Module 6 – Health Classification Systems - ICD-10 Morbidity Coding

Note to users:

Exercises in this reference book have been developed for use with the ICD-10 (International Classification of Diseases - Tenth revision), Fifth edition, 2016.

To assist the user, the following instructional symbols have been used to highlight important points:

 indicates extra reading is required

 indicates an important point to remember

 indicates reading the relevant section of the classification is required to assist in understanding.

Every effort has been made to include the most current information in this reference book at the time of printing. However, it must be noted that clinical classification is dynamic and there are continuous changes.

This textbook is designed to provide a basic understanding of how to code diseases using ICD-10.

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Module 1

Introduction to clinical classification

Brief history of WHO Classifications

In 1891 an international body formed to establish a common system for identifying causes of death that would be applicable to all countries. It became known as the Bertillon Classification. Its roots stem from the London Bills of Mortality (16th century) and William Farr's Classification of Causes of Death (1830s to 1880s).

The World Health Organization (WHO) took over the role of maintenance of this classification in 1946 and in 1948 the classification took on a name change and became known as the *Manual of International Statistical Classification of Diseases, Injuries and Causes of Death* or in short ICD-6. Further Editions of ICD produced by the WHO include ICD-7 (1955), ICD-8 (1965), ICD-9 (1977) and ICD-10 (1992).

Many countries use ICD-10 for mortality classification, and some countries use it for both mortality and morbidity reporting.

Additionally some countries have produced modifications of the WHO ICD to provide greater specificity for morbidity classification at a national level.

Derivations of ICD-10 currently include:

ICD-10-AM (Australian modification)

ICD-10-CA (Canadian modification)

ICD-10-CM (US modification)

ICD-10-GM (German modification)

A version of ICD-11 was released on 18 June 2018 to allow Member States to prepare for implementation, including translating ICD into their national languages. ICD-11 will be submitted to the 144th Executive Board Meeting in January 2019 and the 72nd World Health Assembly in May 2019 and, following endorsement, Member States will start mortality reporting using ICD-11 on 1 January 2022. Historically, ICD was based on mortality logic and use, but has been progressively used and adapted in various countries for morbidity use. ICD-11 was developed to address many uses including mortality, morbidity, primary care, epidemiology, research, quality and safety and casemix.

The structure of ICD-11 is different from that of ICD-10; in that ICD-11 has a basis in *The Foundation* which is a core comprehensive library of all ICD entities, and contains all codes for the classification; but users will be able to use 'fit for purpose' code sets called 'linearizations' or 'Tabular Lists', for example the ICD-11 for *Mortality and Morbidity Statistics (MMS)*. ICD-11 has also been developed for a primarily digital environment, with the ability to then use linked data from different sources.


Look at the Browser, Coding Tool and Reference Guide for ICD-11 MMS Version 04/2019 which is located https://icd.who.int/browse11/l-m/en

In 1978, the WHO published the first international classification of procedures for use with ICD-9. It was called the *International Classification of Procedures in Medicine* (ICPM). It was built from procedure classifications used in the US (CPT), Canada (Schedule of Unit Values and Ontario Medical Association list of fees) and France (Nomenclature des actes professionels).

In the following years, obtaining consensus for an international intervention classification proved to be very difficult and the WHO did not produce an intervention classification to accompany ICD-10.

WHO and the WHO Family of International Classifications Network (WHO-FIC) Network have been developing the International Classification of Health Interventions (ICHI) since 2007. The aim is to meet a number of use cases including international comparisons, providing a classification for countries that lack one, and supplying additional content for countries that have a national classification focused on medical and surgical interventions.

ICHI covers all parts of the health system, and contains a wide range of new material not found in national classifications. It describes health interventions using the three axes of Target, Action and Means. Users may choose to record a range of additional information using extension codes.

ICHI currently contains around 8,000 items. A second beta version was released in mid-October 2018 Planned field trials are to be undertaken in mid-2019 and completion of ICHI is scheduled for October 2019 WHO-FIC Annual Meeting. It is envisaged that approval by the World Health Assembly will be sought by WHO in 2020.


Look at the browser for ICHI Beta-2 2018 which is located https://mitel.dimi.uniud.it/ichi/


Further information can be found in ICD-10 Volume 2 (Instruction Manual) pages 191-202.

What is clinical classification?

The clinical information contained in a patient's health record is of no value to medical science if it remains stored within a record without means of retrieval. The comparison of health care data between facilities, states, within a country or between countries is vital to the growth and dissemination of medical information throughout the world. This possible sharing is meaningless, however, without the use of standardised identification and disease classification systems.

The purpose of a classification system poses problems in disease classification. There are many potential users of disease classification data and the needs of some of the users are often in conflict.

Within the hospital setting, data on diseases and operations is used by health record and health information professionals to meet the needs of medical researchers, health planners, statisticians, clinicians, funders and epidemiologists. For these purposes, a classification system which is highly specific is desirable, because if there are too many diseases grouped under the one code number, then a larger number of records in the file room will have to be checked to locate those records with the disease under study.

On the other hand, the health care planners such as national health authorities and the World Health Organization (WHO) use disease classification data for statistics, demographic and epidemiological studies. For these uses it is desirable to group diseases because highly specific classification systems are too large for meaningful statistical analysis.

When the classification system is to be used by hospitals and also for statistical collections, these competing needs must be reconciled.

The basic function of the International Statistical Classification of Diseases and Related Health Problems (ICD) is the classification of diseases, injury and cause of death for statistical purposes. The World Health Organization (WHO) actively promotes use of the classification in order that the experiences of different countries of the world can be recorded in a similar manner and compared reliably.

The International Classification of Diseases is a comprehensive classification for both morbidity and mortality reporting purposes. It is published by the WHO following international revision conferences held approximately every ten years. The Tenth Revision was published in 1992 and has three volumes.

Purposes and uses of health classifications

The purpose of the ICD is to permit systematic recording, analysis, interpretation and comparison of mortality and morbidity data collected in different countries or areas and at different times. The ICD is used to translate diagnoses of diseases and other health problems from words into an alphanumeric code, which permits easy storage, retrieval and analysis of the data.

ICD is the foundation for the identification of health trends and statistics globally, and the international standard for reporting diseases and health conditions. It is the diagnostic classification standard for all clinical and research purposes. ICD defines the universe of diseases, disorders, injuries and other related health conditions, listed in a comprehensive, hierarchical fashion that allows for:

- easy storage, retrieval and analysis of health information for evidenced-based decision-making;
- sharing and comparing health information between hospitals, regions, settings and countries; and
- data comparisons in the same location across different time periods.

Uses include monitoring of the incidence and prevalence of diseases, observing reimbursements and resource allocation trends, and keeping track of safety and quality guidelines. They also include the counting of deaths as well as diseases, injuries, symptoms, reasons for encounter, factors that influence health status, and external causes of disease.

For further information on the purpose and use of health classifications refer to ICD-10 Volume 2 (Instruction Manual) pages 3-12.

Structure of the ICD-10

The International Statistical Classification of Diseases and Related Health Problems, Tenth Revision (ICD-10)

The basic ICD is a single coded list of three-character categories, each of which can be further divided into up to 10 four-character subcategories. The 10th revision uses an alphanumeric code with a letter in the first position and a number in the second, third and fourth positions. The fourth character follows a decimal point. Possible code numbers therefore range from A00.0 to Z99.9. Codes U00–U49 are used by WHO for the provisional assignment of new diseases of uncertain etiology. Currently, there are codes to capture severe acute respiratory syndrome (SARS) and bacterial agents resistant to antibiotics.

The ICD is a variable-axis classification. The statistical data on diseases is grouped in the following way:

• epidemic diseases

• constitutional or general diseases

• local diseases arranged by site

• developmental diseases

• injuries.

The first two, and the last two, of the groups listed above are termed ‘special groups’ that bring together conditions that would be inconveniently arranged for epidemiological study were they to be scattered, for instance in a classification arranged primarily by anatomical site. The remaining group, ‘local diseases arranged by site’, includes the ICD chapters for each of the main body systems.

The distinction between the ‘special groups’ chapters and the ‘body systems’ chapters has practical implications for understanding the structure of the classification, for assigning codes from it, and for interpreting statistics based on it. It has to be remembered that, in general, conditions are primarily classified to one of the ‘special groups’ chapters. Where there is any doubt as to where a condition should be positioned, the ‘special groups’ chapters should take priority.

For further information on the structure of the classification refer to ICD-10 Volume 2 (Instruction Manual) pages 14-18.

ICD-10 comprises three volumes: Volume 1 contains the main classifications; Volume 2 provides instruction and guidance to users of the ICD; and Volume 3 is the Alphabetical Index to the classification.

ICD-10

Volume 1 is the Tabular list, which is an alphanumeric listing of diseases and disease groups, along with inclusion and exclusion notes and some classification rules.

Volume 2 was a new innovation in ICD-10 and provides:

• an introduction to and instructions on how to use volumes 1 and 3

• guidelines for certification and rules in Mortality coding

• guidelines for classification of Morbidity conditions

Volume 3 is the comprehensive Alphabetical Index of the diseases and health related conditions found in the Tabular list.

TABULAR LIST

The ICD-10 Tabular List consists of 22 chapters, each of which is identified by a Roman Numeral i.e. I, II, III, IV, V etc., each containing a range of alphanumeric codes. Each chapter's codes are allocated a specific letter and are in alphabetical order; except for Chapter 22, which uses the letter U and is last in the classification.

Using an alpha character at the beginning of the code has allowed for 2,600 available 3 character codes. This in turn allows for a large number of 4 character subcategories. Each 3 character code can have up to 10 subcategories. Some codes have optional fifth characters to add even greater specificity to the code.

A majority of the chapters in the Tabular List are organised by body system (e.g. Chapter VII *Diseases of the eye and adnexa*). However, six chapters are known as special group chapters. These chapters contain conditions that do not fit into one specific body system. They focus on a particular type of condition that may often affect more than one anatomical site. These chapters support aggregation of data where it would be inconvenient for epidemiological study to have them scattered in a classification primarily organised by anatomical site.

The ICD-10 special group chapters are:

- Chapter I *Certain infectious and parasitic diseases*
- Chapter II *Neoplasms*
- Chapter XV *Pregnancy, childbirth and the puerperium*
- Chapter XVI *Certain conditions originating in the perinatal period*
- Chapter XVII *Congenital malformations, deformations and chromosomal abnormalities*
- Chapter XIX *Injury, poisoning and certain other consequences of external causes*

There are also four other chapters within the Tabular List that are not based on body systems nor considered as special group chapters:

- Chapter XVIII *Symptoms, signs and abnormal clinical and laboratory findings not elsewhere classified*
- Chapter XX *External causes of morbidity and mortality*
- Chapter XXI *Factors influencing health status and contact with health services*
- Chapter XXII *Codes for special purposes*

The number of categories assigned to a chapter is influenced by the number of diseases and conditions that fall within the scope of the chapter.

Fourteen of the chapters have a single letter assigned to them and use most of the 100 categories available. For example, Chapter XI contains codes ranging from K00 to K93. The codes K94 to K99 have not been used at this stage and are available for future expansion of the classification.

Three chapters have a smaller range of categories assigned to them and share letters. For example, Chapter VII *Diseases of the eye and adnexa* has code range H00-H59 and Chapter VIII *Diseases of the ear and mastoid process* has code range H60-H95.

Four chapters use more than one letter in defining categories.

The chapters using more than one letter are:

Chapter I	*Certain infectious and parasitic diseases*	A,B
Chapter II	*Neoplasms*	C,D
Chapter XIX	*Injury, poisoning and certain other consequences of external causes*	S,T
Chapter XX	*External causes of morbidity and mortality*	V,W,X,Y

Look at titles of the chapters of the ICD-10. The chapter titles indicate that the conditions included are wide ranging, therefore a large number of codes are required to classify all the conditions.

BLOCKS

Each chapter has been divided into blocks. The blocks are then divided into three, four and five character categories.

Have a look at pages 33-95 of ICD-10 Volume 1 (Tabular List) – the titles in bold type indicate the block titles.

THREE CHARACTER CATEGORIES

Some blocks have three character categories for single conditions. Other blocks contain groups of diseases. Where there are no fourth characters listed under a three character code in the tabular list, this indicates that the three character code is complete by itself.

FOUR CHARACTER CATEGORIES

These are not mandatory for reporting at the international level but the use of fourth characters adds detail and specificity to the coded data. The use of fourth characters allows up to ten subcategories to a three character code.

OPTIONAL FIFTH CHARACTERS

In ICD-10, WHO has included the option of using fifth characters on some codes to give even greater specificity to the codes. Use of these characters is not mandatory for international reporting and the decision to use them may be made at the national, state or Ministry of Health level or at the hospital level for particular research collections.

Have a look at pages 562-563 of Volume 1 (Tabular List) – there are optional codes for the site of musculoskeletal involvement that can be used with categories in Chapter XIII.

CONVENTIONS

The ICD-10 Tabular List (Volume 1) makes use of certain abbreviations, punctuation, symbols and instructional terms which must be clearly understood. These are referred to as the *coding conventions*.

Inclusion Terms

Within the three and four character rubrics there are usually listed a number of other diagnostic terms. These are known as "inclusion terms" and are given as examples of diagnostic statements to be classified to that rubric or code. They may refer to different conditions or be synonyms. They are not a subclassification of the rubric. They are to be used as a guide to the content of the rubric, keeping in mind that the list is not exhaustive.

For example, code G91 *Hydrocephalus* includes acquired hydrocephalus. This means that acquired hydrocephalus is an inclusion term because, although the term acquired hydrocephalus is not part of the code title, the diagnosis is classified to G91.

Exclusion Terms

Certain rubrics contain lists of conditions preceded by the word "Excludes".These terms are to be classified elsewhere, not within this category as the code may suggest. The correct code that should be assigned is in parentheses following the term.

For example, code Q74 *Other congenital malformations of limb(s)* excludes polydactyly (Q69.-), reduction defect of limb (Q71-Q73), syndactyly (Q70.-) This means that, although polydactyly, reduction defect of limb and syndactyly are all congenital malformations of the limbs, they are not classified to Q74. Each has its own code number.

Glossary descriptions

Chapter V *Mental and behavioural disorders*, uses glossary descriptions to indicate the content of rubrics within this chapter. This device is used because the terminology of mental disorders varies greatly, particularly between different countries and the same name may be used to describe quite different conditions. The glossary is not intended for use by coders to make a diagnosis but is intended as a guide for clinicians to indicate the content of the rubric.

The Dagger and Asterisk system

Within ICD-10 is the functionality to create combinations of codes through attachment of daggers (†) and asterisks (*), thus allowing the description of a condition in terms of its underlying cause or aetiology (†) and current manifestation (*). This enables a better description of the medical care given and resources used in its treatment to be given.

Two codes are assigned for diagnostic statements which contain information about both an underlying generalised disease and a manifestation in a particular organ or site which is a clinical problem in its own right.

The primary code is for the underlying disease and is marked with a dagger (†). An optional code for the manifestation is marked with an asterisk (*).

It is a basic principle of the ICD that the dagger code is the primary code and must always be assigned for single condition coding. An asterisk code should never be assigned alone.

There are 83 asterisk categories in ICD-10 which may be assigned in conjunction with a dagger code, but must not be assigned alone. Asterisk categories are listed at the beginning of each chapter, block and rubric where appropriate.


Have a look at page 347 to see the asterisk categories which are included in the nervous system chapter.

When you look at the dagger codes in the tabular list, there are three forms in which they appear:

1. Where both the dagger (†) and the asterisk (*) codes appear in the rubric heading – this means that all terms classifiable to that rubric are subject to the dual classification and have the same asterisk code

For example: A17.0† *Tuberculous meningitis* (G01*)

2. Where the dagger (†) appears in the rubric heading but the asterisk (*) does not – this means that all codes in the rubric are subject to the dual classification but the asterisk codes are different. The appropriate asterisk codes will be listed for each dagger code.

For example: A18.0† *Tuberculosis of bones and joints*

Tuberculosis of:

- hip (M01.1*)
- knee (M01.1*)
- vertebral column (M49.0*)

3. Where neither the dagger (†) nor the asterisk (*) code appear in the code title, the whole rubric is not subject to the dual classification but individual inclusion terms may be. In this case the relevant inclusion terms are marked with the dagger symbol and their corresponding asterisk codes are also given in round brackets.

For example: A54.8 *Other gonococcal infections*

Gonococcal:

- brain abscess† (G07*)
- endocarditis† (I39.8*)
- meningitis† (G01*)

Hints:

(a) When does the dagger/asterisk system apply?

(i) When the manifestation represents a medical care problem in its own right (that is, not just a symptom); and

(ii) the manifestation is treated by a specialty different from the one which would treat the underlying cause; and

(iii) the information is contained in the one diagnostic phrase.

For example:

Diabetic	Cataract
E14.3†	H28.0*
Treated by physician	Treated by ophthalmologist

or, when the manifestation category is subdivided according to cause. For example, Glaucoma in Rieger's anomaly Q13.8† *Other congenital malformations of anterior segment of eye* H42.8**Glaucoma in other diseases classified elsewhere*

(b) When does the convention not apply?

(i) When two aspects of the diagnosis are not usually combined in the one diagnostic phrase; and

(ii) when the classification of the manifestation is not dependent on its cause. For example, anemia as a consequence of another disease.

(iii) where the manifestation is an intrinsic part of the basic disease. For example, gonococcal urethritis. Urethritis is an intrinsic part of the disease so the code assigned is A54.0 *Gonococcal infection of lower genitourinary tract without periurethral or accessory gland abscess*.

(iv) diseases which ICD has always classified according to the manifestation. For example, anemia due to enzyme defect has always been classified to the manifestation, the anemia.

The dagger and asterisk codes are both given in the ICD-10 Volume 2 (Alphabetical Index) at the etiology (or dagger) entry and at the manifestation (or asterisk) entry.

The dagger or asterisk may be given in the Alphabetical Index but not appear in the Tabular List at all.

The dagger code is the code assigned for single condition coding.

• Instructional Terms

In ICD-10 there are some occasions when the classification allows two codes to be assigned to fully describe a patient's condition. If you are classifying multiple conditions, and not just the principal diagnosis, you can follow these instructions. Terms such as 'Code also…'; 'Use additional code for any…'; 'Code also underlying disease…' and 'Use additional code to identify manifestation…' instruct the coder to assign a second code.

Certain types of punctuation have specific meaning in ICD-10-AM.

Parentheses ( )

Parentheses are used in four ways in Volume 1:

Parentheses are used to enclose:

1. nonessential modifiers (NEM) i.e. supplementary terms that follow a diagnostic term, but do not affect the code number to which it is assigned

I12	**Hypertensive kidney disease**
	Incl.: any condition in N00–N07, N18.-, N19 or N26 due to hypertension arteriosclerosis of kidney arteriosclerotic nephritis (chronic)(interstitial) hypertensive nephropathy nephrosclerosis
	Excl.: secondary hypertension (I15.-)

2. code(s) in *Excludes* notes and other *Instructional* notes/terms

J02.8 Acute pharyngitis due to other specified organisms
Use additional code (B95–B97), if desired, to identify infectious agent.
Excl.: pharyngitis (due to):
- enteroviral vesicular (B08.5)
- herpesviral [herpes simplex] (B00.2)
- infectious mononucleosis (B27.-)
- influenza virus:
  - identified (J09, J10.1)
  - not identified (J11.1)

3. the range of three character codes included in a chapter or block

CHAPTER IX

DISEASES OF THE CIRCULATORY SYSTEM (I00–I99)

HYPERTENSIVE DISEASES

(I10–I15)

4. the dagger code in an asterisk category or the asterisk code following a dagger term.

A32.1† Listerial meningitis and meningoencephalitis
Listerial:
- meningitis (G01*)
- meningoencephalitis (G05.0*)

G01* Meningitis in bacterial diseases classified elsewhere
Meningitis (in):
- anthrax (A22.8†)
- gonococcal (A54.8†)
- leptospirosis (A27.-†)
- listerial (A32.1†)

Square brackets [ ]

Square brackets are used:

1. For enclosing synonyms, alternative words or explanatory phrases.

e.g. A84.0 *Far Eastern tick-borne encephalitis [Russian spring-summer encephalitis]*

2. For referring to notes.

e.g. C21.8 *Overlapping lesion of rectum, anus and anal canal*

[see note 5 at the beginning of this chapter]

3. For referring to a previously stated set of fourth character subdivisions common to a number of categories.

e.g. F10.- *Mental and behavioural disorders due to use of alcohol*

[see before F10 for subdivisions]

Colon :

The colon [:] is used in listings of inclusion and exclusion terms when the words that precede it are not complete terms for assignment to that rubric.

In other words, the words require one or more of the modifying or qualifying words indented under the lead terms before they can be assigned to the rubric. The coder must search the list of modifiers and be able to complete the term with one of these modifiers before assigning that code.

e.g. G71.0 *Muscular dystrophy*

Muscular dystrophy:

• autosomal recessive, childhood type, resembling Duchenne or Becker

• benign [Becker]

• distal

…

To be assigned to this code, the muscular dystrophy must be described as autosomal recessive muscular dystrophy, benign muscular dystrophy or distal muscular dystrophy.

Brace }

A brace is used in listings of inclusion and exclusion terms to indicate that neither the words that precede it nor the words after it are complete terms. In other words, any of the terms before the brace should be qualified by one or more of the terms that follow it.

e.g. I24.0 *Coronary thrombosis not resulting in myocardial infarction*

Coronary (artery)(vein):

• embolism }

• occlusion } not resulting in myocardial

• thromboembolism } infarction

This means that, for assignment to this code, the diagnosis must be coronary artery or vein embolism not resulting in myocardial infarction, or coronary artery or vein occlusion not resulting in myocardial infarction or coronary artery or vein thromboembolism not resulting in myocardial infarction.

NOS

NOS is an abbreviation for 'not otherwise specified', implying 'unspecified' or 'unqualified'. Coders should be careful not to classify a term as unqualified unless it is quite clear that no information is available that would permit a more specific assignment elsewhere.

e.g. K14.9 *Disease of tongue, unspecified*

Glossopathy NOS

Not elsewhere classified

NEC stands for not elsewhere classified. When used in a three character category title, NEC serves as a warning that certain specified variants of the listed conditions may appear in other parts of the classification.

e.g. K73 *Chronic hepatitis, not elsewhere classified*

This means that there are more specific codes for forms of chronic hepatitis, such as K70.1 *Alcoholic hepatitis*, or K71.- *Toxic liver disease*. If you are classifying a particular type of chronic hepatitis for which there is no more specific code, you can use the NEC category.

"And" in titles

In ICD-10, "and" stands for "and/or".

e.g. S49.9 *Unspecified injury of shoulder and upper arm* means unspecified injury of shoulder or unspecified injury of upper arm or unspecified injury of shoulder and upper arm.

Point dash .-

When used as a replacement for the fourth character of a subcategory, a point dash [.-] indicates to the coder that a fourth character exists and should be sought in the appropriate category in the Tabular list.

e.g. D59.1 *Other autoimmune haemolytic anaemias*

Excludes haemolytic disease of fetus and newborn (P55.-)

VOLUME 3 – THE ALPHABETICAL INDEX

Volume 3 is an Alphabetical Index to the Tabular List in Volume 1. It consists of:

• an Introduction, explaining the purpose of the Alphabetical Index, its general arrangement and conventions used in the Index

• Section I which is an alphabetic listing of terms relating to diseases, nature of injury, reasons for contact with health services and factors influencing a person's health

• Section II which is an alphabetic listing of external causes of injury, morbidity and mortality

• Section III which is an alphabetically arranged table of drugs and chemicals.

Index entries contain:

• Lead terms (usually nouns) to the far left of each column, in bold. They refer mainly to diseases or conditions.

• Modifiers at different levels of indentation to the right. They usually refer to varieties of sites or circumstances that affect classification. Modifiers which do not affect code assignment appear in parentheses ( ) after the condition. All modifiers appear in alphabetical order except "with" which always appears first.

e.g. to classify a bilateral inguinal hernia with gangrene and obstruction, firstly identify the lead term (hernia), then follow the series of indentations in the Alphabetical Index until all of the diagnosis description has been classified.

Hernia
- inguinal
- - bilateral
- - - with
- - - - gangrene (and obstruction) K40.1

• Code numbers follow the terms in the Alphabetical Index and may appear as a 3 character category or be subdivided with either the appropriate 4th character or a dash (.-). Where the dagger and asterisk system († and *) applies, both codes are given in the Index.

• If you cannot identify the lead term in the Alphabetical Index, there are a number of standard ways that codes can be found. Try using one of the following 'generic' lead terms:

disease
complication
syndrome
pregnancy
labour
delivery
puerperal
maternal condition, affecting fetus or newborn
injury
sequelae
suicide
assault (external causes of injury index)
legal intervention (external causes of injury index)
war operations (external causes of injury index)
counselling
observation
examination
history
problem
screening
status
vaccination

NOTE: American spelling is used throughout Volume 3, with cross-references wherever diphthongs appear at the beginning of a term (eg. Oesophag(o) - see Esophag(o)) However, in Volume 1 so-called English spelling is used. For example: look up

Haemochromatosis with refractory anaemia

in the Alphabetical Index and then in the Tabular List.

Always check the number of indents when following an index entry to make sure you are under the correct term.

Essential modifiers affect code selection; nonessential modifiers do not affect code selection.

CONVENTIONS USED IN VOLUME 3

1. Parentheses ( )

Parentheses are used in the same way as in Volume 1, to enclose non-essential modifiers.

e.g. **Dermatitis**

- due to
- - cosmetics (contact) L25.0

2. "NEC"

This abbreviation stands for "not elsewhere classified". It is used to indicate:

(i) that a term is being classified to a residual or unspecified category;

(ii) that a term is ill-defined, as a warning that specified forms of the conditions are classified elsewhere.

e.g. **Fever**

- hemorrhagic
- - viral
- - - specified NEC A98.8

3. Cross-references

Cross references are used to avoid unnecessary duplication of terms in the Alphabetical Index.

• "See" requires the coder to refer to another term as specified in the Alphabetical Index.

e.g. **Ingestion**
- chemical - see Table of drugs and chemicals

• "See also" directs the coder to refer elsewhere in the Alphabetical Index if the statement being classified contains other information that is not found indented under the term to which "see also" is attached.

e.g. **Injury** (see also specified injury type)

It is imperative that Volumes 1 and 3 be used together in assigning codes to accurately describe each clinical case - coders should not fall into the trap of coding straight from the Alphabetical Index or Tabular List alone.

Annotations found in ICD-10

Text Boxes

These indicate whether or not a code is valid.

A **black reverse text box** is used to indicate a three character code.

Example:

I38 **Endocarditis, valve unspecified**

This code is valid since there are no four character codes listed underneath this category.

However, code A17 is invalid. Listed under A17 are four codes all with fourth characters. These are all valid codes as demonstrated as having no box around them.

Example:

A17† **Tuberculosis of nervous system**

A17.0† Tuberculous meningitis (G01*)

Tuberculosis of meninges (cerebral)(spinal)

Tuberculous leptomeningitis

A17.1† Meningeal tuberculoma (G07*)

Tuberculoma of meninges

A17.8† Other tuberculosis of nervous system

Tuberculoma **|** of brain (G07*), spinal cord (G07*)

Tuberculosis **|**

Tuberculous:

- abscess of brain (G07*)
- meningoencephalitis (G05.0*)
- myelitis (G05.0*)
- polyneuropathy (G63.0*)

A17.9† Tuberculosis of nervous system, unspecified

REVIEW QUESTIONS

EXERCISE 1

Expand the following abbreviations:

1. ICD _____
2. WHO _____
3. NOS _____
4. NEC _____

EXERCISE 2

Underline the 'lead term' in each of the following diagnostic statements:

1. Fracture of neck of femur
2. Congestive cardiac failure
3. Bright's disease
4. Prostatic hypertrophy
5. Exfoliative dermatitis
6. Supervision of normal pregnancy
7. Delivery complicated by inversion of the uterus
8. Urethral stricture
9. Abscess of brain

EXERCISE 3

1. Identify the valid code:

C41 **Malignant neoplasm of bone and articular cartilage of other and unspecified sites**

Excl.: bones of limbs (C40.-)

cartilage of:

- ear (C49.0)
- larynx (C32.3)
- limbs (C40.-)
- nose (C30.0)

C41.0 **Bones of skull and face**

Maxilla (superior)
Orbital bone

Excl.: carcinoma, any type except intraosseous or odontogenic of:

- maxillary sinus (C31.0)
- upper jaw (C03.0)

jaw bone (lower) (C41.1)

(tick one) ☐ **C41** ☐ **C41.0**

2. Identify the valid code:

S82 **Fracture of lower leg, including ankle**

Incl.: malleolus

Excl.: fracture of foot, except ankle (S92.-)

S82.0 Fracture of patella

Knee cap

(tick one) ☐ **S82** ☐ **S82.0**

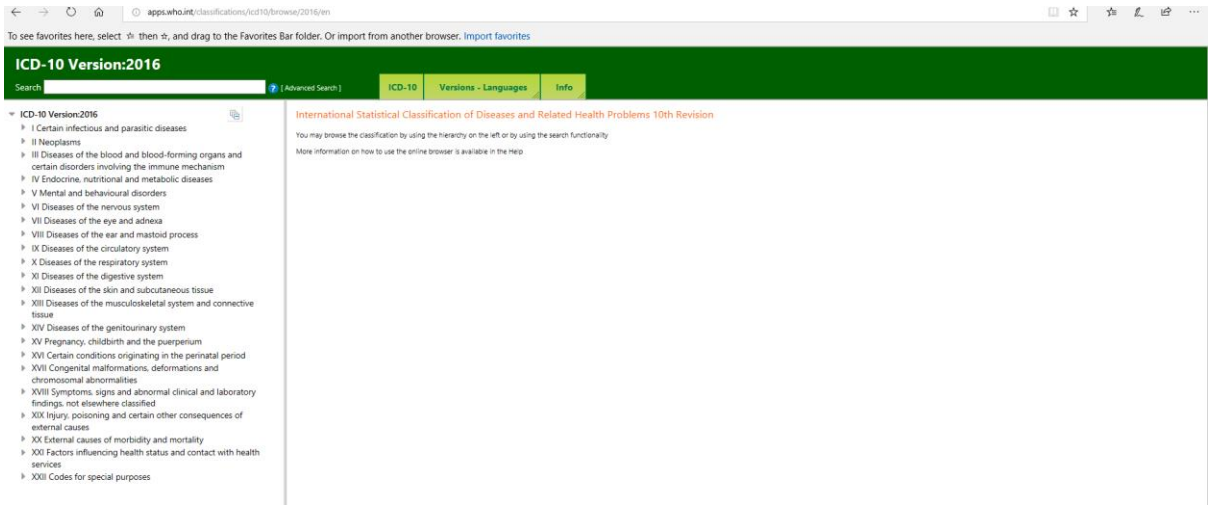
EXERCISE 4

Using the ICD-10 rules for the dagger and asterisk convention, classify the following conditions:

Meningococcal meningitis	
Arthropathy associated with ulcerative colitis	
Dendritic keratitis	
Mumps meningitis	
Syphilitic interstitial keratitis	
Waterhouse Friderichsen syndrome	
Salmonella osteomyelitis	
Gonococcal arthritis	
Tuberculous arthritis of hip	
Arthritis associated with paratyphoid B fever	
Cytomegaloviral pancreatitis	
Anthrax pneumonia	
Diplococcal meningitis	
Esophageal varices in alcoholic cirrhosis of the liver	
Cardiac glycogenosis	
Syphilitic aortic stenosis	
Epidemic vertigo	
Herpesviral meningoencephalitis	

ICD-10 Browser

The ICD-10 Browser (online ICD-10 version) can be accessed via the World Health Organization's website http://www.who.int/classifications/icd/en/



http://apps.who.int/classifications/icd10/browse/2016/en

How to assign a code using ICD-10

The WHO web-based ICD-10 Interactive Training Tool is available free of charge for those wishing to undertake training in ICD-10 http://apps.who.int/classifications/apps/icd/ICD10Training/.

The training tool is designed for self-learning and classroom use. The modular structure of this ICD-10 training permits user groups to have specific tailoring of courses on individual paths, if desired. Detailed information is given in the introduction of the tool, and in the user guide.

Basic coding guidelines

The Alphabetical Index contains many terms not included in Volume 1, and coding requires that both the Alphabetical Index and the Tabular List should be consulted before a code is assigned.

Before attempting to classify a clinical concept, the coder needs to know the principles of classification and coding, and to have undertaken formal training.

The following is a simple guide intended to assist the occasional user of the ICD.

1. Identify the type of statement to be classified and refer to the appropriate section of the Alphabetical Index. (If the statement is a disease or injury or other condition classifiable to Chapters I–XIX or XXI–XXII, consult Section I of the index. If the statement is the external cause of an injury or other event classifiable to Chapter XX, consult Section II.)

2. Locate the lead term. For diseases and injuries, this is usually a noun for the pathological condition. However, some conditions expressed as adjectives or eponyms are included in the Alphabetical Index as lead terms.

3. Read and be guided by any note that appears under the lead term.

4. Read any terms enclosed in parentheses after the lead term (these modifiers do not affect the code number), as well as any terms indented under the lead term (these modifiers may affect the code number), until all the words in the diagnostic expression have been accounted for.

5. Follow carefully any cross-references ('see' and 'see also') found in the Alphabetical Index.

6. Refer to the Tabular list to verify the suitability of the code number selected. Note that a three-character code in the Alphabetical Index with a dash in the fourth position means that there is a fourth character to be found in ICD-10 Volume 1 (Tabular List). Further subdivisions to be used in a supplementary character position are not indexed and, if used, must be located in Volume 1.

7. Be guided by any Instructional (eg inclusion or exclusion) notes under the selected code, or under the chapter, block or category heading.

8. Assign the code.

Refer to ICD-10 Volume 2 (Instruction Manual) pages 28-29.

Module 2

Introduction to Morbidity Coding using ICD-10

Sources of clinical data for morbidity coding

The health-care practitioner responsible for the patient's treatment should select the main condition to be recorded, as well as any other conditions, for each episode of health care. This information should be organized systematically by using standard recording methods. A properly completed record is essential for good patient management and is a valuable source of epidemiological and other statistical data on morbidity and other health-care problems.

Each diagnostic statement should be as informative as possible, in order to classify the condition to the most specific ICD category. Examples of such diagnostic statements include:

- transitional cell carcinoma of trigone of bladder
- acute appendicitis with perforation
- diabetic cataract, type 1
- meningococcal pericarditis
- antenatal care for pregnancy-induced hypertension
- diplopia due to allergic reaction to antihistamine taken as prescribed
- osteoarthritis of hip due to an old hip fracture
- fracture of neck of femur following a fall at home
- third-degree burn of palm of hand.

The coding function is composed of two parts:

- the analysis of the health record to determine what clinical concepts should be classified and
- the allocation of the correct code(s).

These two activities are not independent because a thorough review of the clinical record is necessary to identify documentation regarding the patient which may affect the selection and allocation of codes.

Which sections of the health record are analysed by the coder?

As a minimum:

• the front sheet

• the discharge summary

• progress notes

• operation report

• histopathology report for any tissue removed.

Other sections of the record which are useful in assigning the correct code include:

• pathology reports - for example to identify the bacteria or virus responsible for an infection - pneumonia, gastroenteritis

• imaging reports - for example to specify site of fracture

• progress notes - for example to determine the principal diagnosis if not clear on the front sheet or discharge summary

• previous admissions - for specificity of conditions i.e. the type of diabetes mellitus or morphology of a neoplasm.

How many codes should be assigned?

The level of detail to be classified and the number of codes assigned varies somewhat from hospital to hospital, and country to country. Large teaching hospitals often need to collect detailed information on the type of diseases for research, teaching and casemix payment. Small hospitals may choose to classify only the principal diagnosis or main condition on each admission.

As a minimum, the principal diagnosis or main condition should be classified. Most hospitals will also classify all diseases treated during the admission. For research purposes some hospitals will also classify diseases or health statuses which the patient has, even if these have not been treated during the admission.

Read the next section from ICD-10 Volume 2 regarding the selection of main condition. It is important to understand these rules because applying them correctly means that your coded data will be comparable to data coded in other hospitals or data collections in your own country and internationally.

The coding process (rules) for morbidity coding

The condition to be classified for single-condition morbidity analysis is the main condition treated or investigated during the relevant episode of health care.

> The main condition is defined as the condition, diagnosed at the end of the episode of health care, primarily responsible for the patient's need for treatment or investigation.

If there is more than one such condition, the one held most responsible for the greatest use of resources should be selected. If no diagnosis was made, the main symptom, abnormal finding or problem should be selected as the main condition.

In addition to the main condition, the record should, whenever possible, also list separately other conditions or problems dealt with during the episode of health care. Other conditions are defined as those conditions that coexist or develop during the episode of health care and affect the management of the patient. Conditions related to an earlier episode that have no bearing on the current episode should not be recorded.

By limiting analysis to a single condition for each episode, some available information may be lost. It is therefore recommended, where practicable, to carry out multiple-condition coding and analysis to supplement the routine data. This should be done according to local rules, since no international rules have been established. However, experience in other areas could be useful in developing local schemes.

Guidelines for coding 'main condition' and 'other conditions'

• **Coding of conditions to which the dagger and asterisk system applies**

If applicable, both dagger and asterisk codes should be assigned for the main condition, since they denote two different pathways for a single condition.

Example: Main condition: Measles pneumonia

Other conditions: —

Code to B05.2† *Measles complicated by pneumonia* and J17.1* *Pneumonia in viral diseases classified elsewhere*

Read examples 2 and 3 on page 150 (Volume 2 Instruction Manual)

• Coding of suspected conditions, symptoms and abnormal findings and non-illness situations

If the period of health care was for an inpatient, the coder should be cautious about classifying the main condition to Chapters XVIII and XXI. If a more specific diagnosis has not been made by the end of the inpatient stay, or if there was truly no codable current illness or injury, then codes from the above chapters are permissible (see also Rules MB3 and MB5 below). The categories can be used in the normal way for other episodes of contact with health services.

If, after an episode of health care, the main condition is still recorded as 'suspected', 'questionable', etc., and there is no further information or clarification, the suspected diagnosis must be classified as if established.

Category Z03 *Medical observation and evaluation for suspected diseases and conditions*, applies to suspected diagnoses that can be ruled out after investigation.

Example:	Main condition:	Suspected acute cholecystitis
	Other conditions:	—

Code to K81.0 *Acute cholecystitis* as 'main condition'.

Read examples 5 to 7 on page 151 (Volume 2 Instruction Manual).

• Coding of multiple conditions

Where multiple conditions are recorded in a category entitled 'Multiple ...', and no single condition predominates, the code for the 'Multiple ...' category should be used as the preferred code, and optional additional codes may be added for individual conditions listed. Such coding applies mainly to conditions associated with HIV disease, to injuries and sequelae.

• Coding of combination categories

The ICD provides certain categories where two conditions or a condition and an associated secondary process can be represented by a single code.

Such combination categories should be assigned as the main condition where appropriate information is recorded. The Alphabetical index indicates where such combinations are provided for, under the indent 'with', which appears immediately after the lead term. Two or more conditions recorded under 'main condition' may be linked if one of them may be regarded as an adjectival modifier of the other.

Example:	Main condition:	Renal failure
	Other conditions:	Hypertensive renal disease

Code to I12.0 *Hypertensive renal disease with renal failure* as the 'main condition'.

Read examples 9 to 12 on page 152 (Volume 2 Instruction Manual).

• Coding of external causes of morbidity

For injuries and other conditions due to external causes, both the nature of the condition and the circumstances of the external cause should be classified. The preferred 'main condition' code should be that describing the nature of the condition. This will usually, but not always, be classifiable to Chapter XIX. The code from Chapter XX indicating the external cause would be assigned as an optional additional code.

Example:	Main condition:	Fracture of neck of femur caused by fall due to tripping on uneven pavement
	Other conditions:	Contusions to elbow and upper arm

Code to S72.0 *Fracture of neck of femur* as 'main condition'. The external cause code for Fall on same level from slipping, tripping or stumbling, on street or highway (W01, place of occurrence 4) may be assigned as an optional additional code.

Read examples 14 to 16 on page 153 (Volume 2 Instruction Manual).

• Coding of sequelae of certain conditions

The ICD provides a number of categories titled 'Sequelae of ...' (B90– B94, E64.-, E68, G09, I69.-, O97, T90–T98, Y85–Y89), which may be assigned to indicate conditions no longer present as the cause of a current problem undergoing treatment or investigation. The preferred code for the 'main condition' is, however, the code for the sequela itself, to which the code for 'Sequelae of ...' may be added as an optional additional code.

Where a number of different very specific sequelae are present and no one of them predominates in severity and use of resources for treatment, it is permissible for the description 'Sequelae of ...' to be recorded as the 'main condition' and this may then be classified to the appropriate category. Note that it is sufficient that the causal condition is described as 'old', 'no longer present', etc., or the resulting condition, is described as 'late effect of ...', or 'sequela of ...' for this to apply. There is no minimum time interval.

Example:	Main condition:	Dysphasia from old cerebral infarction
	Other conditions:	—

Code to R47.0 *Dysphasia and aphasia* as the 'main condition'. The code for Sequelae of cerebral infarction (I69.3) may be assigned as an optional additional code.

Read examples 18 and 19 on page 154 (Volume 2 Instruction Manual).

• **Coding of acute and chronic conditions**

Where the main condition is recorded as being both acute (or subacute) and chronic, and the ICD provides separate categories or subcategories for each, but not for the combination, the category for the acute condition should be assigned as the preferred main condition.

Example: Main condition: Acute and chronic cholecystitis

Other conditions: —

Code to K81.0 *Acute cholecystitis* as the 'main condition'. The code for K81.1 *Chronic cholecystitis* may be assigned as an optional additional code.

Read example 21 on page 155 (Volume 2 Instruction Manual).

• **Coding of postprocedural conditions and complications**

Categories are provided in Chapter XIX (T80–T88) for certain complications related to surgical and other procedures, e.g. surgical wound infections, mechanical complications of implanted devices, shock, etc. Most body system chapters also contain categories for conditions that occur either as a consequence of specific procedures and techniques or as a result of the removal of an organ, e.g. postmastectomy lymphoedema syndrome, post-irradiation hypothyroidism.

Some conditions (e.g. pneumonia, pulmonary embolism) that may arise in the postprocedural period are not considered unique entities and are, therefore, classified in the usual way, but an optional additional code from Y83–Y84 may be added to identify the relationship to a procedure.

When postprocedural conditions and complications are recorded as the main condition, reference to modifiers or qualifiers in the Alphabetical Index is essential for choosing the correct code.

Example: Main condition: Hypothyroidism since thyroidectomy 1 year ago

Other conditions: —

Specialty: General medicine

Code to E89.0 *Postprocedural hypothyroidism* as the 'main condition'.

Read examples 23 and 24 on page 155-156 (Volume 2 Instruction Manual).

Rules for reselection when the main condition is incorrectly recorded

Rules MB1 to MB5 in ICD-10 Volume 2 (Instruction Manual) will help the coder to deal with some of the commoner causes of incorrect recording. The guidelines given next are for use when the coder

may be unclear as to which code should be assigned. It has been recommended that 'other conditions' in relation to an episode of care should be recorded in addition to the main condition, even for single-cause analysis, since this information may assist in choosing the correct ICD code for the main condition.

 Refer to ICD-10 Volume 2 pages 156 to 161.

Rule MB1 – Minor condition recorded as 'main condition', more significant condition recorded as 'other condition'

Where a minor or longstanding condition, or an incidental problem, is recorded as the 'main condition', and a more significant condition, relevant to the treatment given and/or the specialty that cared for the patient, is recorded as an 'other condition', reselect the latter as the 'main condition'.

Example:	Main condition:	Acute sinusitis
	Other conditions:	Carcinoma of endocervix
		Hypertension
		Patient in hospital for three weeks
		Procedure: Total hysterectomy
		Specialty: Gynaecology

Reselect carcinoma of endocervix as the 'main condition' and code to C53.0.

Rule MB2 – Several conditions recorded as 'main condition'

If several conditions that cannot be classified together are recorded as the 'main condition', and other details on the record point to one of them as the 'main condition' for which the patient received care, select that condition. Otherwise, select the condition first mentioned.

Example:	Main condition:	Cataract
		Staphylococcal meningitis
		Ischaemic heart disease
	Other conditions:	—
		Patient in hospital for five weeks
	Specialty:	Neurology

Select Staphylococcal meningitis as the 'main condition' and code to G00.3.

Rule MB3 – Condition recorded as 'main condition' is presenting symptom of diagnosed, treated condition

If a symptom or sign (usually classifiable to Chapter XVIII), or a problem classifiable to Chapter XXI, is recorded as the 'main condition' and this is obviously the presenting sign, symptom or problem of a diagnosed condition recorded elsewhere, and care was given for the latter, reselect the diagnosed condition as the 'main condition'.

Example:	Main condition:	Haematuria
	Other conditions:	Varicose veins of legs
		Papillomata of posterior wall of bladder
	Treatment:	Diathermy excision of papillomata
	Specialty:	Urology

Reselect papillomata of posterior wall of bladder as the 'main condition' and code to D41.4.

Rule MB4 – Specificity

Where the diagnosis recorded as the 'main condition' describes a condition in general terms, and a term that provides more precise information about the site or nature of the condition is recorded elsewhere, reselect the latter as the 'main condition'.

Example:	Main condition:	Cerebrovascular accident
	Other conditions:	Diabetes mellitus
		Hypertension
		Cerebral haemorrhage

Reselect cerebral haemorrhage as the 'main condition' and code to I61.9.

Rule MB5 – Alternative main diagnoses

Where a symptom or sign is recorded as the 'main condition', with an indication that it may be due to either one condition or another, select the symptom as the 'main condition'. Where two or more conditions are recorded as diagnostic options for the 'main condition', select the first condition recorded.

Example:	Main condition:	Headache due to either stress and tension or acute sinusitis
	Other conditions:	—

Select Headache as the 'main condition' and code to R51.

Chapter by Chapter Morbidity Coding Exercises

CERTAIN INFECTIOUS AND PARASITIC DISEASES (Chapter I)

The purpose of this chapter is to group most of the "communicable" or "transmissible" diseases. Categories in the chapter range from A00-B99, making it one of the largest chapters in the ICD-10. The word ‘certain’ in the chapter title indicates that there are some infectious conditions classified in other chapters. These are exclusions found at the chapter level.

Review the Exclusions on page 99 of the ICD-10 Volume 1 (Tabular List).

Note: that there are no asterisk codes in this chapter, but there are a number of dagger codes that indicate the availability of an asterisk code from another chapter. This is because certain diseases may be caused by an underlying infectious process.

A ‘default’ rule exists in ICD-10 in relation to the presumption of infectious or noninfectious origin of diarrhoea and gastroenteritis. This default applies where there is no specification as to whether the diarrhoea or gastroenteritis is infectious or non-infectious.

If the diarrhoea is documented as presumed to be non-infectious, it should be classified to K52.9 (in the Diseases of the Digestive System chapter).

If the diarrhoea is documented as presumed infectious or not clearly documented as ‘noninfectious’, it is classified to Chapter I.

Block B20-B24 *Human immunodeficiency virus [HIV] disease*

The fourth characters in this block of codes have been provided for optional use when it is not possible to multiple code. They allow the coding of HIV disease resulting in infectious and parasitic diseases, malignant neoplasms, other and unspecified diseases.

If codes from other chapters are assigned to indicate the manifestation of the HIV disease, codes in the B20-B24 block need only be assigned at the 3 character level.

Note: that some patients with HIV or exposure to HIV do not have active HIV infection. These patients are not classified to Chapter I but to one of the following codes:

Z21 *Asymptomatic human immunodeficiency virus [HIV] infection status*

Z20.6 *Contact with and exposure to human immunodeficiency virus [HIV]*

R75 *Laboratory evidence of human immunodeficiency virus [HIV]*

Block B95-B98 has been designed for identifying the organism or agent responsible for an infectious disease, where the disease is classified elsewhere.

These codes are not to be assigned for primary coding or as a principal diagnosis or main condition (Volume 2 Instruction Manual page 163)

Refer to ICD-10 Volume 2 (Instruction Manual) pages 162 to 163 for main condition rules relating to this chapter.

Please classify the following conditions relating to this chapter.

REVIEW QUESTIONS

EXERCISE 5

Functional diarrhea	
Tuberculous pneumonia (Tubercle bacilli found in sputum by microscopy)	
Murray Valley encephalitis	
Streptococcal sepsis	
Malaria	
Acute gastroenteritis	
Rotaviral enteritis	
Typhoid Fever	
Viral hepatitis chronic type C	
Pulmonary actinomycosis	
Urinary tract infection. MSU positive for pseudomonas.	
Congenital staphylococcal pneumonia	

NEOPLASMS (Chapter II)

This chapter classifies neoplasms and includes all neoplasms regardless of behavior e.g. whether they are benign or malignant.

ICD-10 Volume 1 (Tabular List) contains some special notes regarding neoplasms. The first note describes the layout of the chapter into sections according to the nature of the growth. The major sections are:

Malignant neoplasms (primary and secondary)

Carcinoma in situ

Benign neoplasms

Neoplasms of uncertain or unknown behaviour

a) **Guidance for classification of Neoplasms**

A special section is provided in Volume 3 to enable quick reference to this chapter. This special listing begins under the heading “Neoplasm, neoplastic”. Specific sites are listed in alphabetical order with codes listed under five columns corresponding to the four major sections of the chapter. To classify a benign neoplasm of the bladder, locate bladder in the neoplasms table and assign the code from the benign column D30.3. Verify this code in ICD-10 Volume 1 (Tabular List).

This neoplasm table is only useable if the coder knows which column to consult. Where the necessary information regarding the behaviour of the neoplasm is not documented the coder must take two steps to locate the code in ICD-10 Volume 3 (Alphabetical Index). For example - Adenocarcinoma of the rectum:

Step 1

Locate the lead term Adenocarcinoma in Volume 3. The coder is directed to "see also Neoplasm, malignant".

Step 2

Consult the list of neoplasms, locate the site ‘rectum’ (page 463) and assign the code from the malignant column as instructed in Step 1. Adenocarcinoma of the rectum is classified to C20. (Remember to verify this code in ICD-10 Volume 1 (Tabular List), and also apply any Instructional Notes).

b) **Morphology Codes**

A coding system to designate the morphologic type of neoplasms is provided in Volume 1. These are called 'M codes'. M codes consist of prefix M and 4 digits which identify the histological type of the neoplasm and an additional digit (separated by /) which indicates the behavior of the neoplasm. Note the introduction to the morphology section in Volume 1. Special notice should be taken of the last paragraph. If more than one qualifying adjective is applicable, assign the higher number.

The morphology of neoplasms is classified using the *International classification of diseases for oncology* (ICD-O). For those countries interested in utilising morphology (M) codes the lists are available from the WHO website (www.who.int/classifications).

Functionally Active Neoplasms

Neoplasms which are functionally active duplicate the function of the parent cell from which they were derived. A special note in ICD-10 Volume 1 (Tabular List) indicates that where a neoplasm is functionally active, an additional code is required to indicate the functional activity. For example, Adenoma of pancreas with hyperinsulinism is classified to D13.6 *Benign neoplasm of other and ill-defined parts of the digestive system, pancreas* and E16.1 *Other hypoglycaemia*.

Overlapping Neoplasms

Note 5 in ICD-10 Volume 1 (Tabular List) refers to a single neoplasm which overlaps two or more categories or subcategories. The note does not refer to multiple sites or metastases. Three cases are distinguished:

(i) if point of origin known code that,
(ii) if point of origin not known or neoplasm overlaps two or more subcategories within a three character category code to .8 or
(iii) neoplasm overlaps two or more three character categories code to the designated subcategory for example C02.8 or C26.8.

Read note 5 on page 166 of Volume 1 (Tabular List)

Refer to pages 165-167 of Volume 1 (Tabular List) for more information on these notes.

 # and Symbols

Two special symbols are used in the ICD-10 Alphabetical Index of neoplasms for certain sites. The notes 2 and 3 on page 437 of ICD-10 Volume 3 (Alphabetical Index) give an explanation of their meaning.

Metastases

Malignant neoplasms spread in the human body to new sites via the blood stream or the lymphatic system. The original site of the cancer is called the primary and the site to which the neoplasm has spread is called a secondary (or metastases).

Metastases is a noun and indicates a secondary site, [for example, metastases of the spine]. However, the adjective metastatic can be used in an ambiguous way, [for example, in the statement, metastatic carcinoma of the lung]. It is not clear if the neoplasm is a primary site which has metastasized to an unstated secondary site or a secondary site for an unstated primary.

In the statement Ewing's sarcoma of right femur with metastases to liver and inguinal lymph nodes, the primary site is the femur and the secondary sites are the liver and lymph nodes.

In the statement metastatic carcinoma of the liver from the breast, indicates that the primary site is the breast, and the secondary site is the liver.

Secondary neoplasms are indexed in a separate column of the Neoplasm Table located in the ICD-10 Volume 3 (Alphabetical Index). The secondary M code must match the histological type of its primary or it would be a new primary site. Therefore, it is likely the coder shall assign the same five character M code as was assigned for the primary changing the /3 to /6 to indicate the metastatic component.

Refer to ICD-10 Volume 2 (Instruction Manual) pages 163 to 165 for main condition rules relating to this chapter.

Please classify the following conditions relating to this chapter.

REVIEW QUESTIONS

EXERCISE 6

Acute erythroleukemia	
Oat cell carcinoma, left lower lobe of lung	
Astrocytoma, frontal lobe of the brain	
Lipoma, spermatic cord	
Chronic myeloid leukemia	
Malignant hydatidiform mole	
Bowen's disease of face	
Nevus, neck	
Benign insulinoma of pancreas	
Paget's disease of nipple	
Papilloma of bladder	

Macroglobulinemia	
Malignant melanoma, calf	
Osteoma of the tibia	
Carcinomatosis peritonei	
Brain tumor	
Metastatic carcinoma of the liver from the breast	
Secondary cancer of the rectum	
Undifferentiated small cell carcinoma of the right ovary with metastases to the scapular and axillary lymph nodes	
Angiosarcoma of the spleen	
Giant cell glioblastoma involving the frontal and temporal lobe of the brain	
Transitional cell carcinoma involving the bladder, ureter and kidney	

DISEASES OF THE BLOOD AND BLOOD-FORMING ORGANS AND CERTAIN DISORDERS INVOLVING THE IMMUNE MECHANISM (Chapter III)

This chapter contains codes in the range D50-D89. It classifies various types of anemias and other diseases of the blood, including disorders of the white blood cells and spleen, and certain disorders involving the immune mechanism. The word 'certain' in the chapter title indicates that some conditions resulting in immune disorders (such as AIDS) are classified elsewhere.

Excluded from this chapter are the diseases of the blood and immune systems specific to the fetus and newborn. Anemia complicating pregnancy or the puerperium is also excluded from this chapter. All neoplasms of the blood, such as leukemia, are classified to Chapter II. Read the list of exclusions on page 227 (Tabular List) before you start to code from this chapter.

Refer to ICD-10 Volume 2 (Instruction Manual) page 165 for main condition rules relating to this chapter.

Please classify the following conditions relating to this chapter.

REVIEW QUESTIONS

EXERCISE 7

Iron deficiency anemia	
Major thalassemia	
Allergic eosinophilia	
Severe Combined Immunodeficiency (SCID)	
Hemophilia type B	
Sarcoidosis of the lung	
Sickle-cell anemia	
Anemia in CKD stage 3	
Allergic purpura	
Neutropenia	
Hypogammaglobulinemia	

ENDOCRINE, NUTRITIONAL AND METABOLIC DISEASES (Chapter IV)

This chapter contains codes ranging from E00 to E90. Within the chapter are codes for conditions of the endocrine glands such as the thyroid, parathyroid, adrenal and pituitary glands, as well as ovarian and testicular dysfunctions. Various types of malnutrition, vitamin deficiencies and other disorders of metabolism are also included in Chapter IV.

Excluded from this chapter are endocrine and nutritional disorders which are specific to the fetus and newborn, or which complicate the pregnant state; and symptoms, sign and abnormal clinical findings without an associated diagnosis.

Review block E10-E14 (diabetes mellitus) in Volume 1 (Tabular List).

Note that the preferred terminology for the different types of diabetes are now Type 1 and Type 2 diabetes mellitus rather than insulin-dependent diabetes mellitus (IDDM) and non-insulin dependent diabetes mellitus (NIDDM) respectively. The different types of diabetes are indicated at the 3 character level with complications of diabetes specified by the addition of a fourth character.

Example:

Non-insulin dependent diabetes mellitus (NIDDM) with diabetic nephropathy.

The correct code would be:

E11 = type of diabetes at third character level

E1-.2 = indicates the complication at fourth character level

Block E40-E46 of Volume 1 (Tabular List) is to be assigned for classifying malnutrition which is principally associated with chronic insufficiency or inappropriateness of diet. There is a lengthy note on page 263 (Tabular List) which should be read and understood prior to assignment of these codes. It refers to the measurement of malnutrition depending on the weight of the patient in comparison to the average weight of people in the population in which the patient lives.

Refer to ICD-10 Volume 2 (Instruction Manual) page 166 for main condition rules relating to this chapter.

Please classify the following conditions relating to this chapter.

REVIEW QUESTIONS

EXERCISE 8

Cushing's syndrome	
Severe malnutrition	
Obesity	
Adult onset diabetes	
Diabetic nephropathy (patient a Type I diabetic since childhood)	
Hypokalemia	
Cystic fibrosis with pulmonary manifestations	
Late effects of rickets	
Iatrogenic hypothyroidism	
Hypercholesterolemia	
Dehydration	
PCOS	
Addisonian crisis	
Lactose intolerance	
Multinodular goiter	

MENTAL AND BEHAVIOURAL DISORDERS (Chapter V)

The range of codes in Chapter V is F00-F99. The chapter classifies mental disorders as well as behavioural problems, of different origins.

Each category is prefaced by a comprehensive description of the disorders included within that category. These are known as glossary descriptions. As noted earlier in this module, the glossary descriptions are designed to assist doctors to ensure that patients are classified correctly. There are also notes at the start of each block to describe the types of disorders in the block.

Block F00-F09 classifies organic mental disorders. This block groups together mental disorders based on a common etiology in cerebral disease, brain injury or other insult leading to cerebral dysfunction. This dysfunction may be attributed to diseases, injuries and insults that affect the brain directly or they can be attributable to systemic diseases or disorders that attack the brain (e.g. dementia in Alzheimer disease).

Have a look at the block F10-F19, which classifies disorders due to the use of psychoactive or other substances. The third character indicates the substance involved and the fourth character indicates the clinical state.

Example:

Cannabis dependence.

The correct code would be:

F12 = type of substance at third character level

F1-.2 = indicates the clinical state at the fourth character level

Block F70-F79 is for *Mental retardation*. The code at the third character level indicates the degree of mental retardation and the fourth character specifies the extent of impairment of behaviour.

Have a look at the fourth characters under the block title on page 331 of ICD-10 Volume I (Tabular List). Because the fourth characters are listed under the block title, this means that they apply to all codes in the block.

Refer to ICD-10 Volume 2 (Instruction Manual) page 167 for main condition rules relating to this chapter.

Please classify the following conditions relating to this chapter.

REVIEW QUESTIONS

EXERCISE 9

Use of tobacco	
Korsakov's psychosis	
Acute alcohol intoxication	
Severe mental retardation	
Arteriosclerotic multi-infarct dementia	
Paranoid schizophrenia	
Hyperventilation syndrome	
Heller's syndrome	
Developmental dyslexia	
Hyperkinetic conduct disorder	
Developmental disorder	
Dementia in epilepsy	
Anxiety state	
Anorexia nervosa	
Reactive depression	

Autism	
Asperger’s disease	
Cocaine addiction	
Heroin addition	
Crystal methamphetamine (‘ICE’) psychosis	
Tetrahydrocannabinol (THC) withdrawal	

DISEASES OF THE NERVOUS SYSTEM (Chapter VI)

The chapter for nervous system diseases ranges from G00 to G99. Codes represent disorders of both the central and peripheral nervous systems but nervous system diseases in the perinatal period, which complicate pregnancy and childbirth, or which are the result of injuries are excluded from Chapter VI. The chapter contains a large number of asterisk codes, which means that there are numerous diseases which result in nervous system manifestations.

Block G00-G09 classifies disease where the nervous system has been attacked by various organisms. The codes G01, G02, G05 and G07 are asterisk codes, with their corresponding dagger codes coming in the main from Chapter I *Certain Infectious and Parasitic diseases*.

Alzheimer disease is classified to the block G30-G32 and is split on the age at onset of the disease – before age 65 and after age 65.

Block G40-G47 concerns disorders which appear episodically, such as G40 *Epilepsy*. Classification is firstly by type of epilepsy and then by type of seizures. Note: that seizures or fits NOS are not classified to epilepsy but should be classified to Chapter XVIII *Symptoms, signs and abnormal clinical and laboratory findings not elsewhere classified*.

Read the notes under each code title in block G81-G83. These are codes for describing paralytic syndromes but should not be assigned for primary coding (as the main condition) unless there is no documentation to specify the cause of the paralysis.

Refer to ICD-10 Volume 2 (Instruction Manual) pages 167 to 168 for main condition rules relating to this chapter.

Please classify the following conditions relating to this chapter.

REVIEW QUESTIONS

EXERCISE 10

Acquired communicating hydrocephalus	
Pick's disease of brain	
Meningitis	
Anoxic brain damage	
Charcot-Marie-Tooth disease	
Ataxic cerebral palsy	
Secondary Parkinsonism due to neuroleptic drugs	
Myasthenia gravis	
Multiple sclerosis	
Spinal cord abscess	
Classical migraine	
Bell's palsy	
Epileptic petit mal fits	
Carpal tunnel syndrome	
Motor neurone disease	

Alzheimer’s type dementia	
TIA	
Sleep apnea	
Guillain-Barre syndrome	

DISEASES OF THE EYE AND ADNEXA (Chapter VII)

Codes in this chapter range from H00 – H59. There are a number of asterisk categories in this chapter because eye conditions can be the result of other diseases.

Read the list of asterisk categories on page 379 of ICD-10 Volume 1 (Tabular List). The chapter is arranged anatomically from conditions of the outer eye through to those of the centre of the eyeball. An exception to this is the block H40-H42 for glaucomas and the block H53-H54 for low vision and blindness.

The block H25-H28 is for lens disorders, with numerous codes for different types of cataracts. H28.0* is the code for diabetic cataract, to be assigned with a dagger (†) code from the range E10-E14†).

The block H53-H54 is for visual disturbances and low vision.

Have a look at the table on page 403 of Volume 1 (Tabular List). This table is designed to assist with the assignment of codes from category H54 *Visual impairment including blindness (binocular or monocular)*. H54 specifies the extent of blindness according to categories; the table explains the visual acuity levels associated with each category. Note that the categories are not codes in their own right, rather they are a classification of visual acuity developed by the World Health Organization.

Refer to ICD-10 Volume 2 (Instruction Manual) page 168 for main condition rules relating to this chapter.

Please classify the following conditions relating to this chapter.

REVIEW QUESTIONS

EXERCISE 11

Blindness, one eye	
Juvenile cataract	
Ocular pain	
Myopia	
Oculomotor nerve palsy	
Retinal haemorrhage	
Vertical strabismus	
Open-angle glaucoma	
Corneal ulcer	
Dacryolith	
Diabetic cataract	
Ectropion	
Acute conjunctivitis	
Retinal detachment	
Macular degeneration	

DISEASES OF THE EAR AND MASTOID PROCESS (Chapter VIII)

This is another relatively small chapter, with codes ranging from H60-H95.

Read the list of asterisk categories on page 407 of ICD-10 Volume 1 (Tabular List). As with the eye, the chapter is arranged anatomically from external through to inner ear. The exception to this is the final block H90-H95 which contains codes relating to hearing loss, symptomatic conditions, disorders of the acoustic nerve and post procedural disorders.

Codes for otitis externa are found in the block H60-H62 and for otitis media are in block H65-H75. Otitis media can be classified as either suppurative or non-suppurative, or as a consequence of diseases classified elsewhere.

Refer to ICD-10 Volume 2 (Instruction Manual) page 168 for main condition rules relating to this chapter.

Please classify the following conditions relating to this chapter.

REVIEW QUESTIONS

EXERCISE 12

Herpes simplex of external ear	
Glue ear	
Wax in ear	
Chronic purulent otitis media	
Cholesteatoma	
Stenosis of eustachian tube	
Obliterative otosclerosis involving the oval window	
Tinnitus	
Benign paroxysmal vertigo	
Bilateral sensorineural hearing loss	
Cholesteatoma of ear canal	
Cholesteatoma of middle ear	
Perforation of ear drum	
Meniere's disease	
Noise-induced hearing loss	

DISEASES OF THE CIRCULATORY SYSTEM (Chapter IX)

This chapter classifies diseases of the organs and vessels involved in the circulation of blood and lymph, however it does not classify disorders of the blood itself. These are classified to Chapter III.

The categories in Chapter IX range from I00-I99. It is important to be careful when using codes from this chapter because the letter 'I' looks like a '1' (the number one) when written or typed and this can be confusing.

The blocks I00-I02 and I05-I09 are for acute and chronic rheumatic heart disease. It is important to note that the ICD classification assumes that most valvular diseases are rheumatic. Coders need to read and understand the Instructional notes (i.e. exclusion and inclusion notes) carefully to ensure that the correct codes are assigned. Disorders of the aortic valve are included in these blocks regardless of whether they are specifically documented as rheumatic or not.

Hypertension and hypertensive disorders are found in the block I10-I15. There is no differentiation between hypertension that is documented as malignant and that documented as benign. Codes at the 3 character level identify the type of hypertension, whether it is primary or secondary, or associated with heart or renal disease or a combination. At the 4 character level the presence of heart failure or renal failure is classified.

Have a look at page 424 of ICD-10 Volume 1 (Tabular List) and read the note relating to the categories I20-I25, *Ischaemic Heart Disease (IHD)*.

When coding morbidity or hospital records, the classification states that the duration of the IHD is the period of time between the start of the ischaemic episode and the time of admission to hospital.

However, when coding mortality or death certificates, the duration is calculated as the time elapsed between the start of the ischaemic episode and the time of death. A further note on page 425 Volume 1 (Tabular List) under category I21 gives a definition of an acute myocardial infarction. This definition indicates that a condition with a stated duration of four weeks or less from the time of onset can be considered acute for the purposes of assigning the correct code. Of course, if the doctor documents a myocardial infarction as 'acute' (in the absence of further details regarding duration), then this can also be classified in the same way.

For patients who suffer a second or subsequent myocardial infarction within four weeks of their original infarction, this can be classified to category I22. However, it is important to remember that if the MI is defined as chronic or has a duration of more than 28 days, then I25.8 *Other forms of chronic ischaemic heart disease* should be assigned. If a myocardial infarction is described as old or healed, then I25.2 *Old myocardial infarction* should be assigned. The Instructional notes guide the coder and should help with assignment of the correct ICD code.

Refer to ICD-10 Volume 2 (Instruction Manual) pages 168 to 169 for main condition rules relating to this chapter.

Please classify the following conditions relating to this chapter.

REVIEW QUESTIONS

EXERCISE 13

Aortic stenosis	
Mitral regurgitation	
Secondary hypertension	
Pulmonary embolism	
Cor pulmonale	
Alcoholic cardiomyopathy	
Arteriosclerotic cardiovascular disease	
Cerebral aneurysm	
Myocardial ischemia	
Myocardial disease	
Nontraumatic subdural hemorrhage	
Cerebral infarction	
Malignant nephrosclerosis	
Thrombosis of iliac artery	
Mesenteric adenitis	

DISEASES OF THE RESPIRATORY SYSTEM (Chapter X)

Chapter X classifies diseases and disorders of the respiratory system including conditions caused by infections and external agents such as occupational hazards. The codes range from J00-J99.

Note: There is a specific classification convention relating to coding from this chapter.
When a respiratory condition is described as occurring in more than one site and the condition is not named in the Alphabetical Index, it should be classified to the lower anatomical site e.g. tracheobronchitis is classified to bronchitis (J40), not tracheitis plus bronchitis (J04.1 + J40).

This coding rule is located at the beginning of Chapter X. In practice, however, the Alphabetical Index includes many of the possible combinations (eg. pharyngotracheitis (J06.8), laryngotracheobronchitis (J40), tracheobronchopneumonitis (J12-J18)) and directs the coder to the appropriate code.

The block concerning acute upper respiratory infections (J00-J06) is arranged anatomically, from nose down the respiratory tract to larynx.

In the block J09-J18, the codes for influenza are divided depending on whether the virus causing the influenza has been identified (J10.-) or not (J11.-). The assignment of code J09 is for influenza caused by influenza virus strains as stipulated by the WHO.

Block J20-22 is for acute lower respiratory tract conditions. Note: where bronchitis is recorded without further specification as to whether it is acute or chronic, it should be classified to J20.9 *Acute bronchitis, unspecified* if the patient is under 15 years of age. J40 *Bronchitis not specified as acute or chronic* is to be assigned when the patient is older than 15 years.

Coders need to be particularly careful when assigning codes in the block J40-J47, in particular when classifying asthma. J45 is for classification of different types of asthma, except when the asthma is described as ‘acute severe asthma’ (which is classified to J46 *Status asthmaticus*) or chronic severe asthma with or without bronchitis (which is classified to J44.- *Other chronic obstructive pulmonary disease*).

Read the Instructional notes (e.g. exclusion notes) carefully when coding from this chapter.

Lung diseases due to external agents such as asbestos, silica and other dusts, gases, vapours, solids and liquids are classified to the block J60-J70.

Please classify the following conditions relating to this chapter.

REVIEW QUESTIONS

EXERCISE 14

Chronic obstructive lung disease	
Compensatory emphysema	
Shock lung	
Croup	
Influenza	
Asthmatic bronchitis	
Chronic respiratory disease	
Pleural effusion	
Fibrosis of lung following radiation	
Aspiration pneumonia	
Farmer's lung	
Acute type I respiratory failure	
Peritonsillar abscess	
Nasal polyp	

DISEASES OF THE DIGESTIVE SYSTEM (Chapter XI)

This chapter, which contains codes from K00-K93, classifies diseases and disorders of the alimentary tract. With the exception of the block K40-K46 (Hernias), the codes in the range K00-K63 are arranged anatomically from mouth to anus. Codes after K63 are for conditions in the other main organs associated with digestion.

Have a look at the block K25-K28 *Ulcers*. Note: the site of the ulcer is classified at the 3 character level (gastric, duodenal, peptic site unspecified, gastrojejunal). Adding a fourth character specifies whether the ulcer is acute or chronic and whether it is associated with haemorrhage, perforation or both.

The categories K40-K46 is for classifying both congenital and acquired hernias, with the exceptions of congenital diaphragmatic hernia and congenital hiatus hernia. These two conditions are classified to Chapter XVII.

Hernias are classified firstly by site of the hernia at the 3 character level. The fourth character is used to indicate whether the hernia is described as either obstructed or gangrenous.

Note: if a hernia is documented as both gangrenous and obstructed, only the gangrene needs to be classified, as this is the ultimate outcome of an obstruction. There are separate codes for unilateral or bilateral inguinal hernias, and unilateral or bilateral femoral hernias. If the documentation does not specify whether the hernia is only on one side or on both, assume it is unilateral.

Block K57 *Diverticular disease of the intestine* includes diverticulosis, diverticulum and diverticulitis at the three character level. The fourth character is used to classify perforation or abscess.

Please classify the following conditions relating to this chapter.

REVIEW QUESTIONS

EXERCISE 15

Mesenteric thrombosis	
Incarcerated inguinal hernia	
Gastric ulcer with hemorrhage	
Gastric hemorrhage	
Calculus of bile duct, acute cholecystitis	
Liver damage from alcohol	
Malfunction of colostomy	
Celiac disease	
Cholangitis	
Ulcer of esophagus due to ingestion of aspirin	
Oral mucositis	
Dental caries	
Acute appendicitis	
Paralytic ileus	
Ulcerative colitis	

DISEASES OF THE SKIN AND SUBCUTANEOUS TISSUE (Chapter XII)

The codes in this chapter range from L00-L99. Be careful in classifying from this chapter as there are many Instructional (e.g. exclusion) notes, both at the start of the chapter and at category level. You will need to read and understand these to ensure that you classify to the correct chapter.

Block L00- L08 is for *Infections of the skin and subcutaneous tissue*. There is a large exclusion note for this block on page 534 of Volume 1 (Tabular List) which specifies that many infectious conditions are classified to Chapter I. A further instruction indicates that it is possible to add an additional code from the range B95-B97 as well as the code from this block to identify the type of infection.

In ICD-10, the terms 'eczema' and 'dermatitis' are used interchangeably (i.e. taken to mean the same thing). These diagnoses are classified to the block L20-L30.

Dermatitis which is due to contact with a substance which causes an allergic reaction, and is classified to category L23, whereas dermatitis due to exposure to a substance which causes a skin irritation is classified to category L24. Be careful of the cross-references and exclusion notes in this section.

It is also possible to specifically classify dermatitis due to a substance which is ingested or taken orally. This includes drugs, medicines and food.

The block L55-L59 is for classifying *Radiation-related disorders of the skin and subcutaneous tissue*. This includes sunburn, which has fourth characters to indicate the depth of skin which is affected by the sunburn.

Sunburn described as first degree is also known as erythema and affects the epidermis only. Second degree (or partial thickness) burns affect both the epidermis and dermis and may cause blistering. Third degree or full thickness burns affect the epidermis, dermis and the subcutaneous tissues, usually with extensive damage.

Disorders of skin appendages (categories L60-L75) includes conditions of the nails and hair and diagnoses such as acne and disorders of the sweat glands.

Please classify the following conditions relating to this chapter.

REVIEW QUESTIONS

EXERCISE 16

Alopecia	
Diaper rash	
Abscess on chin	
Pemphigus vulgaris	
Poison ivy allergic dermatitis	
Impetigo	
Psoriasis	
Stage I decubitus ulcer	
Keloid scar	
Pilonidal cyst	

DISEASES OF THE MUSCULOSKELETAL SYSTEM AND CONNECTIVE TISSUE (Chapter XIII)

This chapter classifies diseases and conditions relating to the spine, joint, muscles and connective tissues of the body. It also classifies deformities acquired after birth. The categories in this chapter range from M00-M99.

Have a look at pages 562-563 in ICD-10 Volume 1 (Tabular List). A subclassification of sites of the body which may be involved in a musculoskeletal disorder has been provided for optional use. The codes provided can either be added to relevant codes as a fifth character, or collected separately in some way. The note (e.g. See sites codes pages 562-563) is used at the category level to remind coders of the availability of this subclassification. The decision to use these additional characters should be made by your country, or Ministry of Health, according to specific research interests. There is no requirement to report codes from the subclassification to the WHO.

There are also other optional supplementary subclassifications at

• M23.- *Internal Derangement of Knee*. These additional codes allow the ligament or meniscus to be specified.

• M40-M54 (except M50 and M51) *Dorsopathies* to specify the part of the spine involved.

• M99 *Biomechanical lesions NEC* to indicate body region. Note that the codes in this category are only to be used if the condition being classified does not fit into any other category. The codes are very non-specific.

The first block in the chapter M00-M03 are for the classification of infectious arthropathies. A note on page 564 of the ICD-10 Tabular List (Volume 1) gives an important distinction between direct and indirect infections.

A direct infection is one where the infectious organisms actually invade the synovial tissue of the joint and there is a presence of antibodies or antigen in the joint.

An indirect infection occurs in two ways. Either when there is evidence of a microbial infection but the organisms or antigens cannot be isolated from the joint - this is called a reactive arthropathy and generally indicates a disease condition elsewhere in the body which is manifesting in the joint e.g. M01.0 *Meningococcal arthritis*.

Alternatively, where there is evidence of microbial activity but it is not possible to obtain the infectious organism from the joint through sampling and the organism does not appear to be multiplying in the joint - this is called a postinfective arthropathy and generally is evident following an acute infection e.g. M03.0 *Postmeningococcal arthritis*.

Block M15-M19 is for the classification of arthroses. Note that the term ‘arthrosis’ is used interchangeably with osteoarthrosis and osteoarthritis. The note under this block title indicates that codes from the block are only used where the word ‘primary’ is used to mean that no underlying disease which may have given rise to the arthrosis has been identified.

Please classify the following conditions relating to this chapter.

REVIEW QUESTIONS

EXERCISE 17

Rheumatoid arthritis of left knee	
Systemic lupus erythematosus	
Old bucket handle tear of medial meniscus of left knee	
Ankylosing spondylitis thoracolumbar spine	
Sciatica due to displacement of lumbar disc	
Osteoarthritis right hip	
Gonococcal bursitis	
Arthritis associated with ulcerative colitis	
Juvenile osteochondrosis of calcaneum	
Lumbago	

DISEASES OF THE GENITOURINARY SYSTEM (Chapter XIV)

Codes in this chapter range from N00-N99 and classify urinary system conditions, disorders of the male and female reproductive systems, and diseases of the male and female breast.

The first block in the chapter is for *Glomerular diseases* (N00-N08). In this block the first three characters of the codes relate to clinical syndromes (e.g. chronic nephrotic syndrome). The fourth characters, which are found on page 608 of the ICD-10 Tabular List (Volume 1), specify the morphological changes caused by the syndrome (e.g. focal and segmental glomerular lesions). Note also the two "use additional code…" instructions which allow the capture of chronic kidney disease or acute renal failure with the glomerular disease.

The block N17-N19 *Renal failure* distinguishes acute from chronic renal failure, with various manifestations of the renal failure classified at the fourth character level. An additional code from the External Causes chapter may be added to indicate the cause of the renal failure if this is known. Note that some types of renal failure are classified to other chapters e.g. I12.0 *Hypertensive renal disease with renal failure*.

Please classify the following conditions relating to this chapter.

REVIEW QUESTIONS

EXERCISE 18

Tubular necrosis	
Nephrogenic diabetes insipidus	
Hemorrhagic nephrosonephritis	
Cyst of Bartholin's gland	
Acute proliferative glomerulonephritis	
Uremia	
Cervicitis	
Nephropathy	
Lipoid nephrosis	
Acute renal failure	
Cystic breast	
Chronic kidney disease - stage 4	
Endometriosis of ovary	
Urethral stricture	
Bladder calculus	

Female rectocele	

PREGNANCY, CHILDBIRTH AND THE PUERPERIUM (Chapter XV)

Codes in this chapter range from O00-O99 and describe conditions related to or are aggravated by the pregnancy, childbirth or by the puerperium (maternal causes or obstetric causes).

This chapter on complications of pregnancy, childbirth and the puerperium is divided into the following blocks:

• Categories O00-O08 *Pregnancy with abortive outcome*.

This is a self-contained block of conditions where no delivery will follow.


Look at the instruction at categories O00-O02 regarding the use of a code from category O08 *Complications following abortion and ectopic and molar pregnancy*.


Look at the fourth character subdivision for use with categories O03-O06. These complications are re-listed at category O08 so that:

- where a patient is readmitted with a complication, code O08.- is assigned.

- where these complications occur with codes O00-O02, O08.- may also be assigned.

• Categories O10-O48 *Complications mainly related to pregnancy*.

• Categories O60-O75 *Complications occurring mainly in the course of labour and delivery.*

• Categories O80-O84 *Delivery* are optional additional codes to indicate the type of delivery e.g. O80.0 *Spontaneous vertex delivery*.

• Categories O85-O92 *Complications of the puerperium*.

In the three blocks for complications of the three phases (pregnancy, labor/delivery, and puerperium) the complication is listed once only, placed in the phase where it is most likely to cause problems. This means that the condition is classifiable to that code even if the patient whose record is being classified has developed the complication in a different phase. There is no restriction placed on the coder to match the record being classified to the time phases indicated in these blocks.

• Category Z37 *Outcome of delivery* is assigned as an additional code on the mother's record to identify the outcome of the delivery.

It may be statistically desirable for a hospital to be able to identify that the delivery has taken place in the current episode of care. Consider two women with pre-eclamptic toxemia, one in hospital for medical care not having given birth, and one who has had a completely normal labor with a live birth delivery. Both are classified to O14.9 and the outcome code distinguishes the record of the woman who has given birth in the current episode of care.

The optional codes from O80-O84 *Delivery* could also perform this function of indicating the delivery episode of care.

Refer to ICD-10 Volume 2 (Instruction Manual) pages 169 to 171 for main condition rules relating to this chapter.

Please classify the following conditions relating to this chapter.

REVIEW QUESTIONS

EXERCISE 19

Patient was admitted with an antepartum hemorrhage which settled with bed rest, discharged undelivered.	
Patient was admitted in severe pain following a ruptured tubal pregnancy. Removal of ruptured tubal pregnancy was performed.	
This patient was admitted because of deterioration during pregnancy of her longstanding mitral insufficiency. She was discharged following medical assessment of her condition.	
This patient was admitted for a termination of pregnancy because of a CNS malformation of the fetus diagnosed by amniocentesis at the outpatient department. The termination was achieved by injection of Prostaglandin.	
This patient was admitted with symptoms of a threatened abortion. Symptoms settled with bed rest and the patient was discharged undelivered.	
Patient had a term delivery complicated by a retained placenta without haemorrhage. A manual removal of placenta was performed.	
Patient admitted in early pregnancy with hyperemesis gravidarum leading to dehydration.	
This patient with cervical incompetence was admitted for removal of Shirodkar suture. Discharged to await onset of labour.	
This patient was re-admitted following a previous admission for legal termination of pregnancy because of a haemorrhage.	
Patient had an obstructed labour due to an inlet contraction of the pelvis. A lower segment cesarean section was performed.	
During this labour the baby showed signs of fetal bradycardia so a mid forceps delivery with episiotomy was performed.	
Full term normal delivery	
Spontaneous abortion with dilatation and curettage was performed.	

This patient was admitted for a termination of pregnancy which was performed by aspiration curettage.	
The patient was admitted post-dates for induction of labour by artificial rupture of membranes. When this procedure failed to induce the labour an IV syntocinon drip was used. The baby was delivered with the assistance of low forceps.	
This patient was admitted for a booked cesarean section because of a scar from a previous cesarean section. Lower segment cesarean section was performed.	
HELLP syndrome	
Incomplete abortion complicated by renal shut down. Dilatation and curettage performed.	

CERTAIN CONDITIONS ORIGINATING IN THE PERINATAL PERIOD (Chapter XVI)

Codes in this chapter range from P00-P96 with quite a few blocks as detailed on page 681.This chapter classifies conditions which arise as a consequence of the fetal environment, birth process or the infant's taking time to adjust to the extrauterine environment. Often these are transitory conditions, for example, P70.1 *Syndrome of infant of a diabetic mother* or, P76.1 *Transitory ileus of newborn*. To be classified in chapter XVI the condition must be qualified as neonatal, of newborn, transient or sometimes congenital.

There is an Instructional (inclusion) note for the whole chapter reminding coders that these codes may be assigned even if the illness or death occurs later than the perinatal period. The Alphabetical Index should be followed carefully.

• The note at category P07 and P08 is important – when birth weight and gestational age are documented priority of code assignment is given to birth weight.

• A code from category Z38 *Liveborn infants according to place of birth* can be assigned as an optional additional code on the baby's record to identify place of birth e.g. Z38.3 *Twin, born in hospital*.

Please classify the following conditions relating to this chapter.

REVIEW QUESTIONS

EXERCISE 20

Premature female infant (34 weeks)	
Neonatal conjunctivitis	
Jaundice of newborn	
Hyaline membrane disease of newborn	
Anemia due to prematurity	
Cephalhematoma noted on newborn examination	
Bacterial sepsis in newborn	
Neonatal pseudomenses	
Neonatal difficulty in feeding at breast	
Liveborn twin, born in hospital	

CONGENITAL MALFORMATIONS, DEFORMATIONS AND CHROMOSOMAL ABNORMALITIES (Chapter XVII)

This chapter classifies gross structural congenital malformations. The codes from this chapter (Q00-Q99) may be assigned on the records of adults who have congenital disorders as well as on newborn babies' records. Inborn errors of metabolism are excluded from this chapter and classified to Chapter IV.

Please classify the following conditions relating to this chapter.

REVIEW QUESTIONS

EXERCISE 21

Bat ear	
Ankyloglossia	
Malrotation of the colon	
Congenital bronchiectasis	
Congenital tracheomalacia	
Trisomy 21	
Cleft palate with cleft lip	
Esophageal atresia	
Tetralogy of Fallot	
Congenital hiatus hernia	
Webbed fingers	
Spina bifida occulta	
Thrombocytopenia with absent radius (TAR) syndrome	
Conjoined twins	

SYMPTOMS, SIGNS AND ABNORMAL CLINICAL AND LABORATORY FINDINGS, NOT ELSEWHERE CLASSIFIED (Chapter XVIII)

Codes from this chapter (R00-R99) classify symptoms, signs and ill-defined conditions which cannot be located in the chapter relating to a particular body system.

There are notes that identify six occasions when codes from this chapter may be appropriate.

Read these notes on page 757 of the Tabular List (Volume 1) carefully noting these occasions. Codes from this chapter are not chosen if the symptom is a well recognized part of the disease process.

For example, if abdominal pain and acute appendicitis were both documented in the clinical record, the acute appendicitis only would be classified. Of course this type of decision is dependent on the coding policy of each country, state/jurisdiction/province, or hospital.

Refer to ICD-10 Volume 2 (Instruction Manual) page 171 for main condition rules relating to this chapter.

Please classify the following conditions relating to this chapter.

REVIEW QUESTIONS

EXERCISE 22

Gangrene	
Hepatomegaly	
Ascites	
Excessive blood level of alcohol	
Excessive thirst	
Senility	
Benign heart murmur	
Extravasation of urine	
Cachexia	
Sudden infant death syndrome	
Impaired glucose tolerance	
Febrile convulsions	
Rash	
Septic shock	

INJURY, POISONING AND CERTAIN OTHER CONSEQUENCES OF EXTERNAL CAUSES (Chapter XIX)

EXTERNAL CAUSES OF MORBIDITY AND MORTALITY (Chapter XX)

Chapter XIX contains codes for traumatic injuries, poisonings and complications of medical and surgical care (except for neonatal injuries occurring during birth).

- In this chapter, the S codes are organized according to body region and follow a head-to-toe order.

For example:

S0-.- = head, S4-.- = shoulder and upper arm.

The third character usually describes the type of injury.

For example:

1 = open wounds, 3 = dislocations, sprains and strains of joints and ligaments.

Types of fractures

An **Open fracture** has a wound communicating from the skin to the fracture site and occurs when an external object penetrates the skin to fracture the bone or a bone or bone fragment penetrates the skin from within. A compound fracture is an open fracture.

A **Closed fracture** does not have a communicating wound, rather the skin is intact at the fracture site. A comminuted fracture is a closed fracture.

Pathological fractures occur in bones weakened by disease, such as a neoplasm or osteoporosis. They are usually spontaneous or may occur after a minor injury or movement.

Stress or compression fractures can be either pathological or caused by an injury. Review the record to determine the cause, and classify accordingly.

Some patients are admitted with multiple injuries and it is usual to classify each injury separately. However, some multiple injury codes (T00-T07) are provided where insufficient detail of the component injuries is provided.

- The codes T20-T29 classify burns according to site. The terminology used to describe burns in ICD-10 is:

  First degree [erythema]

  Second degree [blisters] [epidermal loss]

Third degree [deep necrosis of underlying tissue] [full-thickness skin loss]

Frequently, burns of the same general area are described as being of different severity. For example, second and third degree burns of back, assign T21.3 *Burn of third degree of trunk* that is, to the most severe degree.

A code from category T31 *Burns classified according to extent of body surface involved* is assigned as an additional code with T20-T25 or T29 to capture the body surface area involved.

- The codes in Chapter XX are arranged according to the cause of the injury:
  - accident
  - intentional self-harm
  - assault
  - undetermined intent
  - legal intervention and operations of war

There are also codes for:

- complications of medical and surgical care
- sequelae of external causes
- supplementary factors (such as place of occurrence, activity, work-related condition, lifestyle related condition)

The ICD-10 Alphabetical Index contains a separate index for external cause of injuries (section II) sequenced after the Alphabetical Index of Diseases (section I)

Common lead terms for external cause codes include:

Accident (transport)	Fall
Assault	Foreign body
Burn	Misadventure(s) to patient(s) during surgical or medical care
Complication	Sequelae
Contact	Struck by
Exposure	

- Poisoning by drugs, medicaments and biological substances (T36-T50)

The Instructional (inclusion and exclusion) notes for this section are very important and must be read carefully. This section only applies if an overdose of the substance was taken or if the person accidentally takes the wrong substance. A patient with arthritis who takes aspirin to control his pain and develops gastritis as a result, would not be classified here. Adverse effects of correct therapeutic substances are classified according to the specific adverse effect or to code T88.7 *Unspecified adverse effect of drug or medicament* if this is not known.

The Alphabetical Index to this section is found in section III of ICD-10 Volume 3 (Alphabetical Index). The table of drugs and chemicals assists the coder to locate both the chapter XIX code for the substance and the chapter XX code (the reason for the poisoning) in one step.

The chapter XX codes for adverse effects of drugs in correct usage are also included in the table, although the adverse effects themselves are not. Codes from the first left hand column "Poisoning (Chapter XIX)" and the last, right hand column "adverse effect in therapeutic use" are not compatible and must never be assigned together.

Proprietary or brand names for drugs are not used in the table, so coders must convert these names to generic (official) names, using a drug reference such as MIMS (Monthly Index of Medical Specialties). For example, Valium is not listed, but its generic name Diazepam is listed.

- Complications of surgical and medical care, not elsewhere classified (T80-T88)

The codes from this category are assigned for conditions that are due to surgical and medical care when a specific code is not provided elsewhere in ICD-10. For example documentation of postoperative haemorrhage from a surgical wound site is assigned code T81.0 *Haemorrhage and haematoma complicating a procedure, not elsewhere classified*.

The most common such complications classified elsewhere are listed in the exclusion notes at the beginning of this category or within the various subcategories. For example colostomy malfunction is assigned code K91.4 *Colostomy and enterostomy malfunction.*

Transport accidents (V01–V99)

Motor vehicle and other transport accidents are a major cause of injury. Transport accidents at category range V01–V99 relate to various types of transport accidents including land, water, and air.

Read the definitions related to transport accidents and the classification and coding instructions for transport accidents at block V01–V99 (pages 900-907).

Definitions:

Traffic accident – any vehicle accident on a public highway

Nontraffic accident – any vehicle accident not on a public highway

Look at the *Table of Land Transport Accidents* in the external causes of injury index (look up: Accident/transport).

This table is used to find the correct code for land transport accidents. The first column lists the injured person and the type of transport they were using. The other columns indicate the type of vehicle or object they collided with. For other types of transport accidents (i.e. not land) look in the Alphabetical Index under the lead term **Accident** and subterm for the specific type of accident.

Therefore, there are two aspects of each trauma which require a code:

• a code to classify the nature of the injury (from chapter XIX categories S00-T35)

• a code to classify the external cause of the injury (from chapter XX categories V01-Y36)

Codes from chapters XIX and XX are companion codes and must always be assigned together.

For example, fracture of shaft of the humerus following a fall from a ladder is classified to S42.3 *Fracture of shaft of humerus* and W11 *Fall on and from ladder*.

a) Guidance in assignment of Injuries and External Cause Codes (Section II)

To locate chapter XIX codes use Section I of ICD-10 Volume 3 (Alphabetical Index). First look up the specific name of the injury, [e.g. fracture, dislocation]. “Injury” is also a useful starting point. For lacerations, see “Wound, open”.

To locate external cause codes use Section II of ICD-10 Volume 3 (Alphabetical Index). This section uses English not medical terminology. If you cannot find the index entry you want, try to rephrase it, [e.g. "struck by" see also "hit by", “motor vehicle accident” see “collision”].

Refer to ICD-10 Volume 2 (Instruction Manual) pages 171 to 172 for main condition rules relating to this chapter.

The preferred 'main condition' code should be that describing the nature of the condition (usually from Chapter XIX). The code from Chapter XX indicating the external cause would be assigned as an optional additional code.

Read the notes and definitions at the beginning of Chapter XIX in ICD-10 Volume I (Tabular List)

'With' in a code title means involvement of both sites

'And' in the title means and/or. This means that both or either of the sites could be involved

Place of occurrence code

The *Place of occurrence code* indicates where the accident or event occurred, not where the adverse effect/manifestation occurred.

The place of occurrence code is assigned in addition to an external cause code from categories W00-Y34.

Only assign one place of occurrence code for each external cause code. Refer to pages 895-898 in ICD-10 Volume 1 (Tabular List) for the options.

Activity code

The *Activity code* indicates the activity of the person at the time the accident or event happened.

The activity code is assigned in addition to an external cause code and place of occurrence code. The activity code is assigned with categories V01-Y34.

Only assign one activity code for each external cause code. Refer to pages 899 in ICD-10 Volume 1 (Tabular List) for the options.

Please classify the following conditions relating to this chapter.

REVIEW QUESTIONS

EXERCISE 23

Laceration of chest. Attacked by man with a knife.	
Insect bite on eyelid	
First and second degree burns of face and neck. Explosion of engine on board a boat.	
Chilblains	
Crushing injury to thigh. Pinned under an overturned farm tractor	
Compound fracture of tibia. Pedestrian hit by car	
Sprained ankle. Tripped over a dog	
Dislocated jaw. Patient was involved in a brawl	
Concussion. Hit on head by tree during a landslide	

Traumatic pneumothorax. Passenger on train which collided with another train	
Foreign body in nostril	
Pathological fracture of the clavicle	
Fracture of the parietal bone of the skull with a subarachnoid haemorrhage. Driver who lost control of motor car which ran off the road and hit a tree in a field	
Sewing needle in sole of the foot. Stepped on a needle at home	
Recurrent dislocation of the shoulder	
Ruptured spleen. Crushed during crowd panic at football game.	

FACTORS INFLUENCING HEALTH STATUS AND CONTACT WITH HEALTH SERVICES (Chapter XXI)

Episodes of health care or contact with health services are not limited to the treatment or investigation of current illness or injury. Episodes may also occur when someone, who may not currently be sick, requires or receives limited care or services; the details of the relevant circumstances should be recorded as the 'main condition'. Examples include:

- monitoring of previously treated conditions
- immunization
- contraceptive management, antenatal and postpartum care
- surveillance of persons at risk because of personal or family history
- examinations of healthy persons, e.g. for insurance or occupational reasons
- seeking of health-related advice
- requests for advice by persons with social problems
- consultation on behalf of a third party.

The Alphabetical Index to these codes (Z00-Z99) is not very comprehensive. Z codes are indexed in Section I of ICD-10 Volume 3 (Alphabetical Index). It is a very difficult chapter to index because descriptive English, not medical terminology, is used to describe the contents of Z codes. In the introduction of ICD-10 Volume 2 (Instruction Manual), there is a list of key words used as lead terms for V codes is supplied.

These key words are:

Counselling
Examination
History (of)
Observation (for)
Pregnancy
Problem (with)
Screening (for)
Status (post)
Vaccination

This list is of limited value to coders and therefore it is important that you familiarise yourself with the content of the Z codes chapter.

Refer to ICD-10 Volume 2 (Instruction Manual) page 148 for information relating to this chapter.

Please classify the following conditions relating to this chapter.

REVIEW QUESTIONS

EXERCISE 24

Complete medical check up for insurance purposes - no abnormality detected	
Removal of internal fixation device from healed fracture	
Typhoid carrier admitted for testing	
Healthy baby admitted during mother's admission (boarder)	
Elective vasectomy for family planning purposes	
Admitted for peritoneal dialysis	
Operative revision of colostomy	
Removal of plaster from healed fracture of tibia and fibula	
Newborn infant with feeding problem admitted for formula check	
Admitted for intensive physiotherapy (previous multiple fractures now healed)	
Admission following abnormal pap smear	
Prophylactic tubal ligation	
Insertion of Intrauterine Contraceptive Device (IUCD)	
Evacuee following cyclone, accommodation only	
Elderly man admitted for weekend care to relieve daughter	

Admitted for check of right eye, previous left enucleation due to retinoblastoma	
Elective circumcision	

CODES FOR SPECIAL PURPOSES (Chapter XXII)

Codes U00–U49 are utilised by WHO for the provisional assignment of new diseases of uncertain etiology. Codes U50–U99 may be used in research, for example, when testing an alternative subclassification for a special project. Currently the range includes Severe acute respiratory syndrome (SARS), and special codes for bacterial agents resistant to antibiotics.

Module Exercises Answers

EXERCISE 1

1. International Statistical Classification of Diseases and Related Health Problems
2. World Health Organization
3. Not Otherwise Specified
4. Not Elsewhere Classified

EXERCISE 2

1. Fracture of neck of femur

2. Congestive cardiac failure

3. Bright's disease

4. Prostatic hypertrophy

5. Exfoliative dermatitis

6. Supervision of normal pregnancy

7. Delivery complicated by inversion of the uterus

8. Urethral stricture

9. Abscess of brain

EXERCISE 3

1. C41.0

2. S82.0

EXERCISE 4

Meningococcal meningitis	A39.0 G01
Arthropathy associated with ulcerative colitis	K51.9 M07.5 9 (site unspecified)
Dendritic keratitis	B00.5 H19.1
Mumps meningitis	B26.1 G02.0
Syphilitic interstitial keratitis	A50.3 H19.2

Waterhouse Friderichsen syndrome	A39.1 E35.1
Salmonella osteomyelitis	A02.2 M90.2 9 (site unspecified)
Gonococcal arthritis	A54.4 M01.3 9 (site unspecified)
Tuberculous arthritis of hip	A18.0 M01.1 5 (hip)
Arthritis associated with paratyphoid B fever	A01.2 M01.3 9 (site unspecified)
Cytomegaloviral pancreatitis	B25.2 K87.1
Anthrax pneumonia	A22.1 J17.0
Diplococcal meningitis	A39.0 G01
Esophageal varices in alcoholic cirrhosis of the liver	K70.3 I98.2
Cardiac glycogenosis	E74.0 I43.1
Syphilitic aortic stenosis	A52.0 I39.1
Epidemic vertigo	A88.1 H82
Herpesviral meningoencephalitis	B00.4 G05.1

EXERCISE 5

Functional diarrhea	K59.1
Tuberculous pneumonia (Tubercle bacilli found in sputum by microscopy)	A15.0
Murray Valley encephalitis	A83.4
Streptococcal sepsis	A40.9
Malaria	B54
Acute gastroenteritis	A09.9
Rotaviral enteritis	A08.0
Typhoid Fever	A01.0
Viral hepatitis chronic type C	B18.2
Pulmonary actinomycosis	A42.0
Urinary tract infection. MSU positive for pseudomonas.	N39.0 B96.5
Congenital staphylococcal pneumonia	P23.2

EXERCISE 6

Acute erythroleukemia	C94.0
Oat cell carcinoma, left lower lobe of lung	C34.3
Astrocytoma, frontal lobe of the brain	C71.1
Lipoma, spermatic cord	D17.6
Chronic myeloid leukemia	C92.1
Malignant hydatidiform mole	D39.2
Bowen's disease of face	D04.3
Nevus, neck	D22.4
Benign insulinoma of pancreas	D13.7
Paget's disease of nipple	C50.0
Papilloma of bladder	D41.4
Macroglobulinemia	C88.0
Malignant melanoma, calf	C43.7
Osteoma of the tibia	D16.2
Carcinomatosis peritonei	C78.6
Brain tumor	D43.2
Metastatic carcinoma of the liver from the breast	C50.9, C78.7
Secondary cancer of the rectum	C78.5
Undifferentiated small cell carcinoma of the right ovary with metastases to the scapular and axillary lymph nodes	C56, C77.8
Angiosarcoma of the spleen	C26.1
Giant cell glioblastoma involving the frontal and temporal lobe of the brain	C71.8
Transitional cell carcinoma involving the bladder, ureter and kidney	C68.8

EXERCISE 7

Iron deficiency anemia	D50.9
Major thalassemia	D56.1
Allergic eosinophilia	D72.1
Severe Combined Immunodeficiency (SCID)	D81.9
Hemophilia type B	D67
Sarcoidosis of the lung	D86.0
Sickle-cell anemia	D57.1
Anemia in CKD stage 3	N18.3, D63.8
Allergic purpura	D69.0
Neutropenia	D70
Hypogammaglobulinemia	D80.1

EXERCISE 8

Cushing's syndrome	E24.9
Severe malnutrition	E43
Obesity	E66.9
Adult onset diabetes	E11.9

Diabetic nephropathy (patient a 53 year old male diabetic since childhood)	E10.2
Hypokalemia	E87.6
Cystic fibrosis with pulmonary manifestations	E84.0
Late effects of rickets	E64.3
Iatrogenic hypothyroidism	E03.2
Hypercholesterolemia	E78.0
Dehydration	E86
PCOS	E28.2
Addisonian crisis	E27.2
Lactose intolerance	E73.9
Multinodular goiter	E04.2

EXERCISE 9

Use of tobacco	Z72.0
Korsakov's psychosis	F10.6
Acute alcohol intoxication	F10.0
Severe mental retardation	F72.9
Arteriosclerotic multi-infarct dementia	F01.1
Paranoid schizophrenia	F20.0
Hyperventilation syndrome	F45.3
Heller's syndrome	F84.3
Developmental dyslexia	F81.0
Hyperkinetic conduct disorder	F90.1
Developmental disorder	F89
Dementia in epilepsy	G40.9 F02.8
Anxiety state	F41.1
Anorexia nervosa	F50.0
Reactive depression	F32.9
Autism	F84.0
Asperger’s disease	F84.5
Cocaine addiction	F14.2
Heroin addition	F11.2
Crystal methamphetamine (‘ICE’) psychosis	F15.5
Tetrahydrocannabinol (THC) withdrawal	F12.3

EXERCISE 10

Acquired communicating hydrocephalus	G91.0
Pick's disease of brain	G31.0
Meningitis	G03.9
Anoxic brain damage	G93.1
Charcot-Marie-Tooth disease	G60.0
Ataxic cerebral palsy	G80.4
Secondary Parkinsonism due to neuroleptic drugs	G21.0
Myasthenia gravis	G70.0

Multiple sclerosis	G35
Spinal cord abscess	G06.1
Classical migraine	G43.1
Bell's palsy	G51.0
Epileptic petit mal fits	G40.3
Carpal tunnel syndrome	G56.0
Motor neurone disease	G12.2
Alzheimer's type dementia	G30.0+ F00.9*
TIA	G45.9
Sleep apnea	G47.3
Guillain-Barre syndrome	G61.0

EXERCISE 11

Blindness, one eye	H54.4
Juvenile cataract	H26.0
Ocular pain	H57.1
Myopia	H52.1
Oculomotor nerve palsy	H49.0
Retinal haemorrhage	H35.6
Vertical strabismus	H50.2
Open-angle glaucoma	H40.1
Corneal ulcer	H16.0
Dacryolith	H04.5
Diabetic cataract	E14.3+ H28.0*
Ectropion	H02.1
Acute conjunctivitis	H10.3
Retinal detachment	H33.2
Macula degeneration	H35.3

EXERCISE 12

Herpes simplex of external ear	B00.1 H62.1
Glue ear	H65.3
Wax in ear	H61.2
Chronic purulent otitis media	H66.3
Cholesteatoma	H71
Stenosis of eustachian tube	H68.1
Obliterative otosclerosis involving the oval window	H80.1
Tinnitus	H93.1
Benign paroxysmal vertigo	H81.1
Bilateral sensorineural hearing loss	H90.3
Cholesteatoma of ear canal	H60.4
Cholesteatoma of middle ear	H71

Perforation of ear drum	H72.9
Meniere's disease	H81.0
Noise-induced hearing loss	H83.3

EXERCISE 13

Aortic stenosis	I35.0
Mitral regurgitation	I34.0
Secondary hypertension	I15.9
Pulmonary embolism	I26.9
Cor pulmonale	I27.9
Alcoholic cardiomyopathy	I42.6
Arteriosclerotic cardiovascular disease	I25.0
Cerebral aneurysm	I67.1
Myocardial ischemia	I25.9
Myocardial disease	I51.5
Nontraumatic subdural hemorrhage	I62.0
Cerebral infarction	I63.9
Malignant nephrosclerosis	I12.9
Thrombosis of iliac artery	I74.5
Mesenteric adenitis	I88.0

EXERCISE 14

Chronic obstructive lung disease	J44.9
Compensatory emphysema	J98.3
Shock lung	J80
Croup	J05.0
Influenza	J11.1
Asthmatic bronchitis	J45.9
Chronic respiratory disease	J98.9
Pleural effusion	J90
Fibrosis of lung following radiation	J70.1
Aspiration pneumonia	J69.0
Farmer's lung	J67.0
Acute type I respiratory failure	J96.00
Peritonsillar abscess	J36
Nasal polyp	J33.9

EXERCISE 15

Mesenteric thrombosis	K55.0
Incarcerated inguinal hernia	K40.3
Gastric ulcer with hemorrhage	K25.4
Gastric hemorrhage	K92.2
Calculus of bile duct, acute cholecystitis	K80.4

Liver damage from alcohol	K70.9
Malfunction of colostomy	K91.4
Celiac disease	K90.0
Cholangitis	K83.0
Ulcer of esophagus due to ingestion of aspirin	K22.1 Y45.1
Oral mucositis	K12.3
Dental caries	K02.9
Acute appendicitis	K35.8
Paralytic Ileus	K56.0
Ulcerative colitis	K51.9

EXERCISE 16

Alopecia	L65.9
Diaper rash	L22
Abscess on chin	L02.0
Pemphigus vulgaris	L10.0
Poison ivy allergic dermatitis	L23.7
Impetigo	L01.0
Psoriasis	L40.9
Stage I decubitus ulcer	L89.0
Keloid scar	L91.0
Pilonidal cyst	L05.9

EXERCISE 17

Rheumatoid arthritis of left knee	M06.96
Systemic lupus erythematosus	M32.9
Old bucket handle tear of medial meniscus of left knee	M23.23
Ankylosing spondylitis thoracolumbar spine	M45.5
Sciatica due to displacement of lumbar disc	M51.1 G55.1
Osteoarthritis right hip	M16.1
Gonococcal bursitis	A54.4 + M73.0 *
Arthritis associated with ulcerative colitis	K51.9 + M07.59 *
Juvenile osteochondrosis of calcaneum	M92.6
Lumbago	M54.59

EXERCISE 18

Tubular necrosis	N17.0
Nephrogenic diabetes insipidus	N25.1
Hemorrhagic nephrosonephritis	A98.5 + N08.0 *
Cyst of Bartholin's gland	N75.0

Acute proliferative glomerulonephritis	N00.8
Uremia	N19
Cervicitis	N72
Nephropathy	N28.9
Lipoid nephrosis	N04.9
Acute renal failure	N17.9
Cystic breast	N60.1
Chronic kidney disease - stage 4	N18.4
Endometriosis of ovary	N80.1
Urethral stricture	N35.9
Bladder calculus	N21.0
Female rectocele	N81.6

EXERCISE 19

Patient was admitted with an antepartum hemorrhage which settled with bed rest, discharged undelivered.	O46.9
Patient was admitted in severe pain following a ruptured tubal pregnancy. Removal of ruptured tubal pregnancy was performed.	O00.1
This patient was admitted because of deterioration during pregnancy of her longstanding mitral insufficiency. She was discharged following medical assessment of her condition.	O99.4 I34.0 (Optional)
This patient was admitted for a termination of pregnancy because of a CNS malformation of the fetus diagnosed by amniocentesis at the outpatient department. The termination was achieved by injection of Prostaglandin.	O04.9 O35.0 (Optional)
This patient was admitted with symptoms of a threatened abortion. Symptoms settled with bed rest and the patient was discharged undelivered.	O20.0
Patient had a term delivery complicated by a retained placenta without haemorrhage. A manual removal of placenta was performed.	O73.0 O80 Z37.0
Patient admitted in early pregnancy with hyperemesis gravidarum leading to dehydration.	O21.1
This patient with cervical incompetence was admitted for removal of Shirodkar suture. Discharged to await onset of labour.	O34.3
This patient was re-admitted following a previous admission for legal termination of pregnancy because of a haemorrhage.	O08.1

Patient had an obstructed labour due to an inlet contraction of the pelvis. A lower segment cesarean section was performed.	O65.2 O82.9 (Optional) Z37.0
During this labour the baby showed signs of fetal bradycardia so a mid forceps delivery with episiotomy was performed.	O68.0 O81.1 (Optional) Z37.0
Full term normal delivery	O80.9 Z37.0
Spontaneous abortion with dilatation and curettage was performed.	O03.9
This patient was admitted for a termination of pregnancy which was performed by aspiration curettage.	O06.9
The patient was admitted post-dates for induction of labour by artificial rupture of membranes. When this procedure failed to induce the labour, an IV syntocinon drip was used. The baby was delivered with the assistance of low forceps.	O48 O61.1 O81.0 (Optional) Z37.0
This patient was admitted for a booked cesarean section because of a scar from a previous cesarean section. Lower segment cesarean section was performed.	O34.2 O82.0 (Optional) Z37.0
HELLP syndrome	O14.2
Incomplete abortion complicated by renal shut down. Dilatation and curettage performed.	O06.3 O08.4 (Optional)

EXERCISE 20

Premature female infant (34 weeks)	P07.3
Neonatal conjunctivitis	P39.1
Jaundice of newborn	P59.9
Hyaline membrane disease of newborn	P22.0
Anemia due to prematurity	P61.2
Cephalhematoma noted on newborn examination	P12.0
Bacterial sepsis in newborn	P36.9
Neonatal pseudomenses	P54.6
Neonatal difficulty in feeding at breast	P92.5
Liveborn twin, born in hospital	Z38.3

EXERCISE 21

Bat ear	Q17.5
Ankyloglossia	Q38.1
Malrotation of the colon	Q43.3
Congenital bronchiectasis	Q33.4
Congenital tracheomalacia	Q32.0

Trisomy 21	Q90.9
Cleft palate with cleft lip	Q37.9
Esophageal atresia	Q39.0
Tetralogy of Fallot	Q21.3
Congenital hiatus hernia	Q40.1
Webbed fingers	Q70.1
Spina bifida occulta	Q76.0
Thrombocytopenia with absent radius (TAR) syndrome	Q87.2
Conjoined twins	Q89.4

EXERCISE 22

Gangrene	R02
Hepatomegaly	R16.0
Ascites	R18
Excessive blood level of alcohol	R78.0
Excessive thirst	R63.1
Senility	R54
Benign heart murmur	R01.0
Extravasation of urine	R39.0
Cachexia	R64
Sudden infant death syndrome	R95.9
Impaired glucose tolerance	R73.0
Febrile convulsions	R56.0
Rash	R21
Septic shock	R57.2

EXERCISE 23

Laceration of chest. Attacked by man with a knife.	S21.9 X99 Place of Occurrence (PO) 9 Activity 9
Insect bite on eyelid	T14.0 W57 PO 9 Activity 9
First and second degree burns of face and neck. Explosion of engine on board a boat.	T20.2 T31.0 X17 PO 8 Activity 9

Chilblains	T69.1 X31 PO 9 Activity 9
Crushing injury to thigh. Pinned under an overturned farm tractor	S77.1 W30 PO 7 Activity 9
Compound fracture of tibia. Pedestrian hit by car	S82.2 1 – open (optional) V03.1 PO 4 Activity 9
Sprained ankle. Tripped over a dog	S93.4 W64 PO Activity 9
Dislocated jaw. Patient was involved in a brawl	S03.0 Y04 PO 9 Activity 9
Concussion. Hit on head by tree during a landslide	S06.0 X36 PO 9 Activity 9
Traumatic pneumothorax. Passenger on train which collided with another train	S27.0 V81.3 PO 8 Activity 9
Foreign body in nostril	T17.1 W44 PO 9 Activity 9
Pathological fracture of the clavicle	M84.4 1 – shoulder region (optional)
Fracture of the parietal bone of the skull with a subarachnoid haemorrhage. Driver who lost control of motor car which ran off the road and hit a tree in a field	S02.0 0 – closed (optional) S06.6 V47.5 PO 4 Activity 9
Sewing needle in sole of the foot. Stepped on a needle at home	S90.9 W27 PO 0 Activity 9
Recurrent dislocation of the shoulder	M24.4 1 – shoulder region (optional)

Ruptured spleen. Crushed during crowd panic at football game.	S36.0 0 – without open wound into cavity (optional) W52 PO 3 Activity 9

EXERCISE 24

Complete medical check up for insurance purposes - no abnormality detected	Z02.6
Removal of internal fixation device from healed fracture	Z47.0
Typhoid carrier admitted for testing	Z22.0
Healthy baby admitted during mother's admission (boarder)	Z76.3
Elective vasectomy for family planning purposes	Z30.2
Admitted for peritoneal dialysis	Z49.2
Operative revision of colostomy	Z43.3
Removal of plaster from healed fracture of tibia and fibula	Z47.8
Newborn infant with feeding problem admitted for formula check	Z76.1
Admitted for intensive physiotherapy (previous multiple fractures now healed)	Z50.1
Admission following abnormal pap smear	Z12.4
Prophylactic tubal ligation	Z30.2
Insertion of Intrauterine Contraceptive Device (IUCD)	Z30.1
Evacuee following cyclone, accommodation only	Z59.0
Elderly man admitted for weekend care to relieve daughter	Z75.5
Admitted for check of right eye, previous left enucleation due to retinoblastoma	Z08.0
Elective circumcision	Z41.2

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