Education Module for Health Record Practice

Module 5b - Disease & Procedure Classification and Indexing ICD 10

This unit introduces the participant to disease classification and indexing generally and more specifically to the use of the International Statistical Classification of Diseases and Related Health Problems, 10th Revision (ICD-10). The importance of the collection of statistical data on the incidence and distribution of disease and injuries is emphasised.

OBJECTIVES:

At the conclusion of this unit participants should be able to:

1. state the reasons for classifying diseases and procedures
2. describe the function of a disease and procedure index in a hospital
3. outline the content of a disease and procedure index maintained for a teaching hospital
4. differentiate between a simple index and a cross index
5. code diseases and surgical procedures using the International Statistical Classification of Diseases and Related Health Problems, 10th Revision
6. understand that WHO has not published a companion procedure classification for use with ICD-10 but have an awareness of procedure classifications produced by other organisations and agencies.

DISEASE 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 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. We will now look at the ICD-10 in more depth.

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 coding rules.

Volume 2 is 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 recording and coding Morbidity coding

Volume 3 is the comprehensive **Alphabetical index** of the diseases and conditions found in the Tabular list.

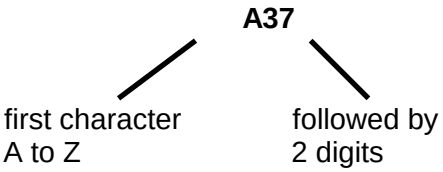
CHAPTERS OF THE ICD-10

The ICD-10 contains 21 chapters, each of which is identified by a Roman Numeral i.e. I, II, III, IV, V etc. When referring to a chapter, you should call it by its chapter number and not by the letters of the codes associated with it. i.e. refer to Diseases of the Digestive System as Chapter XI and not as the K chapter. This is because some chapters contain more than one letter and some letters are used in more than one chapter.

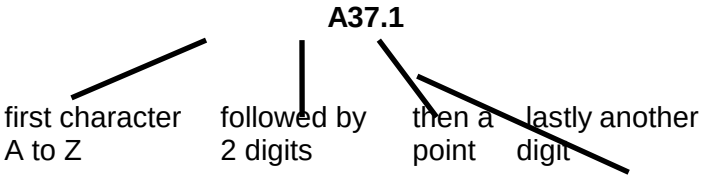
STRUCTURE OF THE ICD-10 CODE

The first character of the code is an alpha character, followed by 2, 3 or 4 numeric characters.

The structure of the 3 character category is:



Most 3 character categories are further subdivided into sub-categories to enable coding of a disease or condition as specifically as possible.



NOTE: In some countries and data collection systems, the decimal point may not be used, but for the purposes of this course the decimal point should be included in all exercises.

VOLUME 1 – THE TABULAR LIST

- Most chapters are associated with particular body systems, special diseases or external factors. There is however one exception which is Chapter XVIII “Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified”.

- 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.

- Four chapters use more than one letter in defining categories.

Chapters using more than one letter:

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 cover all the conditions. 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.

BLOCKS

Each chapter has been divided into blocks. The blocks are then divided into three, four and five digit categories. Have a look at pages 31-104 of Volume 1 – 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 628-629 of Volume 1 – 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**.

1. 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.

  e.g. **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 coded to G91.

2. Exclusion Terms

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

  e.g. **Q74** Other congenital malformations of limb(s) ***excludes*** polydactyly (Q69.-), reduction defect of limb (Q71-Q73), syndactyly (Q70.-) This means that, although polydactly, reduction defect of limb and syndactly are all congenital malformations of the limbs, they are <u>not</u> coded to Q74. Each has its own code number.

3. 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 coding staff to make a diagnosis but is intended as a guide for clinicians to indicate the content of the rubric.

4. Dual Coding

- The **Dagger and Asterisk** system.

The dual coding system of creating combinations of codes through attachment of daggers (†) and asterisks (*) has been used in ICD-10, 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 used for single condition coding. An asterisk code should never be used alone.

There are 83 asterisk categories in ICD-10 which may be used in conjunction with a dagger code, but must not be used alone. Asterisk categories are listed at the beginning of each chapter, block and rubric where appropriate. Have a look at page 389 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:

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† H42.8*

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, anaemia 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 is simply A54.0 *Gonorrhoea*.

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

The dagger and asterisk codes are both given in the alphabetical index at the aetiology (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.

- **Instructional Terms**

In ICD-10 there are some occasions when the classification allows two codes to be used to fully describe a patient's condition. If you are coding 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.

5. Parentheses ( )

Parentheses are used in four ways in Volume 1:

1. To enclose supplementary words, which may follow a diagnostic term without affecting the code number to which the words outside the parentheses would be assigned.

e.g. G11.1 *Early-onset cerebellar ataxia*
Friedrich's ataxia (autosomal recessive)

2. To enclose the code to which an exclusion term refers.

e.g. **B25** *Cytomegaloviral disease* ***excludes*** congenital cytomegalovirus infection (P35.1)

3. To enclose the three-character codes of categories in a particular block.
e.g. Diseases of peritoneum (**K65-K67**)

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

e.g. **K77.0*** *Liver disorders in infectious and parasitic diseases classified elsewhere*
Hepatitis
- cytomegaloviral (B25.1†)

6. 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 on page 182]

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 pages 321-323 for subdivisions]

7. 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.

e.g. G71.0 *Muscular dystrophy*:
autosomal recessive
benign
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.

8. 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.

9. NOS

NOS is an abbreviation for 'not otherwise specified', implying 'unspecified' or 'unqualified'. Coders should be careful not to code 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

10. 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 coding a particular type of chronic hepatitis for which there is no more specific code, you can use the NEC category.

11. "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.

12. 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.-)

CORRECTIONS:

There have been some corrections to the Tabular list which have been included in a corrigenda at the back of volume 3. You should take the time to make these corrections before undertaking coding. Note that if you have a set of coding books printed AFTER 1996, some of the corrections have already been made.

UPDATE PROCESS:

For the first time, WHO is trialling an annual update of ICD-10, rather than the creation of a whole new classification (ie ICD-11). As new codes are added to the ICD-10, or existing codes modified, these are disseminated by the WHO and the WHO Collaborating Centres for the Classification of Diseases to member nations of WHO. A list of the Collaborating Centres is found on page 7 of Volume I. In addition, changes are posted on the WHO Update Reference Committee website at
http://www2.fhs.usyd.edu.au/ncch/WHO%20URC/who_urc.html

These updates need to be made manually to coding books, or electronically by organisations which provide automated coding products. Contact your local Ministry of Health for further information about the updating process in your country.

WHO has stated that a decision regarding the production of ICD-11 will only be made after the conclusion of the trial updating process.

VOLUME 3 – THE ALPHABETIC INDEX

- Volume 3 is an alphabetic index to the Tabular Listing of Volume 1. It consists of:

    - an Introduction, explaining the purpose of the 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 coding. 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 code a bilateral inguinal hernia with gangrene and obstruction, firstly identify the lead term (hernia), then follow the series of indentations in the Index until all of the diagnosis description has been covered.

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

- Code numbers follow the terms in the index and may appear as a 3-digit category or be subdivided with either the appropriate 4th digit or a dash (.-). Where the dual system of coding († and *) applies, both codes are given in the index.

- If you cannot identify the lead term in the 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
legal intervention
war operations
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 index and then in the Tabular list.

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**
- cosmetics (contact) L25.0

2. "NEC"

"Not elsewhere classified" indicates that specified variants of the listed condition are classified elsewhere, and that where appropriate, a more precise term should be looked for in the Index.

e.g. **Fever**
- hemorrhagic
- - viral
- - - specified NEC A98.8

3. Cross-references

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

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

    e.g. Ingestion
        - chemical - *see* Table of Drugs and Chemicals

- "See also" directs the coder to refer elsewhere in the Index if the statement being coded 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 locating codes to accurately describe each clinical case - coders should not fall into the trap of coding straight from the Alphabetical Index.

ASSIGNING A CODE

Coding Procedure

To code a disease using ICD-10, follow these steps:

a) Decide on the lead term in the diagnosis, i.e. the noun in the diagnosis which is the name of the disease, not the site of the disease.

b) Locate the lead term in the alphabetical index (Volume 3) and then check the list of modifiers for any remaining words (adjectives) in the diagnosis.

c) Check the code given in the index with the entry in the tabular list (Volume 1). In this step you are checking for exclusion notes or other instructions which may change your decision to use the code. Follow any instructions given.

d) Assign the code.

As mentioned previously it is ESSENTIAL THAT BOTH BOOKS BE USED TO ALLOCATE THE CODE, because there may be a note in Volume 3 which will change your decision to use the code. Exclusion notes must be followed and you should check for exclusion notes at the fourth character level, the three character level of the code, as well as at the block and chapter level.

For example: to code *'congenital stenosis of the duodenum'* first recognise that the lead term will be stenosis, not duodenum, i.e. THE NAME OF THE DISEASE NOT THE SITE. Turn to the entry for stenosis in the Index (Volume 3) and look through the modifiers listed under this term until you locate duodenum. The code given is K31.5. When this code is checked in Volume 1 you will see that there is an exclusion preventing its use when the diagnosis stated in the record is congenital. K31.5 is the correct code for stenosis of the duodenum when it is not described as congenital. However the code Q41.0, found in round brackets after the exclusion note, is to be used for congenital stenosis of the duodenum. The correct code for our diagnosis is therefore Q41.0.

Hint:

Remember that the coding procedure is composed of two parts:-

- the analysis of the health record to determine what items should be coded and
- the allocation of correct codes.

These two activities are not independent because a thorough reading of the record is necessary to bring to light evidence regarding the patient which may affect the choice of codes.

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

As a minimum:

- the front sheet
- the discharge summary
- operation report
- histopathology report for any tissue removed.

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

- pathology reports - for example to identify the bacteria or virus responsible for an infection - pneumonia, gastroenteritis
- x-ray 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. Coders usually check that all previous admissions have been coded

How many codes should be used?

The level of detail to be coded and the number of codes used 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 code only the principal diagnosis or main condition on each admission.

As a minimum, the principal diagnosis or main condition should be coded. Most hospitals will also code all diseases treated during the admission and sometimes every procedure performed. For research purposes some hospitals will also code rare diseases which the patient has, even if these have not been treated during the admission.

Read the sections in 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 elsewhere in the world.

We will now look at some of the chapters of the ICD-10 in more detail.

CERTAIN INFECTIOUS AND PARASITIC DISEASES (Chapter I)

The purpose of this chapter is to bring together 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. Read them now on page 107 of Volume 1.

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 rule exists in ICD-10 in relation to the **presumption** of **infectious or noninfectious** origin of diarrhoea and gastroenteritis. The code used is dependent on the country in which the patient contracted the condition. This rule only applies where there is no specification as to whether the diarrhoea or gastroenteritis is infectious or non-infectious. If the diarrhoea is presumed to be non-infectious, it should be coded to K52.9 (in the Diseases of Digestive System chapter). If the diarrhoea is presumed infectious, it is coded to Chapter I. The note on page 112 explains this rule.

Have a look at the block B20-B24 and read the note on page 153 of Volume 1. This indicates that 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 used to indicate the manifestation of the HIV disease, codes in the B20-B24 block need only be used 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 coded to chapter I but to one of the following codes:

Z21	Asymptomatic HIV disease
Z20.6	Contact or exposure to HIV
R75	Laboratory evidence of HIV

Block B95-B97 has been designed for identifying the organism or agent responsible for an infectious disease, where the disease is classified elsewhere. Read the instructional note on page 178 which indicates that these codes are not to be used for primary coding or as a principal diagnosis or main condition.

NEOPLASMS (CHAPTER II)

This chapter contains codes in the range C00-D49. It is especially important when coding neoplasms to use **both** Volume 1 and Volume 3 in identifying the correct set of codes

There are three specific aspects to take into account when coding neoplasms are

- the site of the tumour
- the nature of the tumour (also known as the morphology or histological type),
- and the behaviour of the tumour.

Chapter II is organised by **tumour site** along the following lines, in terms of behaviour of neoplasms:

D10-D36	/0 benign neoplasms
D37-D48	/1 neoplasms of uncertain and unknown behaviour
D00-D07	/2 in situ neoplasms
C00-C75 & C81-C97	/3 malignant neoplasms, stated or presumed to be primary lesions
C76-C80	/6 malignant neoplasms, stated or presumed to be secondary lesions.

Morphology describes the structure and type of cells or tissues as seen under the microscope. The tissue of origin and the type of cells that make up a malignant neoplasm often determine the expected rate of growth, the severity and the type of treatment given. Morphology is described by an additional coding system found in the ICD-10. The morphology code numbers are 6 digits long, including the prefix “M”. Use of morphology codes is optional and is not required for international reporting. However, for the purposes of this course, we will learn how to assign morphology codes.

Behaviour indicates how the tumour will behave ie. malignant (primary or secondary), in situ, of uncertain or unknown behaviour or benign. The behaviour is the final digit of the morphology code. If the morphology codes are not used, the behaviour of the tumour can be identified from the range of chapter II codes as noted above. Sometimes the ICD-10 Index indicates the behaviour of a neoplasm (because the histological type always acts in a certain pattern) but, when coding, if the clinician (doctor or pathologist) overrides the expected behaviour then accept the override in that particular case e.g. **adenoma** is usually **benign**, but if clinician documents a case with **malignant adenoma** code the case as such.

The Table of Neoplasms is included in Volume 3 starting on page 369. The Table of Neoplasms includes the Chapter II codes for each anatomical site of tumour. For each site, there are five possible code numbers according to the behaviour of the tumour. If the diagnosis you are coding does not describe the behaviour of the tumour, you should look up the morphology in the rest of the Index for guidance as to how the tumour should be coded. E.g. Mesonephroma - *see* Neoplasm, malignant. You would therefore use the malignant primary tumour or malignant secondary tumour from the Table of Neoplasms, depending on the diagnosis.

Check the Table of Neoplasms on pages 369-401 of the Alphabetical Index and look at how it
is structured. Read also the notes on page 369 regarding the use of the hash symbol (#) and the diamond symbol (□).

- In Chapter II, the 4th digit **.9** is for **unspecified site** and **.8** is for **overlapping lesions of contiguous sites.** Read Note 5 on page 182 regarding to a single neoplasm which overlaps two or more categories or subcategories. The note does not refer to multiple sites or metastases. This note states:
    - (i) if the point of origin of a neoplasm is known – code to that site,
    - (ii) if point of origin is not known, and
        - the neoplasm overlaps two or more subcategories **within** a three character category, code to the .8 subcategory within the three character category, or
        - neoplasm **overlaps** the boundaries of two or more three character categories, use one of the codes in the list on page 183 of Volume 1.

- At the back of the Tabular List, is a Table of Morphology of Neoplasms. This table consists of a comprehensive but not exhaustive list of morphological types of neoplasms; the coder should be aware that if the behaviour type being sought is not listed with the histological type then the final digit can be changed (if this is clinically correct) for example, many malignant neoplasms are listed only with the morphology code for the primary lesion; if a secondary lesion needs to be coded, change the final "3" to "6" and the code is correct. Read the notes on pages 1179-1181 of the Tabular List for a further explanation.

Metastases

Malignant neoplasms spread in the human body to new sites by 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. The word metastases is also used to describe the secondary site. 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. Metastatic carcinoma of the liver from the breast, indicates that the primary site is the breast, and the secondary site is the liver. 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.

Hint:

To find a code for a neoplasm, firstly look up the morphological type as the lead term. The Index might provide a specific code. If it does not, refer to the Table of Neoplasms for the site of the tumour.

Example:

To find the correct site and morphology codes for a female patient suffering from lobular carcinoma arising in the lower outer quadrant of the left breast.

Step 1:
Look up the lead term, *carcinoma,* in the Alphabetical Index.

Carcinoma
- lobular (infiltrating) (M8520/3)
- - specified site - *see* Neoplasm, malignant

Step 2:
The morphology you are given is M8520/3. Confirm that the behaviour (/3) is appropriate for the tumour being described. /3 indicates a primary malignancy and is therefore appropriate for this case. The diagnosis states that the tumour is arising from the left breast, which means that this is the primary site – where the tumour began to grow.

Step 3:
Check the morphology (M8520) in the Table of Morphology of Neoplasms in Volume 1. The morphology is correct for this case.

Step 4:
As the Index has not given us a code for the cancer site, look up the Table of Neoplasms in volume 3. Use the alphabetic listing of anatomical sites to find the entry for 'breast'. Note the subdivisions under the lead term for different parts of the breast. Find the section for the lower outer quadrant.

Step 5:
Find the code across the row that corresponds to the column *Malignant primary* tumour. We are told that the tumour arose in the patient's breast; it is therefore a primary tumour and not a metastasis. The correct site or Chapter II code is therefore C50.5.

Step 6:
Confirm your code selection in Volume 1 of the ICD-10. Check whether there are any relevant exclusion notes.

Step 7:
Assign the codes. The codes for this case are C50.5, M8520/3

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 includes 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 endocrine and metabolic disturbances specific to the fetus and newborn. Anemia complicating pregnancy or the puerperium is excluded from this chapter. All cancers of the blood, such as leukaemia, are coded to Chapter II. Read the list of exclusions on page 249 before you start to code from this chapter.

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:

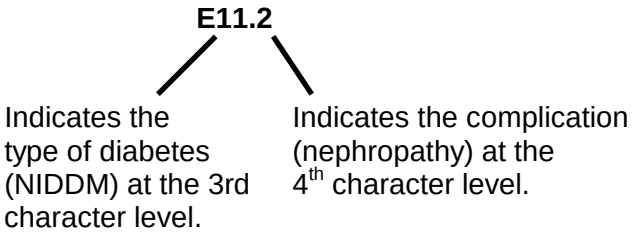
- Endocrine and nutritional disorders which are specific to the fetus and newborn, or which complicate the pregnant state;
- Symptoms, sign and abnormal clinical findings without an associated diagnosis

Have a look at the block E10-E14, which relates to diabetes mellitus. Note that the preferred terms for the different types of diabetes are now insulin-dependent diabetes mellitus (IDDM) and non-insulin dependent diabetes mellitus (NIDDM), rather than Type I and Type II diabetes 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:



Block E40-E46 is to be used for coding malnutrition which is principally associated with chronic insufficiency or inappropriateness of diet. There is a lengthy note on page 290 which should be read 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.

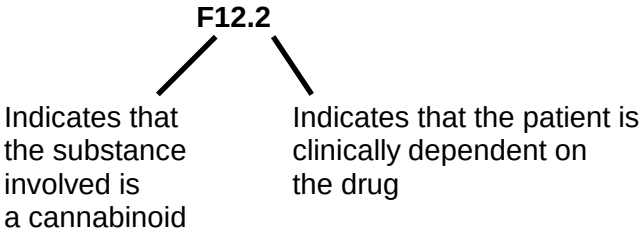
MENTAL AND BEHAVIOURAL DISORDERS (CHAPTER V)

The range of codes in Chapter V is F00-F99. The chapter contains the codes for 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 covers organic mental disorders. That is, those disorders resulting from a physical cause (e.g. dementia in Alzheimers disease).

Have a look at the block F10-F19, which covers 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:



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 369 of Volume I. Because the fourth characters are listed under the block title, this means that they apply to all codes in the block.

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 Infectious and Parasitic diseases.

Alzheimer's disease is coded 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 periodically, such as G40 *Epilepsy*. This disorder is coded firstly by type of epilepsy and then by type of seizures. Be aware, however, that seizures or fits NOS are not coded to epilepsy but should be classified to the Signs and Symptoms chapter.

Read the notes under each code title in block G80-G83. These are codes for describing paralytic syndromes but should not be used for primary coding (as the main condition) unless there is no documentation to specify the cause of the paralysis.

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 429 of Volume 1. 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 used with a dagger (†) code from the range E10-E14†).

The block H3-H54 is for visual disturbances and low vision. Have a look at the table on page 457. This table is designed to assist with the assignment of codes from H54 *Blindness and low vision*. 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.

DISEASES OF THE EAR AND MASTOID PROCESS (Chapter VIII)

This is another relatively small chapter, with codes ranging from H60-H95. 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 coded as either suppurative or non-suppurative, or as a consequence of diseases classified elsewhere.

Note that in ICD-9 diseases relating to the eye and the ear were coded together with nervous system disorders, in the same chapter. In ICD-10 these disorders have been separated into chapters of their own.

DISEASES OF THE CIRCULATORY SYSTEM (Chapter IX)

This chapter covers diseases of the organs and vessels involved in the circulation of blood and lymph, however it does not cover disorders of the blood itself. These are found in Chapter III. The categories in the chapter range from I00-I99. It is important to be careful when using codes from this chapter because the letter 'l' 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 classification assumes that most valvular diseases are rheumatic. Coders need to read the exclusion and inclusion notes carefully to ensure that the correct codes are used. Disorders of the aortic valve are included in these blocks regardless of whether they are specific as rheumatic or not.

Hypertension and hypertensive disorders are found in the block I10-I15. There is no differentiation between hypertension that is described 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 4th character level the presence of heart failure or renal failure is classified.

Have a look at page 477 of volume 1 and read the note relating to the block 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 478 under 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 accepted. For patients who suffer a second or subsequent myocardial infarction within four weeks of their original infarction, this can be coded to 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 used. If a myocardial infarction is described as old or healed, then code I25.2 should be used. The inclusion and exclusion notes guide the coder and should help with selection of the correct code.

DISEASES OF THE RESPIRATORY SYSTEM (Chapter X)

Chapter X relates to 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. There is a specific 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 Index, it should be classified to the lower anatomical site eg. tracheobronchitis is coded to bronchitis (J40), not tracheitis plus bronchitis (J04.1 + J40). This coding rule is to be found at the beginning of the chapter. In practice, however, the 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 J10-J18, the codes for influenza are divided depending on whether the virus causing the influenza has been identified (J10.-) or not (J11.-). Pneumonia documented by a doctor without further detail, is coded to J18.1 *Lobar pneumonia, unspecified*.

Block J20-22 is for acute lower respiratory tract conditions. Note that where bronchitis is recorded without further specification as to whether it is acute or chronic, it should be coded to J20.9 *Acute bronchitis, unspecified* if the patient is under 15 years of age. J40 *Bronchisits not specified as acute or chronic* is to be used 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 coding asthma. J45 is for coding the different types of asthma, except when the asthma is described as acute severe asthma (code to J46 *Status asthmaticus*) or chronic severe asthma with or without bronchitis (code to J44.- *Other chronic obstructive pulmonary disease*). Read the 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 coded to the block J60-J70.

DISEASES OF THE DIGESTIVE SYSTEM (Chapter XI)

This chapter, which contains codes from K00-K99, is for diseases and disorders of the alimentary tract. Except for the block K40-K46 (*Hernias*), the codes in the range K00-K63 are arranged anatomically from mouth to anus. Following these are codes for conditions in the other main organs associated with digestion.

Have a look at the block K25-K28 *Ulcers*. Note that the site of the ulcer is coded at the three 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 block K40-K46 is for coding both congenital and acquired hernias, except for congenital diaphragmatic hernia and congenital hiatus hernia. These two conditions are coded to Chapter XVII. Hernias are coded firstly by site of the hernia at the three character level. The fourth character is used to indicate whether the hernia is described as either obstructed or gangrenous. Note that if a hernia is documented as both gangrenous and obstructed, only the gangrene need be coded, as this is the ultimate outcome of the 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, diverticullum and diverticulitis at the three character level. The fourth character is used to code perforation or abscess.

DISEASES OF THE SKIN AND SUBCUTANEOUS TISSUE (Chapter XII)

The codes in this chapter range from L00-L99. Be careful in coding from this chapter as there are many exclusion notes, both at the start of the chapter and at block and category level. You will need to read these carefully to ensure that you code 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 598 which specifies that many infectious conditions are coded to Chapter I. A further instruction indicates that it is possible to add an additional codes 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 and are taken to mean the same thing. These diagnoses are coded to the block L20-L30. Dermatitis which is due to contact with a substance which causes an allergic reaction can be coded to L23, whereas dermatitis due to exposure to a substance which causes a skin irritation is coded to L24. Be careful of the cross-references and exclusions in this section. It is also possible to specifically code 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 (block L60-L75) includes conditions of the nails and hair and diagnoses such as acne and disorders of the sweat glands.

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

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

Have a look at pages 628-629. 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 [See sites codes pages 628-629] 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 hospital or Ministry of Health, according to specific research interests. There is no requirement to report codes from the subclassification to 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 coded does not fit into any other category. The codes are very non-specific.

The first block in the chapter M00-M03 is for the coding of infectious arthropathies. A note on page 629 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 eg 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 apear to be multiplying in the joint - this is called a postinfective athropathy and generally is evident following an acute infection eg M03.0 *Postmeningococcal arthritis*.

Block M15-M19 is for the coding of athroses. Note that the term ‘arthrosis’ is used interchangeably with osteoarthosis 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 arthosis has been identified.

DISEASES OF THE GENITOURINARY SYSTEM (Chapter XIV)

Codes in this chapter range from N00-N99 and describe 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 (eg chronic nephrotic syndrome). The fourth characters, which are found on page 680, specify the morphological changes caused by the syndrome (eg focal and segmental glomerular lesions).

The block N17-N19 *Renal failure* distinguishes acute from chronic renal failure, with various manifestations of the renal failure coded 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 coded to other chapters eg I12.0 *Hypertensive renal disease*.