stage 1.01-2.02-03 AND pericarditis:	STAGE 1.01-2.03 + (DX 4200, 42090, 42091, 42099) ;
3.01	with endocarditis	Stage 1.01-2.04 AND endocarditis:	STAGE 1.01-2.04 + GROUP ENDOCARDITIS;
3.02	with sepsis	Stage 1.01-3.01 AND sepsis:	STAGE 1.01-3.01 + GROUP SEPSIS;
3.03	with acute respiratory failure	Stage 1.01-3.02 AND respiratory failure:	STAGE 1.01-3.02 + GROUP RESP_FAIL;
3.04	with shock	Stage 1.01-3.03 AND shock:	STAGE 1.01-3.03 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.01-3.04 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES17

MultiStage: No

DXCat Label: Pneumonia: Legionella

Specificity: A

Etiology: Infection, Bacterial

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

Johnson CC, Finegold SM. Pyogenic bacterial pneumonia, lung abscess, and empyema. In: Murray JF, Nadel JA, eds. Textbook of Respiratory Medicine. Vol. 1, 2nd ed. Philadelphia, PA: WB Saunders; 1988:1036-1093.
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Lieberman D, Schlaeffer F, Boldur I, et al. Multiple pathogens in adult patients admitted with community-acquired pneumonia: a one year prospective study of 346 consecutive patients. Thorax. 1996;51(2):179-84.
Mulazimoglu L, Yu VL. Legionella infections. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:928-933.
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Thompkins L. Legionella. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders, 1996:822-824.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES18

MultiStage: No

DXCat Label: Pneumonia: Moraxella catarrhalis

Specificity: A

Etiology: Infection, Bacterial

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Moraxella catarrhalis pneumonia in one lobe	Pneumonia:	NO;
1.02	with small areas in multiple lobes of bronchopneumonia	Stage 1.01 AND small multilobular infiltrate [chest x-ray report] OR bronchopneumonia [chest x-ray report]	NO;
2.01	with diffuse involvement of multiple lobes	Stage 1.01-1.02 AND lobular pneumonia in ≥ 2 lobes [chest x-ray report]	NO;
3.01	with endocarditis	Stage 1.01-2.02 AND endocarditis:	NO;
3.02	with meningitis	Stage 1.01-3.01 AND meningitis:	NO;
3.03	with sepsis	Stage 1.01-3.02 AND sepsis:	NO;
3.04	with respiratory failure	Stage 1.01-3.03 AND respiratory failure:	NO;
3.05	with shock	Stage 1.01-3.04 AND shock:	NO;
4.00	with death	Stage 2.01-3.05 AND death	NO;

References:

Hol C, Verduin CM, van Dijke E, Verhoef J, van Dijk H. Complement resistance in Branhamella (Moraxella) catarrhalis. Lancet. 1993;341(8855):1281.

Kaiser L, Lew D, Hirschel B, et al. Effects of antibiotic treatment in the subset of common-cold patients who have bacteria in nasopharyngeal secretions. Lancet. 1996;347(9014):1507-10.

Musher DM. Moraxella (Branhamella) catarrhalis, other moraxella species, and kingella. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:922-924.

Stauffer JL. Lung. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:251-333.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES19

MultiStage: No

DXCat Label: Pneumonia: Pneumocystis carinii

Specificity: A

Etiology: Infection

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Pneumocystis carinii pneumonia	Pneumocystis carinii pneumonia [sputum or bronchial washings stain document cysts or trophozoites of Pneumocystis carinii or biopsy reports infection with Pneumocystis carinii]	DX 1363;
2.01	with hypoxemia	Stage 1.01 AND hypoxemia:	STAGE 1.01 + GROUP HYPOXEMIA;
3.01	with respiratory failure	Stage 1.01-2.01 AND respiratory failure:	STAGE 1.01-2.01 + GROUP RESP_FAIL;
3.02	with shock	Stage 1.01-3.01 AND shock:	STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 1.01-3.02 AND death	NO;

References:

Beiser C. Recent advances. HIV infection-II. BMJ. 1997;314(7080):579-83.

Hughes WT. Pneumocystis carinii pneumonitis. In: Behrman RE, Kliegman RM, Arvin AM, Nelson, eds. Nelson Testbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:951-952.

Sepkowitz KA, Brown AE, Armstrong D. Pneumocystis carinii pneumonia without acquired immunodeficiency syndrome. more patients, same risk. Archives of Internal Medicine. 1995;155(11):1125-8.

Stauffer JL. Lung. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:251-333.

Walzer PD. Pneumocystitis carinii infection. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1161-1163.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES20

MultiStage: No

DXCat Label: Pulmonary Alveolar Proteinosis

Specificity: A

Etiology: Genetic (or hereditary); Idiopathic

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Pulmonary alveolar proteinosis, sporadic or adult type	Alveolar proteinosis [lung biopsy report or segmental bronchoalveolar lavage report]	DX 5160;
1.02	Congenital pulmonary alveolar proteinosis	Alveolar proteinosis [immunostaining of lung biopsy or PCR of infant's blood, lung tissue of lavage of lung AND genetic deficiency of the lung surfactant apoprotein B (SP-B) due to a defect in a two base pair insertion (121 ins 2) in codon 121 or deletion of exon 4 preventing the translation of SB	NO;
2.01	with hypoxemia	Stage 1.01-1.02 AND hypoxemia:	STAGE 1.01 + GROUP HYPOXEMIA;
2.02	with restrictive lung disease pattern	Stage 1.01-2.01 AND restrictive lung disease:	NO;
3.01	with cor pulmonale	Stage 1.01-2.01 AND cor pulmonale:	STAGE 1.01-2.01 + GROUP COR_PULMONAL;
3.02	with respiratory failure	Stage 1.01-3.01 AND respiratory failure:	STAGE 1.01-3.01 + GROUP RESP_FAIL;
3.03	with shock	Stage 1.01-3.02 AND shock:	STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 1.01-3.03 AND death	NO;

References:

Colten HR and Mello DE. Pulmonary alveolar proteinosis. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:1222-1223.

King TE Jr, Cherniak RM, Schwarz MI. Idiopathic pulmonary fibrosis and other interstitial lung diseases of unknown etiology. In: Murray JF, Nadel JA, eds. Textbook of Respiratory Medicine. Vol. 1, 2nd ed. Philadelphia, PA: WB Saunders; 1988:1827-1849.

Lee KN, Levin DL, Webb WR, et al. Pulmonary alveolar proteinosis: high-resolution CT, chest radiographic, and functional correlations. Chest. 1997;111(4):989-95.

Reynolds HY. Interstitial lung diseases. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1460-1466.

Stauffer JL. Lung. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:251-333.

Wang BM, Stern EJ, Schmidt RA, Pierson DJ. Diagnosing pulmonary alveolar proteinosis. a review and an update. Chest. 1997;111(2):460-6.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES21

MultiStage: No

DXCat Label: Pulmonary Embolism

Specificity: B

Etiology: Genetic (or hereditary); Metabolic; Trauma

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.01	Pulmonary embolism	Pulmonary embolism [high probability nuclear ventilation/perfusion scan or pulmonary angiogram report] <u>Presumptive Diagnostic Findings:</u> Low to moderate probability pulmonary embolism [nuclear ventilation/perfusion scan] AND plasma D-dimer enzyme-linked immunosorbent assay (ELISA) >500 ng/mL [chemistry]	DX 41511-41512, 41519;
3.02	with pulmonary infarction	Stage 3.01 AND pulmonary infarction [chest x-ray reports]	NO;
3.03	with right ventricular hypokinesia	Stage 3.01-3.02 AND right ventricular hypokinesia [echocardiogram report]	STAGE 3.01 + DX 4280;
3.04	with pulmonary hypertension	Stage 3.01-3.03 AND pulmonary hypertension:	STAGE 3.01-3.03 + (DX 4160, 4168);
3.05	with cor pulmonale	Stage 3.01-3.04 AND cor pulmonale:	STAGE 3.01-3.04 + (DX 4150, 4169);
3.06	with shock	Stage 2.01-3.05 AND shock:	STAGE 3.01-3.05 + GROUP SHOCKA;
4.00	with death	Stage 1.01-3.06 AND death	NO;

References:

- Anonymous. Opinions regarding the diagnosis and management of venous thromboembolic disease. ACCP Consensus Committee on Pulmonary Embolism. American College of Chest Physicians. Chest. 1998;113(2):499-504.
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- Stern RC. Pulmonary embolism and infarction. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:1230-31.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES22

MultiStage: No

DXCat Label: Radiation Pneumonitis

Specificity: A

Etiology: Toxicologic; Trauma

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Asymptomatic radiation pneumonitis	History of ionizing radiation exposure > 25 Gy in ≤ 6 months AND ground glass opacification [chest x-ray report] OR hazy infiltrates [chest x-ray report] OR lymphocytic interstitial pneumonitis [operative/pathology report]	DX 5080;
2.01	with pulmonary impairment	Stage 1.01 AND restrictive lung disease:	DX 5081; STAGE 1.01 + DX 51889;
3.01	with cor pulmonale	Stage 1.01-2.01 AND cor pulmonale:	STAGE 1.01-2.01 + GROUP COR_PULMONAL;
3.02	with respiratory failure	Stage 1.01-3.01 AND respiratory failure:	STAGE 1.01-3.01 + GROUP RESP_FAIL;
3.03	with shock	Stage 1.01-3.02 AND shock:	STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 1.01-3.03 AND death	NO;

References:

- Cho C, Glatstein E. Radiation injury. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:2559-2564.
- Movsas B, Raffin TA, Epstein AH, Link CJ Jr. Pulmonary radiation injury. Chest. 1997;111(4):1061-76.
- Stauffer JL. Lung. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:251-333.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES23

MultiStage: No

DXCat Label: Respiratory Syncytial Virus Infections

Specificity: A

Etiology: Infection, Viral

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Coryza, or acute nasopharyngitis, or common cold	Nasal congestion and discharge AND malaise AND infection by respiratory syncytial virus [tissue culture isolation report or immunofluorescent or enzyme immunoassay for direct detection of viral antigen]	DX 0796; DX 0796 + DX 460;
1.02	with conjunctivitis	Stage 1.01 AND inflammation of the conjunctiva	STAGE 1.01 + (DX 37200, 37202, 37203, 37204, 37205, 37220-37230, 37233, 37239);
1.03	with pharyngitis	Stage 1.01-1.02 AND sore throat AND inflammation of the pharynx	STAGE 1.01-1.02 + DX 462;
1.04	with bronchitis	Stage 1.01-1.03 AND productive cough	STAGE 1.01-1.03 + (DX 4660, 4911);
1.05	with bronchiolitis	Stage 1.01-1.04 AND prolonged expiratory phase with wheezing on PE AND hyperexpansion and increased peribronchial markings [chest x-ray report]	DX 46611;
1.06	with bronchopneumonia	Stage 1.01-1.05 AND bronchopneumonia [chest x-ray report]	STAGE 1.01-1.05 + DX 485;
1.07	with pneumonia	Stage 1.01-1.06 AND pneumonia:	DX 4801;
2.01	with hypoxemia	Stage 1.01-1.07 AND hypoxemia:	STAGE 1.01-1.07 + GROUP HYPOXEMIA;
3.01	with respiratory failure	Stage 1.01-2.02 AND respiratory failure:	STAGE 1.01-2.01 + GROUP RESP_FAIL;
3.02	with shock	Stage 1.01-3.01 AND shock:	STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 1.07-3.02 AND death	NO;

References:

Hayden FG, Gwaltney Jr JM. Viral infections. In: Murray JF, Nadel JA, eds. Textbook of Respiratory Medicine. Vol. 1, 2nd ed. Philadelphia, PA: WB Saunders; 1988:977-1035.

McIntosh K. Respiratory syncytial virus. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:904-906.

Orenstein. Bronchiolitis. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:1211-1213.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES24

MultiStage: No

DXCat Label: Rhino, Adeno, and Corona Virus Infections

Specificity: A

Etiology: Infection, Viral

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	Exposure to SARS associated corona virus	Added stage 5/8/06 cb	DX V0182;
1.01	Coryza by rhinovirus or adenovirus or corona virus or acute nasopharyngitis or common cold	Nasal congestion and discharge AND malaise AND infection by rhinovirus [tissue culture report]	DX 07982; DX 460 + NOT DX 0796;
1.02	with conjunctivitis or keratoconjunctivitis	Stage 1.01 AND inflammation of the conjunctiva OR inflammation of the conjunctiva and cornea	STAGE 1.01 + (DX 37200, 37202-37205, 37220-37230 , 37233, 37239);
1.03	with pharyngitis	Stage 1.01-1.02 AND sore throat AND inflammation of the pharynx	STAGE 1.01-1.02 + DX 462; DX 7862 + AGE 11-124;
1.04	with acute sinusitis or otitis media	Stage 1.01-1.03 AND acute sinusitis OR otitis media	STAGE 1.01-1.03 + (DXCAT ENT18 OR DXCAT ENT21);
1.05	Bronchitis	Stage 1.01-1.04 AND productive cough	STAGE 1.01-1.04 + (DX 4660, 46619, 490, 4911); DX 4660, 46619, 490;
1.06	with bronchiolitis	Stage 1.01-1.05 AND prolonged expiratory phase with wheezing on physical exam AND hyperexpansion and increased peribronchial markings [chest x-ray report]	STAGE 1.01-1.05 + DX 46619;
1.07	with bronchopneumonia	Stage 1.01-1.06 AND bronchopneumonia [chest x-ray report]	STAGE 1.01-1.06 + (DX 4801, 485);
1.08	with pneumonia	Stage 1.01-1.08 AND pneumonia:	STAGE 1.01-1.07 + (DX 4808, 486); DX 4800, 4803, 4808-4809, 4838;
2.01	with hypoxemia	Stage 1.01-1.08 AND hypoxemia:	STAGE 1.01-1.08 + GROUP HYPOXEMIA;
3.01	with aseptic meningitis	Stage 1.01-2.01 AND aseptic meningitis	STAGE 1.01-2.01 + DXCAT NEU13;
3.02	with respiratory failure	Stage 1.01-3.01 AND respiratory failure:	STAGE 1.01-3.01 + GROUP RESP_FAIL + NOT DX 485-486;
3.03	with shock	Stage 1.01-3.02 AND shock:	STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) + NOT DX 485-486;
4.00	with death	Stage 1.06-3.03 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES24

MultiStage: No

DXCat Label: Rhino, Adeno, and Corona Virus Infections

Specificity: A

Etiology: Infection, Viral

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

Hayden FG, Gwaltney Jr JM. Viral infections. In: Murray JF, Nadel JA, eds. Textbook of Respiratory Medicine. Vol. 1, 2nd ed. Philadelphia, PA: WB Saunders; 1988:977-1035.

McIntosh K. Adenovirus. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:906-908.

McIntosh K. Rhinovirus. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:908-909.

Orenstein. Bronchiolitis. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:1211-1213.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES25
 DXCat Label: Sarcoidosis
 Etiology: Idiopathic

MultiStage: No
 Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Sarcoidosis	Noncaseating epithelioid granulomas [operative/pathology report] OR Kveim reaction (Kveim skin-test positive) <u>Presumptive Diagnostic Findings:</u> Bililar adenopathy [chest x-ray report] AND angiotensin converting enzyme > 2 standard deviations of normal range* *(normal value varies widely with different laboratories)	DX 135; DX 135 + DX 5178;
1.02	Sarcoidosis with involvement of the skin or sicca syndrome or arthritis	Stage 1.01 AND skin lesions containing noncaseating epithelioid granulomas [operative/pathology report] OR sicca syndrome (dryness of eyes or buccal mucosa) OR nonspecific arthritis OR joint WBC > 200 [arthrocentesis report] AND joint culture reports no growth AND joint glucose > 25 mg/dl [arthrocentesis report]	STAGE 1.01 + (DX 6861, 7102, 7137);
2.01	Sarcoidosis with nephrolithiasis	Stage 1.01-1.02 AND nephrolithiasis [intravenous urography report or nuclear renogram or sonography report or KUB report] OR dilated ureters [intravenous urography report or nuclear renogram or sonography report or KUB report]	STAGE 1.01-1.02 + (DX 5920, 5921, 5929);
2.02	Sarcoidosis with cranial nerve palsy	Stage 1.01-2.01 AND Cranial nerve palsy AND no new cerebral infarction [CT report or MRI report]	STAGE 1.01-2.01 + (DX 3501-3529, 37749, 37820-37856, 3885);
2.03	Sarcoidosis with blindness	Stage 1.01-2.02 AND blindness:	STAGE 1.01-2.02 + GROUP BLINDNESS;
2.04	Sarcoidosis with diabetes insipidus	Stage 1.01-2.03 AND urine output of > 6.0 liters/24 hours AND urine specific gravity < 1.006 AND urine < 200 mOsm/l	STAGE 1.01-2.03 + DXCAT END03;
2.05	Sarcoidosis with involvement of the pulmonary parenchyma	Stage 1.01-2.04 AND diffuse, bilateral reticulonodular infiltrates [chest x-ray report]	STAGE 1.01-2.04 + DX 5183;
3.01	Sarcoidosis with pulmonary hypertension	Stage 1.01-2.05 AND pulmonary artery peak systolic pressure > 30 mmHg [pulmonary artery catheter report]	STAGE 1.01-2.05 + (DX 4160, 4168);
3.02	Sarcoidosis meningitis	Stage 1.01-3.01 AND meningitis:	DX 3214;
3.03	Sarcoidosis with cor pulmonale	Stage 1.01-3.01 AND cor pulmonale:	STAGE 1.01-3.02 + GROUP COR_PULMONAL;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES25

DXCat Label: Sarcoidosis

Etiology: Idiopathic

MultiStage: No

Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.04	Sarcoidosis with cardiac abnormalities	Stage 1.01-3.02 AND low cardiac output (echocardiogram reports ejection fraction < 50% or nuclear ejection fraction reports ejection fraction < 50% or cardiac catheterization shows cardiac output < 4.0 l/min) OR new onset bundle branch blocks or hemiblocks [EKG report or nuclear phase study report] OR new onset second degree heart block [EKG report] OR new onset third degree heart block [EKG report]	STAGE 1.01-3.03 + (DX 4260, 42610-4269);
3.05	Sarcoidosis with respiratory failure	Stage 1.01-3.03 AND respiratory failure:	STAGE 1.01-3.04 + GROUP RESP_FAIL;
3.06	with shock	Stage 1.1-3.4 AND shock:	STAGE 1.01-3.05 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.01-3.05 AND death	NO;

References:

Berkow R, Fletcher AJ, eds. In: Merck Manual. 16th ed. Rahway, NJ: Merck & Co., Inc.; 1987:272-275.

Crystal RG. Sarcoidosis. In: Wilson JD, Braunwald E, Isselbacher KJ, Petersdorf RG, Martin JB, Fauci AS, Root RK, eds. Harrison's Principles of Internal Medicine. 12th ed. New York, NY: McGraw-Hill; 1991:1463-1469.

Fanburg BL. Sarcoidosis. In: Wyngaarden JB, Smith Jr LH, Bennett JC, eds. Cecil Textbook of Medicine. 19th ed., Vol 1. Philadelphia, PA: WB Saunders; 1992:430-435.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES26

DXCat Label: Silicosis

Etiology: Toxicologic

MultiStage: No

Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Simple nodular silicosis	History of exposure to free silica for \geq 10 years AND round, small regular radiopacities \leq 1 cm in diameter compatible with pneumoconiosis [chest x-ray report] AND 'eggshell' calcification of hilar and mediastinal nodes [chest x-ray report]	DX 502;
2.01	Conglomerate silicosis	Stage 1.01 AND finding of > 1 cm diameter round regular radiopacities in a background of pneumoconiosis [chest x-ray report]	NO;
2.02	with early chronic obstructive pulmonary disease or restrictive lung disease	Stage 1.01-2.01 AND COPD: OR restrictive lung disease:	STAGE 1.01-2.01 + GROUP COPD; STAGE 1.01-2.01 + DX 51889;
3.01	with cor pulmonale	Stage 1.01-2.02 AND cor pulmonale:	STAGE 1.01-3.01 + GROUP COR_PULMONAL;
3.02	with respiratory failure	Stage 1.01-3.02 AND respiratory failure:	STAGE 1.01-3.01 + GROUP RESP_FAIL;
3.03	with shock	Stage 1.01-3.03 AND shock:	STAGE 1.01-3.02 + GROUP SHOCKA;
4.00	with death	Stage 1.01-3.03 AND death	NO;

References:

Rosenman KD, Reilly MJ, Kalinowski DJ, Watt FC. Silicosis in the 1990s. *Chest*. 1997;111(3):779-86.

Speizer FE. Environmental lung diseases. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. *Harrison's Principles of Internal Medicine*. 14th ed. New York, NY: McGraw-Hill; 1998:1429-1437.

Stauffer JL. Lung. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. *Current Medical Diagnosis & Treatment*. Stamford, CT: Appleton & Lange; 1998:251-333.

Wagner GR. Asbestosis and silicosis. *Lancet*. 1997;349(9061):1311-5.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES27

DXCat Label: Tuberculosis

Etiology: Infection, Bacterial

MultiStage: No

Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	Observation for suspected tuberculosis	Added stage 5/8/06 cb	DX V712, V741;
1.01	M. Tuberculosis exposure	History of previously negative tuberculin skin test \geq 1 yr. ago AND positive tuberculin skin test <1 yr. ago	DX 7955, V011;
1.02	Symptomatic primary tuberculosis	New infiltrate [chest x-ray report] AND sputum infected with AFB [gram stain report or culture report or DNA probe analysis or ELISA serology report]	DX 01000-01006, 01090-01096, 01180-01186, 01190-01196, 01210-01216;
1.03	Tuberculosis of the head and neck	Stage 1.01 AND cervical tuberculous lymphadenitis with ulceration [ulcer biopsy culture report or DNA probe analysis or ELISA serology or ELISA serology report growth of Mycobacterium tuberculosis] OR tuberculous oral ulcerations [oral ulcer culture report or DNA probe analysis or ELISA serology report growth of Mycobacterium tuberculosis] OR tuberculous otitis media [effusion culture report or DNA probe analysis or ELISA serology report growth of Mycobacterium tuberculosis]	DX 01560-01566, 01720-01756;
1.04	Advanced primary tuberculosis	Stage 1.01-1.03 AND new infiltrate involves \geq 1/3 of the lung volume [chest x-ray report]	DX 01080-01086, 01100-01106, 01110-01116, 01130-01166, 01220-01286, 1370, 1374;
2.01	Cavitary primary tuberculosis or tuberculosis pleural effusion	Stage 1.01-1.04 AND cavitation or abscess formation [chest x-ray report] OR pleural effusion [chest x-ray report] OR pleural tuberculosis [biopsy culture report or DNA probe analysis or ELISA serology report growth of Mycobacterium tuberculosis or operative/pathology report]	DX 01010-01016, 01120-01126, 01170-01176, 01200-01206;
2.02	Miliary tuberculosis	Stage 1.01-2.01 AND miliary tuberculosis [chest x-ray report] OR bilateral pulmonary infiltrates [chest x-ray report]	DX 01700-01716, 01800-01806, 01880-01896;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES27

DXCat Label: Tuberculosis

Etiology: Infection, Bacterial

MultiStage: No

Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
2.03	Tuberculosis of the bones and joints	<p>Stage 1.01-2.02 AND arthritis: OR tuberculous spondylitis [biopsy culture report or DNA probe analysis or ELISA serology report growth of Mycobacterium tuberculosis or operative/pathology report]</p>	<p>DX 01500-01506, 01510-01516, 01520-01526, 01550-01556, 01570-01576, 01580-01586, 01590-01596, 1373; STAGE 1.02-2.02 + (DX 71140-71149, 72081) ; DX 01500-01506 + (DX 71145, 71149, 72081) ; DX 01510-01516 + (DX 71145, 71149); DX 01520-01526 + (DX 71146, 71149); DX 01550-01556 + (DX 71141, 71143-71144, 71146-71147, 71149); DX 01560-01586 + (DX 71148, 71149); DX 01590-01596 + (DX 71140, 71149);</p>
2.04	Tuberculosis urethritis, epididymo-orchitis, or prostatitis	<p>Stage 1.01-2.03 AND pyuria: AND 'sterile' urine [urine culture report no growth] OR tuberculosis of urethra [biopsy culture report or DNA probe analysis or ELISA serology report growth of Mycobacterium tuberculosis or operative/pathology report] OR tuberculosis of the epididymis or testis [biopsy culture report or DNA probe analysis or ELISA serology report growth of Mycobacterium tuberculosis or operative/pathology report] OR tuberculosis of the prostate [biopsy culture report or DNA probe analysis or ELISA serology report growth of Mycobacterium tuberculosis or operative/pathology report]</p>	<p>DX 01610-01616, 01620-01626, 01630-01636, 01640-01646, 01650-01656, 01690-01696, 1372; STAGE 1.02-2.03 + DX 6014; DX 01650-01656 + DX 6014;</p>

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES27

DXCat Label: Tuberculosis

Etiology: Infection, Bacterial

MultiStage: No

Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
2.05	Tuberculous pyelonephritis or pelvic inflammatory disease	Stage 1.01-2.04 AND pyelonephritis [intravenous pyelogram report or ultrasound report] OR tuberculosis of the ovary [biopsy culture report or DNA probe analysis or ELISA serology report growth of Mycobacterium tuberculosis or operative/pathology report] OR tuberculosis of the uterus [biopsy culture report or DNA probe analysis or ELISA serology report growth of Mycobacterium tuberculosis or operative/pathology report] OR tuberculosis of the oviducts [biopsy culture report or DNA probe analysis or ELISA serology report growth of Mycobacterium tuberculosis or operative/pathology report]	DX 01600-01606, 01660-01666, 01670-01676; STAGE 1.02-2.04 + DX 59081; DX 01660-01666 + DX 59081;
2.06	Tuberculosis of the GI tract	Stage 1.01-2.05 AND superficial mucosal ulcerations infected with M. tuberculosis [biopsy culture report or DNA probe analysis or ELISA serology or ELISA serology report growth or operative/pathology report] OR intestinal tuberculoma [biopsy culture report or DNA probe analysis or ELISA serology report growth of Mycobacterium tuberculosis or operative/pathology report] OR small bowel obstruction [KUB xray report] OR large bowel obstruction [KUB xray report]	DX 01480-01486, 01780-01786; STAGE 1.02-2.05 + (DX 5370, 56089, 5609) ; (DX 01480-01486, 01780-01786) + (DX 5370, 56089, 5609);
2.07	Tuberculosis of the liver	Stage 1.01-2.06 AND tuberculosis of the liver [biopsy culture report or DNA probe analysis or ELISA serology or ELISA serology report growth of Mycobacterium tuberculosis or operative/pathology report] <u>Presumptive Diagnostic Findings:</u> Stage 1.1-2.4 AND liver mass [CT scan report or MRI report] AND jaundice:	DX 01770-01776, 01790-01796;
2.08	Tuberculous peritonitis	Stage 1.01-2.07 AND tuberculous peritonitis [biopsy culture report or DNA probe analysis or ELISA serology report growth of Mycobacterium tuberculosis or operative/pathology report]	DX 01400-01406; STAGE 1.02-2.07 + (DX 5670-5679, 56983); DX 01400-01406 + (DX 5670-5679, 56983);
2.09	Adrenal tuberculosis	Stage 1.01-2.08 AND adrenal mass [CT scan report] OR hypoadrenalism:	DX 01760-01766;
3.01	Tuberculous pericarditis	Stage 1.01-2.09 AND pericarditis: OR tuberculous pericarditis [culture report or DNA probe analysis or ELISA serology report growth pathologic organism(s)]	STAGE 1.02-2.09 + DX 4200;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES27

DXCat Label: Tuberculosis

Etiology: Infection, Bacterial

MultiStage: No

Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.02	Tuberculous meningitis	Stage 1.02-3.01 AND tuberculous meningitis [CSF culture report or DNA probe analysis or ELISA serology report growth of M. tuberculosis] OR tuberculoma [CT scan report intracranial mass] AND meningitis:	DX 01300-01366, 01380-01396, 1371;
3.03	Tuberculous sepsis	Stage 1.01-3.02 AND sepsis:	STAGE 1.02-3.02 + GROUP SEPSIS;
3.04	with respiratory failure	Stage 1.01-3.03 AND respiratory failure:	STAGE 1.02-3.03 + GROUP RESP_FAIL;
3.05	with shock	Stage 1.01-3.04 AND shock:	STAGE 1.02-3.04 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 1.01-3.05 AND death	NO;

References:

- Brook MG, Miller RF. Prevention and management of tuberculosis in HIV positive patients living in countries with a low prevalence of Mycobacterium tuberculosis. *Genitourinary Medicine*. 1996;72(2):89-92.
- Chambers HF. Infectious diseases: bacterial & chlamydial. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. *Current Medical Diagnosis & Treatment*. Stamford, CT: Appleton & Lange; 1998:1267-1304.
- Raffalli J, Sepkowitz KA, Armstrong D. Community-based outbreaks of tuberculosis. *Archives of Internal Medicine*. 1996;156(10):1053-60.
- Raviglione MC, O'Brien RJ. Tuberculosis. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. *Harrison's Principles of Internal Medicine*. 14th ed. New York, NY: McGraw-Hill; 1998:1004-1014.
- Starke JR. Tuberculosis. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. *Nelson Textbook of Pediatrics*. 15th ed. Philadelphia, PA: WB Saunders; 1996:834-846.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES28

MultiStage: No

DXCat Label: Pertussis

Specificity: A

Etiology: Infection, Bacterial

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Pertussis (whooping cough) without complications		DX 0330-0339;
1.02	with otitis media		STAGE 1.01 + DXCAT ENT18;
2.01	with bronchopneumonia		STAGE 1.01-1.02 + DX 4843; DX 4843;
2.02	with interstitial and subcutaneous emphysema		STAGE 1.01-2.01 + DX 5181;
2.03	with pneumothorax		STAGE 1.01-2.02 + (DX 5120, 5128);
2.04	with bronchiectasis		STAGE 1.01-2.03 + DX 4940- 4941;
3.01	with cerebrovascular hemorrhage		STAGE 1.01-2.04 + (DX 430- 4329, 436);
3.02	with encephalitis		STAGE 1.01-3.01 + DX 3207;
3.03	with cerebral edema		STAGE 1.01-3.02 + DX 3485;
4.00	with death		NO;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES80

MultiStage: No

DXCat Label: Complications of Tracheostomy

Specificity: B

Etiology:

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Mechanical complication of tracheostomy		DX 5190-51900, 51902-51909;
2.01	Infection of tracheostomy		DX 51901;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES81

MultiStage: No

DXCat Label: Neoplasm, Benign: Respiratory System

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Benign neoplasm respiratory system		DX 2122-2125, 2128-2129, 2142, 2357-2359, 2391, 20961;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES82

MultiStage: No

DXCat Label: Neoplasm, Malignant: Other Respiratory System

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	History of other respiratory malignancy		DX V1020, V1029;
1.01	Primary malignant neoplasm of trachea or other respiratory system sites		DX 1620, 1650, 1658-1659, 2311, 2318-2319;
2.01	with local lymph node involvement		STAGE 0.00-1.01 + (DX 1960-1961, 1963);
2.02	with anemia of neoplastic disease		STAGE 0.00-2.01 + (DX 28522, 3383);
3.01	with distant metastases		STAGE 0.00-2.01 + (DX 1962, 1965-1991, 78951);
3.02	with shock		STAGE 0.00-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES83

MultiStage: No

DXCat Label: Other Disorders of Respiratory System

Specificity: C

Etiology:

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Upper respiratory tract hypersensitivity reaction, pneumonopathy, congenital anomalies of respiratory system		DX 4788-4789, 5161-5169, 5183, 51889, 5191-5199, 7484, 74860-7489, 5178;
2.01	Bronchiectasis, pneumothorax, empyema, or pleurisy; pulmonary congestion, collapse, or insufficiency; or agenesis of lung		DX 494-4941, 5100-5118, 51189-514, 5173, 5180-5182, 5184-5186, 51882, 7485;
3.01	Respiratory failure		GROUP RESP_FAIL;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES84

MultiStage: No

DXCat Label: Other Respiratory Disease Due to External Agents

Specificity: C

Etiology:

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Pneumoconiosis, bronchitis, or pneumonitis due to fumes and vapors		DX 505-5060, 5062-5069, 5088-5089;
3.01	Acute pulmonary edema		DX 5061;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES85

MultiStage: No

DXCat Label: Other Respiratory Infections

Specificity: C

Etiology: Infection

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Plague, tularemia, glanders, meloidosis, pasturellosis, pertussis, actinomycosis, rhinoscleroma, or necrobacillosis		DX 0200-0201, 0205-0211, 0213-0219, 024-025, 0272, 0391, 0401, 0403;
2.01	Pneumonic plague or pulmonary tularemia or hantavirus		DX 0203-0204, 0212, 07981;
3.01	Septicemic plague or other infection with septicemia		DX 0202; (DX 0200-0201, 0203-0219, 024-025, 0272, 0330-0339, 0391, 0401, 0403, 07981) + GROUP SEPSIS;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES86

MultiStage: No

DXCat Label: Other Respiratory Symptoms

Specificity: C

Etiology:

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Hyperventilation, apnea, dyspnea, shortness of breath, chest pain, hemoptysis, hiccough, abnormal function test		DX 78600-7861, 7863-78652, 7866-7869, 7931, 7942 ;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES87

DXCat Label: Pneumonia: Aspiration

Etiology:

MultiStage: No

Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Aspiration pneumonia		DX 5070-5078; DX 5070-5078 + DX 5185; DX 99731;
2.01	with bacteremia		STAGE 1.01 + GROUP BACTEREMIA;
2.02	with empyema		STAGE 1.01-2.01 + DX 5109;
2.03	with lung abscess or bronchopleural fistula or bronchopleural cutaneous fistula		STAGE 1.01-2.02 + (DX 5100, 5130);
2.04	with septic arthritis		STAGE 1.01-2.03 + GROUP ARTHRO_SEPTIC;
2.05	with osteomyelitis		STAGE 1.01-2.04 + GROUP OSTEOMYELITIS;
2.06	with peritonitis or subphrenic abscess		STAGE 1.01-2.05 + (DX 5670- 5679, 56983);
2.07	with pericarditis		STAGE 1.01-2.08 + (DX 4200, 42091-42099);
3.01	with endocarditis		STAGE 1.01-2.06 + GROUP ENDOCARDITIS;
3.02	with meningitis		STAGE 1.01-3.01 + GROUP MENINGITIS_BACT;
3.03	with congestive heart failure		STAGE 1.01-3.02 + DXCAT CVS13;
3.04	with sepsis		STAGE 1.01-3.03 + GROUP SEPSIS;
3.05	with respiratory failure		STAGE 1.01-3.04 + GROUP RESP_FAIL;
3.06	with shock		STAGE 1.01-3.05 + GROUP SHOCKA;
4.00	with death		NO;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: RES99

MultiStage: No

DXCat Label: DELETED - Bronchial Foreign Body - Overlapped with ENT04

Specificity: A

Etiology:

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Foreign body in trachea or bronchus	Foreign body in bronchus [bronchoscopy report or chest x-ray report]	NO;
2.01	with localized atelectasis or foreign body in lung or bronchioles	Stage 1.01 AND atelectasis [chest x-ray report] OR foreign body in lung or bronchioles [chest x-ray or bronchoscopy report]	NO;
2.02	with pulmonary abscess	Stage 1.01-2.01 AND pulmonary abscess [bronchoscopy report or chest x-ray report]	NO;
3.01	with sepsis	Stage 1.01-2.02 AND sepsis:	NO;
3.02	with respiratory failure	Stage 1.01-3.01 AND respiratory failure:	NO;
3.03	with shock	Stage 1.01-3.02 AND shock:	NO;
4.00	with death	Stage 2.01-3.03 AND death	NO;

References:

Brownlee KG, Grabbe DC. Paediatric bronchoscopy. Archives of Disease in Childhood. 1997;77(3):272-5.

Levison ME. Pneumonia, including necrotizing pulmonary infections (lung abscess). In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1437-1445.

Orenstein D. Foreign body in the larynx, trachea and bronchi. In: Behrman RE, Kliegman RM, Arvin AM, Nelson WE, eds. Nelson Textbook of Pediatrics. 15th ed. Philadelphia, PA: WB Saunders; 1996:1205-1208.

Stauffer JL. Lung. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:251-333.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: SKN01

MultiStage: No

DXCat Label: Decubitus Ulcers

Specificity: A

Etiology: Trauma

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Decubitus ulcer, Grade I	Erythema, induration, pain, fever, and brownish discoloration due to hemosiderin (dermatology report)	DX 7070-70709, 70720-70721, 70725;
1.02	Decubitus ulcer, Grade II	Stage 1.01 AND blister formation and/or minor ulceration (dermatology report) OR decubitus ulcer, grade 2 [operative/pathology report]	DX 70722;
2.01	Decubitus ulcer, Grade III	Stage 1.01-1.02 AND damaged involvement of tendons, ligaments, and muscles (myonecrosis) (dermatology report) OR decubitus ulcer, grade 3 [operative/pathology report]	DX 70723;
2.02	Decubitus ulcer, Grade IV	Stage 1.01-2.01 AND deep fistula formation AND exposure of bone on wound OR osteomyelitis:	DX 70724; STAGE 1.01 + GROUP OSTEOMYELIT;
3.01	with sepsis	Stage 1.01-2.02 AND sepsis:	STAGE 1.01-2.02 + GROUP SEPSIS;
3.02	with shock	Stage 1.01-3.01 AND shock:	STAGE 1.01-3.01 + (GROUP SHOCKA OR GROUP SHOCKN) ;
4.00	with death	Stage 2.01-3.02 AND death	NO;

References:

Kennedy CTC. Mechanical and thermal injury. In: Champion RH, Burton JL, Burns DA, Breathnach SM. Rook/Wilkson/Ebling Textbook of Dermatology. 6th ed. Oxford: Blackwell Science Ltd.; 1998: 897-902.

Smith DM. Pressure ulcers in the nursing home. Annals of Internal Medicine. 1995;(123/6):433-42.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: SKN02

MultiStage: No

DXCat Label: Erythema Multiforme

Specificity: A

Etiology: Idiopathic; Immune

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Erythema multiforme, minor	Pruritic erythematous polymorphic eruptions and iris or target lesions [dermatology report or operative/pathology report] AND analysis for virus DNA suggestive of erythema multiforme [polymerase chain reaction report] OR Erythema annulare centrifugum [operative/pathology report] OR erythema gyratum [operative/pathology report] OR erythema perstans [operative/pathology report] OR erythema figuratum perstans, pruritic papules in an erythematous and edematous base with central clearing mostly on lower extremities [operative/pathology report]	DX 6950, 6951-69511, 69519;
2.01	Erythema multiforme, major	Stage 1.01 AND generalized pruritic polymorphic eruptions with bulla formation [dermatology report] AND Erythema multiforme iris (pruritic erythematous lesions with multiple concentricities similar to a target) [operative/pathology report]	DX 69512, 69550-69552;
2.02	Stevens-Johnson Syndrome	Stage 1.01 - 2.01 AND Erythema multiforme, major with mucosal involvement [dermatology report] AND Stevens-Johnson syndrome [operative/pathology report]	DX 69513;
3.01	Toxic epidermal necrolysis	History of medication use AND severe scolding like desquamation [dermatology report] AND epidermal necrosis > 30 % body surface area [operative/pathology report]	DX 69581, 69553-69559, 69514-69515; STAGE 2.02 + DX 69515; STAGE 1.01 + (DX 9952-99529, 9779, E9300-E9499, E8500-E8589, E9500-E9505, E9620, E9800-E9805);
3.02	with sepsis	Stage 1.01-3.01 AND sepsis:	STAGE 1.01-3.01 + GROUP SEPSIS;
3.03	with shock	Stage 1.01-3.02 AND shock:	STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 1.01-3.03 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: SKN02

MultiStage: No

DXCat Label: Erythema Multiforme

Specificity: A

Etiology: Idiopathic; Immune

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

- | |
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| Berger TG. Skin & appendages. In: Tierney Jr LM, McPhee SJ, Papadakis MA eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1999: 153-154. |
| David PM, Champion RH. Disorders of blood vessels. In: Champion RH, Burton JL, Burns DA, Breathnach SM. Rook/Wilkinson/Ebling Textbook of Dermatology. 6th ed. Oxford: Blackwell Science Ltd., 1998:2081-2087. |
| Foedinger D, Elbe-Burger A, Sterniczky B. Erythema multiforme associated human autoantibodies against desmoplakin I and II: biochemical characterization and passive transfer studies into newborn mice. Journal of Investigative Dermatology. 1998;111(3):503-10. |
| Kroonen LM. Erythema multiforme: case report and discussion. Journal of the American Board of Family Practice. 1998;11(1):63-5. |
| Weston WL, et al. Atypical forms of herpes simplex-associated erythema multiforme. J Am Acad Dermatol. 1998;39(1):124-6. |
| Wintroub BU, Stern RS. Cutaneous drug reactions. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:304-310. |

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: SKN03

MultiStage: No

DXCat Label: Erythroderma

Specificity: A

Etiology: Idiopathic

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Generalized erythema with exfoliation	Erythroderma with exfoliation with more than 90% involvement of skin [dermatology report or pathology report]	DX 69589, 6959;
2.01	Generalized erythema with exfoliation and fever	Stage 1.01 AND loss of hairs and nails AND pigmentary disturbance AND fever:	STAGE 1.01 + GROUP FEVER;
2.02	with dehydration or hypothermia or hypoalbuminemia	Stage 1.01-2.01 AND dehydration: OR hypothermia: OR hypoalbuminemia:	STAGE 1.01 + (GROUP DEHYDRATION OR GROUP HYPOALBUMIN OR GROUP HYPOTHERMIA);
3.01	with shock	Stage 1.01-2.02 AND shock:	STAGE 1.01 + (GROUP SHOCKC OR GROUP SHOCKN);
4.00	with death	Stage 1.01-3.01 AND death	NO;

References:

Boetella-Estrada R, Sanmartin O, Oliver V et al. Erythroderma: a clinico-pathological study of 56 cases. Arch Dermatol. 1994;(130):1503-7.

Burton JL, Holden CA. Eczema, lichenification and prurigo. In: Champion RH, Burton JL, Burns DA, Breathnach SM. 6th ed. Rook/Winkinson/Ebling Textbook of Dermatology. Oxford: Blackwell Science Ltd., 1998:673-678.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: SKN04

MultiStage: No

DXCat Label: Immunologically Mediated Blistering Skin Diseases

Specificity: A

Etiology: Immune

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Cicatricial pemphigoid	Whitish eroded and scarred lesions or blistering lesions of mucosa (dermatology report) AND subepithelial and subepidermal blistering (pathology report) AND perilesional tissue with deposits of IgG IgA and C3 in basement membranes (direct and indirect immunofluorescence report)	DX 69460, 69461;
1.02	Epidermolysis bullosa ecquisita	Blisters on hands and feet OR blisters on elbows OR blisters on knees OR blisters on oral mucosa with erosion OR blisters on the sites exposed to minor trauma AND healed with scarring milia and hyperpigmentation (dermatology report) AND subepidermal blister (pathology report) AND perilesional tissue with deposits of IgG, IgA, IgM and C3 in basement membrane zone (immunofluorescent test report)	NO;
1.03	Linear IgA bullous dermatosis	Linear IgA disease childhood and adult type [operative/pathology report] OR Pruritic and burning papulovesicular, hemorrhagic, urticarial, and erosive lesions on perineum, trunk, face, extremities and mucosa (dermatology report) OR linear deposits of IgA in the epidermal basement membrane zone (direct immunofluorescent microscopy report of normal perilesional skin) AND circulating IgA autoantibodies against 285 Kda and 97/120 kDa antigens in normal epidermal basement membrane [operative/pathology report]	DX 6948, 6949;
1.04	Dermatitis herpetiformis	Symmetric grouped papulovesicular and urticarial lesion on extensor surface of extremities, buttocks, trunk and scalp AND No mucosal involvement (dermatology report) OR Dermatitis herpetiformis [operative/pathology report] OR granular deposits of IgA in the papillary dermis and along the epidermal basement membrane zone (direct immunofluorescent test report) OR gluten enteropathy [operative/pathology report] AND lymphoma [operative/pathology report]	DX 6940, 6942;
1.05	Pemphigoid gestationis or herpes gestationis	Pruritic polymorphic skin lesions beginning around umbilicus and spreading to abdomen and legs (dermatology report) OR pregnancy AND 48 hours after delivery with linear deposits of C3 in the epidermal basement membrane zone (direct and indirect immunofluorescent tests)	NO;
1.06	Bullous pemphigoid	Blister formation of flexor surfaces of arms, legs, trunk and oral mucosa (dermatology report) OR eosinophil rich blisters in supraepidermal regions (pathology report) OR linear deposits of IgG and C3 in the subepidermal basement membrane zone (direct and indirect immunofluorescent tests)	DX 6945;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: SKN04

MultiStage: No

DXCat Label: Immunologically Mediated Blistering Skin Diseases

Specificity: A

Etiology: Immune

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.07	Pemphigus vulgaris	Flaccid bullae and erosions on oral mucosa, scalp, face, sternum and groins AND Nikolsky's sign (dermatology report) OR suprabasal blister formation with acantholysis (pathology report) OR Pemphigus vulgaris [direct and indirect immunofluorescent tests or anti-desmoglein I and III IgG by immuno-precipitation and immuno-absorption assays]	DX 6944;
1.08	Pemphigus foliaceus or fogo selvagem or Brazilial pemphigus	Crusting superficial erosions and blistering lesions (dermatology report) OR subcorneal blister formation with acantholysis (pathology report) OR Pemphigus foliaceus [direct and indirect immunofluorescent tests or anti-desmoglein I IgG by immuno-precipitation and immuno-absorption assays]	NO;
2.01	Paraneoplastic Pemphigus	Mucosal bullous lesions and polymorphous cutaneous lesions (dermatology report) AND non-Hodgkins lymphoma OR chronic lymphocytic leukemia OR Castleman's disease OR thymoma OR spindle cell neoplasms AND necrosis of keratinocytes, vacuolar interface dermatitis, and suprabasal acantholysis (pathology report) AND paraneoplastic pemphigus [direct and indirect immunofluorescent tests]	STAGE 1.01-1.07 + (DX 7856, 1640 OR DXCAT HEM20 OR DXCAT HEM22 OR DXCAT HEM23 OR DXCAT HEM24 OR DXCAT HEM27);
2.02	with dehydration and electrolyte imbalance	Stage 1.07-2.01 AND dehydration: AND hyponatremia OR hypokalemia	STAGE 1.01-2.01 + (GROUP DEHYDRATION OR GROUP HYPR_NATREM OR GROUP HYPOKALEMIA);
3.01	with sepsis	Stage 1.01-2.02 AND sepsis:	STAGE 1.01-2.02 + GROUP SEPSIS;
3.02	with shock	Stage 1.01-3.01 AND shock:	STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 1.01-3.02 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: SKN04

MultiStage: No

DXCat Label: Immunologically Mediated Blistering Skin Diseases

Specificity: A

Etiology: Immune

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

- | |
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| Amagai M, Tsunoda K, Zillikens D. et al. The clinical phenotype of pemphigus is defined by the anti-desmoglein autoantibody profile. <i>J Am Acad Dermatol.</i> 1999;40(2): 167-170. |
| Berger TG. Skin & appendages. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. <i>Current Medical Diagnosis & Treatment.</i> Stamford, CT: Appleton & Lange; 1998:111-180. |
| Jolles S, Hughes J, Whittaker S. Dermatological uses of high-dose intravenous immunoglobulin. <i>Archives of Dermatology.</i> 1998;134(1):80-6. |
| Massa MC, Freeark RJ, Kang JS. Localized bullous pemphigoid occurring in a surgical wound. <i>Dermatology Nursing.</i> 1996;8(2):101-3. |
| Wojnarowska F, Eady RAJ, Burge SM. Bullous eruptions. In: Champion RH, Burton JL, Burns DA, Breathnach SM. <i>Rook/Wilkinson/Ebling. Textbook of Dermatology.</i> 6th ed. Oxford: Blackwell Science Ltd., 1998:1817-1897. |
| Yancey KB, Lawley TJ. Immunologically mediated skin diseases. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. <i>Harrison's Principles of Internal Medicine.</i> 14th ed. New York, NY: McGraw-Hill; 1998:1869-1874. |

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: SKN05

MultiStage: No

DXCat Label: Infections of Skin and Subcutaneous Tissue

Specificity: A

Etiology: Infection, Bacterial

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Impetigo contagiosa	Vesiculopustule formation with honey colored crust (dermatology report) AND subcorneal pustule (pathology report) AND Staphylococuss species and Streptococcus species (laboratory report) AND cellulitis:	(DX 684, 68100-6829) + NOT (GROUP C_SECT OR DX 66971, 9540-9549);
1.02	Superficial folliculitis	small pustules, pierced by hairs (dermatology report) AND subcorneal pustule in the opening of hair follicle (pathology report) AND Staphylococcus spp. and Streptococcus spp. isolation (laboratory report)	DX 7048;
2.01	Erysipelas (superficial cellulitis)	Well demarcated, indurated and dusky red lesion with advancing palpable border (dermatology report) AND marked edema of dermis, diffusely infiltrated with neutrophills and dilatation of capillaries and lymphatatics (pathology report)	DX 035;
2.02	Deep folliculitis or acute deep folliculitis or furunculosis or carbunculosis or chronic deep folliculitis	Deep, tender, warm, and erythematous swelling of hair follicle (dermatology report) AND peri-follicular necrosis and abscess formation with neutrophil, lymphoid cell, histiocyte, and plasma cell infiltration (pathology report)	DX 6800-6809;
2.03	Necrotizing fasciitis	Ill-defined erythema, progression to painless ulceration and necrosis along fascial planes (dermatology report) AND acute or chronic inflammation of dermis with necrosis in subcutaneous fat, fascia and muscle (pathology report) AND Staphylococcus sp. and Streptococcus spp. isolation (laboratory report)	DX 72886 + NOT (GROUP C_SECT OR DX 66971);
3.01	with sepsis	Stage 2.03 AND sepsis:	STAGE 1.01-2.03 + GROUP SEPSIS;
3.02	with shock	Stage 2.03-3.01 AND shock:	STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 2.03-3.02 AND death	NO;

References:

- Berger TG. Skin & appendages. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:111-180.
- Bisno AL, Stevens DL. Streptococcal infections of skin and soft tissues. N Engl J Med. 1996;334(4):240-5.
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- Stevens DL. Infections of the skin, muscle, and soft tissues. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998-827-831.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: SKN06

MultiStage: No

DXCat Label: Neoplasm, Malignant: Carcinoma, Basal Cell

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Basal cell carcinoma or nodular ulcerative type or pigmented type or morpheic type or superficial type or fibroepithelioma type	Pearly to erythematous and telangiectatic nodule (dermatology report) AND basalioma cells showing a palisade arrangement of the nuclei at the periphery of the tumor (pathology report)	DX 1730, 1732-1739;
1.02	Basal cell nevus syndrome	Stage 1.1 AND basal cell nevus syndrome OR Bazex syndrome OR linear unilateral basal cell nevus syndrome	NO;
2.01	Baso-squamous cell carcinoma	Stage 1.1-1.2 AND meta typical basal cell carcinoma (pathology report)	NO;
2.02	with lymph node involvement	Basal cell carcinoma with regional lymph node involvement (pathology report)	STAGE 1.01 + DX 1960-1969;
3.01	with distant metastasis	Stage 1.1-2.2 AND metastasis to bone (bone scan or CT scan report) OR brain metastasis (CT scan or MRI report)	STAGE 1.01-2.02 + (DX 3383, 1983, 1985, 78951);
4.00	with death	Stage 1.01-3.01 AND death	NO;

References:

- Berger TG. Skin & appendages. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange' 1998:111-180.
- Goldberg LH. Basal cell carcinoma. Lancet. 1996;347(9002):663-7.
- Grossman D, Leffell DJ. The molecular basis of nonmelanoma skin cancer: new understanding. Archives of Dermatology. 1997;133(10):1263-70.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: SKN07

MultiStage: No

DXCat Label: Neoplasm, Malignant: Carcinoma, Squamous Cell

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Bowen's disease or actinic keratosis or arsenic keratosis or squamous cell carcinoma in situ or leukoplakia	Solitary to multiple erythematous keratotic lesions (dermatology report) AND squamous cell carcinoma in situ (pathology report)	DX 2320, 2322-2329, 6924, 7020, 7028;
2.01	Squamous carcinoma of lip, oral cavity, external genitalia or ear	Stage 1.01 AND an erythematous, eroded to ulcerated, indurated or nodular lesions (dermatology report) AND squamous cell carcinoma of the lip (pathology report) OR squamous cell carcinoma of the oral cavity (pathology report) OR squamous cell carcinoma of the external genitalia (pathology report) OR squamous cell carcinoma of the ear (pathology report)	DX 1400-1401, 1406-1409, 1848-1849;
2.02	with lymph node involvement	Stage 2.01 AND Palpable lymph nodes (dermatology report) AND carcinoma with lymph node involvement (pathology report or CT scan report)	STAGE 2.01 + DX 1960-1969;
3.01	with distant metastasis	Stage 1.01-2.02 AND metastasis to bone [liver/spleen scan or CT scan or gallium scan or bone scan report] OR liver metastasis [liver/spleen scan or CT scan or gallium scan or bone scan report] OR lung metastasis [liver/spleen scan or CT scan or gallium scan or bone scan report] OR brain metastasis [liver/spleen scan or CT scan or gallium scan or bone scan report]	STAGE 2.01 + (DX 3383, 1970-1978, 1980-19889, 1990-1991, 78951);
4.00	with death	Stage 1.01-3.01 AND death	NO;

References:

Letzel S, Drexler H. Occupationally related tumors in tar refinery workers. J Am Acad Dermatol. 1998;(39):712-20.

Mackie RM. Epidermal skin tumours. In: Champion RH, Burton JL, Burns DA, Breathnach SM., Rook/Wilkinson/Ebling Textbook of Dermatology. 6th ed. Oxford: Blackwell Science Ltd.; 1998:1651-1693.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: SKN08

MultiStage: No

DXCat Label: Neoplasm, Malignant: Melanoma

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	History of melanoma	History of prior melanoma OR dysplastic nevus syndrome	DX V1082;
1.01	Melanoma in situ	Irregularly shaped brown lesion with variation in brown or black pigmentation (dermatology report) AND intraepidermal melanoma [operative/pathology report or S-100 and HMB-45 tests or electron microscopy (pathology report)] AND Melanoma not within the papillary dermis [operative/pathology report] OR Clark Level 1	NO;
2.01	Lentigo maligna melanoma or superficial spreading melanoma or nodular melanoma or acral lentiginous melanoma	Stage 0.00-1.01 AND melanoma ≤ 0.75 mm. depth within the papillary dermis [operative/pathology report] OR American Joint Cancer Commission Stage T1 OR Clark Level 2 OR melanoma ≤ 1.5 mm. depth within the papillary dermis [operative/pathology report] OR American Joint Cancer Commission Stage T2 OR Clark Level 3 OR melanoma ≤ 3.00 mm. depth of invasion into the dermis [operative/pathology report] OR American Joint Cancer Commission T3A OR Clark Level 4	DX 1720-1729;
3.01	with regional lymph node involvement	Stage 1.01-2.01 AND melanoma with regional lymph node involvement [pathology report or sentinel lymph node biopsy report AND CT scan report] OR melanoma within the subcutaneous fat [operative/pathology report] OR melanoma ≤ 3.99mm. depth of invasion through the skin [operative/pathology report] OR American Joint Cancer Commission Stage T3B OR Clark Level 4	STAGE 0.00-2.01 + DX 1960-1969;
3.02	with distant metastasis	Stage 1.01-3.01 AND metastasis to lung (chest x-ray, CT scan or gallium scan) OR metastasis to liver (liver/spleen scan or CT scan or gallium scan) OR metastasis to bone (bone x-ray or bone scan) OR metastasis to brain (brain CT scan or MRI) OR melanoma ≥ 4.0 mm. depth of invasion through the skin [operative/pathology report] OR American Joint Cancer Commission Stage T4A or T4B OR Clark Level 5	STAGE 0.00-3.01 + (DX 3383, 1970-1978, 1980-19889, 1990-1991, 78951);

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: SKN08

MultiStage: No

DXCat Label: Neoplasm, Malignant: Melanoma

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
4.00	with death	Stage 3.01-3.02 AND death	NO;

References:

- Balch CM, Murad TM, Soong SJ et al. A multifactorial analysis of melanoma: prognostic histopathological features comparing Clark's and Breslow's staging methods. *Ann Surg.* 1978;(188):732-42.
- Berg P, Lindelof B. Differences in malignant melanoma between children and adolescents. a 35-year epidemiological study. *Archives of Dermatology.* 1997;133(3):295-7.
- Berger TG. Skin & appendages. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. *Current Medical Diagnosis & Treatment.* Stamford, CT: Appleton & Lange; 1998:111-180.
- Glass F, Cottam J, Reintgen D, Fenska N. Lymphatic mapping and lymphnode biopsy in the management of high risk melanoma. *J Am Acad Dermatol.* 1998;(39/4):603-610.
- MacKie RM. Melanocytic naevi and malignant melanoma. In: Champion RH, Burton JL, Burns DA, Breathnach SM. *Rook/Winkinson/Ebling Textbook of Dermatology.* 6th ed.. Oxford: Blackwell Science Ltd.; 1998:1737-1752.
- Reintgen D, Balch CM, Kirkwood J, Ross M. Recent advances in the care of the patient with malignant melanoma. *Annals of Surgery.* 1997;225(1):1-14.
- Sober AJ, Koh HK, Tran N-LT, Washington Jr CV. Melanoma and other skin cancers. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. *Harrison's Principles of Internal Medicine.* 14th ed. New York, NY: McGraw-Hill; 1998:543-549.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: SKN09

MultiStage: No

DXCat Label: Neoplasm: Atypical Nevus

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	History of atypical nevus syndrome	Sporadic atypical nevus or family history of multiple atypical nevi	NO;
1.01	Sporadic atypical nevus	Asymmetric, irregularly marginated, and irregularly pigmented lesion (dermatology report) AND architectural atypia and cytological atypia of nevus cells (pathology report)	DX 2160-2169;
1.02	Atypical nevus syndrome (Familial atypical mole/malignant melanoma syndrome)	AND multiple asymmetric, irregularly marginated, and irregularly pigmented lesions (dermatology report) AND architectural atypia and cytological atypia of nevus cells (pathology report)	NO;

References:

- Mackie RM. Melanocytic naevi and malignant melanoma. In: Champion RH, Burton JL, Burns DA, Breathnach SM. Rook/Wilkinson/Ebling Textbook of Dermatology. Oxford: Blackwell Science Ltd.; 1998:1735-1737.
- Slade J, Marghoob AA, Salopek TG, Rigel DS, Kopf AW, Bart RS. Atypical mole syndrome: risk factor for cutaneous malignant melanoma and implications for management. J Am Acad Dermatol. 1995;(32/3):479-494.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: SKN10

MultiStage: No

DXCat Label: Pilonidal Cyst

Specificity: A

Etiology: Congenital; Trauma

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Pilonidal cyst	Pilonidal cyst [operative/pathology report] OR a hair-containing sacrococcygeal cyst lined with epithelium	DX 6851;
1.02	with multiple sinuses	Pilonidal cyst with multiple sinuses [operative/pathology report]	NO;
2.01	with cellulitis	Stage 1.01-1.02 AND cellulitis:	STAGE 1.01 + (DX 6822, 6825);
2.02	with abscess	Stage 1.01-2.01 AND abscess	DX 6850;
3.01	with sepsis	Stage 1.01-2.02 AND sepsis:	STAGE 2.01-2.02 + GROUP SEPSIS;
3.02	with shock	Stage 3.01 AND shock:	STAGE 3.01 + (GROUP SHOCKC OR GROUP SHOCKN);
4.00	with death	Stage 3.01-3.02 AND death	NO;

References:

Bascom J. Pilonidal sinus: experience with the Karydakias flap. British Journal of Surgery. 1998;(85/6):874.

Matter I, Kunin J, Schein M, Eldar S. Total excision versus non-resectional methods in the treatment of acute and chronic pilonidal disease. British Journal of Surgery. 1995;(82/6):752-3.

Sebastian MW. Plastic and maxillofacial surgery: pilonidal cysts and sinuses. In: Sabiston DC, ed. Sabiston Textbook of Surgery. 15th ed. Philadelphia, PA: WB Saunders; 1998:1330-1334.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: SKN11

MultiStage: No

DXCat Label: Psoriasis Vulgaris

Specificity: A

Etiology: Genetic (or hereditary); Immune

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Psoriasis vulgaris	Parakeratosis, hypogranulosis, regular acanthosis, and Monroe's abscess (pathology report) OR Silvery white scaly erythematous and well demarcated lesions, which bleed if removed AND lesions involve scalp areas OR lesions involve elbows OR lesions involve knees OR lesions involve lumbosacral areas AND fingernail involvement with pittings, onycholysis, thickening, or thinning and yellowish discoloration (dermatology report)	DX 6961;
1.02	Localized pustular psoriasis	Macroscopic pustules on palms and soles (dermatology report and pathology report)	NO;
1.03	Generalized pustular psoriasis	Generalized involvement of macroscopic pustules with fever (dermatology report and pathology)	STAGE 1.01 + GROUP FEVER;
2.01	Distal interphalangeal joint psoriatic arthritis	Stage 1.01-1.03 AND distal inflammation of interphalangeal joints AND rheumatoid factor negative [synovial fluid report]	DX 6960;
2.02	Psoriatic oligoarthritis	Stage 1.01-2.01 AND nonspecific inflammation of knee AND nonspecific inflammation of elbows AND nonspecific inflammation of ankles AND nonspecific inflammation of wrists AND rheumatoid factor negative [synovial fluid report]	STAGE 2.01 + DX 7138;
2.03	Psoriatic sacroiliitis or spinal arthritis or arthritis mutilans	Stage 1.01-2.02 AND sacroiliitis [pelvic x-ray report] OR severe destructive arthritis [x-ray report of affected area]	STAGE 2.01 + (DX 7202, 7210-72191);
2.04	with spondylitis	Stage 1.01-2.03 AND spondylitis (x-ray report)	STAGE 2.01 + (DX 7201, 72081-7209);
3.01	Erythrodermic psoriasis	Stage 1.01-2.04 Generalized exfoliative dermatitis AND fever:	STAGE 1.01-2.04 + (DX 69589 OR GROUP FEVER);
3.02	with sepsis	Stage 1.01-3.01 AND sepsis:	STAGE 1.01-3.01 + GROUP SEPSIS;
3.03	with shock	Stage 1.01-3.02 AND shock:	STAGE 1.01-3.02 + (GROUP SHOCKC OR GROUP SHOCKN) ;
4.00	with death	Stage 1.01-3.03 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: SKN11

MultiStage: No

DXCat Label: Psoriasis Vulgaris

Specificity: A

Etiology: Genetic (or hereditary); Immune

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

- | |
|---|
| Bardolph E, Ashton R. Psoriasis: a review of present and future management. <i>Nursing Standard</i> . 1998;12(21):43-7. |
| Berger TG. Skin & appendages. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. <i>Current Medical Diagnosis & Treatment</i> . Stamford, CT: Appleton & Lange; 1998:111-180. |
| Camp RDR. Psoriasis. In: Champion RH, Burton JL, Burns DA, Breathnach SM. <i>Rook/Wilkinson/Ebling Textbook of Dermatology</i> . 6th ed. Oxford: Blackwell Science Ltd, 1998:1589-1649. |
| Dubic et al. Pathogenesis of psoriasis and the mechanism of action of tazarotene. <i>J Am Acad Dermatol</i> . 1998;(39):S129-33. |
| Hellmann DB. Arthritis & musculoskeletal disorders. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. <i>Current Medical Diagnosis & Treatment</i> . Stamford, CT: Appleton & Lange; 1998:774-824. |
| Stern RS. Psoriasis. <i>Lancet</i> . 1997;350(9074):349-53. |
| Swerlick RA, Lawley TJ. Eczema, psoriasis, cutaneous infections, acne, and other common skin disorders. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. <i>Harrison's Principles of Internal Medicine</i> . 14th ed. New York, NY: McGraw-Hill; 1998:298-304. |

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: SKN12
 DXCat Label: Scabies
 Etiology: Infection

MultiStage: No
 Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Scabies	Nocturnal itching, burrows formation and erythematous papules on external genitalia (dermatology report) AND mites and eggs [microbiology report]	DX 1330;
1.02	Norwegian scabies	Patients with Down syndrome or under immuno suppression therapy AND heavily crusted and eczematoid lesions (dermatology report) AND mites and eggs [microbiology report]	NO;
2.01	Scabies with bacterial infection (pyoderma)	Stage 1.01-1.02 AND excoriated lesions with pustule and abscess formation (dermatology report)	STAGE 1.01 + (DX 68600-6869, 04100-04105, 04109-04119, 0412-0417, 04181-04186, 04189, 0419);

References:

Arlian LG, Estes SA, Vyszynski-Moher DL. Prevalence of sarcoptes scabiei in the homes and nursing homes of scabietic patients. J Am Acad Dermatol. 1998;(19):806-811.
 Burns DA. Diseases caused by arthropods and other noxious animals. In: Champion RH, Burton JL, Burns DA, Breathnach SM. Rook/Wilkinson/Ebling Textbook of Dermatology. 6th ed. Oxford: Blackwell Science Ltd.; 1998:1458-1465.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: SKN80

MultiStage: No

DXCat Label: Neoplasm, Benign: Skin or Subcutaneous Tissue

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Benign neoplasm of skin or subcutaneous tissue		DX 2140-2141, 2148-2149, 22801, 2382;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: SKN81

MultiStage: No

DXCat Label: Neoplasm, Malignant: Other Skin and Soft Tissue

Specificity: A

Etiology: Neoplasm

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Kaposi's sarcoma or other malignancy of skin or soft tissue		DX 1760-1761;
2.01	with lymph node involvement		STAGE 1.01 + DX 1960-1969;
2.02	with anemia of neoplastic disease		STAGE 1.01-2.01 + DX 28522;
3.01	with distant metastasis		STAGE 1.01-2.02 + (DX 3383, 1970-1991, 78951);
3.02	with shock		STAGE 1.01-3.01 + (GROUP SHOCKC OR GROUP SHOCKN) ;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: SKN82

MultiStage: No

DXCat Label: Other Inflammations and Infections of Skin and Subcutaneous Tissue

Specificity: C

Etiology:

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Local skin infections, dermatitis, pruritis, scars, ingrown nails, alopecia		DX 6868-6922, 6925-6929, 6931-6939, 6980-7019, 70211-70219, 7030-7043, 7049-7051, 70581-7069, 7071-70719, 7078-7079, 70900-7099;
1.02	Pyoderma, pyogenic granuloma, pustular dermatoses, pityriasis, systemic inflammatory response		DX 68600-6861, 6941, 6943, 6952-6954, 6962-6979, 99590-99594;
2.01	Gangrene		DX 7854;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: TRA01

MultiStage: No

DXCat Label: Acetaminophen Toxicity

Specificity: A

Etiology: Toxicologic

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Acetaminophen Toxicity	Acetaminophen ingestion of \geq 150 mg/kg/24 hours for age \leq 12 years old OR Acetaminophen ingestion of \geq 7 gm/24 hours for age $>$ 13 years old	DX 9654, E8504, E9354, E9500, E9800;
2.01	with hepatitis	Stage 1.01 AND jaundice:	STAGE 1.01 + DXCAT HEP10;
3.01	with hepatic coma	Stage 1.01-2.01 AND hepatic coma:	STAGE 1.01-2.01 + GROUP COMA__HEP;
3.02	with shock	Stage 1.01-3.01 AND shock:	STAGE 1.01-3.01 + GROUP SHOCKA;
4.00	with death	Stage 2.01-3.02 AND death	NO;

References:

Dienstag JL, Isselbacher KJ. Toxic and drug-induced hepatitis. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1692-1696.

Heubi JE, Barbacci MB, Zimmerman HJ. Therapeutic misadventures with acetaminophen: hepatotoxicity after multiple doses in children. Journal of Pediatrics. 1998;132(1):22-7.

Mas A, Rodes J. Fulminant hepatic failure. Lancet. 1997;349(9058):1081-5.

Olson KR. Poisoning. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:1465-1496.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: TRA02

MultiStage: No

DXCat Label: Adverse Drug Reactions

Specificity: A

Etiology: Toxicologic

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Adverse drug reaction with cutaneous manifestations	History of ingestion of drug(s) in therapeutic doses OR history of contact with any drug(s) in therapeutic doses AND contact dermatitis OR skin rash OR urticaria	DX 5583, 6923, 52801-52802, 6930; (DX 9952-99520, 99522-99529, E9300-E9352, E9355-E9420, E9422-E9499) + NOT (DX E8583, E9421);
1.02	with fever	Stage 1.01 AND fever:	STAGE 1.01 + GROUP FEVER;
2.01	with hemolytic anemia	Stage 1.01-1.02 AND hemolysis:	STAGE 1.01-1.02 + (DX 2820-2821, 2823, 2827-2829 OR GROUP ANEM_HEM_ACQ);
2.02	with hepatitis or pancreatitis	Stage 1.01-2.01 AND hepatitis: OR pancreatitis:	STAGE 1.01-2.01 + (DXCAT HEP10 OR DXCAT HEP12);
2.03	with coagulation defects	Stage 1.01-2.02 AND coagulation defect:	STAGE 1.01-2.02 + GROUP COAG_DEFECT;
2.04	with angioneurotic edema	Stage 1.01-2.03 AND angioneurotic edema	DX 9951, 99521;
2.05	with hypotension	Stage 1.01-2.04 AND hypotension:	STAGE 1.01-2.04 + GROUP HYPOTENSION;
3.01	with renal failure	Stage 1.01-2.05 AND renal failure:	STAGE 1.01-2.05 + (GROUP REN_FAIL_ACU OR GROUP REN_FAIL_CHR);
3.02	with hepatic encephalopathy	Stage 1.01-3.01 AND hepatic coma:	STAGE 1.01-3.01 + GROUP COMA_HEP;
3.03	with respiratory failure	Stage 3.01-3.04 AND coma:	STAGE 1.01-3.02 + GROUP RESP_FAIL;
3.04	with ventricular flutter or ventricular fibrillation or "anaphylactic" shock	Stage 2.01-3.03 AND ventricular fibrillation OR ventricular flutter OR shock:	STAGE 1.01-3.03 + (DX 9950, 9994 OR GROUP ARHTHYM_VFIB OR GROUP SHOCKA);
4.00	with death	Stage 2.01-3.04 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: TRA02

MultiStage: No

DXCat Label: Adverse Drug Reactions

Specificity: A

Etiology: Toxicologic

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

Adelman DC, Terr A. Allergic & immunologic disorders. In: eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:748-774.

Trujillo MH, Guerrero J, Fragachan C, Fernandez MA. Pharmacologic antidotes in critical care medicine: a practical guide for drug administration. Critical Care Medicine. 26(2):377-91, 1998 Feb.

Wood AJJ. Adverse reactions to drugs." In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:422-430.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: TRA03

MultiStage: No

DXCat Label: Adverse Effects of Salicylates

Specificity: A

Etiology: Toxicologic

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Salicylism	Serum salicylate level ≥ 60 mg/dl ≤ 1 hour after ingestion [chemistry report] OR toxic levels up to 48 hours post ingestion [serum salicylate level $\geq \{60 \text{ mg/dl} - (\text{hours post ingestion} \times 1.25)\}$] e.g., serum salicylate level of 56 four hours post ingestion is toxic: $60 - (4 \times 1.25) = 55$	DX 9651, E9353;
2.01	with respiratory alkalosis	Stage 1.01 AND alkalosis: AND hypocarbica:	STAGE 1.01 + GROUP ALKALOSIS;
2.02	with metabolic derangements or dehydration	Stage 1.01-2.01 AND dehydration: OR hypernatremia: OR hyperkalemia: OR hypokalemia: OR hyponatremia:	STAGE 1.01-2.01 + (GROUP DEHYDRATION OR GROUP HYPR_NATREM OR GROUP HYPER_KALEM OR GROUP HYPOKALEMIA OR GROUP HYPONATREMIA);
2.03	with acidosis	Stage 1.01-2.02 AND acidosis:	STAGE 1.01-2.02 + GROUP ACIDOSIS;
2.04	with hemorrhagic gastritis or diathesis	Stage 1.01-2.03 AND hemorrhagic gastritis [endoscopy report] OR petechiae OR bleeding time prolonged [bleeding time report] OR INR > 1.5 [hematology report]	STAGE 1.01-2.03 + (DX 2879, 53501, 53551, 7827);
3.01	with renal failure	Stage 1.01-2.03 AND renal failure:	STAGE 1.01-2.04 + (GROUP REN_FAIL_ACU OR GROUP REN_FAIL_CHR);
3.02	with respiratory failure	Stage 1.01-3.01 AND respiratory failure:	STAGE 1.01-3.01 + GROUP RESP_FAIL;
3.03	with coma	Stage 1.01-3.02 AND coma:	STAGE 1.01-3.02 + GROUP COMA;
3.04	with shock	Stage 1.01-3.03 AND shock:	STAGE 1.01-3.03 + (DX 9950, 9994 OR GROUP ARHTHYM_VFIB OR GROUP SHOCKA);
4.00	with death	Stage 2.01-3.04 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: TRA03

MultiStage: No

DXCat Label: Adverse Effects of Salicylates

Specificity: A

Etiology: Toxicologic

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

Linden CH, Lovejoy Jr FH. Poisoning and drug overdosage. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:2523-2544.

Matzke GR. Nonrenal toxicities of acetaminophen, aspirin, and nonsteroidal anti-inflammatory agents. American Journal of Kidney Diseases. 1996;28(1 Suppl 1):S63-70.

Olson KR. Poisoning. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:1465-1496.

Wang X. Aspirin-like drugs cause gastrointestinal injuries by metallic cation chelation. Medical Hypotheses. 1998;50(3):227-38.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: TRA04

DXCat Label: Burns

Etiology: Trauma

MultiStage: No

Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	First degree burn	Erythema of burned area	DX 94100-94119, 94200-94205, 94209-94215, 94219, 94300-94306, 94309-94316, 94319, 94400-94408, 94410-94418, 94500-94506, 94509-94516, 94519, 9460-9461, 9490-9491;
2.01	Second degree burn	Blistering of burned area OR vesicle formation of burned area	DX 94120-94129, 94220-94225, 94229, 94320-94326, 94329, 94420-94428, 94520-94526, 94529, 9462, 9492;
2.02	Third degree burn or late effects of burns	Charred appearance of burned area OR waxy appearance of burned area AND burned area is anesthetic	DX 9065-9069, 94130-94139, 94230-94235, 94239, 94330-94336, 94339, 94430-94438, 94530-94536, 94539, 9463, 9493;
2.03	Extensive surface area burn	Stage 2.01-2.02 AND third degree burn involving 2% or greater of body surface area OR second degree burn involving 10% or greater of body surface area	DX 94810-94811, 94820-94899;
2.04	Infection of burned area(s)	Stage 2.01-2.03 AND infection of burned with growth of pathologic organisms [culture report of wound exudate]	DX 94140-94149, 94240-94245, 94249, 94340-94346, 94349, 94440-94448, 94540-94546, 94549, 94150-94159, 94250-94255, 94259, 94350-94356, 94359, 94450-94458, 94550-94556, 94559, 9464, 9465, 9494, 9495 ;
2.05	with urinary tract infection	Burn involving perineum [operative/pathology report] AND UTI:	STAGE 2.01-2.04 + DXCAT GUS10; DX 9474;
2.06	with laryngeal edema	Stage 1.01-2.05 AND stridor OR laryngeal edema [direct laryngoscopy report]	STAGE 1.01-2.05 + (DX 33811, 33821, 4786, 7861) ; DX 9470-9471, 9478-9479;
2.07	with pneumonia	Stage 1.01-2.06 AND pneumonia:	STAGE 1.01-2.06 + DXCAT RES15;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: TRA04

MultiStage: No

DXCat Label: Burns

Specificity: A

Etiology: Trauma

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.01	with sepsis	Stage 1.01-2.07 AND sepsis:	STAGE 1.01-2.07 + GROUP SEPSIS;
3.02	with respiratory failure	Stage 1.01-3.01 AND respiratory failure:	STAGE 1.01-3.01 + GROUP RESP_FAIL;
3.03	with shock	Stage 1.01-3.02 AND shock:	STAGE 1.01-3.02 + GROUP SHOCKA;
4.00	with death	Stage 2.03-3.04 AND death	NO;

References:

Atkinson A. Nursing burn wounds on general wards. *Nursing Standard*. 1998;12(41):58-67.

Cohen R, Moelleken BRW. Disorders due to physical agents. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. *Current Medical Diagnosis & Treatment*. Stamford, CT: Appleton & Lange; 1998:1443-1465.

Madoff LC. Infections from bites, scratches, and burns, and environmental organisms. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo DL, eds. *Harrison's Principles of Internal Medicine*. 14th ed. New York, NY: McGraw-Hill; 1998:835-840.

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: TRA05

MultiStage: No

DXCat Label: Burns, Chemical: Esophagus, Stomach, or Small Intestine

Specificity: A

Etiology: Toxicologic

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Caustic esophagitis or gastritis or caustic burn of small intestines	Mucosal erythema and edema [esophagoscopy report, upper endoscopy report or upper gastrointestinal series report]	DX 9472, 9473;
2.01	with ulcerations	Stage 1.01 AND ulcerations [esophagoscopy report, upper endoscopy report or upper gastrointestinal series report]	STAGE 1.01 + (DX 33811, 5302, 53100-53131, 53200-53231, 53300-53331, 53400-53431, 53500-53501, 5354);
2.02	with strictures	Stage 1.01-2.01 AND strictures [esophagoscopy report, upper endoscopy report or upper gastrointestinal series report]	STAGE 1.01-2.02 + (DX 33821, 5376, 5303, 5373);
2.03	with necrosis of muscle	Stage 1.01-2.02 AND muscle necrosis [esophagoscopy report, upper endoscopy report or upper gastrointestinal series report]	NO;
2.04	with perforation of esophagus or stomach	Stage 1.01-2.03 AND subcutaneous emphysema OR free air in the peritoneal cavity [KUB x-ray or chest x-ray report] OR perforation (UGI series reports spilling of contrast into the peritoneal cavity or thoracic cavity) OR bleeding:	STAGE 1.01-2.02 + (DX 5301, 53082, 53541, 5780);
2.05	with mediastinitis or mediastinal abscess	Stage 1.01-2.04 AND mediastinitis [operative/pathology report] OR mediastinal abscess [operative/pathology report or CT scan report]	STAGE 1.01-2.04 + DX 5131;
2.06	with peritonitis or abscess	Stage 1.01-2.05 AND peritonitis [operative/pathology report] OR abscess [operative/pathology report]	STAGE 1.01-2.05 + (DX 33811, 33821, 5672-5679, 56983, 6143-6146);
3.01	with sepsis	Stage 1.01-2.05 AND sepsis:	STAGE 1.01-2.06 + GROUP SEPSIS;
3.02	with shock	Stage 2.01-3.01 AND shock:	STAGE 1.01-3.01 + GROUP SHOCKA;
4.00	with death	Stage 2.01-3.02 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: TRA05

MultiStage: No

DXCat Label: Burns, Chemical: Esophagus, Stomach, or Small Intestine

Specificity: A

Etiology: Toxicologic

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

Friedman LS, Peterson WL. Peptic ulcer and related disorders. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine. 14th ed. New York, NY: McGraw-Hill; 1998:1596-1616.
Goyal RK. diseases of the esophagus. In: Fauci AS, Braunwald E, Isselbacher KJ, Wilson JD, Martin JB, Kasper DL, Hauser SL, Longo, DL, eds. Harrison's Principles of Internal Medicine, 14th ed. New York, NY: McGraw-Hill; 1998:796-801.
McCall JL, Sharples K, Jadallah F. Systematic review of randomized controlled trials comparing laparoscopic with open appendectomy. British Journal of Surgery. 1997;84(8):1045-1050.
McQuaid KR. Appendicitis. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:600-601.
McQuaid KR. Diseases of the esophagus: caustic esophageal injury. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:564.
Orringer MB. Tumors, injuries, and miscellaneous conditions of the esophagus. In: Greenfield LJ, Mulholland M, Oldham KT, Zelenock QB, Lillemoe KD, eds. 2nd ed. Lippincott-Raven; 1997:694-735.
Rodgers BM, McGahren III ED. Esophagus. In: Oldham KT, Colombani PM, Foglia RP, eds. Surgery of Infants and Children. Lippincott-Raven, 1997:1005-1020.
Rohman M, Ivatury RR. Esophagus. In: Ivatury RR, Cayten CG, eds. The Textbook of Penetrating Trauma. Williams & Wilkins 1996:555-563.
Rowe MI, O'Neill Jr JA, Grosfeld JL, Fonkalsrud EW, Covan AG. Esophageal Stricture and Replacement. In: Mosby, ed. Essential of Pediatric Surgery, 1995:409-421.
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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: TRA06

MultiStage: No

DXCat Label: Injury, Open Wound, or Blunt Trauma: Abdomen or Trunk

Specificity: A

Etiology: Trauma

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Superficial trauma or contusion of the back or abdomen not penetrating beyond the subcutaneous tissue	Open wound of the back or abdomen not penetrating beyond the subcutaneous tissue [operative/pathology report]	DX 9110, 9112, 9114, 9116, 9118, 9222, 92231-92233, 9591, 95912-95919;
1.02	Avulsion wound of the back or abdomen not penetrating beyond the subcutaneous tissue	Avulsion wound of the back or abdomen not penetrating beyond the subcutaneous tissue [operative/pathology report]	DX 8760, 8770, 8792, 8794, 8796;
1.03	with infection	Stage 1.01-1.02 AND infected wound [wound culture reports growth of pathologic organism(s)]	DX 8761, 8771, 8793, 8795, 8797, 9111, 9113, 9115, 9117, 9119; STAGE 1.01-1.02 + DX 04042;
1.04	with cellulitis	Stage 1.01-1.03 AND cellulitis:	STAGE 1.01-1.03 + DX 6822;
2.01	Open wound of the back or abdomen extending into the deep fascia or crush injury	Laceration or stab wound of the back or abdomen extending into the deep fascia [operative/pathology report] OR crush injury to the back or abdomen	DX 92611, 92619, 9540-9549;
2.02	with abscess formation	Stage 1.01-2.01 AND abscess formation [operative/pathology report]	STAGE 1.04 + STAGE 2.01; STAGE 2.01 + DX 6822;
2.03	with gangrene	Stage 1.01-2.02 AND gangrene	STAGE 1.01-2.02 + DX 7854;
2.04	with trauma or laceration of internal organs	Stage 2.01-2.03 AND laceration or trauma of the liver [operative/pathology report] OR laceration or trauma of the spleen [operative/pathology report] OR laceration or trauma of the pancreas [operative/pathology report] OR laceration or trauma of the small intestines [operative/pathology report] OR laceration or trauma of the stomach [operative/pathology report] OR laceration or trauma of the large intestines [operative/pathology report] OR laceration or trauma of the gallbladder [operative/pathology report]	DX 8630-86519, 8674-8679, 86800-86819, 8690-8691 ;
2.05	with peritonitis	Stage 2.01-2.04 AND peritonitis [operative/pathology report]	STAGE 1.01-2.04 + (DX 33811, 33821, 5672-5679, 56983);
2.06	with retroperitoneal hemorrhage	Stage 2.01-2.05 AND retroperitoneal hemorrhage [operative/pathology report]	STAGE 1.01-2.05 + DX 4590;
2.07	with laceration of the abdominal aorta or laceration of the inferior vena cava or iliac vessels	Stage 2.01-2.06 AND laceration of the abdominal aorta [operative/pathology report] OR laceration of the inferior vena cava [operative/pathology report] OR laceration of the iliac arteries [operative/pathology report] OR laceration of the iliac veins [operative/pathology report]	STAGE 1.01-2.06 + DX 9020; DX 9011, 9013, 90181-9019, 90210-9029;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: TRA06

MultiStage: No

DXCat Label: Injury, Open Wound, or Blunt Trauma: Abdomen or Trunk

Specificity: A

Etiology: Trauma

Stage	Description	Diagnostic findings	ICD-9-CM Codes
3.01	with sepsis	Stage 2.01-2.07 AND sepsis:	STAGE 1.01-2.07 + GROUP SEPSIS;
3.02	with shock	Stage 2.01-3.01 AND shock:	STAGE 1.01-3.01 + GROUP SHOCKA;
4.00	with death	Stage 2.01-3.02 AND death	NO;

References:

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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: TRA07

MultiStage: No

DXCat Label: Laceration: Esophagus

Specificity: A

Etiology: Trauma

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Laceration of the esophagus	Laceration of the esophagus [upper endoscopy report]	DX 53089, 86222, 86232;
2.01	with acute bleeding	Stage 1.01 AND bleeding: OR Mallory-Weiss syndrome [tear distal esophagus by upper endoscopy report]	DX 5307; STAGE 1.01 + DX 53082;
2.02	with perforation including spontaneous perforation (Boerhaave's syndrome)	Stage 1.01-2.01 AND subcutaneous or mediastinal emphysema [physical exam or chest x-ray report] OR free air in the peritoneal cavity [KUB x-ray or chest x-ray report] OR perforation (UGI series reports spilling of contrast into the peritoneal cavity or thoracic cavity)	DX 5304; STAGE 1.01-2.01 + (DX 33811, 33821, 5181, 5672-5679, 9587);
2.03	with mediastinitis or mediastinal abscess or pleurisy or hydropneumothorax	Stage 2.01-2.02 AND mediastinitis [operative/pathology report] OR mediastinal abscess [operative/pathology report or sonogram or CT scan report] OR pleurisy (pleural effusion culture reports growth of pathologic organism(s)) OR hydropneumothorax [chest x-ray report]	STAGE 1.01-2.02 + (DX 5110, 5118, 51189, 5131, 8600, 8601);
3.01	with sepsis	Stage 2.01-2.03 AND sepsis:	STAGE 1.01-2.03 + GROUP SEPSIS;
3.02	with shock	Stage 2.01-3.01 AND shock:	STAGE 1.01-3.01 + GROUP SHOCKA;
4.00	with death	Stage 2.01-3.02 AND death	NO;

References:

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Kanowitz A, Markovchick V, Danzl, et al. Esophageal and diaphragmatic trauma. In: Mosby, ed. Emergency Medicine. 4th ed. 1998:546-554.

McQuaid KR. Diseases of the esophagus: benign esophageal lesions. In: Tierney Jr LM, McPhee SJ Papadakis MA, eds. Current Medical Diagnosis & Treatment. Stamford, CT: Appleton & Lange; 1998:565.

Rohman M, Ivatury RR. Esophagus. In: Ivatury RR, Cayten CG, eds. The Textbook of Penetrating Trauma. Philadelphia, PA: Williams & Wilkins; 1996:555-563.

Rowe MI, O'Neill JA, Grosfeld JL, Fonkalsrud EW, Coran AG. Esophageal rupture and perforation. In: Mosby, ed. Essentials of Pediatric Surgery. Philadelphia, PA. 1995:419-421.

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Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: TRA08
 DXCat Label: Lead Poisoning
 Etiology: Toxicologic

MultiStage: No
 Specificity: A

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Lead poisoning	Blood lead level > 10mcg/dl [chemistry report] AND Blood lead level ≤ 19mcg/dl [chemistry report]	DX 9840-9849, 9851, 9612, E857, E8615, E8621, E8634, E8635, E8660;
1.02	with blood lead level 20-44 mcg/dl	Blood lead level ≥ 20mcg/dl [chemistry report] AND Blood lead level ≤ 44mcg/dl [chemistry report]	NO;
1.03	with blood lead level 45-69 mcg/dl	Blood lead level ≥ 45mcg/dl [chemistry report] AND Blood lead level ≤ 69mcg/dl [chemistry report]	NO;
1.04	with blood lead level ≥70 mcg/dl	Blood lead level ≥ 70mcg/dl [chemistry report]	NO;
2.01	Symptomatic lead poisoning	Stage 1.01-1.04 AND abdominal pain OR constipation OR peripheral neuropathy at age ≥ 16 years	STAGE 1.01 + (DX 33811, 33821, 56400-56409, 78900-78907, 78909); STAGE 1.01 + DX 3577 + AGE 16-124;
2.02	with permanent neurologic deficits	Stage 1.01-2.01 AND mental retardation: OR persistence of seizure disorder with normalization of blood lead levels OR developmental regression	STAGE 1.01-2.01 + (DX 78039 OR DXCAT NEU15);
3.01	with encephalopathy	Stage 1.01-2.02 AND persistent vomiting OR seizures OR disorientation: OR coma:	STAGE 1.01-2.02 + (GROUP COMA OR GROUP DISORIENT OR GROUP ENCEPHALO);
4.00	with death	Stage 1.01-3.01 AND death	NO;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: TRA08

MultiStage: No

DXCat Label: Lead Poisoning

Specificity: A

Etiology: Toxicologic

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

- | |
|---|
| Bleeker ML, Lindgren KN, Ford DP. Differential contribution of current and cumulative indices of lead dose to neuropsychological performance by age. <i>Neurology</i> . 1997;48:639-645. |
| Davioli CT, Serwint JR, Chisolm JJ. Asymptomatic children with venous lead levels > 100mcg/dl." <i>Pediatrics</i> . 1996;98:965-968. |
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| Olson KR. Poisoning/lead. In: Tierney Jr LM, McPhee SJ, Papadakis MA, eds. <i>Current Medical Diagnosis & Treatment</i> . Stamford, CT: Appleton & Lange, 1998:1484-1485. |
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| Pocock SJ, Smith M, Berghurst P. Environmental lead and children's intelligence: A systematic review of the epidemiological evidence." <i>British Medical Journal</i> . 1994;309:1189-1197. |

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: TRA09

MultiStage: No

DXCat Label: Toxic Effects of Nonmedicinal Agents

Specificity: A

Etiology:

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Toxic effects of specified alcohols, petroleum products, solvents, corrosive agents, metals (excluding lead and beryllium), toxic effects of carbon monoxide and other gases, noxious substances eaten as food and other nonmedicinal substances, late effects of toxic effects of nonmedicinal substances	Late effects of toxic effects of nonmedicinal substances, toxic effects of specified alcohols, petroleum products, solvents, corrosive agents, metals, excluding lead and beryllium, toxic effects of carbon monoxide and other gases, noxious substances eaten as food and other nonmedicinal substances	DX 9091, 9800-9839, 9850, 9852-9899, E8600-E8614 , E8616-E8620, E8622-E8633, E8636-E8659, E8661-E8699, E908, E9292, E9506-E9529, E961-E9629, E972, E9806-E9829, E9972;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: TRA80

MultiStage: No

DXCat Label: Effects of Environment and Other External Causes

Specificity: C

Etiology:

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	Allergy tests		DX V727;
1.01	Effects of radiation, temperature, elevation, motion, unspecified allergy		DX 990-9949, 9953;
3.01	Anaphylactic or anesthetic shock		DX 9950, 9954;

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: TRA81

DXCat Label: Injury: Other

Etiology: Trauma

MultiStage: No

Specificity: C

Stage	Description	Diagnostic findings	ICD-9-CM Codes
0.00	Observation following accident, rape, abuse, neglect or other inflicted injury		DX V713-V716, V7181;
1.01	Periocular burns, open wounds, abrasions, blisters, foreign bodies, contusions, abuse, adverse food reactions		DX 87200-87202, 87261-87269, 8728, 8730, 87320-87329, 87340-87349, 87360-87369, 8738, 87400-87402, 8742, 8748, 8780, 8782, 8784, 8786, 8788, 8798-8799, 9100, 9102, 9104, 9106, 9108, 9190, 9192, 9194, 9196, 9198, 920, 9224, 9228-9229, 9390-9399, 9400-9404, 9409, 9598-9599, 99550-99559, 9957, 99580-99589, 33811, 33821;
2.01	Open wounds with infection, crush injuries, or late effects of internal injuries or other external causes		DX 87210-87212, 87271-87279, 8729, 8731, 87330-87339, 87350-87359, 87370-87379, 8739, 87410-87412, 8743, 8749, 8781, 8783, 8785, 8787, 8789, 8799, 9080-9089, 9090, 9092-9099, 9101, 9103, 9105, 9107, 9109, 9191, 9193, 9195, 9197, 9199, 9251, 9260, 92612, 9268-9269, 9290-9299, 9570-9579, 9582-9583, 9586-9587; DX 9588-95899 + NOT (DX 0360-0361, 03682-0369, 3200-3207, 32081-3209); STAGE 1.01 + DX 04042;
2.02	Traumatic embolism		DX 9580-9581;
3.01	Traumatic shock		DX 9584;
3.02	Traumatic anuria		DX 9585, 99560-99569;

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: TRA81

MultiStage: No

DXCat Label: Injury: Other

Specificity: C

Etiology: Trauma

Stage Description

Diagnostic findings

ICD-9-CM Codes

References:

Clinical Criteria with Description, Diagnostic Findings and ICD-9-CM codes

DXCat Number: TRA82

MultiStage: No

DXCat Label: Poisoning: Drugs Other Than Antidepressants or Tranquilizers

Specificity: C

Etiology: Toxicologic

Stage	Description	Diagnostic findings	ICD-9-CM Codes
1.01	Poisoning by anti-infectives, hormones and other drugs		DX 7960, 9600-9611, 9613-96509, 9655-9664, 9671-9682, 9684, 9686-9696, 9698-9720, 9722-9799;

References:

GLOSSARY OF DIAGNOSTIC TERMS

The following list of diseases, conditions and diagnostic tests is provided to assist in identifying secondary or complicating aspects of a primary disease. They are listed here because they may occur under more than one primary disease heading. For increases or decreases in quantitative data, the figure listed indicates 3 standard deviations from the mean value for the analyte. This has been done to avoid minor deviations from the reference range that might be due merely to chance rather than representing a significant deviation due to a pathological process. For some analytes, particularly enzyme measurements, the limits for “increased” or “decreased” are set further from the mean values on the basis of published information. When appropriate, separate adult and pediatric laboratory values are noted.

Bold printing indicates a reference to another citation within the glossary. These citations may be consulted for reference ranges if they are not given in the primary citation.

Reference Ranges are from Tietz (1). Significant increased or decreased values are based on data given for individual diseases listed in this volume or on information in references 2 and 3.

References

1. Tietz NW. Clinical Guide to Laboratory Tests. 3rd ed. 1995, W. B. Saunders Company, Philadelphia.
2. Speicher CE. The Right Test. 3rd ed. 1998, W. B. Saunders Company, Philadelphia.
3. Conn RB, Borer WZ, Snyder JW. Current Diagnosis. 9th ed. 1997, W. B. Saunders Company, Philadelphia.

Acetaminophen toxicity:

Acetaminophen, serum or plasma: [\[chemistry report\]](#)
Therapeutic concentration: 10 - 30 µg/mL
Toxic concentration: > 200 µg/mL (4 h post ingestion)

Acidosis (measured blood pH):

Decreased: Blood pH < 7.325 [\[chemistry report\]](#)
Reference range: 7.35 - 7.45

Acute:

[Occurs within 1 week](#)

Acute myocardial infarction: *See Myocardial infarction, acute*

Deleted: ¶

Acute renal failure:

Onset within one week

AND creatinine ≥ 3.0 mg/dl [chemistry report]

AND BUN/creatinine ratio ≤ 20.0 , as calculated from simultaneously drawn serums for this test

OR $FENa \leq 1.0$

OR Renal Failure Index ≤ 1.0

AH Titer: See Antihyaluronidase titer

Deleted: ¶

Adrenal insufficiency: See Hypoadrenalism

AIDS-Defining diseases:

These are diseases that indicate a patient has the Acquired Immunodeficiency Syndrome (AIDS) when present in a patient who tests positive for infection with the Human Immunodeficiency Virus (HIV):

Burkitt's lymphoma	Kaposi sarcoma
Chronic cryptosporidiosis	Mycobacterium avium complex
Chronic herpes simplex	Other disseminated
Chronic isosporiasis	Mycobacterium
Cytomegalovirus disease	Pneumocystis carinii pneumonia
Cytomegalovirus retinitis	Primary brain lymphoma
Disseminated coccidioidomycosis	Progressive multifocal leukoencephalopathy
Disseminated histoplasmosis	Pulmonary candidiasis
Esophageal candidiasis	Pulmonary tuberculosis
Extrapulmonary cryptococcosis	Recurrent pneumonia
Extrapulmonary tuberculosis	Recurrent Salmonella septicemia
HIV encephalopathy	Toxoplasmosis of brain
Immunoblastic lymphoma	Wasting syndrome
Invasive cervical cancer	

Alanine aminotransferase, serum (ALT):

Increased: Males ≥ 48 U/L [chemistry report]
Females ≥ 42 U/L [chemistry report]
Reference ranges: Males 10 - 40 U/L
Females 7 - 35 U/L

Alcohol (ethanol), blood:

No intake: blood ethanol < 0.05 mg/dL [chemistry report]
Intoxication: > 100 mg/dL (> 0.1 %)
Marked intoxication: 300 - 400 mg/dL (0.3 - 0.4 %)
Alcoholic stupor: 400 - 500 mg/dL (0.4 - 0.5 %)
Coma: > 500 mg/dL (> 0.5 %)

Alkaline phosphatase, serum (ALP):

Reference ranges vary with age, sex and method of analysis.

Kodak (4-NPP, AMP) reference method at 37° C

Increased: ≥ 148 U/L

Reference Range: Male 38 - 126 U/L

Alkalosis (measured blood pH):

Increased: Blood pH >7.475 [[chemistry report](#)]

Reference Range: 7.35 - 7.45

ALP: See *Alkaline phosphatase*

ALT: See *Alanine aminotransferase*

Alveolar-arterial gradient:

The difference in pO_2 (partial pressure of oxygen) between the lung (alveoli) and arterial blood.

$(693 \times F_{IO_2}) - (1.2 \times pCO_2) - pO_2 > 15$ mm Hg

Where 693 is barometric pressure without water vapor

F_{IO_2} is the fractional concentration of O_2 in inspired gas

pCO_2 is the partial pressure of carbon dioxide in blood

pO_2 is the partial pressure of oxygen in blood

Reference range: ≤ 10 mmHg

Amylase, serum or urine:

Kodak Ektachem Slide, 37° C

Serum: Increased ≥ 500 U/L [[chemistry report](#)]

Reference range: 30 - 110 U/L

Urine (2 to 4 h specimen):

Increased ≥ 1000 U/L [[urine chemistry report](#)]

Reference range: 32 - 641 U/L

Amylase/creatinine clearance ratio:

The ratio between renal clearance of amylase and creatinine; It is calculated as follows:

$$\frac{\text{Urine amylase}}{\text{Serum amylase}} \times \frac{\text{Serum creatinine}}{\text{Urine creatinine}} \times 100$$

Increased: ≥ 4.8 % Clearance

Reference range: 1 - 4 % Clearance

Anemia: Hemoglobin

Decreased: Cord Blood ≤ 11.8 g/dL [\[CBC report\]](#)
 ≤ 1 y ≤ 8.2 g/dL [\[CBC report\]](#)
1 - 12 y ≤ 10.0 g/dL [\[CBC report\]](#)
12 - 17 y Male ≤ 10.5 g/dL [\[CBC report\]](#)
Female ≤ 10.5 g/dL [\[CBC report\]](#)
18 - 44 y Male ≤ 12.2 g/dL [\[CBC report\]](#)
Female ≤ 10.8 g/dL [\[CBC report\]](#)
45 - 64 y Male ≤ 12.6 g/dL [\[CBC report\]](#)
Female ≤ 10.6 g/dL [\[CBC report\]](#)
 ≥ 65 y Male ≤ 11.4 g/dL [\[CBC report\]](#)
Female ≤ 10.6 g/dL [\[CBC report\]](#)

Reference ranges: Cord Blood 13.5 - 20.5 g/dL
 ≤ 1 y 9.4 - 14.1 g/dL
1 - 12 y 11.0 - 15.0 g/dL
12 - 17 y Male 11.7 - 16.6 g/dL
Female 11.5 - 15.3 g/dL
18 - 44 y Male 13.2 - 17.3 g/dL
Female 11.7 - 15.5 g/dL
45 - 64 y Male 13.1 - 17.2 g/dL
Female: 11.7 - 16.0 g/dL
 ≥ 65 y Male 12.6 - 17.4 g/dL
Female 11.7 - 16.1 g/dL

Anion gap:

Increased: $(\text{Serum Na}^+) - (\text{Serum Cl}^- + \text{Serum HCO}_3^-) \geq 16$ mEq/L [\[chemistry report\]](#)
Reference Range: 7 - 14 mEq/L

Antihyalouronidase titer (AH Titer):

Antibody titer for Group A β -hemolytic Streptococci. Titer rises in second week of infection and falls after 3 - 5 weeks. [\[serology report\]](#)
Increased: > 128 units/mL
Reference range: ≤ 128 units/mL

Antinuclear antibodies (ANA):

Increased: Positive at $\geq 1:20$ dilution [\[chemistry report\]](#)
Reference range: Negative at 1:20 dilution

Antistreptolysin-O titer (ASO Titer):

Antibody titer for Group A

β -hemolytic Streptococci. Titer rises in 1 week, peaks at 3 - 5 weeks and returns to baseline in 6 months to 1 year. [\[serology report\]](#)

Increased: > 166 Todd Units

Reference range: \leq 166 Todd Units

 α_1 -Antitrypsin:

Decreased: Newborn \leq 114 mg/dL [\[chemistry report\]](#)

Adult \leq 48 mg/dL [\[chemistry report\]](#)

> 60 y \leq 94 mg/dL [\[chemistry report\]](#)

Reference Ranges: Newborn 145 - 270 mg/dL

Adult (M-phenotype) 78-200 mg/dL

> 60 y 115 - 200 mg/dL

Anuria:

Urine output \leq 100 mL/24 hr

OR < 1mL/kg/24h for children \leq 16 years old

Arrhythmias, Cardiac:

Any cardiac rhythm other than the normal sinus rhythm. [\[ECG Report\]](#)

OR atrial premature contraction [\[ECG Report\]](#)

OR ventricular premature contraction [\[ECG Report\]](#)

OR junctional premature contraction [\[ECG Report\]](#)

OR atrial fibrillation [\[ECG Report\]](#)

OR supraventricular tachycardia [\[ECG Report\]](#)

OR atrial flutter [\[ECG Report\]](#)

OR ectopic atrial rhythm [\[ECG Report\]](#)

Arthritis:

Infectious arthritis: Also known as **Septic arthritis.**

Synovial fluid neutrophils \geq 50% of total leukocytes [\[chemistry report\]](#)

OR Micro-organisms identified on Gram stain [\[chemistry report\]](#)

OR Pathogenic micro-organisms grown on culture [\[chemistry report\]](#)

Non-infectious arthritis:

Usually polyarticular.

Synovial culture report: No growth of pathologic organism(s) [\[culture report\]](#)

Aseptic meningitis: *See Meningitis, viral*

ASO Titer: *See Antistreptolysin-O titer*

Aspartate aminotransferase, serum (AST):

Increased: Male ≥ 46 U/L [\[chemistry report\]](#)
Female ≥ 41 U/L [\[chemistry report\]](#)
Reference ranges: Male 15 - 40 U/L
Female 13 - 35 U/L

AST: *See Aspartate aminotransferase*

Azotemia:

Serum Urea Nitrogen ≥ 24 mg/dL [\[chemistry report\]](#)
Reference range 6 - 20 mg/dL [\[chemistry report\]](#)

Bacteremia:

[Blood culture reports growth of bacterial organism \[blood culture report after 48 hours\]](#)

Band neutrophils:

Increased: White $\geq 1250/\mu\text{L}$ [\[CBC report\]](#)
Black $\geq 750/\mu\text{L}$ [\[CBC report\]](#)
Reference ranges: White 0 - 1000/ μL
Black 0 - 600/ μL

Deleted: ¶

Bleeding:

Hemoglobin decreases $> 1\text{g/dL}$ in 8 hours [\[CBC report\]](#)
OR > 500 mL blood loss

Blindness:

Visual acuity $\leq 20/200$ Snellen notation, in one or both eyes

Bradycardia:

Resting heart rate $\leq 60/\text{min}$

Bundle branch block: *See Cardiac conduction abnormalities*

Cachexia:

Body weight $< 85\%$ of ideal body weight

Cardiac output (CO):

Decreased: < 4 L/min/ 1.73 m^2
Reference range: 2.5 - 3.6 L/min/ m^2
4.33 - 6.23 L/min/ 1.73 m^2

[Doppler echocardiography, radionuclide ventriculography or indicator dilution test during cardiac catheterization]

Cardiac conduction abnormalities:

May accompany or be caused by other myocardial disorders. [ECG Report]

Left bundle branch block [ECG Report]

OR Right bundle branch block [ECG Report]

OR Left anterior hemiblock [ECG Report]

OR Left posterior hemiblock [ECG Report]

OR Nonspecific intraventricular conduction defect [ECG Report]

OR First degree heart block [ECG Report]

OR Second degree heart block [ECG Report]

OR Third degree heart block [ECG Report]

Ceruloplasmin, serum:

Decreased: < 12 mg/dL [chemistry report]

Reference range: 18 - 45 mg/dL

Also see *Copper, serum*

Central venous pressure:

Increased: > 15 cm H₂O

Reference range: 0 - 6 mm Hg

0 - 7.0 cm H₂O

CFU: See *Colony forming unit*

Child:

Individual <15 years of age

Chronic obstructive pulmonary disease (COPD):

[pulmonary function tests]

Mild: FEV₁ < 75 % of predicted value

AND MVV < 80 % of predicted value

AND RV > 120 % of predicted value

Moderate: FEV₁ < 60 % of predicted value

AND MVV < 65 % of predicted value

AND RV > 150 % of predicted value

Severe: FEV₁ < 40 % of predicted value

AND MVV < 45 % of predicted value

AND RV > 200 % of predicted value

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Chronic renal failure:

- Small kidneys [abdominal ultrasound report]
- AND renal osteodystrophy [x-ray report]
- AND creatinine ≥ 3.0 mg/dl [chemistry report]
- AND BUN/creatinine ratio ≤ 20.0 , as calculated from simultaneously drawn serums for this test
- OR $FENa \leq 1.0$
- OR Renal Failure Index ≤ 1.0

Chronic Time Span of Illness:

Symptoms persist three months or longer per year and occur during two or more successive years.

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Coagulation Defect:

- International normalized ratio (INR) ≥ 1.5 [hematology report]
 - OR Prothrombin time (PT) ≥ 1.5 x control time [hematology report]
 - OR Partial thromboplastin time (PTT) ≥ 1.5 x control time [hematology report]
 - OR Bleeding time ≥ 8 minutes
- Reference ranges: INR 1.0
Prothrombin time 11 - 15 s
Partial thromboplastin time < 35 s
Bleeding time (template) 2.5 - 9.5 min

Cold agglutinins:

Increased: ≥ 4 fold rise in titer, acute and convalescent samples [serology report]

Deleted: Coccidioidomycosis: ¶
Coccidioides immitus isolated
[Microbiology report]¶

Coma:

- Glasgow coma scale rating < 8
- OR unresponsive to pain
- AND unresponsive to verbal stimuli
- AND unresponsive to tactile stimuli

Congenital adrenal hyperplasia:

Urine 17-ketosteroids > 20 mg/24hr [\[urine chemistry report\]](#)

Reference ranges: 1 - 4 Y < 1 mg/d

5 - 9 y < 3 mg/d

10 - 15 y 1 - 6 mg/d

15 - 16 y Male 3 - 13 mg/d

Female 2 - 8 mg/d

Adult Male 10 - 25 mg/d

Female 6 - 14 mg/d

Due to 21-Hydroxylase deficiency

AND Urinary 17-hydroxyprogesterone increased [\[urine chemistry report\]](#)

OR 11-Beta hydroxylase deficiency

AND Urinary tetrahydro-17-deoxycorticosterol increased [\[urine chemistry report\]](#)

AND Serum 11-deoxycorticosterone increased [\[urine chemistry report\]](#)

AND Serum 11-deoxycortisol increased [\[urine chemistry report\]](#)

OR 3-Beta hydroxysteroid dehydrogenase deficiency [\[urine chemistry report\]](#)

AND Serum dehydroepiandrosterone increased [\[urine chemistry report\]](#)

Congestive heart failure (CHF):

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Initial central venous pressure ≥ 15 cm H₂O [central venous pressure report or pulmonary artery catheter report]

OR Initial peak systolic right ventricular pressure ≥ 25 mmHg

OR Initial pulmonary wedge pressure ≥ 18 mmHg

OR Low cardiac output measured by ejection fraction $\leq 50\%$ [echocardiogram or nuclear ejection fraction report]

OR Cardiac output ≤ 4 L/min [cardiac catheterization report]

Presumptive Diagnostic Findings:

Jugular venous distention

OR Pedal edema 3+

OR S₃ gallop

OR Bibasilar rales

Deleted: OR Hepatojugular reflux*

OR Congestive heart failure [chest x-ray report]

Infants:

Congestive heart failure [chest x-ray report]

AND Tachycardia

AND Tachypnea

AND Rales on auscultation of the lungs

AND Capillary refill > 2 seconds

AND Hepatomegaly

Congestive heart failure (CHF) acute:

CHF and duration < 7 days

Convalescent/Acute Phase serology:

To demonstrate an immunological response to an infectious agent a blood sample is taken during the acute illness and stored for several weeks. A second blood sample is taken during convalescence, and both are analyzed in the same batch. A rise in antibody titer ratio of ≥ 4 which represents two successive dilutions is interpreted as an immunological response.

COPD: *See Chronic obstructive pulmonary disease*

Copper, serum:

Increased: Male $> 160 \mu\text{g/dL}$ [[chemistry report](#)]
Female $> 175 \mu\text{g/dL}$ [[chemistry report](#)]
Reference range: Adult Male 70 - 140 $\mu\text{g/dL}$
Female 80 - 155 $\mu\text{g/dL}$

Coproporphyrin, urine:

Increased: $> 200 \mu\text{g/24 h}$ [[chemistry report](#)]
Reference range: 52 - 163 $\mu\text{g/24 h}$

Cor pulmonale:

Initial central venous pressure $\geq 15 \text{ cm H}_2\text{O}$ [central venous catheter report or pulmonary artery catheter report]

OR Initial peak systolic right ventricular pressure $\geq 25 \text{ mmHg}$
[pulmonary artery catheter report]

OR Pulmonary artery pressure $\geq 30/15 \text{ mmHg}$
[pulmonary artery catheter report]

AND Jugular venous distention

OR S_3 gallop

OR Ascites

OR Hepatomegaly

Deleted: . OR Hepatojugular reflux¶

CK: *See Creatine kinase*

CPK: *See Creatine kinase*

C-Reactive protein (CRP):

Increased: $> 1 \text{ mg/dL}$ [[chemistry report](#)]
Reference range: 6.8 - 820 $\mu\text{g/dL}$

Cranial nerve palsy:

- OR [blindness in one or both eyes](#)
- OR [loss of sense of smell](#)
- OR [paralysis of one or both eye's musculature](#)
- OR [facial numbness](#)
- OR [facial paralysis](#)
- OR [deafness in any ear](#)
- OR [difficulty swallowing](#)
- OR [loss of taste](#)

Creatine kinase, total, serum (CK):

Increased: Male CK \geq 208 U/L [\[chemistry report\]](#)
Female CK \geq 169 U/L [\[chemistry report\]](#)
Reference ranges: Male 38 - 174 U/L
Female 26 - 140 U/L

Creatine kinase isoenzymes, serum:

Increased: total CK and CK-MB increase above reference values within 3 - 4 h following myocardial infarction. Peak values are seen at 24 - 36 h, with return to normal within 3 d.
Reference ranges: CK-MB 4 - 6 % of total CK [\[chemistry report\]](#)
0 - 10 U/L
0 - 9 μ g/L

Creatine kinase isoforms:

Measured by high voltage electrophoresis. Formed in the blood by action of proteolytic enzymes.
Increased: CK3c/CK3a ratio $>$ 3.0
Increases within 1 - 2 h after myocardial infarction (earlier than CK-MB) and peaks at 10 - 12 h
Reference ranges: CK-3a 42 - 75 % of total CK
CK-3b 18 - 51 % of total CK
CK-3c 2 - 14 % of total CK
CK3c/CK3a ratio 0.31 - 2.5

Creatine kinase relative index:

Useful in diagnosis of myocardial infarction when skeletal muscle trauma causes increase in CK-MM
$$\frac{\text{CK-MB } \mu\text{g/L}}{\text{Total CK U/L}} \times 100$$

Increased: CK relative index $>$ 4.5
Reference range: CK relative index $<$ 3.9 %

Creatine phosphokinase (CPK): *See Creatine kinase*

CSF Reference values:

CSF Cell counts: < 5/μL, all mononuclear [\[chemistry report\]](#)

CSF Pressure: (Opening) 15 - 45 mm H₂O

CSF Glucose: 50 - 75 mg/dL (20 mg/dL less than in serum) [\[chemistry report\]](#)

CSF Protein, total: (Lumbar) 15 - 45 mg/dL [\[chemistry report\]](#)

CSF Protein electrophoresis: Albumin predominant
No oligoclonal bands

CSF IgG: Children under 14 y < 8 % of total protein

Adults < 14 % of Total protein

CSF IgG Index: 0.3 - 0.6

$$\text{Calculated as: IgG Index} = \left[\frac{\text{IgG}_{\text{csf}} / \text{IgG}_{\text{serum}}}{\text{Albumin}_{\text{csf}} / \text{Albumin}_{\text{serum}}} \right] \times 100$$

Cushing's Disease:

Urinary hydroxycorticosteroids

Increased: > 10 mg/24h [\[chemistry report\]](#)

Reference ranges: Child 0.5 - 5.6 mg/24h

Adult Male 3.0 - 10 mg/24h

Female 2.0 - 8.0 mg/24h

Plasma Adrenocorticotrophic Hormone (A.C.T.H.)

Increased at 9:00 pm > 35 pg/mL [\[chemistry report\]](#)

Reference range: < 10 pg/mL (Patient supine)

Cystic fibrosis:

Sweat test with pilocarpine iontophoresis:

Sweat chloride test: Sweat chloride > 60 mEq/L [\[chemistry report\]](#)

Cystic fibrosis variant: Sweat Cl⁻ > 40 and ≤ 60 mEq/L

Reference range: 5 - 35 mEq/L

Chromosome analysis: Linkage marker on chromosome 7 for CFTR

Cystic fibrosis transmembrane conductance regulator (CFTR)

Cytomegalovirus (CMV) infection:

CMV isolated on culture

OR IgM Antibodies to CMV found

Dehydration:

>5% loss of ideal body weight in 24 hr

Dementia:

Mini-mental status examination [< 9.7 points](#)

Diabetes mellitus:

Major types: Type I - insulin dependent diabetes mellitus (IDDM), and Type II - non-insulin dependent diabetes mellitus (NIDDM).

- Serum glucose \geq 126 mg/dL after $>$ 8hr fast
- OR 2 hr postprandial glucose \geq 200 mg/dL (World Health Organization protocol for oral glucose tolerance test using 75g anhydrous glucose in water)
- AND \geq 24 hours later, serum glucose \geq 126 mg/dL after $>$ 8 hr fast
- OR History of Type 1 Diabetes mellitus with random plasma Serum glucose $>$ 200 mg/dL
- AND Polyuria
- OR Polydipsia
- OR Polyphagia

Diabetes Mellitus Gestational:

- No prior pre-gestational diabetes
- AND $>$ 2 abnormal values on 3h glucose tolerance test (100gm glucose)
- Fasting \geq 105 mg/dL
- 1 hr \geq 190 mg/dL
- 2 hr \geq 165 mg/dL
- 3 hr \geq 145 mg/dL
- OR positive WHO 75g test

DIC: *See Disseminated Intravascular Coagulation*

Digoxin toxicity:

- Digoxin, serum: Therapeutic range 0.8 - 2.0 ng/mL [\[chemistry report\]](#)
- Toxic range $>$ 2.5 ng/mL

Disorientation: *See encephalopathy*

Disseminated Intravascular Coagulation (DIC):

- Prothrombin time (PT) in seconds $>$ 1.5 x control [\[hematology report\]](#)
- OR Partial thromboplastin time (PTT) in seconds $>$ 1.5 x control [\[hematology report\]](#)
- OR International Normalized Ratio (INR) $>$ 1.5 [\[hematology report\]](#)
- One of the first three above AND all of the following
- AND Platelet count $<$ 75,000/ μ L [\[CBC report\]](#)
- AND Fibrin split products $>$ 1:8 dilution [\[chemistry report\]](#)
- OR Fibrin split products \geq 40 mg/dL [\[chemistry report\]](#)
- AND Fibrinogen concentration $<$ 150 mg/dL [\[chemistry report\]](#)
- OR Hypofibrinogenemia
- AND Increased D-Dimer concentration [\[chemistry report\]](#)

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Down's syndrome:

Cytogenetics report: Trisomy 21
OR Down's syndrome mosaic: Genotype 46/47 with trisomy 21

DVT:

[deep vein thrombosis \[Doppler ultrasound, nuclear venogram, contrast venography or other venogram report\]](#)

Ejection fraction, cardiac (EF):

Decreased: < 0.50
Reference range: 0.56 - 0.78
[Contrast ventriculography report, radionuclide imaging report, or echocardiography report]

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Encephalopathy:

[Disoriented to person](#)
[AND disoriented to place](#)
[AND disoriented to time](#)

End-stage renal disease:

Creatinine, serum >15 mg/dL [\[chemistry report\]](#)
AND Urea nitrogen, serum > 100 mg/dL [\[chemistry report\]](#)
AND Creatinine clearance < 5 mL/min [\[chemistry report\]](#)
Reference ranges: Creatinine, serum Male 0.9 - 1.3 mg/dL
Female 0.6 - 1.1 mg/dL
Urea nitrogen, serum 6 - 20 mg/dL
Creatinine clearance: Males 94 - 140 mL/min
Females 72 -110 mL/min
Corrected to 1.73 m² body surface area

Endocarditis:

Infective endocarditis
Culture with growth of pathologic organism(s) from heart valves [operative or pathology report]
OR Fever: ([Temperature > 101°F oral or > 101.5°F rectal](#))
AND New heart vegetation [Echocardiography report]
OR Change in heart murmur
OR New heart murmur
AND **Bacteremia:** ([Blood culture reports growth of bacterial organism](#))
OR **Fungemia:** ([Blood culture reports growth of fungal organism](#))

Deleted:

Eosinophilia:

Increased: >750 eosinophils/μL [\[CBC report\]](#)
Reference Range: 0 - 600/μL

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Erythrocyte sedimentation rate (ESR):

Westergren method

Increased: Males > 19 mm/h [\[hematology report\]](#)
Females > 25 mm/h [\[hematology report\]](#)
Reference Ranges: Males 0 - 15 mm/h
Females 0 - 20 mm/h

Erythrocyte survival time (T_{1/2} with ⁵¹Cr):

Decreased: < 25 d [\[hematology report\]](#)
Reference range: 25 - 32 d

Ethanol, blood: *See Alcohol, blood*

Euthyroid goiter:

All values for thyroid hormones within reference ranges
Reference Ranges: Thyroxine (T₄) 4 - 13 µg/dL
Triiodothyronine (T₃) 75 - 256 ng/dL
Free T₄ Index < 456

Ferritin, serum:

Increased: (Overload) > 220 ng/mL [\[chemistry report\]](#)
Decreased: 6 mo - 15 y < 7 ng/mL
Male < 20 ng/mL
Female < 10 ng/mL
Reference ranges: 6 mo - 15 y 7 - 140 ng/mL
Male 20 - 250 ng/mL
Female 10 - 120 ng/mL

Fever:

Temperature ≥ 101° F oral or ≥ 101.5° F rectal
Moderate: Temperature ≥ 102° F oral or ≥ 102.5° F rectal
Severe: Temperature ≥ 104° F oral or ≥ 104.5° F rectal

Folate (Folic acid), serum or erythrocytes:

Decreased: Serum < 3 ng/mL [\[chemistry report\]](#)
Erythrocytes < 100 ng/mL [\[chemistry report\]](#)
Reference range: Serum 3 - 20 ng/mL
Erythrocytes 140 - 628 ng/mL

Forced expiratory volume in one second (FEV₁):

Decreased: < 80 % of predicted value
Reference Ranges:
Expressed as percentage of the predicted value
FEV₁ ≥ 80 % of predicted value
Expressed as ratio to Forced Vital Capacity
FEV₁/FVC ≥ 70 %

Fractional excretion of sodium (FENa):

A calculation to measure the excretion of sodium compared to excretion of creatinine. In renal failure, it is increased FENa ≥ 1.0

$$\left[\frac{U_{Na} / P_{Na}}{U_{Cr} / P_{Cr}} \right] \times 100$$

Where U_{Na} is Urine sodium
P_{Na} is Plasma sodium
U_{Cr} is Urine creatinine
P_{Cr} is Plasma creatinine

FTA test (Fluorescent treponemal antibody absorption test):

Used to confirm reactive VDRL and RPR tests for syphilis

Reported as: Nonreactive
Borderline
Reactive

Fungemia:

[Blood culture reports growth of fungal organism \[blood culture report within 48 hours\]](#)

Deleted: Blood culture reports growth of pathologic fungal organism(s)

Gamma glutamyl transferase: *See γ-Glutamyl transferase*

GGT: *See γ-Glutamyl transferase*

Glucose-6-Phosphate Dehydrogenase deficiency (G-6-PD deficiency):

Causes hemolysis in infection or after ingestion of oxidant drugs.

Inheritance is sex linked. Numerous variants (>300)

Decreased: < 4.5 U/g hemoglobin [\[chemistry report\]](#)

Reference range: 5.5 - 9.3 U/g hemoglobin

γ-Glutamyl transferase:

Increased: Males ≥ 38 U/L [\[chemistry report\]](#)

Females ≥ 30 U/L [\[chemistry report\]](#)

Reference range: Dependent on method, age and sex

Ektachem, 37° C

Males 2 - 30 U/L

Female 1 - 24 U/L

Guaiac test, stool:

Positive test indicates blood in the stool

Haptoglobin, serum:

Decreased: < 30 mg/dL [\[chemistry report\]](#)
Reference range: 40 - 240 mg/dL

Hematuria:

Females ≥4 red blood cells/hpf [\[urinalysis report\]](#)
Males ≥1 red blood cell/hpf [\[urinalysis report\]](#)

Hemoglobin A₂, blood:

Chromatographic method:

Increased: 3.7 - 7.0 % in β-thalassemia trait [\[hematology report\]](#)
Reference range: 1.5 - 3.5 %

Hemoglobin S, blood:

Sickle cell trait: Hemoglobin S > 20 % of total [\[Hemoglobin electrophoresis report\]](#)
AND Hemoglobin A > 60 % of total [\[Hemoglobin electrophoresis report\]](#)
Sickle cell disease: Hemoglobin S > 80% of total [\[Hemoglobin electrophoresis report\]](#)
AND Hemoglobin F > 2 % of total [\[Hemoglobin electrophoresis report\]](#)

Deleted: Hemoglobin electrophoresis

Hemolysis:

Serum haptoglobin ≤ 30 mg/dL [\[chemistry report\]](#)
OR Total serum bilirubin ≥ 1.4 mg/dL [\[chemistry report\]](#)
AND Unconjugated serum bilirubin > 80% of total bilirubin [\[chemistry report\]](#)
OR Chromium labeled erythrocyte T_{1/2} survival time ≤ 25 days
[Nuclear Medicine report]
Reference Ranges: Haptoglobin, serum 40 - 240 mg/dL
Total bilirubin, serum 0.3 - 1.2 mg/dL
Erythrocyte survival time T_{1/2} 25 - 32 days

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Hemophilia:

Asymptomatic: Factor VIII ≥ 25 % and ≤ 50 % of normal [\[chemistry report\]](#)
Mild: Factor VIII < 25 % of normal [\[chemistry report\]](#)
Moderate: Factor VIII ≤ 5 % of normal [\[chemistry report\]](#)
Severe: Factor VIII not detected [\[chemistry report\]](#)

Hepatic Coma:

History of severe liver disease
AND Coma
OR Hepatic encephalopathy
OR Portal systemic encephalopathy

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Hepatitis:

Serum bilirubin > 3 mg/dL [chemistry report]
AND AST > 60 U/L [chemistry report]
OR ALT > 60 U/L [chemistry report]
OR GGT > 38 U/L [chemistry report]
AND Hepatomegaly [physical examination, liver-spleen scan or CT scan]

HIV (Human Immunodeficiency Virus) infection:

Screening: EIA test for antibodies to HIV
Confirmatory: Western blot for HIV antigens

Deleted: Histoplasmosis: ¶
· Skin test for delayed hypersensitivity to *Histoplasma*¶
· AND Increased complement-fixing antibodies to *Histoplasma* ¶
· OR Blood and urine cultures positive (in disseminated form)¶

Huntington’s disease (Huntington’s chorea):

Chromosome studies: Repeated CAG sequences in gene IT15

Deleted: sequence

5-Hydroxyindoleacetic acid, urine (5-HIAA):

Increased: > 25 mg/d [urine chemistry report]
Reference range: Negative, < 25 mg/d

Hyperaldosteronism:

Increased (Average sodium diet)
Urine aldosterone > 20 µg/d [urine chemistry report]
OR Plasma aldosterone ≥17.4 ng/dL [chemistry report]

Reference ranges:

Depends on sodium intake, age, sex and posture

Urine: Total urinary Na Urinary aldosterone

<u>mEq/d</u>	<u>µg/d</u>
< 20	35 - 80
50	13 - 33
100	5 - 24
200	1 - 16

Plasma: Adults (Average sodium diet)

Supine 3 - 16 ng/dL
Upright 7 - 30 ng/dL

Hyperammonemia:

Increased: Serum ammonia > 98 µg/dL [chemistry report]
Reference range: 19 - 60 µg/dL

Hyperbilirubinemia:

Total serum bilirubin > 3.0 mg/dL [\[chemistry report\]](#)
Infants <1day old total serum bilirubin > 8mg/dL [\[chemistry report\]](#)
Infants 1-2day old total serum bilirubin > 12mg/dL [\[chemistry report\]](#)
Infants 2-5day old total serum bilirubin > 16mg/dL [\[chemistry report\]](#)
Infants >5day old total serum bilirubin > 2mg/dL [\[chemistry report\]](#)
Reference range (Adults) Total 0.3 - 1.2 mg/dL
Unconjugated < 1.1 mg/dL

Hypercalcemia:

Increased: Serum calcium > 10.7 mg/dL [\[chemistry report\]](#)
Reference Range: 8.6 - 10.0 mg/dL

Hypercalciuria:

Increased: Higher than reference range
Reference range: Calcium free diet 5 - 40 mg/d
Low calcium diet 50 - 150 mg/d
Average diet 100 - 300 mg/d

Hypercarbia:

Increased: Males pCO₂ > 51 mmHg [\[ABG report\]](#)
Females pCO₂ > 48 mmHg [\[ABG report\]](#)
Reference ranges: Males pCO₂ 35 - 48 mmHg
Females pCO₂ 32 - 45 mmHg

Hyperchloremia:

Increased: Serum chloride ≥109 mEq/L [\[chemistry report\]](#)
Reference range: 98 - 107 mEq/L

Hypercholesterolemia:

Increased: Total serum cholesterol ≥ 200 mg/dL [\[chemistry report\]](#)
Reference ranges: Total cholesterol
Desirable* < 200 mg/dL
Moderate risk 200 - 239 mg/dL
High risk > 240 mg/dL
*(Recently “desirable” rather than “normal” concentrations have been established by consensus)

Hyperkalemia:

Increased: Serum potassium ≥ 5.5 mEq/L [\[chemistry report\]](#)
Concentrations > 7.0 mEq/L may be fatal
Reference range: 3.5 - 5.1 mEq/L

Hypernatremia:

Increased: Serum sodium ≥ 148 mEq/L [\[chemistry report\]](#)
 Reference range: 136 - 145 mEq/L

Hypertension:

Diastolic blood pressure > 90 mmHg
 OR Systolic blood pressure > 140 mmHg

Hyperthyroidism:

TSH (thyrotropin) 0.0 $\mu\text{g/dL}$ [\[chemistry report\]](#)
 AND Free thyroxine index ≥ 15.2 [\[chemistry report\]](#)
 OR Serum free T₄ (thyroxine) ≥ 3.2 ng/dL [\[chemistry report\]](#)

Deleted: normal

Deleted: OR Serum free T₃ (triiodothyronine) \geq normal*

Deleted: normal

Hypertriglyceridemia:

Increased: Serum triglycerides: ≥ 250 mg/dL [\[chemistry report\]](#)
 Recommended therapeutic goals:
 Normal < 250 mg/dL
 Borderline high 250 - 500 mg/dL
 Hyperglyceridemic > 500 mg/dL
 High risk for pancreatitis > 1000 mg/dL

Hyperuricemia:

Increased: Males: Serum uric acid ≥ 8.4 mg/dl [\[chemistry report\]](#)
 Females: Serum uric acid ≥ 7.7 mg/dL [\[chemistry report\]](#)
 Reference Ranges: Male 4.4 - 7.6 mg/dL
 Female: 2.3 - 6.6 mg/dL

Hypoadrenalism:

Decreased: Serum cortisol, 8:00 am < 4 ug/dL [\[chemistry report\]](#)
 Reference Range: 5-23 $\mu\text{g/dL}$

Hypoalbuminemia:

Decreased: Serum albumin ≤ 2.8 g/dL [\[chemistry report\]](#)
 Reference range: 3.4 - 4.8 g/dL

Hypocalcemia:

Decreased: Serum calcium ≤ 8.2 mg/dL [\[chemistry report\]](#)
 OR Serum ionized calcium ≤ 4.48 mg/dL [\[chemistry report\]](#)
 Infants, serum calcium < 6.0 mg/dL [\[chemistry report\]](#)
 OR serum ionized calcium < 4.0 mg/dl [\[chemistry report\]](#)
 Reference ranges: Calcium 8.6 - 10.0 mg/dL
 Ionized calcium 4.60 - 5.08 mg/dL

Hypochloremia:

Decreased: Serum chloride ≤ 95 mEq/L [\[chemistry report\]](#)
Reference range: 98 - 107 mEq/L

Hypoglycemia:

Decreased: Serum glucose ≤ 45 mg/dL [\[chemistry report\]](#)
Infants, serum glucose <40 mg/dL in first 24 hr of life
 <45 mg/dL thereafter [\[chemistry report\]](#)
Reference range: 75 - 115 mg/dL

Hypokalemia:

Decreased: Serum potassium ≤ 3.2 mEq/L [\[chemistry report\]](#)
Reference range: 3.5 - 4.5 mEq/L

Hyponatremia:

Decreased: Serum sodium < 133 mEq/L [\[chemistry report\]](#)
Reference Range: 136 - 145 mEq/L

Hypophosphatemia:

Decreased: Serum inorganic phosphorus ≤ 2.2 mg/dL [\[chemistry report\]](#)
Reference range: 2.7 - 4.5 mg/dL

Hypoproteinemia:

Decreased: Total serum protein ≤ 5.5 g/dL [\[chemistry report\]](#)
Reference range: Ambulatory 6.4 - 8.3 g/dL
Recumbent 6.0 - 7.8 g/dL

Hyporeninemia:

Usually measured as plasma renin activity (PRA) as Angiotensin I (AI).
Decreased: Renin ≤ 5.0 MU/L on normal salt diet [\[chemistry report\]](#)
Reference range: Supine 12 - 79 MU/L
Standing 13 - 114 MU/L

Hypotension:

Systolic blood pressure < 90 mmHg

Hypothermia:

Body Temperature $< 96^\circ$ F rectal

Hypothyroidism:

Thyroid stimulating hormone (TSH) ≥ 12.0 μ U/mL [\[chemistry report\]](#)

Deleted: 7.4

OR Free Thyroxine (FT₄) ≤ 0.3 ng/dL [\[chemistry report\]](#)

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Reference ranges: TSH 0.5 - 4.2 μ U/mL

FT₄ 0.8 - 2.7 ng/dL

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Hypoxemia:

pO₂ < 60 mmHg with patient breathing room air
OR Alveolar-arterial gradient > 15 mmHg
(693 x F_IO₂) - (1.2 x pCO₂) - pO₂ > 15 mmHg
[calculated from arterial blood gas values]
Reference ranges: pO₂ 83 - 108 mmHg
Gradient ≤ 10 mmHg

IgG Index:

An index of local IgG synthesis in the CNS.

$$\text{IgG Index} = \frac{[\text{IgG}_{\text{csf}} / \text{IgG}_{\text{serum}}]}{[\text{Albumin}_{\text{csf}} / \text{Albumin}_{\text{serum}}]} \times 100$$

Reference range: 0.3 - 0.6

Infectious arthritis: *See Arthritis, infectious*

Initial peak systolic right ventricular pressure:

Increased: > 25 mm Hg
Reference range: < 20 mm Hg

Initial pulmonary wedge pressure:

Increased: > 15 mm Hg
Reference range: 3 - 15 mmHg

International Normalized Ratio (INR):

A method of expressing the prothrombin time that eliminates laboratory-to-laboratory variation in results due to use of different thromboplastins.

$$\text{INR} = \left[\frac{\text{Patient PT}}{\text{Normal mean PT}} \right]^{\text{ISI}}$$

Where ISI is the International Sensitivity Index of the thromboplastin used
[Reference Value : 1.0](#)

Iron Deficiency:**Anemia**

AND Serum iron ≤ 35 $\mu\text{g/dL}$ in females or ≤ 55 $\mu\text{g/dL}$ in males [\[chemistry report\]](#)

AND Total iron binding capacity ≥ 513 $\mu\text{g/dL}$ [\[chemistry report\]](#)

OR **Serum ferritin** ≤ 10 ng/mL [\[chemistry report\]](#)

OR Iron depletion of bone marrow [bone marrow biopsy report]

Reference ranges: Iron, serum Child 50 - 120 $\mu\text{g/dL}$

Male 65 - 175 $\mu\text{g/dL}$

Female 50 - 170 $\mu\text{g/dL}$

Iron binding capacity Adult 250 - 425 $\mu\text{g/dL}$

Ferritin, serum Male 20 - 250 ng/mL

Female 10 - 120 ng/mL

Jaundice: *See hyperbilirubinemia*

Lactate dehydrogenase, serum (LD):

Serum measurements have little organ specificity unless isoenzymes are measured.

Reference ranges: Highly method dependent

Adult: 140 - 280 U/L

Lactate dehydrogenase isoenzymes:

There are five isoenzymes which have been numbered LD-1 to LD-5. Ordinarily LD-2 is present in greater activity than LD-1; Because myocardium contains LD-1, following myocardial infarction the ratio LD-1/LD-2 becomes greater than 1.0 (the "flipped" pattern).

LD: *See Lactate dehydrogenase*

LDH: *See Lactate dehydrogenase*

Leukocytosis:

Increased: Leukocytes, blood $> 12.6 \times 10^3/\mu\text{L}$ [\[CBC report\]](#)

Reference Range: 4.5 - 11.0 $\times 10^3/\mu\text{L}$

Leukocyte (neutrophil) alkaline phosphatase (LAP):

Decreased: Score < 20

Reference range: Score 40 - 130

(Score is based on 0 - 4+ rating of 100 neutrophils)

Leukopenia:

Decreased: Leukocytes, blood $< 3.0 \times 10^3/\mu\text{L}$ [\[CBC report\]](#)

Severe decrease: Leukocytes, blood $< 0.5 \times 10^3/\mu\text{L}$

Reference Range: 4.5 - 11.0 $\times 10^3/\mu\text{L}$

Lipase, serum:

Increased: Serum lipase > 300 U/L [\[chemistry report\]](#)
Reference range: Highly method dependent
With triolein substrate < 200 U/L
With olive oil substrate < 160 U/L

Lymphocytopenia:

Decreased: Blood lymphocytes < $1.0 \times 10^3/\mu\text{L}$ [\[CBC report\]](#)
< 1000/ μL
Reference range: $1.5 - 4.0 \times 10^3/\mu\text{L}$

Macrocytosis, erythrocyte:

Mean corpuscular volume (MCV) ≥ 95 fL (or μ^3) [\[CBC report\]](#)
Reference Range: 80 - 90 fL

Maximum voluntary ventilation (MVV):

Decreased: MVV < 80 % of predicted value
Reference Ranges: 3 - 5 L/sec ≥ 80 % of predicted value

Meningitis, pediatric:

Growth of pathologic organism(s) in CSF
AND CSF glucose < 50% of serum glucose [\[chemistry report\]](#)
AND CSF protein > 150 mg/dL (premature infant) [\[chemistry report\]](#)
OR > 170 mg/dL (full-term infant) [\[chemistry report\]](#)
AND CSF neutrophils > 10/ μL [\[CSF cell count report\]](#)
OR CSF lymphocytes > 25/ μL in a premature infant [\[CSF cell count report\]](#)
OR > 20/ μL in a term infant [\[CSF cell count report\]](#)

Meningitis:**Bacterial meningitis:**

Growth of pathologic organism(s) in CSF [\[culture report\]](#)
AND CSF glucose < 50% of serum glucose [\[chemistry report\]](#)
AND CSF protein > 50 mg/dL [\[chemistry report\]](#)
AND CSF neutrophils > 1/ μL [\[CSF cell count report\]](#)
OR CSF lymphocytes > 8/ μL [\[CSF cell count report\]](#)

Viral meningitis: Also known as “Aseptic meningitis”

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- No growth on bacterial culture of CSF
 - AND CSF Glucose > 50% of serum glucose [\[chemistry report\]](#)
 - AND CSF Protein > 50 mg/dL [\[chemistry report\]](#)
 - AND CSF Lymphocytes/neutrophils > 1 [\[CSF cell count report\]](#)
 - AND CSF Lymphocytes > 8/μL [\[CSF cell count report\]](#)
 - OR Virus isolated from CSF [\[tissue culture report\]](#)
 - OR Acute/convalescent virus-specific antibody titer increases >4.0
- Reference ranges: CSF glucose Infant, child 60 - 80 mg/dL
 Adult 40 - 70 mg/dL
 CSF protein 15 - 45 mg/dL
 CSF cell count 0 - 5 cells/μL
 All mononuclear cells

Mental Retardation:

Wechsler IQ ≤ 55

Microcytosis, erythrocyte:

Mean corpuscular volume (MCV) < 80 fL [\[CBC report\]](#)
 Reference range: 80 - 90 fL

Mini-mental Status Examination:

A verbal test for grading cognitive status. Total maximal score is 30.
[Organic Brain Disease: Score < 27](#)
[Dementia: ≤ 9.7](#)
 Folstein MF et al. J Psychiatr Res 12: 189, 1975

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Multiple sclerosis:

- Multiple sclerosis [MRI scan report]
- OR Oligoclonal bands [\[CSF electrophoresis report\]](#)
- OR Increased Myelin basic protein [\[CSF electrophoresis report\]](#)
- OR Increased IgG index [\[CSF electrophoresis report\]](#)

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Mycoplasma:

- Mycoplasma pneumoniae* [\[culture report\]](#)
- OR Rise in acute/convalescent antibodies [\[serology report\]](#)
- OR Cold agglutinin titer of > 1:64 [\[serology report\]](#)

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Myelin basic protein, CSF:

Increased: > 2 ng/mL [\[CSF chemistry report\]](#)
 Reference range: < 2ng/mL [\[CSF chemistry report\]](#)

Myocardial infarction, acute (AMI):

- Elevation of ST segment [EKG report]
- OR Appearance of new Q waves [EKG report]
- OR Troponin I increased at 4 - 6 h [chemistry report]
- OR Creatine kinase MB fraction increased at 3 - 4 h [chemistry report]
- OR Creatine kinase isoforms CK3c/3a increased at 2 - 3 h [chemistry report]
- Laboratory: "Cardiac markers" become elevated a few hours after onset of chest pain; however, it is important to follow the levels for 12 to 18 hours to confirm MI.

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Myocarditis:

- Diffuse ST-T wave findings on electrocardiogram [ECG Report]
- AND Serum Creatine Kinase MB fraction within reference range [chemistry report]
- OR Myocarditis on myocardial biopsy [pathology report]

Myoglobin, serum:

- Increased: Male > 110 µg/L [chemistry report]
- Female > 92 µg/L
- Increased 1 - 3 h after myocardial infarction
- Reference ranges: Male 19 - 92 µg/L
- Female 12 - 76 µg/L

Neutrophilia:

- Increased: Segmented neutrophils, blood > 8 x 10³/µL [CBC report]
- > 8000/µL
- Reference ranges: White 1.6 - 6.9 x 10³/µL
- Black 1.2 - 6.0 x 10³/µL

Noonan's syndrome:

- Cytogenetics: Genotype 46XX or 46XY

Obesity:

- Mild: Body weight ≥ 1.2 times ideal body weight
- OR Body mass index (BMI) ≥ 27.5 kg/m²
- Moderate: Body weight 1.4 - 2.0 times ideal body weight
- Severe: Body weight > 2.0 times ideal body weight

Oligoclonal bands:

- Reference range: No oligoclonal bands present

Oliguria:

- Urine output ≤ 500 mL/24 h
- OR Urine output < 30 mL/h
- OR Pregnancy
- AND Urine output ≤ 500 mL/24 h

Opportunistic infection:

- Pneumocystis carinii [culture report]
- Cytomegalovirus spp. [culture report]
- Herpes virus spp. [culture report]
- Candida albicans [culture report]
- Cryptococcus spp. [culture report]
- Histoplasma spp. [culture report]
- Toxoplasma gondii [culture report]
- Mycobacterium-intracellulare [culture report]
- Mycobacterium-tuberculosis [culture report]
- Cryptosporidium spp. [culture report]
- Isospora belli [culture report]

Osmolality, serum or urine:

- Increased: Serum > 300 mOsm/kg H₂O [\[urine chemistry report\]](#)
- Decreased: Serum < 270 mOsm/kg H₂O
- Reference ranges: Serum 275 - 295 mOsm/kg H₂O
- Urine 50 - 1200 mOsm/kg H₂O

Osteomyelitis:

- Growth of pathologic organism(s)[microbiology culture report]
- OR **Osteomyelitis** [bone scan report OR CT scan report OR MRI report]

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Osteoporosis:

- Bone density analysis, DEXA scan, report > 2.5 standard deviations below standard adult mean value

Pancreatic insufficiency:

- Oil droplets, egg particles or buttery material on gross examination of stool
- OR Three globules/hpf or globules ≥ 75 micra with Sudan III stain
[Microscopic stool report]
- OR Fecal fat > 6 gm fat/day on standard diet of 100 gm fat/day
(3 day stool specimen)

Pancreatitis:

- Pancreatitis [operative/pathology report or CT scan report or sonogram report or KUB x-ray report]
- OR Serum lipase ≥ 300 U/L
AND Serum amylase ≥ 500 U/L
- OR Serum p-type isoamylasemia

Pneumonia:

- New pulmonary infiltrate (chest x-ray report)
- AND Growth of pathogenic organism on sputum culture
- OR Single predominant organism and many WBCs on Gram stain of sputum

Polycythemia:

- Increased erythrocytes: Red cell mass Male ≥ 37.5 mL/kg [hematology report]
- Female ≥ 32.5 mL/kg [hematology report]
- Reference ranges: Male 25 - 35 mL/kg body weight
- Female 20 - 30 mL/kg body weight

Protein electrophoresis, serum (Cellulose acetate):

- Reference ranges: Albumin 3.5 - 5.5 g/dL
- α_1 -Globulin 0.1 - 0.3 g/dL
- α_2 -Globulin 0.6 - 1.0 g/dL
- β -Globulin 0.7 - 1.1 g/dL
- γ -Globulin 0.8 - 1.6 g/dL

Prostate specific antigen, serum (PSA):

- Increases with age, benign prostatic hypertrophy and carcinoma of the prostate
- Reference range < 4 ng/mL

Red cell (erythrocyte) mass:

- Increased: Above reference range in polycythemia vera and secondary polycythemia
- Reference ranges: Male 25 - 35 mL/kg
- Female 20 - 30 mL/kg

Renal failure index (RFi):

A calculated index to assess renal failure.

$$\left[\frac{U_{Na}}{U_{Cr} / P_{Cr}} \right] \times 100$$

Where U_{Na} is concentration of sodium in the urine
 U_{Cr} is concentration of creatinine in the urine
 P_{Cr} is concentration of creatinine in the plasma

- Reference ranges: RFi > 1 in acute tubular necrosis
- RFi < 1 in glomerulonephritis
- RFi < 1 in obstructive nephropathy

Renal insufficiency:

Also see *End-stage renal disease*.

Creatinine, serum Male ≥ 1.4 mg/dL [[chemistry report](#)]
Female ≥ 1.2 mg/dL [[chemistry report](#)]
Reference ranges: Male 0.9 - 1.3 mg/dL
Female 0.6 - 1.1 mg/dL

Residual volume (RV):

Reference range: 1000 - 1200 mL for young adult males

Respiratory failure:

Acute lung injury
OR Acute respiratory distress syndrome
OR (**Hypoxemia:** $pO_2 < 60$ mmHg with patient breathing room air)
OR Alveolar-arterial gradient > 15 mmHg
AND **Acidosis:** (Decreased: Blood pH < 7.325)
AND **Hypercarbia:** (Males $pCO_2 > 51$ mmHg; Females $pCO_2 > 48$ mmHg)

Restrictive Lung Disease:

Total lung capacity $\leq 75\%$ of predicted value
[pulmonary function test report]
OR Forced vital capacity $\leq 75\%$ of predicted value
[pulmonary function test report]

Reticulocytosis:

Increased: Reticulocytes, blood $> 2.0\%$ of erythrocytes [[CBC report](#)]
or $> 100 \times 10^3/\mu\text{L}$
Reference ranges: Reticulocytes, blood 0.5 - 1.5 %
or 24 - 84 $\times 10^3/\mu\text{L}$

Reye's Syndrome:

History of recent convalescence from an upper respiratory tract infection, influenza
or varicella in a child aged ≤ 16 years old.

AND History of salicylate ingestion
AND Disorientation
OR Protracted vomiting
OR Lethargy
AND Fatty infiltration of the liver [operative or pathology report]
AND Serum ammonia > 50 $\mu\text{g/dL}$ [[chemistry report](#)]
OR AST > 105 U/L [[chemistry report](#)]
AND ALT > 90 U/L [[chemistry report](#)]

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Rhabdomyolysis:

Creatine kinase > 267 U/L [[chemistry report](#)]
AND Myoglobinuria

Rheumatoid arthritis:

Five of the following criteria of the American Rheumatism Association are necessary for diagnosis:

History of morning stiffness > 6 weeks

Pain on motion or tenderness in one joint, as observed by physician, > 6 weeks

Swelling of one other joint > 6 weeks

AND any interval of joint free symptoms > 3 months

Symmetrical bilateral joint swelling, except the terminal phalangeal joints > 6 weeks

Subcutaneous nodules

Rheumatoid arthritis on x-ray [x-ray report of any joints]

Rheumatoid factor titer > 1:160 [[chemistry report](#)]

Poor mucin synovial clot

Synovial WBC \geq 2000 cells/ μ L [[cell count report](#)]

AND No crystals

Rheumatoid arthritis on biopsy [synovial biopsy report]

Salicylate intoxication:

Therapeutic range: < 20 mg/dL

Toxic range: 30 - 60 mg/dL [[chemistry report](#)]

Lethal range: > 60 mg/dL [[chemistry report](#)]

Sarcoidosis:

Sarcoidosis [Pathology report]

Schistosomiasis:

Three major species are: *Schistosoma haematobium*, *S. mansoni* and *S. japonicum*.

Demonstration of eggs in the feces [Parasitology report]

Sepsis, infant:

Viremia: (viral culture reports growth of bacterial virus)

OR **Bacteremia:** (blood culture reports growth of bacterial organism)

OR **Fungemia:** (blood culture reports growth of fungal organism)

OR Clinical evidence of infection

AND 2 of the following criteria:

Fever in infant, > 38° C rectal or > 37.8° C oral

OR Hypothermia in infant < 36° C rectal or < 35.8° C oral

Tachypnea, Respiratory Rate > 90% for age

OR Hyperventilation

OR pCO₂ < 32 mmHg [ABG report]

OR Apnea

OR Patient intubated

OR Tachycardia, Heart Rate > 90% for age

OR WBC > 12,000/μL [CBC report]

OR WBC < 4000/μL [CBC report]

OR > 10% immature neutrophils [CBC report]

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Sepsis:

Sepsis syndrome

OR Viremia: ([blood culture reports growth of virus organism](#))

OR Fungemia: ([blood culture reports growth of fungal organism](#))

OR Bacteremia: ([blood culture reports growth of bacterial organism](#))

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AND Fever: ([Temperature > 101°F oral or > 101.5°F rectal](#))

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OR Hypothermia: ([Body Temperature < 96°F rectal](#))

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AND Tachypnea: ([Respiratory rate > 26/min](#))

OR Patient intubated

AND Tachycardia: ([Heart rate > 110 beats/min](#))

AND One of the following:

PaO₂/F_IO₂ < 280 [Arterial Blood Gas Report]

OR Use of 40% Ventimask

OR Anion gap: [> 14](#)

OR Acidosis: ([Decreased: Blood pH < 7.325](#))

OR Anuria: ([Urine output < 100 mL/24 hr](#))

[OR < 1mL/kg/24h for children < 16 years old](#)

OR Hypotension: ([Systolic blood pressure < 90 mmHg](#))

OR International normalized ratio (INR) [> 1.0](#)

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OR PTT [> baseline](#)

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OR Thrombocytopenia: ([Decreased: Platelet count, blood < 10x10³/μL](#))

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[OR Pregnant](#)

[AND Platelet count < 15x10³/μL](#)

OR Baseline platelet count drops 50% in 24 hours

OR Coma: ([Glasgow coma scale rating < 8](#))

[OR unresponsive to pain](#)

[AND unresponsive to verbal stimuli](#)

[AND unresponsive to tactile stimuli](#)

OR encephalopathy

[Quartin A et.al. JAMA 1997;277;1058-63](#)

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[Sands K et.al. JAMA 1997;278;234-240](#)

SGOT: See *Aspartate aminotransferase*

Shock:

Hypotension: ([Systolic blood pressure < 90 mmHg](#))

AND **Oliguria:** ([Urine output < 500 mL/24 h](#))

OR [Urine output < 30 mL/h](#)

OR [Pregnancy](#)

AND [Urine output < 500 mL/24 h](#)

OR **Anuria:** ([Urine output < 100 mL/24 hr](#))

OR [< 1mL/kg/24h for children < 16 years old](#)

OR [Newborn with poor peripheral perfusion](#)

AND [Capillary refill >2 seconds](#)

OR [Age < 16 years old](#)

AND [Systolic blood pressure < 50 mmHg](#)

AND [Urine output < 1 mL/kg/h](#)

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SGPT: *See Alanine aminotransferase*

Syndrome of inappropriate anti-diuretic hormone secretion (SIADH):

Serum osmolality > 300 mOsm/kg H₂O [\[chemistry report\]](#)

AND [Lethargy](#)

OR [Water load test positive for SIADH](#)

OR **Hyponatremia:** ([Decreased: Serum sodium < 133 mEq/L](#))

Tachycardia:

[Heart rate > 110 beats/min for adults](#)

Tachypnea:

[Respiratory rate > 26/min for adults](#)

Temperature: *See Fever, Hypothermia*

Tetanus:

[Tetanospasmin and tetanolysin \[chemistry report\]](#)

An acute, often fatal, infection caused by the *C. tetani* from infected tissue

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anaerobe *Clostridium tetani*. The bacteria produce two toxins¶
tetanospasmin and tetanolysin. ¶
Isolation of

Thiamine, blood or urine:

Decreased (deficiency): blood < 1.7 µg/dL [\[chemistry report\]](#)

urine < 50 µg/d [\[urine chemistry report\]](#)

Reference ranges: blood 2.5 - 7.5 µg/dL

urine ≥ 100 µg/d

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Thrombocytopenia:Decreased: Platelet count, blood < 10 x 10³/μL [\[CBC report\]](#)

OR Pregnant

AND Platelet count < 15 x 10³/μLReference range: 150 - 400 x 10³/μL**Thrombocytosis:**Increased platelet count, blood > 500 x 10³/μL [\[CBC report\]](#)Reference range: 150 - 400 x 10³/μL**Thyroid stimulating hormone (TSH), serum:**

Reference ranges: 1-4 days 1.0 – 39 μU/mL

21 - 54 y 0.4 - 4.2 μU/mL

55 - 87 y 0.5 - 8.9 μU/mL

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 . Also decreased in pituitary hypothyroidism¶
 . Increased in hypothyroidism: > 12 μU/mL¶

Thyroxine, total, serum (T₄):

Reference ranges: Adult Male 4.6 - 10.5 μg/dL

Adult Female Cord 7.4 – 13.0 ng/dL

1-3 days 11.8 – 22.6

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 . Female > 12.4 μg/dL¶
 . Decreased: Male < 3.1 μg/dL¶
 . Female < 4.1 μg/dL¶

Thyroxine, free, serum (FT₄):

Reference range: 0.8 - 2.7 ng/dL

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 . Decreased: < 0.3 ng/dL¶

Thyroxine, free, index (FT₄I):Reference range: FT₄index 4.2 - 13.0FT₄I = Total T₄ x Thyroid hormone binding ratio (THBR)

$$\text{THBR} = \frac{[\% \text{ T uptake (patient serum)}]}{[\% \text{ T uptake (reference serum)}]}$$

Toxoplasmosis:An infection with *Toxoplasma gondii* an intracellular parasite of humans and animals. The cat is the definitive host, while humans are the intermediate host.

Toxoplasmosis [Pathology report]

Serological tests positive

Triiodothyronine, total, serum (T₃):Increased: 20 - 50 y > 238 ng/dL [chemistry report]50 - 90 y > 216 ng/dL [chemistry report]Reference ranges: Cord 5 - 141 ng/dL1-3 days 100 – 740 ng/dL20 - 50 y 70 - 204 ng/dL50 - 90 y 40 - 181 ng/dL

Triiodothyronine, free, serum (T₃):

Increased: > 535 ng/dL [chemistry report]

Reference ranges: 260-480 ng/dL

Pregnancy: 211-383 ng/dL

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Increased: 20 - 50 y > 238 ng/dL
50 - 90 y > 216 ng/dL
Reference ranges: 20 - 50 y 70 - 204 ng/dL
50 - 90 y 40 - 181 ng/dL

Troponin I, cardiac specific, serum (cTnI):

Increased: > 10 µg/L [chemistry report]

Increases within 4 - 6 h after myocardial infarction

Reference range: < 10 µg/L

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Tuberculosis:

An infectious disease caused by the acid-fast bacterium *Mycobacterium tuberculosis*. Disease is also caused by other mycobacteria: *M. bovis*, *M. avium*, *M. kansasii* and *M. intracellulare*.

Tuberculosis [x-ray report]

AND Acid-fast bacilli present [gram stain report]

OR *M. tuberculosis* [culture report]

Turner's syndrome:

Genotype Turner's syndrome [Cytogenetics report]

Sexual karyotype is XO, but some patients are mosaics, with XO/XX,

XO/XXX or XO/XY being most common

Unsaturated vitamin B₁₂ binding capacity: See *Vitamin B₁₂ binding capacity, unsaturated*

Urinary Tract Infection (UTI):

Urine infected with ≥ 100,000 cfu/mL
[culture from freshly voided 'clean catch' urine]

AND Pyuria

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UTI: See *urinary tract infection*

Viscosity, serum:

Increased: ≥ 1.25 cP

Reference range: 1.00 - 1.24 cP

Relative to water at 37° C

Vitamin A, serum:

Decreased: < 10 µg/dL [chemistry report]

Reference range: 30 - 80 µg/dL

Vitamin B₁₂, serum:

Decreased: < 100 pg/mL [chemistry report]

Reference range: 200 - 835 pg/mL

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Vitamin B₁₂ binding capacity, unsaturated, serum:

Increased: > 1600 pg/mL [\[chemistry report\]](#)

Reference range: 600 - 1400 pg/mL

Vitamin D, serum:

Decreased: < 4 pg/mL [\[chemistry report\]](#)

Reference range: 16 - 65 pg/mL

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White cell count (WBC): *See Leukocytosis count*

D-Xylose test:

Decreased (malabsorption):

Urinary excretion (25 g dose) < 4.0 g/5 h

Reference range: Adult, 25 g dose, > 4.0 g/5 h