ICD-11

A Comprehensive Interactive Training Course for ICD-11

STUDENT WORKBOOK

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EDITORS' MESSAGE

The *International Classification of Diseases, 11th Revision (ICD-11)* is an essential tool for global health management, providing a standardized language for reporting and monitoring health conditions. As part of the Bloomberg Philanthropies Data for Health Initiative, training in ICD-11 is vital for enhancing Civil Registration and Vital Statistics (CRVS) systems. Effective CRVS systems are foundational for public health planning, policymaking and ensuring health equity.

In partnership with the Bloomberg Philanthropies Data for Health Initiative, the CDC Foundation developed a curriculum for ICD-11 training called "ICD-11: Training Curriculum For ICD-11 Morbidity & Mortality Coders." To supplement the ICD-11 curriculum, we created this interactive training course comprising of this workbook and accompanying answer book as a practical, exercise-based training module.

Financial support was provided by the Bloomberg Philanthropies Data for Health Initiative through the CDC Foundation with a grant from Bloomberg Philanthropies.

This workbook was developed by Dr. Saman Gamage and Francis Notzon, Senior Technical Advisors at the CDC Foundation. The editors would like to acknowledge Kathy O'Brien, Senior Mortality Classification Specialist, Statistics Canada, for reviewing the workbook and answer book.

This resource was developed with the following objectives:

1. To provide clear guidance on ICD-11 coding principles, enhancing understanding and practical application among learners.

2. To establish consistent training protocols that can be implemented uniformly across various regions, countries, and centres, ensuring a shared understanding and application of ICD-11.

3. To promote collaboration among health professionals and organizations involved in CRVS, encouraging knowledge sharing and best practices for ICD-11 implementation.

4. To support in-person and virtual training courses for ICD-11, while also enabling self-learning as for those who do not have access to formal training or as pre-reading before attending in-person or virtual training courses.

Structure

The ICD-11 workbook comprises 30 modules that cover all aspects of ICD-11, including its tools, individual chapters on body systems and specific diseases, and practical aspects of implementation and dealing with ICD-11 updates. The answer book contains solutions to the exercises in the workbook.

This document is based on the content from the *International Classification of Diseases Eleventh Revision (ICD-11)* developed by the World Health Organization (WHO). We also adapted some exercises from existing ICD-10 materials, such as *An Interactive Training Course for ICD-10* (National Centre for Classification in Health, Queensland University of Technology, Brisbane, Australia). (NCCH 2008)

Users should be aware that the answers to the examples and exercises may vary as ICD-11 content is updated. If you encounter such variations, please email the editors so revisions can be made.

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MODULE 1

1 INTRODUCTION AND PURPOSE

1.1 Overview of ICD-11

The International Classification of Diseases 11th Revision (ICD-11) is a globally recognized system developed by the World Health Organization (WHO) for diagnosing and coding diseases, disorders, injuries and other health conditions. Released in 2018 and officially adopted in 2022, ICD-11 reflects advancements in medicine, healthcare delivery and modern diagnostic practices, making it more detailed and user-friendly compared to its predecessor, ICD-10.

The ICD has been designed to address the needs of a broad range of use cases: mortality, morbidity, epidemiology, case mix, quality and safety, and primary care. A situation may arise that anticipates using the ICD-11 for a purpose for which it has not been designed. In this situation, the categorization used within the ICD-11 and its additional features may not be able to address such a new use case. In such cases, users are advised to consult with WHO to ensure that the information collected is appropriate to the intended new use.

1.2 Importance of ICD-11

- Global Standardization: ICD-11 ensures uniformity in health data reporting across countries, enabling comparison and sharing of health statistics globally.
- Improved Clinical Care: The classification system supports accurate diagnosis and treatment, thus enhancing patient care by enabling better communication among healthcare professionals.
- Public Health Monitoring: ICD-11 helps track public health trends, including disease outbreaks and health risks, which are critical for planning and evaluating health policies and interventions.
- Health Research and Analytics: The expanded codes in ICD-11 allow for more precise data collection, enabling deeper insights into diseases, treatments and outcomes, improving evidence-based medicine and health research.

1.3 The Purposes of Clinical Coding

Clinical coding is the translation of diseases, health-related problems and procedural concepts from text to alphanumeric codes for storage, retrieval and analysis. Coding permits easier storage, retrieval and analysis of data. It allows data comparisons between hospitals, districts, provinces, countries and regions.

The purpose of coding includes the following:

- Clinical research and epidemiological analysis
- Funding and resource allocation
- Education and quality assurance
- Health services planning and evaluation
- Utilization reviews

EXERCISE 1

1. Which of the following statements describe the purposes of clinical coding?
    a. Clinical research and epidemiological analysis
    b. Funding and resource allocation
    c. Education and quality assurance
    d. Health services planning and evaluation
    e. Diagnosis and treatment of diseases

1.4 Objectives of the Coding Guidelines

- Ensure Consistency: The guidelines ensure that ICD-11 codes are applied uniformly across different healthcare settings and professionals, improving consistency in health documentation.
- Facilitate Accurate Coding: The guidelines provide healthcare professionals with detailed instructions to ensure accurate coding of diagnoses and health conditions, reducing errors and ambiguity in the coding process.
- Improve Data Quality: The guidelines help maintain the quality and reliability of health data by standardizing the coding process, ensuring it can be effectively used for clinical decision-making, research and policymaking.
- Support Healthcare Efficiency: Proper coding under ICD-11 streamlines billing, insurance claims and health reporting, contributing to more efficient and transparent healthcare management systems.

1.5 The Principles of Classification

A classification is a system of categories or groupings to which diseases, injuries, conditions and procedures are assigned according to established criteria. It is the element of grouping similar terms which distinguishes a statistical classification from a nomenclature. A nomenclature has a separate name or title for every disease or procedure concept, making it extensive and detailed.

ICD is a statistical classification, which means that it contains a limited number of mutually exclusive code categories that describe all disease concepts. The classification is hierarchical in structure, with subdivisions to identify broad groups and specific entities. It includes specific rules to guide its use. A statistical classification differs from a nomenclature, which can consist of more than one term for a disease or concept.

A disease classification is used:

- To allow easy storage, retrieval and analysis of data.
- To allow comparisons of data between hospitals, provinces or countries.
- To allow comparisons in the same location across different time periods.

EXERCISE 2

1. A disease classification is used: (*Please select all that apply.)*
    a. To allow easy storage, retrieval and analysis of data.
    b. To allow comparisons of data between hospitals, jurisdictions or countries.
    c. To allow comparisons in the same location across different time periods.
    d. To plan treatment of chronic diseases.
    e. For the continuation of patient care.

1.6 The History of ICD

Sir George Knibbs, an eminent Australian statistician, credited Francois Bossier de Lacroix (1706–1777) with the first attempt to classify diseases systematically. The classification of disease by William Cullen (1710–1790), of Edinburgh, was published in 1785 under the title Synopsis Nosologiae Methodicae and was in use at the beginning of the nineteenth century. William Farr, the first medical statistician, who worked in the newly formed General Register Office of England and Wales in the mid-1800s, further developed the work of both men. Farr's work formed the basis of a recommendation to create the International List of Causes of Death, which was presented to the first International Statistical Congress in Brussels in 1853.

Although modified in 1874, 1880 and 1886 to suit the needs of the time, Farr's classification did not receive universal acceptance despite his best efforts to promote it. The general arrangement of the classification—which included the principle of classifying diseases according to body site—became the basis for work carried out by Dr Jacques Bertillon from Paris.

A committee chaired by Jacques Bertillon (1851–1922), the city of Paris's chief of statistical services, was entrusted with preparing a classification of cause(s) of death during a meeting of the International Statistical Institute in Vienna in 1891.

The Bertillon classification of causes of death received general approval and was adopted by several countries. It was suggested that classification should be revised every 10 years.

Revisions were completed under Bertillon leadership in 1900, 1910 and 1920. After Bertillon the fourth revision followed in 1929, while the fifth revision was carried out in 1938 in Paris.

The World Health Organization (WHO) was given the responsibility of the next revision of the international list of causes of death and the establishment of international lists of causes of morbidity at an international health conference held in New York in 1946.

The sixth revision of the ICD was completed in 1948. Until then, ICD was used only for mortality coding. Starting with the sixth revision, ICD started to code morbidity too. The seventh revision followed in 1955, the eighth in 1965 and the ninth in 1975, which was finalized in Geneva.

Work on the tenth revision (ICD-10) began in 1983. It became endorsed by the 43rd World Health Assembly in 1990 and first used by member states in 1994. The need for an 11th revision was first proposed at the 2006 WHO Family of International Classifications (WHO-FIC) meeting held in

Iceland. In 2007, WHO announced the beginning of the work to create ICD-11. For the first time, WHO invited stakeholders to participate in the ICD revision through an online platform.

This update was vital to keep up with recent progress in medicine, the use of information technology in the field of health, and to improve the basis for international comparisons. ICD-11 will start being implemented internationally from 2022.

EXERCISE 3

1. Who proposed the first cause of death classification system most countries accept?
   a. William Farr
   b. Sir George Knibbs
   c. Jacques Bertillon
   d. Francois Bossier de Lacroix
   e. Marc Jacob D'Espine

The content in this chapter is sourced from the World Health Organization's International Classification of Diseases Eleventh Revision (ICD-11). Please refer to the International Classification of Diseases Eleventh Revision (ICD-11). Geneva: World Health Organization; 2022.

MODULE 2

Introduction to ICD-11 Structure, Taxonomy and Coding Conventions

MODULE 2

2 INTRODUCTION TO ICD-11 STRUCTURE, TAXONOMY AND CODING CONVENTIONS

2.1 Introduction to the International Classification of Diseases 11th Revision

The ICD has been designed to address the needs of a broad range of use cases: mortality, morbidity, epidemiology, case mix, quality and safety, and primary care. A situation may arise that anticipates using the ICD-11 for a purpose for which it has not been designed. In this situation, the categorization used within the ICD-11 and its additional features may not be able to address such a new use case. In such cases, users are advised to consult with WHO to ensure that the information collected is appropriate to the intended new use.

2.1.1 WHO Family of International Classifications

The WHO Family of International Classifications (WHO-FIC) comprises classifications that WHO has advocated to describe various aspects of health and the health system in a consistent manner.

The WHO-FIC provides standardized building blocks for health information systems and consists of three broad groups:

a. Reference Classifications
b. Derived Classifications
c. Related Classifications

The Reference and Derived Classifications are based on the Foundation Component, which is a large collection of terms and their relationships that describe health and health-related domains.

The Reference Classifications are ICD (International Classification of Diseases), ICF (International Classification of Functioning, Disability and Health), and ICHI (International Classification of Health Interventions). The ICD covers terms related to diseases and health-related problems.

Those pertaining to functioning are under ICF, and those related to interventions under ICHI. Terms from the Foundation Component may be used in more than one Reference Classification.

Derived Statistical Classifications and Tabulations (“Derived Classifications”) draw on terms that may come from one or more of the Reference Classifications. Some examples of Derived Classifications are ICD-O (Oncology), ICD-MSD (Musculoskeletal Disorders), ICD-DA (Dental Adaptation) and ICD-R&O (Rheumatology and Orthopaedics).

Related Classifications are regarded as complementary to the Reference and Derived Classifications within the WHO-FIC Family. They have their own sets of terms but can also share terms within the WHO-FIC Family. For example, the International Classification of Nursing Practice (ICNP), a Related Classification in the Family, draws on terms from the Foundation Component in the same way that the Reference and Derived Classifications do, while using nursing-specific terms not yet part of the Foundation Component, but which may be added in the future.

The purpose of WHO-FIC is to support the development of reliable statistical systems at local, national and international levels, with the aim of improving health status and health care. The classifications are owned by WHO or other authorized groups. In some cases, more detail than what ICD provides is needed for health-related information. These additional information needs are covered by a group or "family" of health-relevant classifications.

The WHO-FIC authorizes a suite of combined classification products that share similar features. These can be used individually or together to provide information on different aspects of health and healthcare systems. For example, morbidity and mortality are mainly captured by ICD as a Reference Classification. Functioning is classified in the International Classification of Functioning, Disability and Health (ICF) and health interventions in the International Classification of Health Interventions (ICHI).

Figure: WHO Family of International Classification (Ref: ICD-11 Reference Guide)

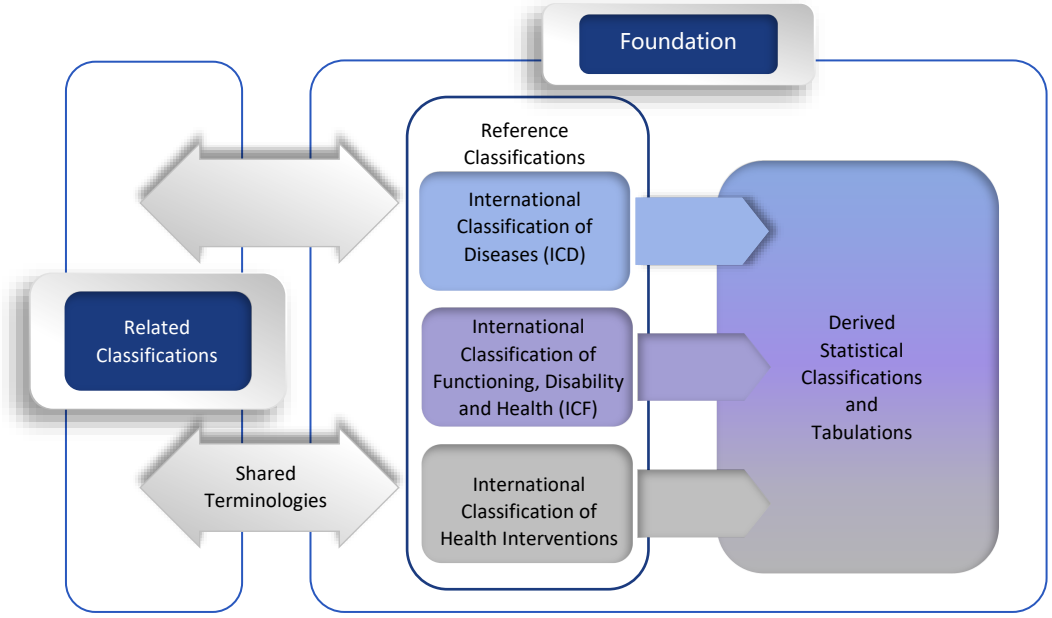


Figure 2-1 - WHO Family of International Classification (Ref: ICD-11 reference guide)

2.2 Structure and Taxonomy of the ICD Classification System

2.2.1 Taxonomy

In a statistical classification, the categories are limited in number, and similar diseases are grouped under a single category or code. Such a classification can permit different levels of detail if it has a hierarchical structure and subdivisions. A statistical classification of diseases should both identify specific disease entities and allow data to be presented for broader groups, so the information remains useful and understandable.

The same general principles apply to the classification of other health problems and reasons for contact with healthcare services, which are also incorporated in the ICD. The ICD has been developed as a practical tool, rather than a purely theoretical one, with compromises between classifications by aetiology, anatomical site, circumstances of onset or other criteria. Further, coding decisions are based not only on clinical criteria but also on other public health and epidemiological factors.

ICD-11 can combine several codes to describe a clinical condition at the desired level of detail. Its electronic architecture can assign unique identifiers to any listed condition—whether the condition is grouped in a statistical class or whether it represents a class of its own. Together, the two approaches allow coding to remain simple when diagnostic detail is limited, while also providing the option to add detail when diagnostic reporting requires a higher level of sophistication.

2.2.2 Chapter Structure of ICD-11

The ICD is a variable-axis classification. Its structure was developed from the model proposed by William Farr in the early days of international discussions on classification, which included:

- Epidemic diseases
- Constitutional or general diseases
- Local diseases arranged by site
- Developmental diseases
- Injuries

These groups remain in the chapters of ICD-11. The structure is time-tested and, though in some ways arbitrary, is still regarded as more useful for general epidemiological purposes than any tested alternatives. The conservation of the structure acknowledges the need for stability while allowing the incorporation of additional sections.

2.2.3 ICD-11 Chapters

ICD-10 has 22 chapters, while ICD-11 has 26 chapters. The following diagram shows the chapters newly added to ICD-11.

1	Certain infectious or parasitic diseases	
2	Neoplasms	
3	Diseases of the blood or blood-forming organs	
4	Diseases of the immune system	New
5	Endocrine, nutritional or metabolic diseases	
6	Mental, behavioural or neurodevelopmental disorders	
7	Sleep-wake disorders	New
8	Diseases of the nervous system	
9	Diseases of the visual system	
10	Diseases of the ear or mastoid process	
11	Diseases of the circulatory system	
12	Diseases of the respiratory system	
13	Diseases of the digestive system	
14	Diseases of the skin	
15	Diseases of the musculoskeletal system or connective tissue	
16	Diseases of the genitourinary system	
17	Conditions related to sexual health	New
18	Pregnancy, childbirth or the puerperium	
19	Certain conditions originating in the perinatal period	
20	Developmental anomalies	
21	Symptoms, signs or clinical findings, not elsewhere classified	
22	Injury, poisoning or certain other consequences of external causes	
23	External causes of morbidity or mortality	
24	Factors influencing health status or contact with health services	

25	Codes for special purposes	
26	Supplementary chapter on traditional medicine conditions - Module I	New
V	Supplementary section for functioning assessment	New
X	Extension codes	New

2.2.4 New Chapters

ICD-10 Chapters	ICD-11 Chapters
Chapter III - Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism	Chapter 3 – Diseases of blood or blood-forming organs
	Chapter 4 – Diseases of the immune system
Chapter V – Mental and behavioural disorders	Chapter 6 – Mental behavioural or neurodevelopmental disorders
	Chapter 7 – Sleep-wake disorders
Chapter XIV – Diseases of the genitourinary system	Chapter 16 – Diseases of the genitourinary system
	Chapter 17 – Conditions related to sexual health

Figure 2-2 - New chapters in ICD-11

Important points to note

- ICD-10 has 22 chapters and uses all 26 letters in the codes at the first character position
- ICD-11 comprises 26 chapters
- Chapter numbering uses Arabic numerals, not Roman numerals as in ICD-10
- Chapters 1–9: the first character of the codes is the chapter number (1 to 9)
- Chapters 10–26: the first character of the codes is an English letter (A – S except “I” and “O”)
- “X” is the first character in extension codes
- “Y” is reserved for other specified categories
- “Z” is reserved for the residual category “unspecified”

EXERCISE 1

1. Compared to ICD-10, what are the new chapters added to ICD-11?

2. What is the first character used in the codes in chapter 20?

2.2.5 ICD-11 Code Structure

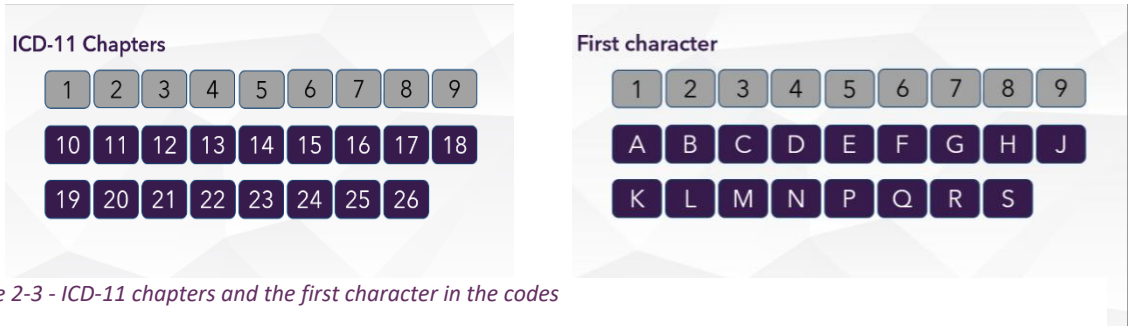


Figure 2-3 - ICD-11 chapters and the first character in the codes

2.2.5.1 Comparison of ICD-10 and ICD-11 Code Structures

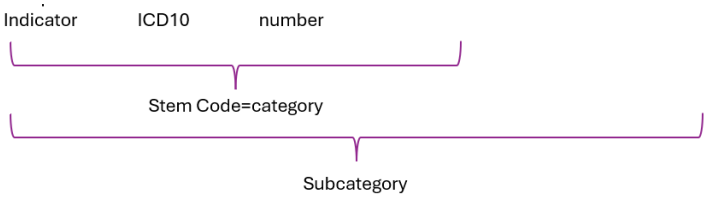
ICD -10 Code Structure	ICD -11 Code Structure

• Codes are alphanumeric
• Range: A00 – Z99
• Coding scheme for categories:
  ○ minimum of three characters,
  ○ maximum of five characters (i.e., two levels of subcategories).
• Always a letter in the first position
• The letter "U" was not used originally
• Subsequently assigned codes for special purposes – e.g., COVID-19, SARS
	• Codes are alphanumeric
	• Range: 1A00.00 to ZZ9Z.ZZ
	• Coding scheme for categories:
	  ○ minimum of four characters,
	  ○ maximum of six characters (i.e., two levels of subcategories).
	• Always a letter in the second position to distinguish from ICD-10 codes
	• The letters "O" and "I" are omitted to prevent confusion with the numbers "0" and "1"
	• The first character of the code always relates to the chapter number (1-S)
	• Forced number at the third character (prevent spelling undesirable words)
	• E.g.:BA50–Old myocardial infarction
	⬆ Forced number
	If not for the forced number "5", this may be spelled as BAD0

Figure 2-4 - Comparison of ICD-10 and ICD-11 code structures

2.2.5.2 ICD-11 Code Anatomy

Figure 2-5 - ICD-11 code anatomy



2.2.5.3 Coding Scheme

- In ICD-11, the first character of the code always relates to the chapter number. It may be a number or a letter. The code range of a single chapter always has the same character in the first position.
- The coding scheme always has a letter in the second position to differentiate from the codes of ICD-10.
- The codes of the ICD-11 are alphanumeric and cover the range from 1A00.00 to ZZ9Z.ZZ. Codes starting with "X" indicate an extension code (see Extension codes).
- The inclusion of a forced number at the third character position prevents spelling undesirable words.
- The letters "O" and "I" are omitted to prevent confusion with the numbers "0" and "1".
- The first character indicates chapters. For example, 1A00 is a code in Chapter 1, while BA00 is a code in Chapter 11 (chapters 1–9 begin with numerals, and chapters 10–26 begin with letters A–S, excluding O and I).

EXERCISE 2

1. What is the minimum number of characters in an ICD-11 code?

2. What is the maximum number of characters in an ICD-11 code?

3. Please state whether the following statements about ICD-11 are true or false.
   a. Chapters are numbered in Roman numerals. ……..
   b. The first character of the code is always a number related to the chapter number. ……..
   c. ICD-11 codes always have a letter in the second position to differentiate them from ICD-10 codes. ……..
   d. The forced number in the third character position prevents spelling undesirable words. ……..
   e. DA00.Y is a code in Chapter 13. ……..

2.2.5.4 ICD Print and Electronic Versions

The ICD provides a standard for reporting, coding, selecting and tabulating conditions for different use cases. It provides guidance on finding the right code for a reported condition.

In the electronic version of the ICD, most information is interlinked and visible in the relevant context. The Reference Guide is the only additional document required when coding with ICD-11.

In the print version, the information is divided into three volumes: the Tabular List, the Reference Guide and the Index. All three are needed to use the ICD correctly.

1. Tabular List	Volume 1 contains the Tabular List, an alphanumeric listing of diseases and disease groups, along with inclusion and exclusion notes and coding conventions and rules. Chapters 1–25 of the ICD contain approximately 15,000 entities at the four-, five- or six-character level. In addition, there is a section on extension codes and one on traditional medicine. At the end of Volume 1, the special tabulation lists are presented. These are designed for tabulation only.
2. Reference Guide	The Reference Guide introduces the context, components and intended use of the ICD. It describes the varied components of ICD–11, provides guidelines for certification, recording, rules for mortality coding (i.e., causes of death) and morbidity coding (e.g., hospital statistics). It also includes lists for tabulation of statistical data.
3. Index	The Alphabetical Index is a list of approximately 120,000 clinical terms (including synonyms or phrases). It is used to identify the relevant ICD codes or code combinations for terms. Mention of a term in the Index exclusively serves coding purposes.

Figure 2-6 - ICD print and electronic versions

2.2.6 General Features of ICD-11

The main structural innovation of ICD-11 is that it is built on a Foundation Component from which the Tabular List (the statistical classification for morbidity and mortality) can be derived.

2.2.6.1 Block Codes

- Higher-level entities in ICD-11 (called “blocks”) may be used for reporting aggregated statistics.
- However, blocks do not have category codes as they should not be used for coding.
- Blocks have unique URIs (e.g., the URI for neoplasms is http://id.who.int/icd/entity/1630407678).
- Blocks may also be referred to by block IDs.
- The code structure for block IDs is 11 characters long (e.g., “BlockL1-1A0”).

2.2.6.2 Stem Codes

Stem codes are codes that can be used alone. They are listed in the Tabular List of ICD-11 for Mortality and Morbidity Statistics (MMS). Stem codes may be entities or groupings of high relevance, or clinical conditions that should always be described as one single category.

The design of stem codes ensures that, in use cases requiring only one code per case, a meaningful minimum of information is collected.

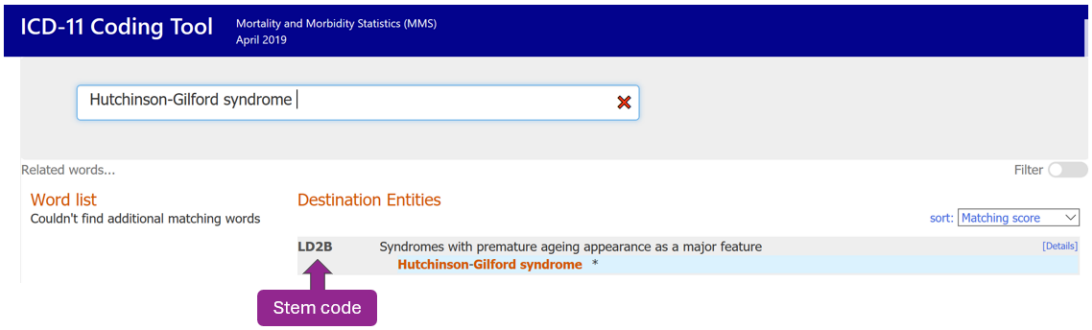
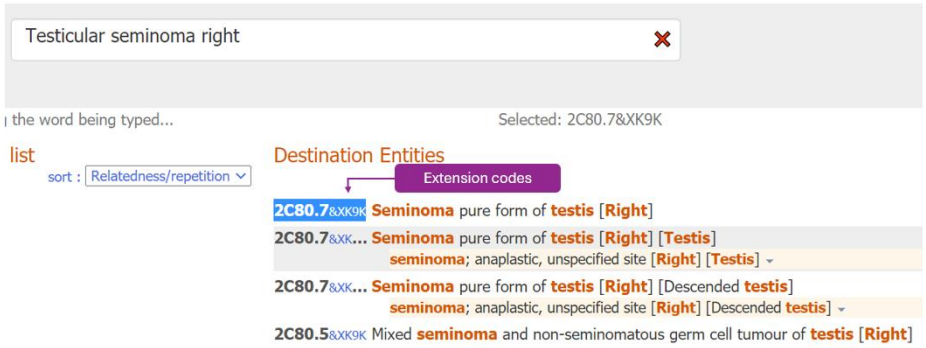


Figure 2-7 - Stem code example

EXERCISE 3

1. Please state whether the following statements about stem codes are true or false.
    a. Stem codes are the codes that can be used alone. ……..
    b. They are assigned to the disease entities of high relevance. ……..
    c. Stem codes represent the conditions described as one category. ……..
    d. They are always connected with extension codes. ……..
    e. They are found in the tabular list of ICD-11. ……..

2.2.6.3 Extension Codes



Extension codes are a new concept in the ICD, designed to standardize how additional information is added to a stem code when more detail is required.

Figure 2-8 - Extension codes example

These supplementary codes allow for postcoordination, enabling users and settings to report details beyond what a stem code alone provides. However, extension codes are always used in conjunction with a stem code and can never appear in the first position in a cluster.

These codes, which are optional and may be adopted by individual countries, always begin with the letter "X." Importantly, extension codes cannot stand alone; they must always accompany a stem code. Furthermore, not all extension codes are compatible with every stem code, making careful consideration necessary when applying them.

There are two types of extension codes:

Type 1 Adds detail on an entity or disease coded from ICD-11 chapters 1–26.

Type 1 extension codes allow the user to add detail to a stem code.

Examples

- Severity
- Temporality
- Aetiology
- Topology
- Anatomy and topography
- Histopathology
- Dimensions of injury
- Dimensions of external causes
- Consciousness
- Substances

Type 2 Qualify a diagnosis and can be applied to codes from any chapter.

Type 2 extension codes represent diagnosis code descriptors (i.e., discharge diagnosis type or diagnosis timing). The meaning of the code refers to the same condition, but the use of the Type 2 diagnosis code descriptor extension code alters its interpretation.

Examples

- Discharge diagnosis types
  - XY0Y Main condition
  - XY7B Main resource condition
  - XY6E Initial reason for encounter or admission
- Diagnosis timing
  - XY6M Present on admission
  - XY69 Developed after admission
  - XY85 Uncertain timing of onset relative to admission

Extension codes are:

- Never used alone without a stem code
- Can never appear in the first position of a cluster
- Start with the letter “X”

EXERCISE 4

1. Please state whether the following statements about extension codes are true or false.
    a. Extension codes are never be used alone without a stem code. ……..
    b. Extension codes can appear in the first position of a cluster. ……..
    c. They start with the letter “X.” ……..
    d. Type 1 extension codes are used to add details of severity, temporality, aetiology, etc., to stem codes. ……..
    e. They are not used as a last code in a string. ……..

2. What extension code indicates the “right” side in laterality?

2.2.6.4 Precoordination

Stem codes may contain all pertinent information about a clinical concept in a pre-combined fashion. This is referred to as **precoordination**.

Example 1:
BD50.40 Abdominal aortic aneurysm with perforation

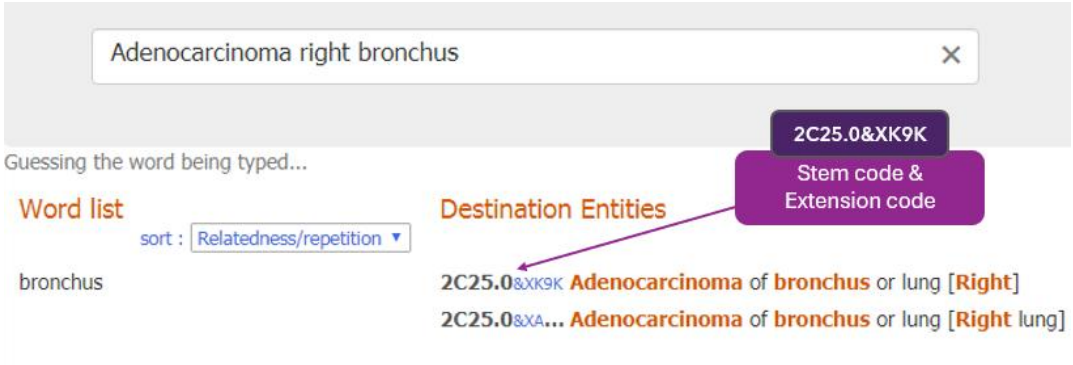
Example 2:
CA40.04 Pneumonia due to Mycoplasma pneumoniae

EXERCISE 5

1. What is precoordination?

2.2.6.5 Postcoordination

Postcoordination refers to linking multiple codes together to fully describe a documented clinical concept. In ICD-11, it is a powerful feature that allows combining two or more codes into a cluster, to describe a clinical concept with greater detail. The postcoordination system allows adding more detail to the chosen entity, with different types of information applied to different elements. When you are on an entity in the ICD-11 Browser, the postcoordination area displays only the possible postcoordination axes that are applicable to that entity.



EXERCISE 6

1. What is meant by postcoordination?

2. What is the convention used to combine a stem code with another stem code?

3. What convention combines a stem code with an extension code?

2.2.6.6 Cluster Coding

Cluster coding refers to the convention of using a forward slash (/) or ampersand (&) to link more than one code used together (e.g., stem code/stem code(s) &extension code(s)) to describe a documented clinical concept.

- Forward-slash / is a separator between stem codes.
- An ampersand (&) is a separator between stem codes with one or more extension codes.

Code clusters will comprise different combinations of stem and extension codes. They can be formed in different ways, using forward slashes (/) to join stem codes, and ampersands (&) to join stem and extension codes:

- Stem code/stem code
- Stem code & extension code
- Stem code/stem code & extension code
- Stem code & extension code / stem code & extension code & extension code

When postcoordinating to form a cluster, stem codes are always coded before extension codes.

If two stem codes are postcoordinated to provide additional detail, the order within a cluster should follow the use case (e.g. mortality or morbidity). The first stem code is separated from the second stem code by a slash (/).

If only one code can be retained during data analysis for mortality (underlying cause of death) and public health prevention, priority of order should be given to the code that best describes the aetiology of a condition. If only one code can be retained for morbidity data analysis, priority should

be given to the main condition (the reason for admission, established at the end of the healthcare episode).

Example 1

- Diagnosis: Duodenal ulcer with acute haemorrhage
- Cluster: DA63.Z/ME24.90
- Condition: DA63 Duodenal ulcer, unspecified
- Has manifestation (use additional code, if desired): ME24.90 Acute gastrointestinal bleeding, not elsewhere classified

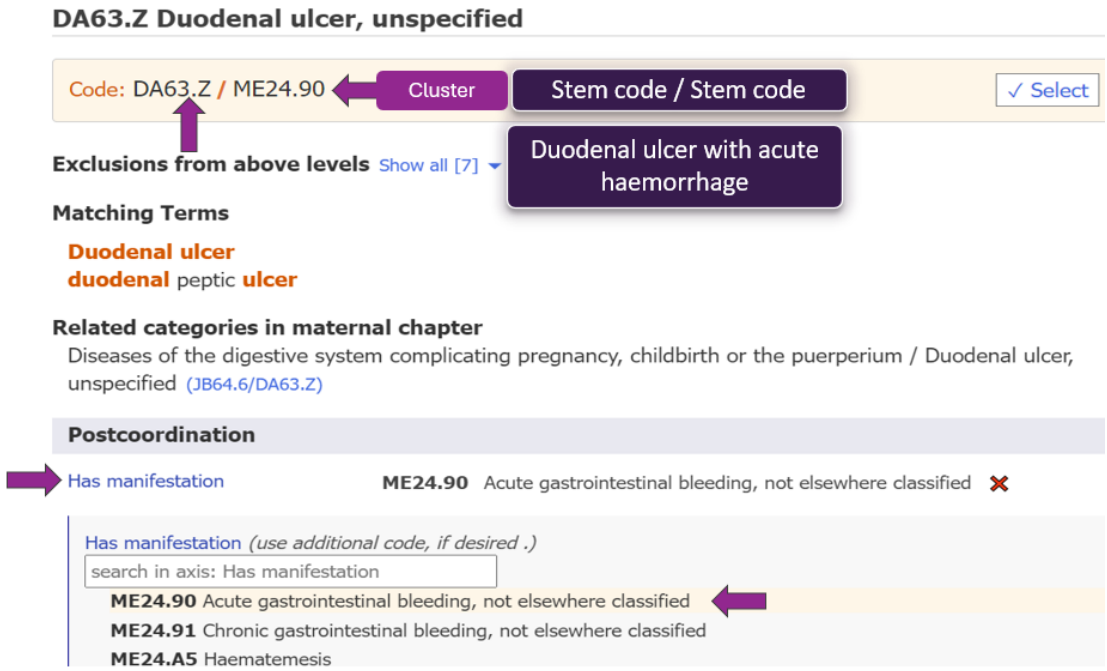


Figure 2-10 - Cluster coding example 1

If a stem code is postcoordinated with extension codes, and another stem code with its own extension codes is also coded within a cluster, the syntax should clearly distinguish which extension codes belong to which stem code.

The following syntax must be used:

- The first stem code is reported, followed by an ampersand (“&”) followed by one or more extension codes (each separated by “&”).
- A forward slash (“/”) separates this first section of the cluster from the next stem code.
- This is followed by “&” and the extension codes for this specific stem code, each again separated by “&.”

Example syntax:

Stem code & extension code / stem code & extension code & extension code

Example (ICD-11 Coding):

- Diagnosis: Left inguinal hernia with acute obstruction
- Condition (code): DD51 Inguinal hernia

- Laterality: XK8G Left
- Associated with (use additional code, if desired): ME24.2 Digestive system obstruction
- Course: XT5R Acute
- Cluster: DD51&XK8G/ME24.2&XT5R

Example 2

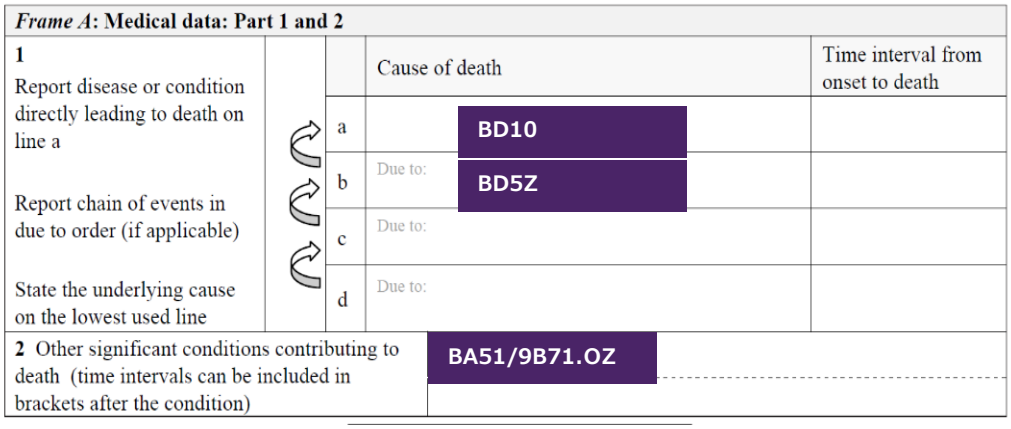


Figure 2-11 - Cluster coding example 2

- BD10|BD5Z*BA51/9B71.0Z
- Vertical bar (|) expresses the separator between lines in Part 1
- Asterisk expresses the separator between Part 1 and Part 2
- Forward-slash (/) shows the cluster as a separator between stems following the convention of ICD

2.2.6.7 Other General Features

- ICD–11 categories have short and long descriptions labelled “additional information.”
- The short description has a maximum of 100 words.
- The short description provides information about a disease or condition and is necessary to understand the scope of the rubric.
- The long “additional information” is the full description, without length restriction.
- Special tabulation lists continue to exist in ICD-11, but three additional lists have been added:
    - Startup Mortality List (SMoL)
    - List for Verbal Autopsy
    - List for Infectious Diseases by Agent

2.3 ICD-11 Reference Guide

The ICD-11 Reference Guide provides comprehensive instructions and explanations on using the International Classification of Diseases 11th Revision (ICD-11). It is a key resource for understanding the structure, conventions and coding processes involved in using ICD-11. The guide is divided into multiple parts, each detailing critical aspects of the classification system, its development and how it supports health data management globally. Below is a brief summary of the main sections of the guide. For the full text of the ICD-11 Reference Guide, see:

https://icdcdn.who.int/icd11referenceguide/en/html/index.html

2.3.1 Part 1: An Introduction to ICD-11

This part introduces the ICD-11, providing background on its development, objectives and key changes from previous versions. It explains how the classification is structured and its global use in health statistics and clinical practice.

- Overview of the International Classification of Diseases (ICD) and its purpose
- Development and key improvements from ICD-10 to ICD-11
- How ICD-11 supports health systems, policymaking and research
- Key features of ICD-11, including its digital nature and multilingual capability

2.3.2 Part 2: ICD-11 Structure

This section focuses on the structure of ICD-11, detailing the different components like chapters, blocks, categories and codes. It provides guidance on how to effectively navigate and utilize the classification.

- Organization of ICD-11: chapters, blocks, categories and codes
- Differences in structure from ICD-10
- Explanation of linearization: how codes are structured for reporting
- Key attributes like stem codes and extension codes

2.3.3 Part 3: How to Use ICD-11

This part outlines the coding conventions and rules that must be followed when using ICD-11. It includes information on inclusions, exclusions and the proper format for coding various conditions.

- Instructions for coding: selecting the correct code for diagnoses and procedures
- Tools available for users (like coding browsers and APIs)
- Guidelines for navigating the classification system and linking codes to clinical data
- Specific applications of ICD-11, including morbidity and mortality coding

2.4 ICD-11 Coding Conventions

2.4.1 Applying ICD-11 Conventions to Classify Clinical Concepts

ICD has standard ways of presenting its content. Conventions describe textual content and also apply to the coding structure. The ICD-11 makes use of certain abbreviations, punctuations, symbols and instructional terms. These are referred to as coding conventions.

2.4.1.1 Residual Categories – "Other" and "Unspecified"

ICD-11 coding should always be completed to include the highest level of detail possible, using one code or multiple codes as described above. There are, however, circumstances when that is not possible. For that reason, the ICD-11 includes categories titled "Other" and "Unspecified."

In some instances, the necessary information to select a specific category may not be available in the source documentation. When this is the case, the residual category "Unspecified" is selected. Conversely, there are instances where the source documentation is very specific, but the Tabular List does not include a matching category. In this case, users identify the closest category match, and code to the residual category titled "Other."

Residual codes in ICD-11 are displayed as red text.

- "Other" specified codes end with the letter "Y."
- "Unspecified" codes end with the letter "Z."

Residual codes are located at the end of code blocks, similar to previous versions of ICD.

Example 1:

5A00.2Y – Other specified acquired hypothyroidism

5A00.2Z – Acquired hypothyroidism, unspecified

Example 2:

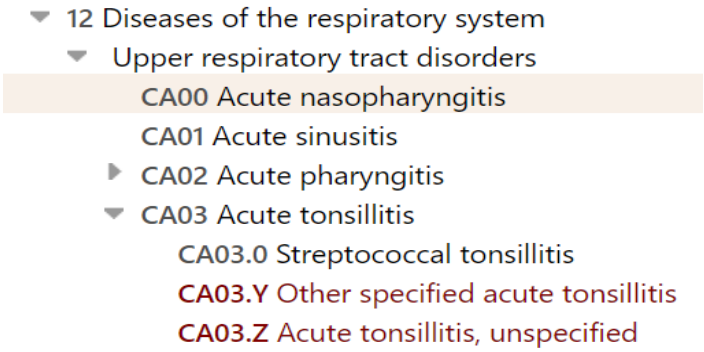


Figure 2-12 - Residual categories – '"Other" and "Unspecified"

EXERCISE 7

1. What is the ICD-11 code for "Other specified acute pancreatitis"?

2. What is the last character in the ICD-11 residual code "Unspecified"?

2.4.1.2 Due to

The term **due to** in ICD-11 describes a causal relationship between conditions. Synonyms in documentation such as "caused by," "attributed to" or "secondary to" may be used for code assignment.

Example 1:
3A01.3 Vitamin B12 deficiency anaemia due to intrinsic factor deficiency

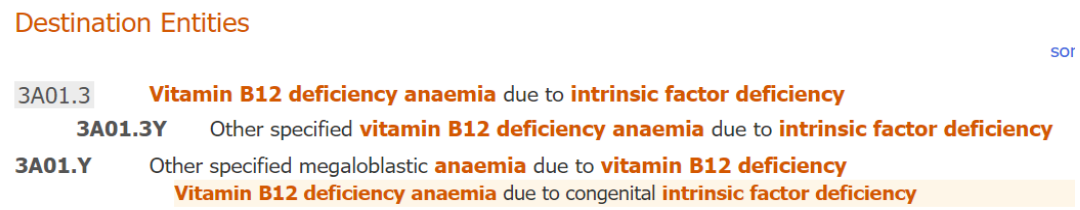


Figure 2-13 - Due to example

EXERCISE 8

1. What is the ICD-11 code for "Iron deficiency anaemia due to chronic blood loss"? Which coding convention is used in ICD-11 to code the above diagnosis?

2.4.1.3 Associated with

The term **associated with** in ICD-11 describes the coincidence of two conditions. "Associated with" is the preferred term for categories where two conditions are mentioned, but there is no causal sequence implied.

Example 1:
JB45.0 – Abscess of breast associated with childbirth

2.4.1.4 "Code also," "has causing condition," "has manifestation" "use additional code, if desired"

The coding instructions "code also," "has causing condition," "has manifestation" and "use additional code, if desired" inform users that additional information is either required or optional to be coded along with certain categories (or stem codes).

"Code also," "add detail" or "has causing condition" indicate required additional aetiological information. This information must be coded in a cluster with certain categories because it is relevant for primary tabulation.

For example, the category diabetic cataract indicates the "code also" for the type of diabetes. This means that the code for the type of diabetes should be assigned together with the code for diabetic cataract. Both stem codes for the type of diabetes and the diabetic cataract are always reported in a cluster.

- "Code also," "add detail" or "has causing condition" are required to be coded.
- "Has manifestation" and "use additional code, if desired" are optional.
- Instructions inform the user about optional additional details that can be coded.

Example 1

GB61.5 chronic kidney disease, stage 5

Postcoordination
GB61.5 chronic kidney disease, stage 5
Has causing condition **5A10 Type 1 diabetes mellitus**

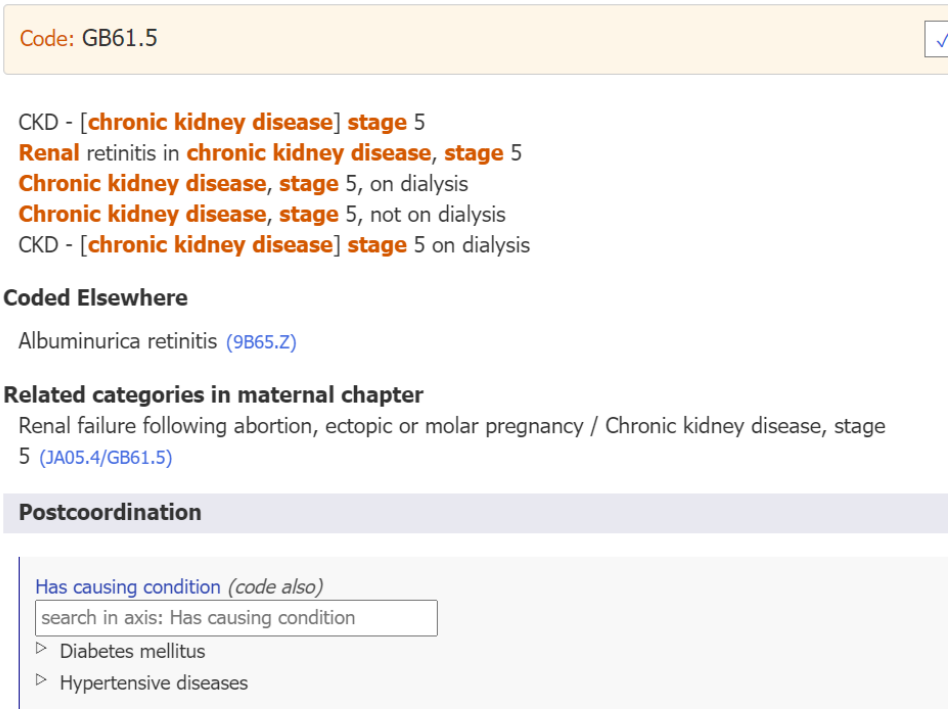


Figure 2-14 – "Code also," "add detail," "has causing condition, "has manifestation" or "use additional code, if desired" example

EXERCISE 9

1. What's the ICD-11 code for diabetic nephropathy? What type of coding instruction (coding convention) is used in ICD-11 to code the above diagnosis?

2. What's the ICD-11 code for acute pancreatitis with gastrointestinal bleeding? Which coding convention is used in ICD-11 to code the above diagnosis?

3. What's the ICD-11 code for compound fracture of the shaft of the right femur? Which coding convention is used in ICD-11 to code the above diagnosis?

2.4.1.5 "And" and "Or"

The terms **"and"** and **"or"** are used in ICD-11 as per their meaning in formal logic, which is:

- A and B means both A and B are present.

A term that includes a statement of the kind "A and B" means that both, A and B, have to be present to use that category.

- A or B means either A or B or both are present.

A term that includes a statement of the kind "A or B" means that either A or B, or both, have to be present to use the category. Because A or B can mean either A or B, or both, "or" now means "and/or."

Example 1:

- **NC32.4 Fracture of shafts of both ulna and radius**

This is different to how these terms were used in ICD 10; i.e., A or B, means either A or B or both. In ICD-11, "ulna and radius" mean both ulna and radius.

Example 2:

- **JB05.3 Obstructed labour due to pelvic outlet or mid cavity contraction**

In the above example, pelvic outlet or mid cavity means either pelvic outlet or mid cavity or both.

Example 3:

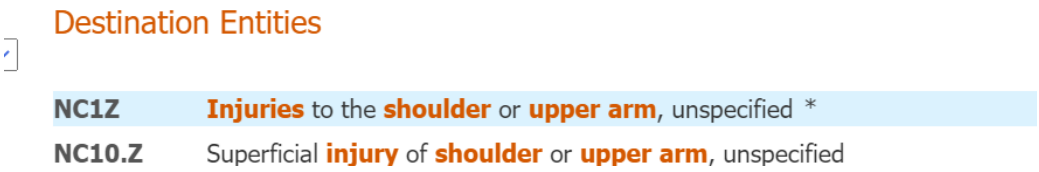


Figure 2-15 – "And" and " Or" example

In the above example, shoulder or upper arm means either shoulder or upper arm or both.

Example 4:

- **KA60 Sepsis of fetus or newborn**

In the case where documentation cannot determine whether A and B are both present, or only one is present, ICD-11 defaults that "and/or" is classified as an "or" (i.e., "or" means "and/or").

EXERCISE 10

1. What's the ICD-11 code for injuries to the thigh?
   Which coding convention is used in ICD-11 to code the above diagnosis?

2.4.1.6 Inclusions

Other optional diagnostic terms within coded categories are called "inclusion**"** terms**. Inclusions** are listed in addition to the title as examples of diagnostic statements to be classified into a category. They are either different conditions or synonyms.

Inclusions are located at the chapter, group and category levels. They are not sub-classifications of the category and are not exhaustive lists.

Example 1:
3A70 Aplastic anaemia

- Medullary hypoplasia
- Panmyelophthisis

2.4.1.7 Exclusions

Certain categories contain lists of conditions preceded by the word **exclusions**. These terms are classified elsewhere, and serve as cross-references in ICD-11, helping to define the boundaries of a category.

Parentheses are used to indicate the code to which an exclusion refers.

Example 1:
DB92 Non-alcoholic fatty liver disease

Exclusions:

- Reye syndrome (8E46)
- Acute fatty liver of pregnancy (JA65.0)
- Drug-induced or toxic liver disease (DB95)
- Chronic hepatitis C (1E51.1)
- Alcoholic liver disease (DB94)
- Inherited defects in mitochondrial metabolism (5C53)

EXERCISE 11

1. Does the code DC12.Z cholecystitis, unspecified include cholelithiasis?
   If not, where should it be coded?

2. Does the code CA02 acute pharyngitis include acute sore throat?

2.4.1.8 NOS

The abbreviation **NOS** stands for **not otherwise specified. It indicates** that the source documentation used for classification did not provide detail beyond the term (i.e., “unspecified,” “incompletely specified” or “unqualified” clinical concept). Coders should be careful not to code a term as “unqualified,” unless no other information is available that would permit the assignment of another (more specific) code.

Example 1:
DB97.Z Inflammatory liver disease, unspecified hepatitis NOS*

In this example, there are other more specific codes for various inflammatory liver diseases. DB97.Z is only used if there is no additional information available about the type of inflammatory liver disease of the liver.

Example 2:

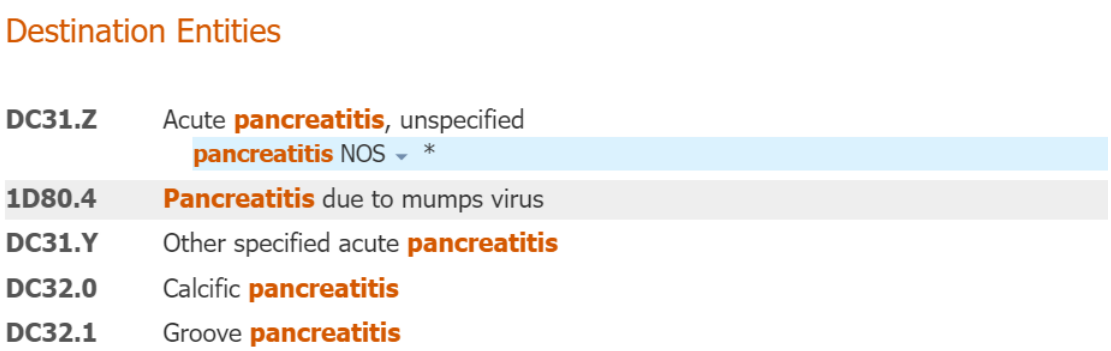


Figure 2-16 - NOS example

In this example, there are other more specific codes for various types of acute pancreatitis. DC31.Z is only used if there is no additional information available about the type of acute pancreatitis.

Additional terms permitted in ICD coding:

- Certain
- Other
- Unspecified
- And
- Or
- Due to
- With
- Caused by
- Attributed to
- Secondary to
- Associated with

EXERCISE 12

1. In the context of ICD-11 coding conventions, what does the term **NOS** signify when used in a diagnosis, and how should a coder apply this convention when selecting codes? Select the correct answer:

    a. NOS indicates that the condition is well-defined and requires no further specification.

    b. NOS is used when the diagnosis is vague or lacks specific details, allowing coders to use a general code.

    c. NOS should never be used in coding as it leads to ambiguity in patient records.

    d. NOS is only applicable to infectious diseases.

2. Provide an example of a situation where NOS might be appropriately used.

2.4.1.9 NEC

The abbreviation **NEC**, meaning **not elsewhere classified**, in a category title, serves as a warning that certain specified variants of the clinical concept may appear in other parts of the classification.

Example 1

NF09 Adverse effects, not elsewhere classified

adverse effects, unspecified *

In this example, the use of NEC in the code title tells us that other codes exist for different types of adverse effects—we use this code only when the diagnosis does not fit into any other category. This means it is not classified elsewhere in ICD-11.

Example 2

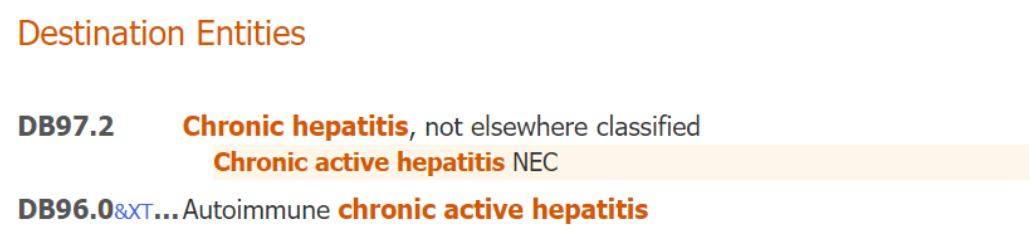


Figure 2-17 - NEC example

In this example, the use of NEC in the code title indicates that other codes exist for different types of chronic active hepatitis. This code should be used only when the diagnosis does not fit into any other category, i.e., when it is not classified elsewhere in ICD-11.

EXERCISE 13

1. What does the term **not elsewhere classified (NEC)** indicate in the ICD-11 classification system? Select the correct answer:

    a. It is used for conditions that have no known cause.

    b. It refers to a specific diagnosis that has been well-defined in the classification.

    c. It designates conditions that do not fit into existing categories and require further specification.

    d. It is used exclusively for injuries and trauma-related diagnoses.

2. Provide an example of a situation where NEC might be appropriately used.

2.4.1.10 Certain

The term **certain** refers to entities that couldn't be grouped anywhere else in the classification—e.g, "8B22 Certain specified cerebrovascular diseases." This means that only some specified cerebrovascular diseases are coded in this category, while other specific types of cerebrovascular disease are classified elsewhere.

Example 1:

- **8B22** Certain specified cerebrovascular diseases

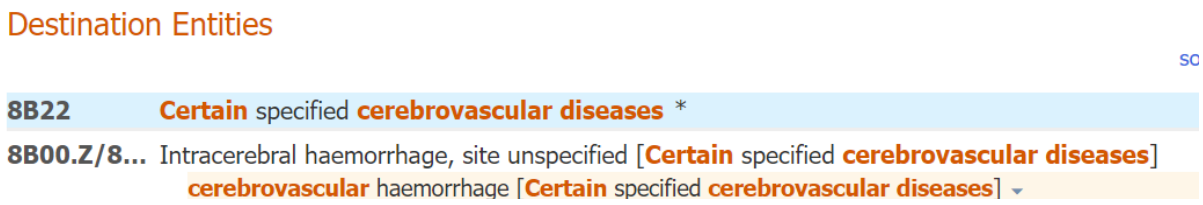


Figure 2-18 – "Certain" example

EXERCISE 14

1. In the ICD-11 classification system, what does the term **certain** indicate when used in the context of disease classification?

    a. It confirms that the diagnosis is definitive and requires no further investigation.

    b. It specifies that other specific entities that could be categorized here are classified elsewhere in the system.

    c. It denotes conditions that are only applicable in specific populations.

    d. It indicates that the diagnosis is provisional and may change upon further evaluation.

2. Provide an example of a situation where **certain** might be appropriately used.

2.4.1.11 Spelling, Parentheses, Grammar and Other Conventions

British spelling: ICD-11 follows British rules, with exceptions and amendments conforming to WHO spelling rules.

Singular form: Terms are listed in their singular form. For example, “Superficial injury of scalp” instead of “Superficial injuries of scalp.”

No apostrophes: Apostrophes are not used with eponyms. For example: “Hodgkin lymphoma” (instead of “Hodgkin’s lymphoma”).

Natural language: Entities are described using natural word order. For example: “myocardial infarction” (instead of “infarction, myocardial”).

Abbreviations: Abbreviations appear in uppercase letters and are followed by the full title. For example: “MI – myocardial infarction.”

The content in this chapter is sourced from the World Health Organization's International Classification of Diseases Eleventh Revision (ICD-11). Please refer to the International Classification of Diseases Eleventh Revision (ICD-11). Geneva: World Health Organization; 2022.

MODULE 3

ICD-11 Tools

MODULE 3

3 ICD-11 TOOLS

The ICD-11 tools are designed to support healthcare professionals in accurately classifying and coding diseases, conditions and causes of death. These tools enhance the usability of the ICD-11 system by providing easy access to comprehensive guidelines, coding rules and supplementary features like postcoordination and extension codes. With these resources, users can efficiently apply the ICD-11 framework in various healthcare settings, ensuring consistency and precision in reporting and data analysis.

3.1 ICD -11 Tooling Environment

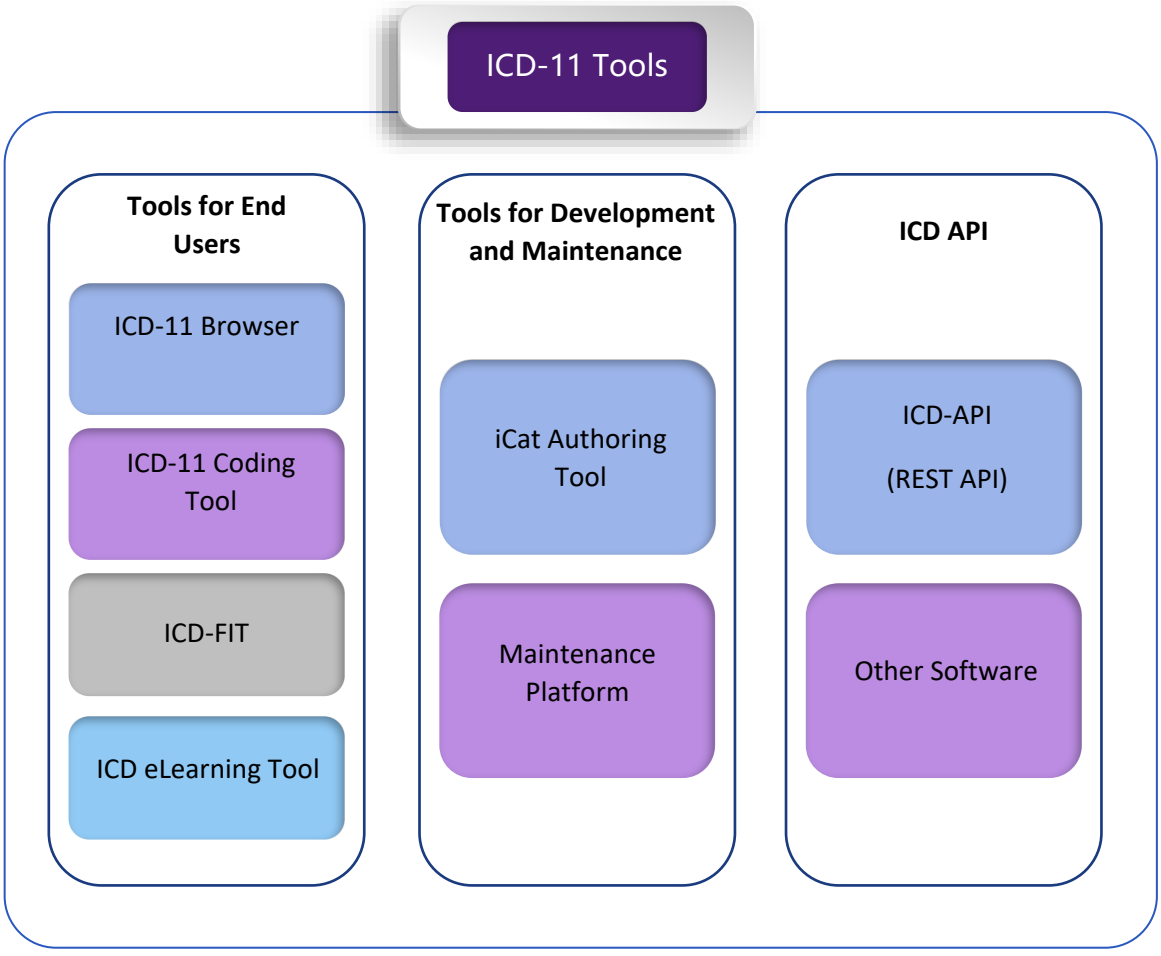


Figure 3-1 - ICD-11 Tools

3.2 ICD-11 Browser

ICD-11 Browser is a website that allows users see the content of the ICD 11th Revision. The browser is helpful for viewing ICD-11 for morbidity and mortality statistics. Users can browse the ICD-11 chapters for descriptions and exclusions.

Figure 3-2 - ICD-11 browser main page

Example 1

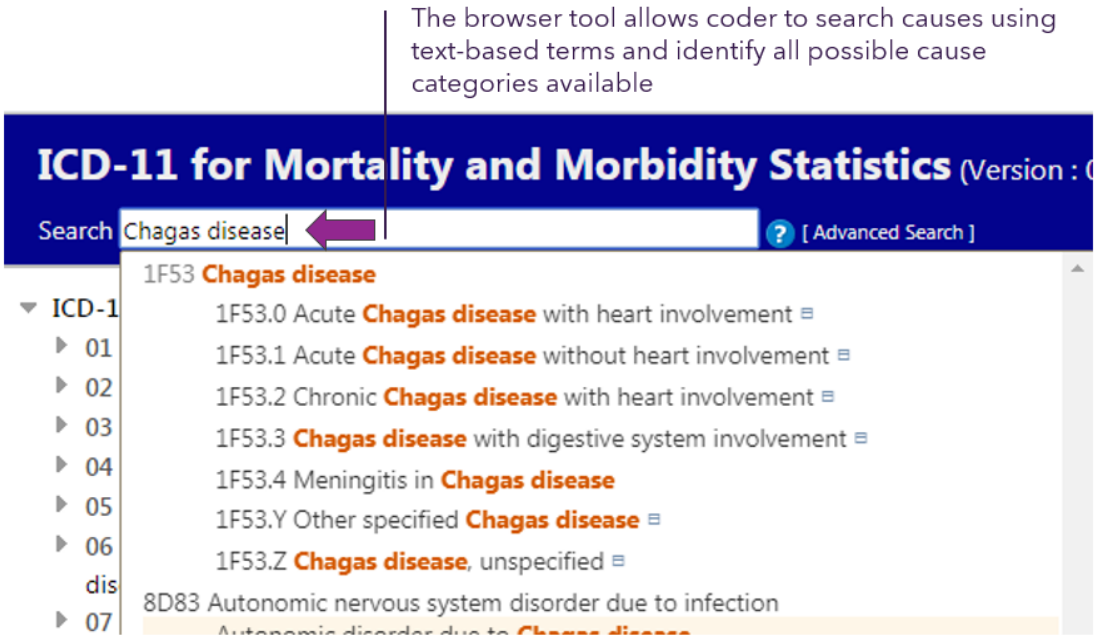


Figure 3-3 - Browser Searching example

3.2.1 User Guide

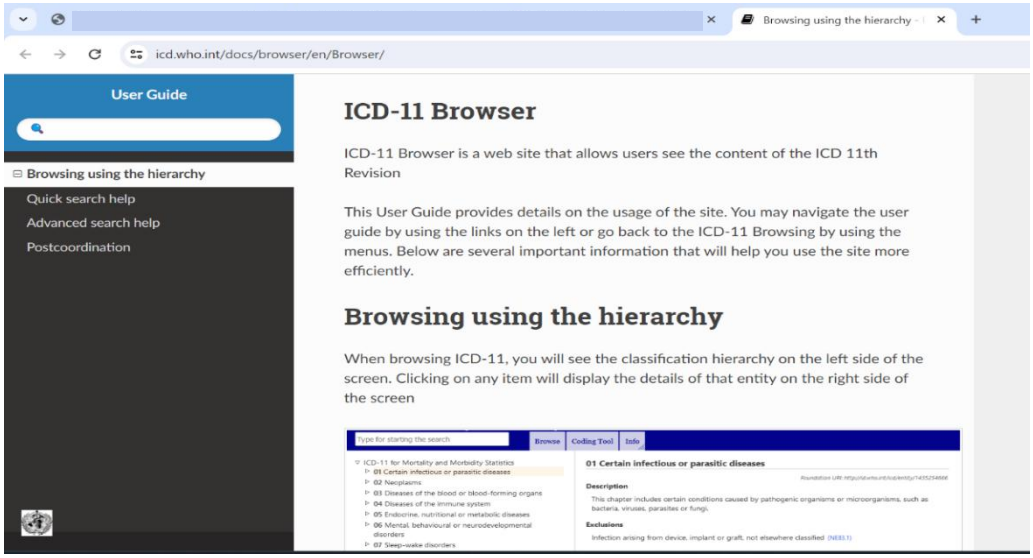


Figure 3-4 - Browser user guide

The User Guide provides details on how to use the site. You can access the guide by opening the "Info" tab in the ICD-11 Browser. While browsing, you may navigate the guide using the links on the left or return to the ICD-11 Browser through the menus. The following points highlight key information that will help you use the site more efficiently.

3.2.2 Browsing: Search

Three options for searching:

1. **Quick Search**: can navigate quickly to search code titles
2. **Advanced Search**: to search selected properties, e.g., title, synonym, description
3. **Browsing via Hierarchy**

3.2.2.1 Quick Search

- A quick search allows the user to navigate quickly.
- A quick search looks for code titles and begins searching as you type.

Example:

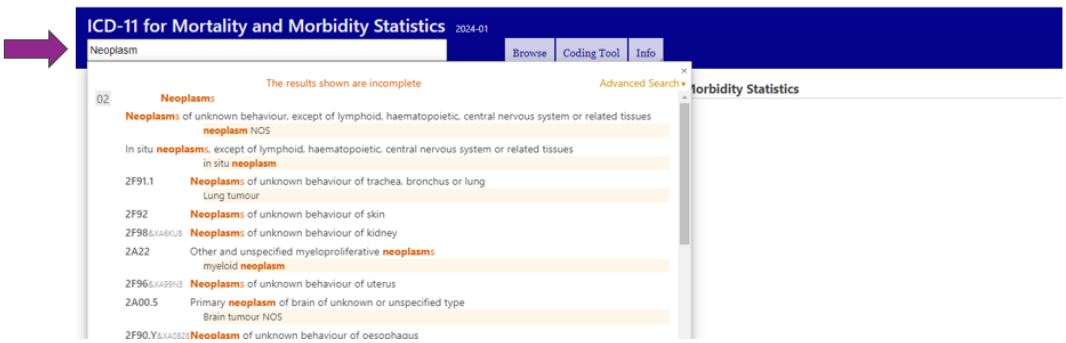


Figure 3-5 - Quick search example

3.2.2.2 Advanced Search

- Advanced search lets you search selected properties of the classification.
- Enter keywords in the search text field and check the properties you want to search.

Example:

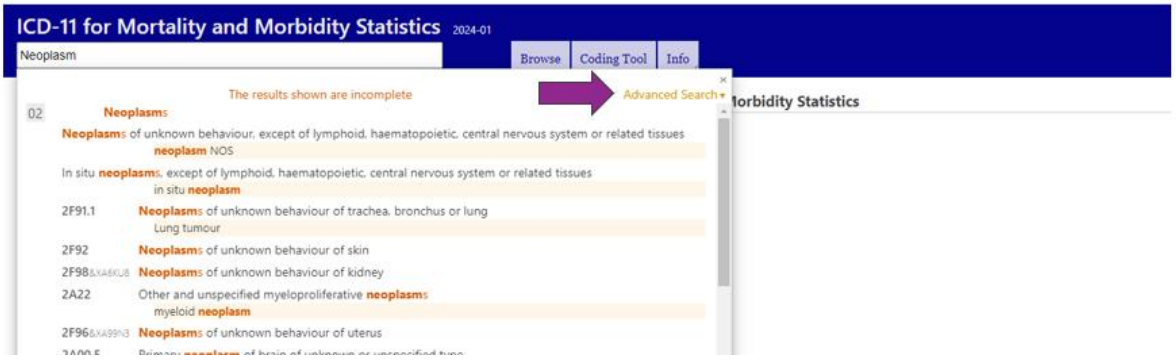


Figure 3-6 - Advanced search step 1

3.2.2.2.1 Advanced Search Features

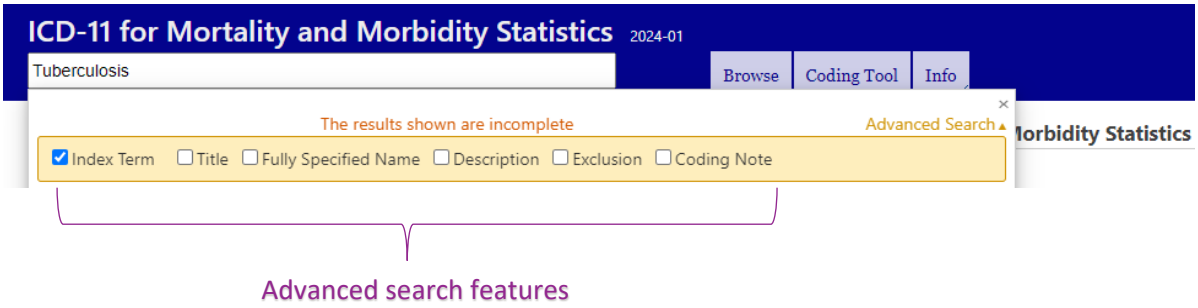


Figure 3-7 - Advanced search features

Example 1

Figure 3-8 - Advanced search feature example 1

Example 2

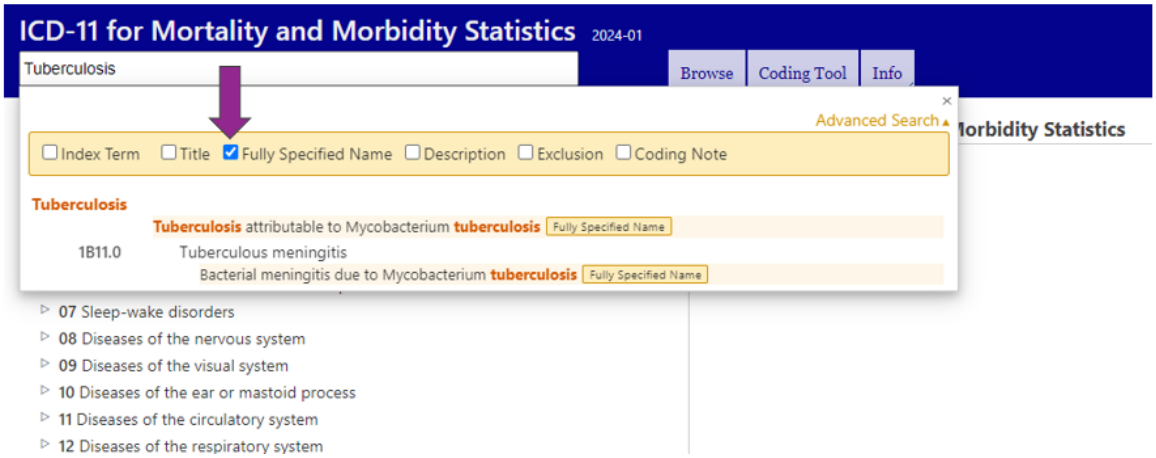


Figure 3-9 - Advanced search feature example 2

Example 3

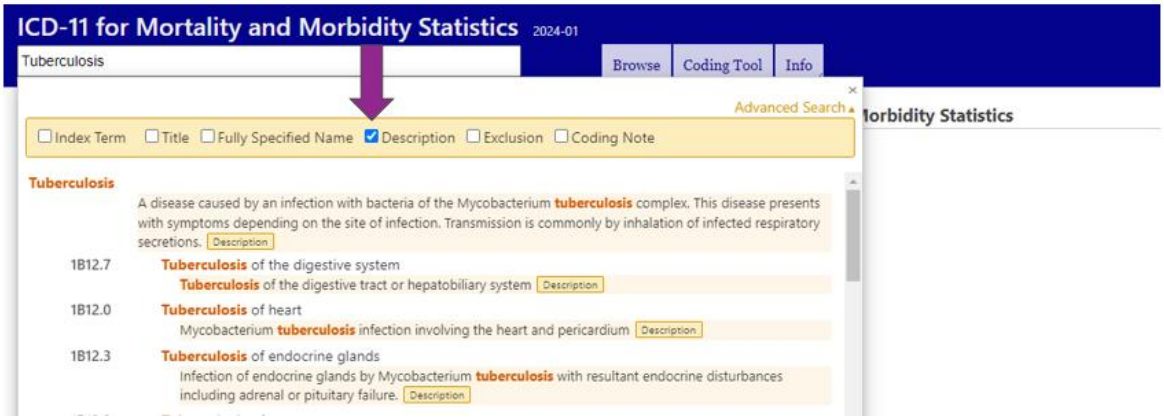


Figure 3-10 - Advanced search feature example 3

3.2.2.3 Browsing via Hierarchy

- See the classification hierarchy on the left side of the screen.
- Clicking on any item will display the details of that entity.
- Initially, the system only shows the top-level items.
- However, you may make the sub-items visible by clicking the small triangles to the left side of the items.

Example 1

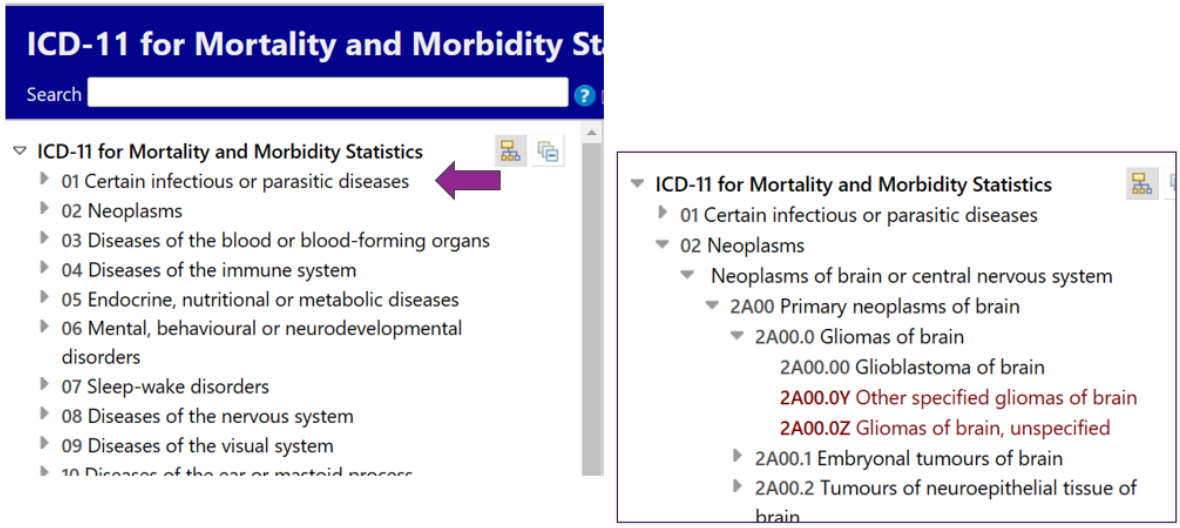


Figure 3-11 - Browsing hierarchy example

3.2.3 Multilingual Feature

Since ICD-11 is available in multiple languages, users can browse the content in their preferred language. The example below shows the available languages and the language selection tab. The first column of the language menu sets the browser language. The second column of the language menu allows you to set a secondary language for browsing, enabling simultaneous use of two languages.

Figure 3-12 -Search in multiple languages

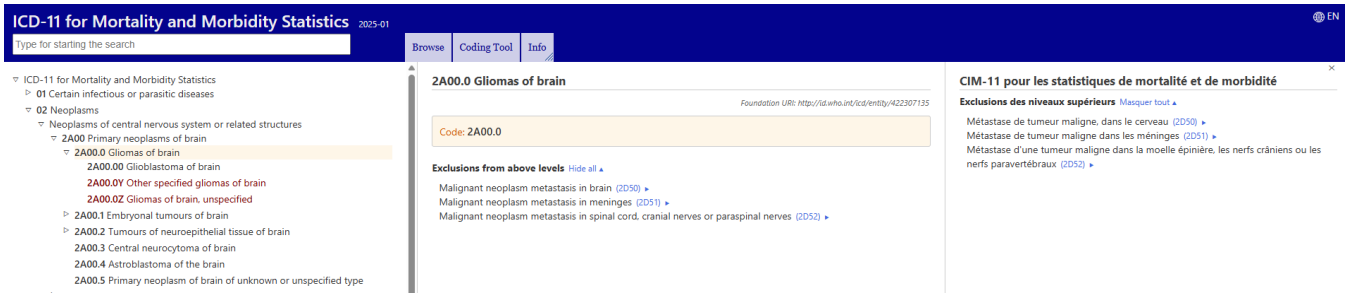


Figure 3-13- Search in multiple languages

3.2.4 ICD-11 Foundation

- The Foundation Component represents the entire ICD-11 universe.
- It is a multidimensional collection of tens of thousands of interconnected entities called classes or nodes.
- Every node of the Foundation has a unique entity ID, Unique Resource Identifier (URI).
- A node can have multiple child and parent nodes.
    - Parent nodes are broader categories, and child nodes are more specific categories that fall under a parent.

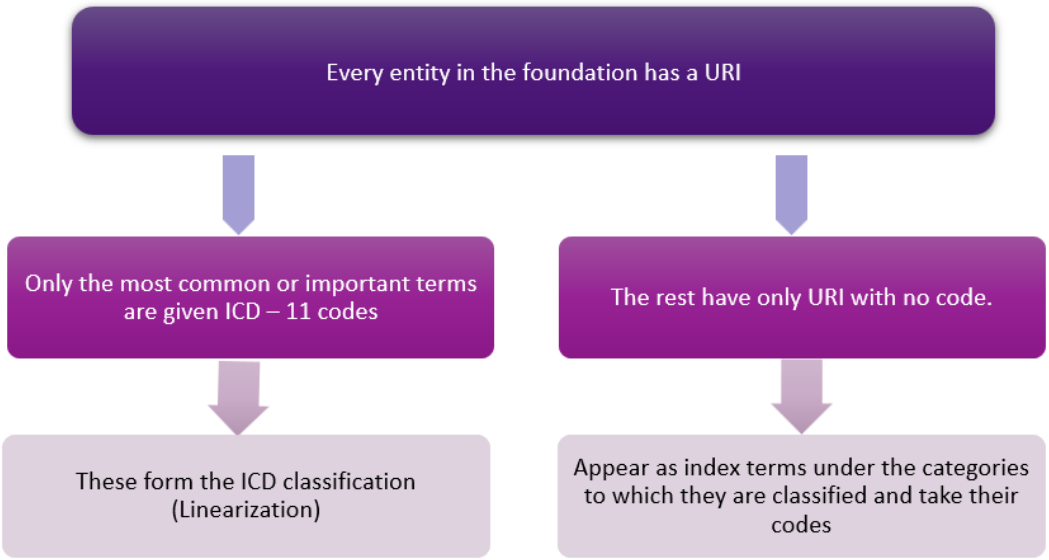


Figure 3-14 - ICD-11 Foundation {Ibrahim, 2023 #17}

- The foundation is a huge database of health conditions and medical terms.
- ICD-11 coding tool searches the diagnoses we type into it.
- Each disease entity has a unique identifier in the foundation (URI).
- Not all foundation entities have ICD-11 codes in the classification, but all of them have URI in the foundation.

- The URI remains attached to its entity, so it doesn't change when ICD-11 is updated or translated.

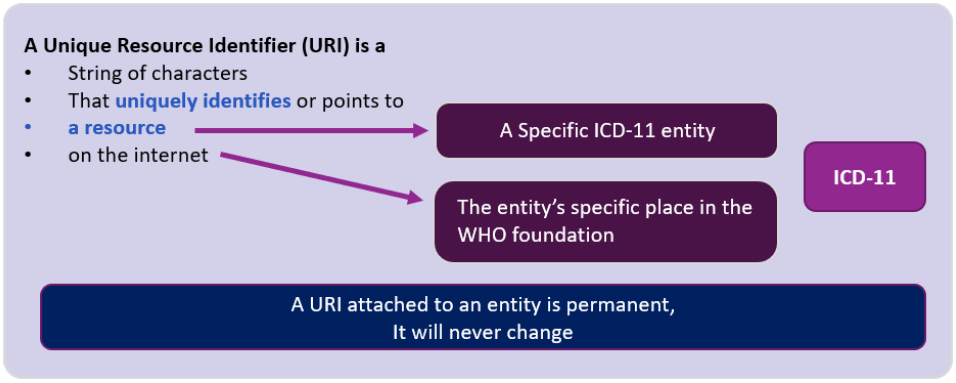


Figure 3-15 - ICD-11 URI {Ibrahim, 2023 #17}

Example 1

The ICD-11 code for "Fibrocystic change of the breast" is GB20.0. However, other index terms under the diagnosis "Fibrocystic change of the breast" share the same ICD-11 code GB20.0 but have different URIs.

Fibrosclerosis of breast	GB20.0	http://id.who.int/icd/entity/1523791593
Chronic Cystic Breast	GB20.0	http://id.who.int/icd/entity/200785511
Chronic Mastitis	GB20.0	http://id.who.int/icd/entity/1349353962
Chronic cystic mastitis	GB20.0	http://id.who.int/icd/entity/252207289
Cystic dysplasia of breast	GB20.0	http://id.who.int/icd/entity/1846909952
Cystic hypertrophy of breas	GB20.0	thttp://id.who.int/icd/entity/70644167

Figure 3-16 - Examples for URI

Example 2

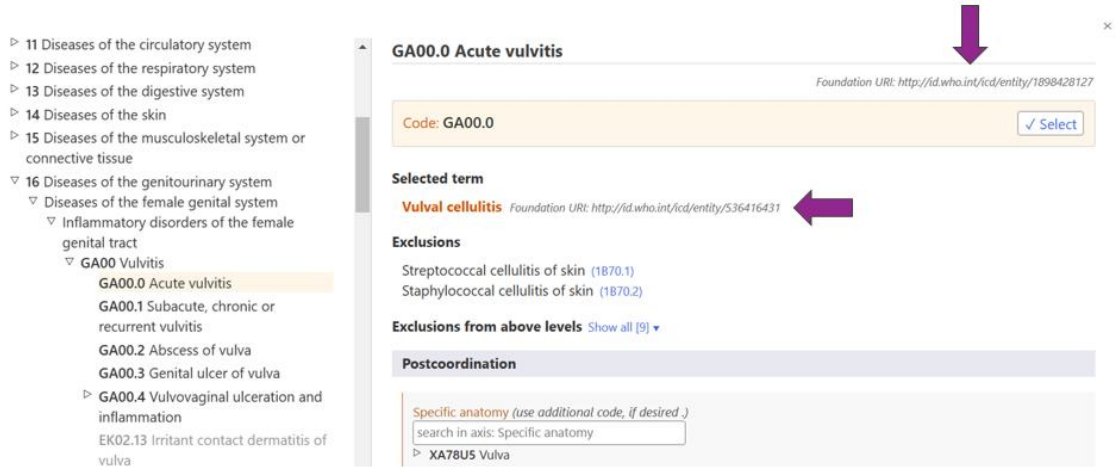


Figure 3-17 - ICD-11 URI example 2

3.2.5 Rare Diseases

- Data on rare diseases remain preserved when captured by the ICD-11 coding tool.
- Many rare diseases do not have their own ICD-11 codes.
- However, every one of them has its own URI.

3.2.6 Parent-child Relationships

- In the ICD-11, the hierarchical structure groups similar entities at the same level.
- Therefore, the parent categories are at the top level in the hierarchy.
- Children and siblings provide more granularity to the classification.
- ICD-11 entities are known as siblings when co-located under one parent.
- All entities under a parent are considered siblings.

Example 1

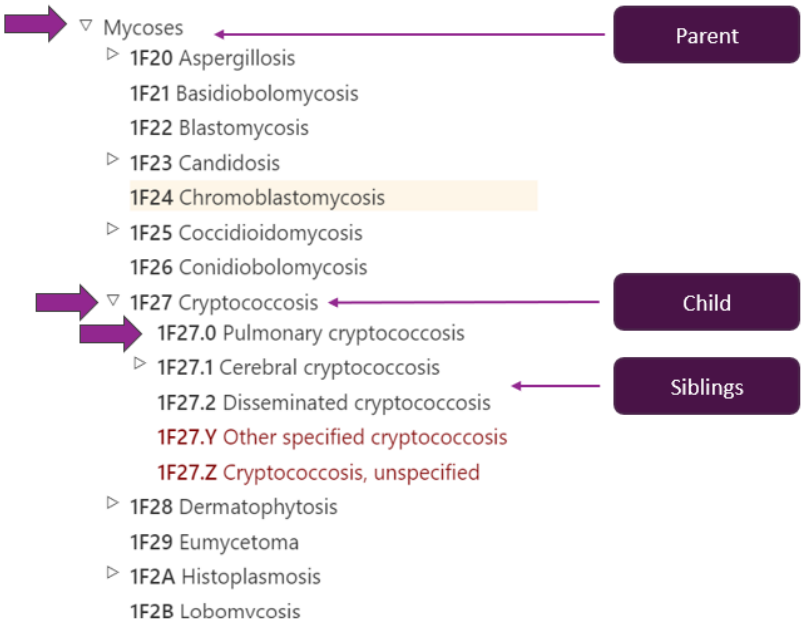


Figure 3-18 - Parent-child-sibling relationships

3.2.7 Multiple Parenting

- Multiple parenting occurs when a foundational entity is correctly classifiable in more than one place within ICD-11.
- When an entity has one or more parents in the ICD-11, it is displayed in multiple locations, with emphasis on its primary parent.
- Entities under secondary parent are displayed in grey.

Example 1

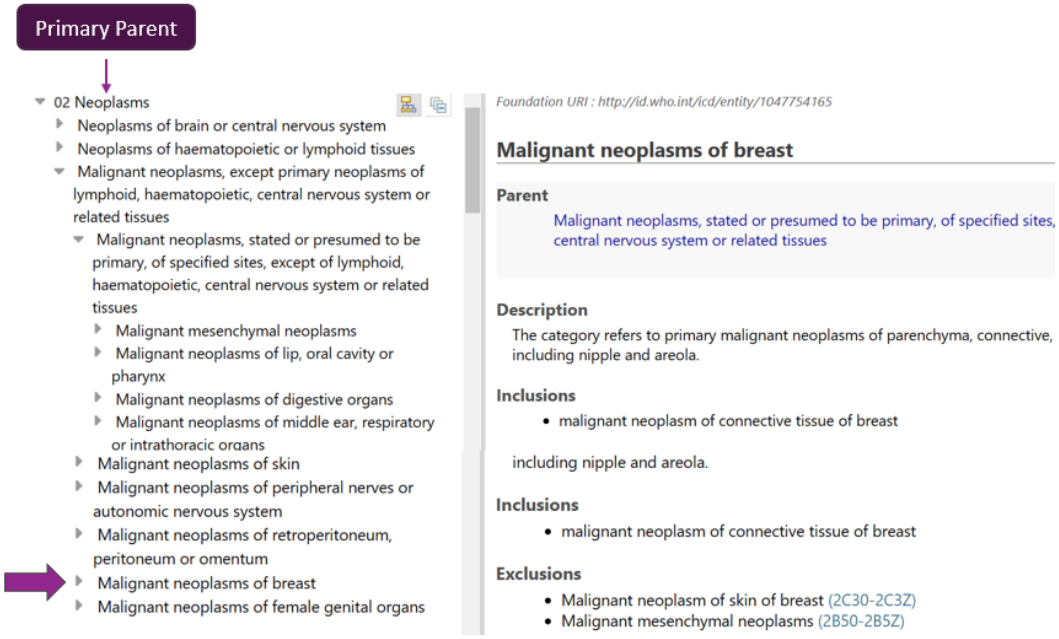


Figure 3-19 - Multiple parenting - Primary parent

Example 2

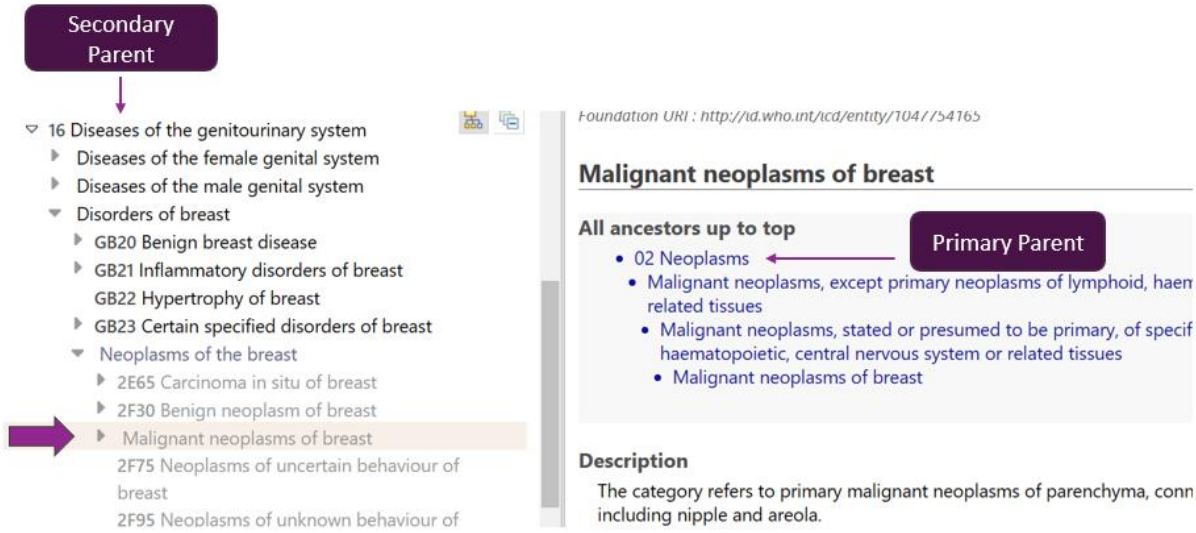


Figure 3-20 - Multiple parenting - Secondary parent

3.2.8 Hierarchy

ICD-11 is organized into a hierarchical structure that allows for the systematic classification of health conditions and diseases. This hierarchical structure allows for detailed and precise coding of health conditions, facilitating better data collection, analysis and communication in global health contexts.

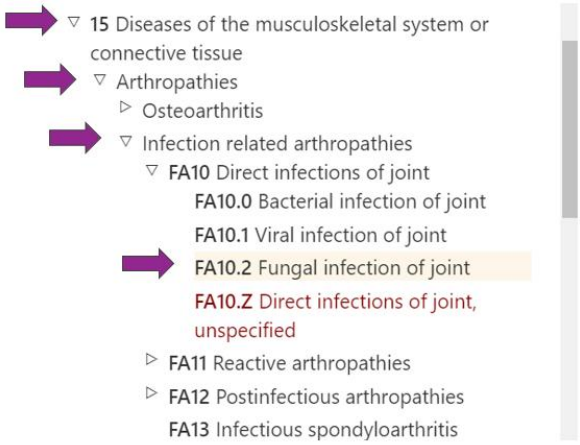


Figure 3-21 - Hierarchy

EXERCISE 1

1. What are the different methods of using the ICD-11 Browser?

3.3 ICD-11 Coding Tool

The ICD-11 Coding Tool is software that helps users assign ICD-11 codes for clinical diagnoses of diseases and other health problems.

There are some differences in the way searching is performed between the Coding Tool and the ICD-11 Browser.

- The Browser search may give you results that are groupings (or blocks) in addition to entities with codes. However, the coding tool only gives results that have codes by design.
- The Browser has an advanced search feature, which allows you to select what to search (i.e., you may search exclusions, definitions, etc.), while the Coding Tool searches only the index, including the titles.
- The Coding Tool includes word completion and word suggestion.
- The Coding Tool has a chapter filtering feature which, by default, filters out the "Extension Codes" and "Traditional Medicine."

Figure 3-22 - ICD-11 Coding Tool

Step 1

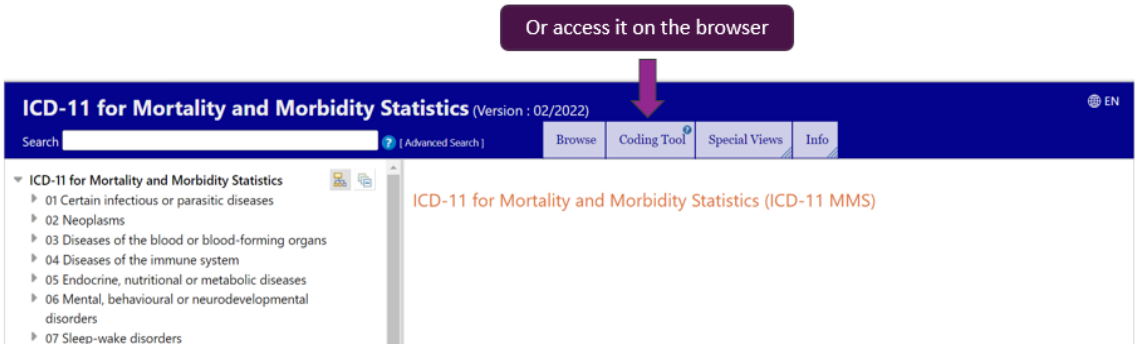


Figure 3-23- ICD-11 Coding Tool access on the browser

Step 2

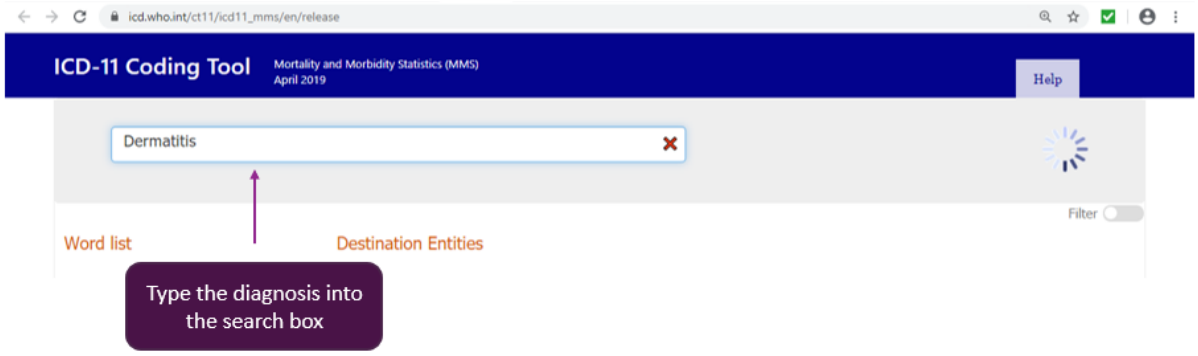


Figure 3-24 - ICD-11 Coding Tool using the search box to type diagnoses

Step 3

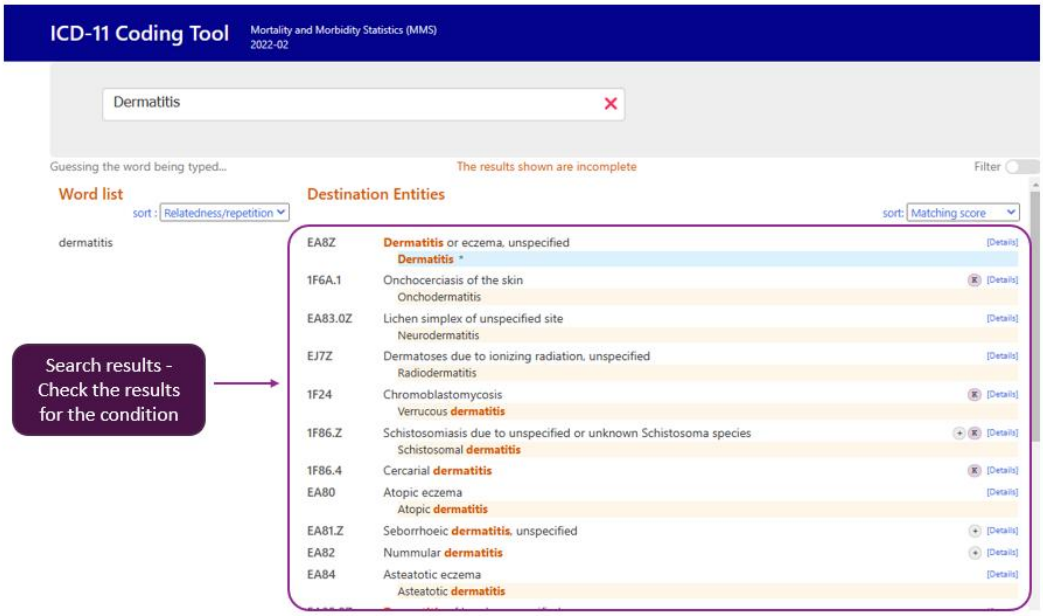


Figure 3-25 - ICD-11 Coding Tool search results

3.3.1 ICD-11 Coding Tool Features

3.3.1.1 Feature One

- Searches all terms in the ICD-11 Foundation.
- The ICD-11 Foundation component contains many more entities and terms than the released classification used for mortality and morbidity statistics (MMS). This means that the ICD-11 Foundation acts as the full dictionary of health terms, and ICD-11 MMS as the official shortlist used for coding mortality and morbidity statistics.
- The Coding Tool searches all these terms but guides the user to the correct code in ICD-11 MMS.

3.3.1.2 Feature Two: Word Completion

The Coding Tool can guess and complete the word being typed in the search bar.

Example

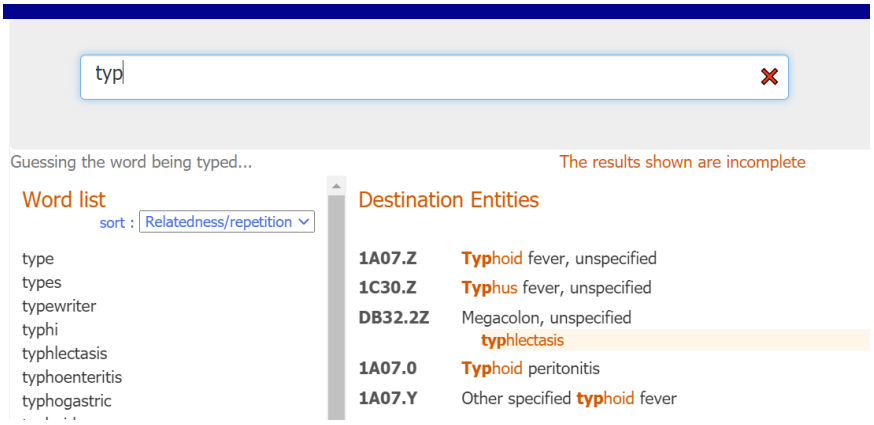


Figure 3-26 - Coding Tool feature two: word completion

3.3.1.3 Feature Three: Related Words

Example

- Once you start typing in the search bar, the Coding Tool can guess the words being typed.
- If you are in the middle of a word, the system will guess what you are typing.
- A list of suggested words will show on the left side of the Coding Tool.
- You may click the appropriate suggested word instead of typing the entire word.
- Sorting by alphabetical order is also provided.
- If you have completed a word, the system will show you related words.
- The list can be sorted by relatedness or alphabetically.

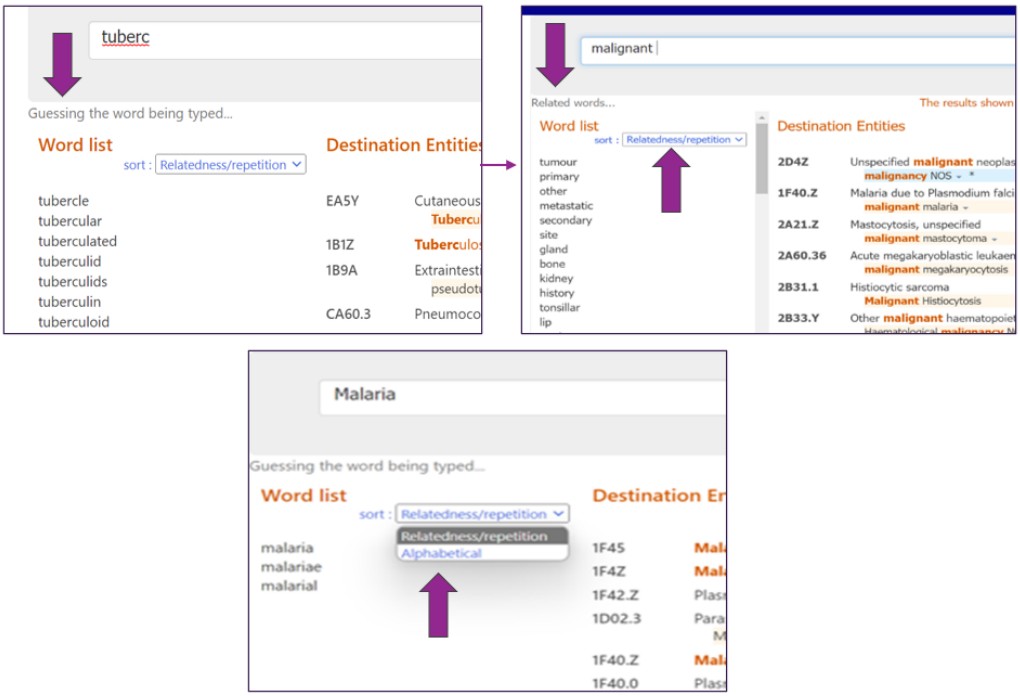


Figure 3-27 - Coding Tool feature three: related words

3.3.1.4 Feature Four: Matching Score/Classification Order

- Search results appear dynamically as you type.
- Results are organized by **matching score** and **classification hierarchy**. Matching score ranks results by how closely they match your search terms, while classification order arranges them according to the ICD-11 hierarchy.
- You may sort the output order of destination entities by:
    - Matching score (default)
    - Classification order

Example 1: Using matching score and classification order

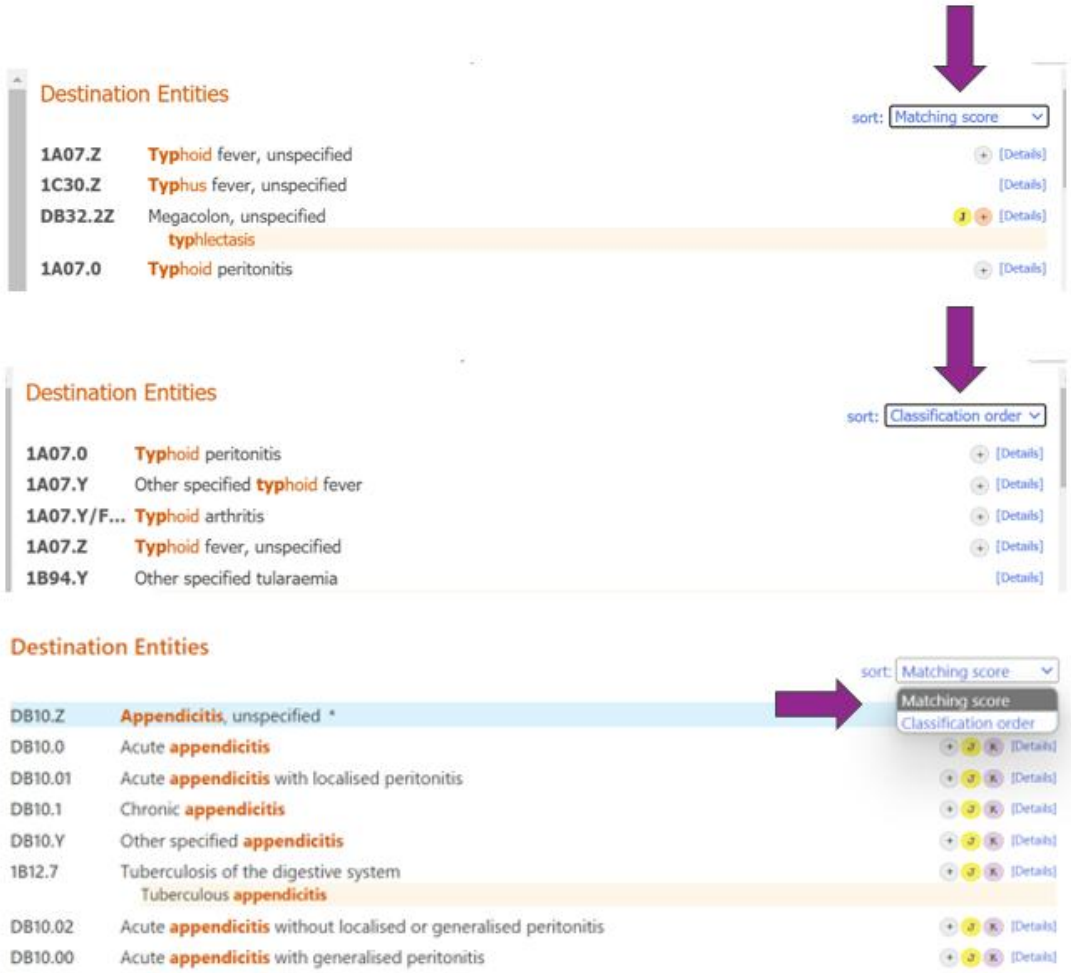


Figure 3-28 - Coding tool feature four: matching score/classification order

Example 2: Tuberculosis–by matching score

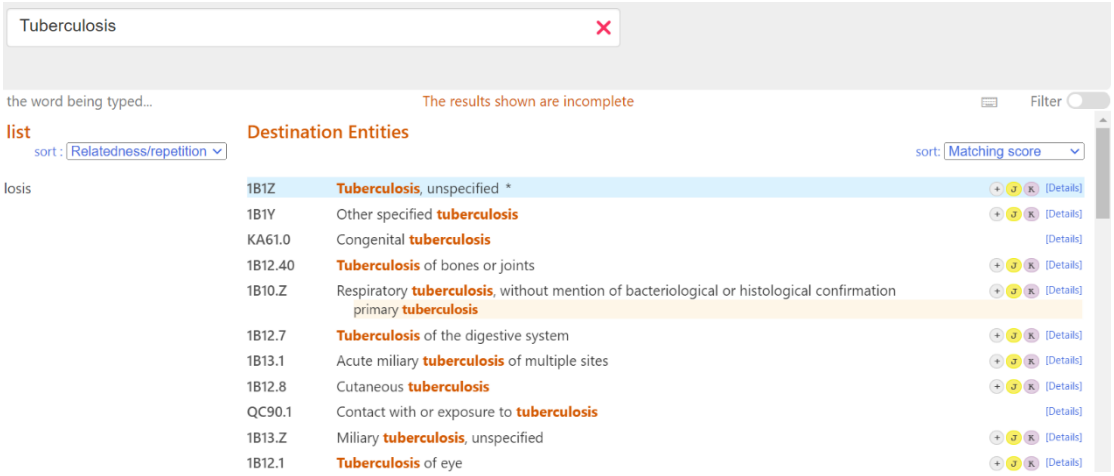


Figure 3-29 - Coding Tool feature four: matching score

Example 3: Tuberculosis–by classification order

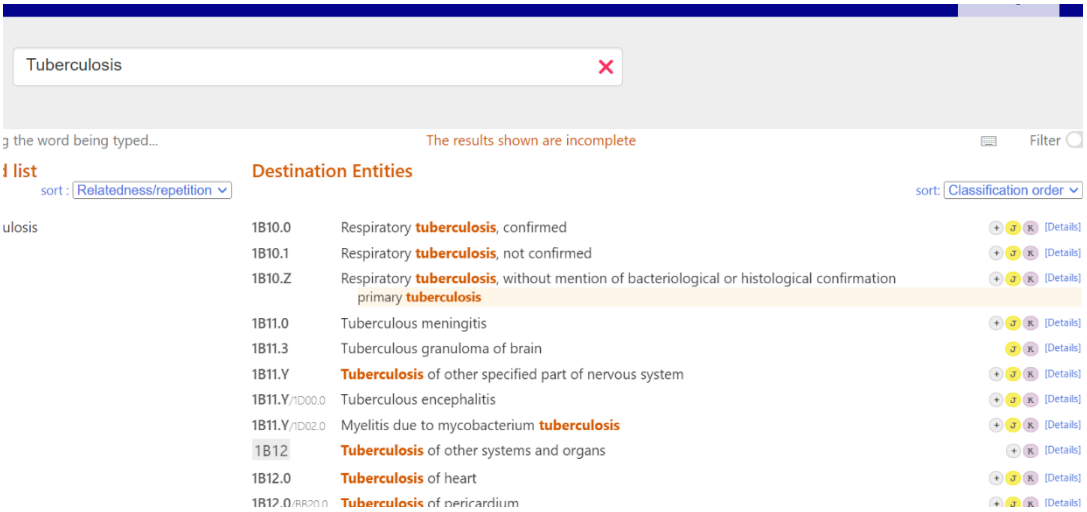


Figure 3-30 - Coding Tool feature four: classification order

3.3.1.5 Feature Five: Smart Search in ICD-11

- Differentiates between similar words (e.g., tuberculosis vs. tuberculous).
- Recognizes spelling variants (e.g., edema vs. oedema).
- Can make substitutions (e.g., renal – kidney; cancer – malignant neoplasm).
- Handles compound words: e.g., searching myelitis will also return results for neuromyelitis and poliomyelitis.

3.3.2 Differentiate Between Terms

The list below introduces the basic elements you will encounter when working with ICD-11.

- ICD-11 entity
- Entity title
- ICD-11 code

- ICD-11 category
- Index term

This is how the coding tool displays our search results under: Destination entities

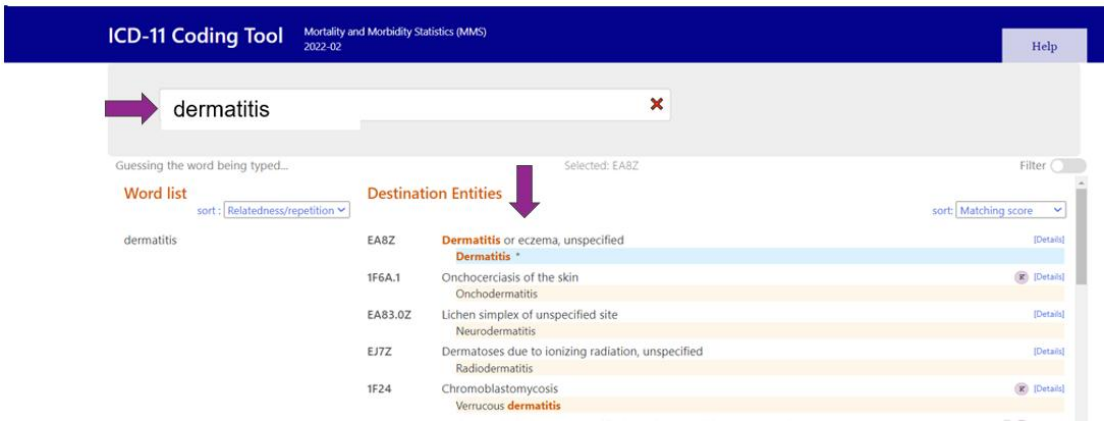


Figure 3-31 - Destination entities

3.3.2.1 ICD-11 Entity

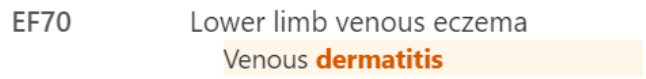


Figure 3-32 - ICD-11 Entity

An entity is a defined health concept in ICD-11, such as a disease, disorder, condition, symptom, health related problem or injury. The building blocks of ICD-11 are the ICD-11 entities. All ICD-11 entities have specific URIs but not all of them have ICD-11 codes. Entities with ICD codes are known as categories.

3.3.2.2 Entity Title

Figure 3-33 - Title of an Entity

An entity title is the official name or label of the entity as it appears in ICD-11.

3.3.2.3 ICD-11 Code for This Entity

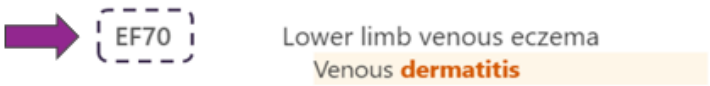


Figure 3-34 - Code of an Entity

The ICD is the international standard for diagnostic classification. **Codes**, the alphanumeric identifiers assigned to an entity, are what makes ICD a classification system: they enable us to classify diagnoses and medical conditions under an exhaustive set of mutually exclusive categories. This enables data to be aggregated at pre-prescribed levels of specialization for different purposes.

3.3.2.4 Index Term for This Entity

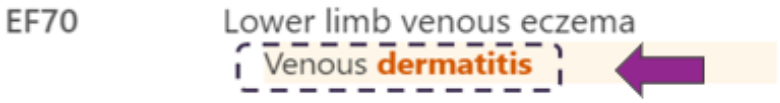


Figure 3-35 - Index term of an entity

Index terms are the synonyms, abbreviations, narrower terms or inclusions listed in ICD-11 under an entity, i.e., they have the same ICD-11 code.

Some entities have many index terms. But the coding tool will only provide you with the **index term that includes the words you typed** into the Coding Tool's search box.

This means that when you look up a diagnosis, the Coding Tool does not only search entity titles, but also the index terms under those entities.

3.3.2.5 ICD-11 Categories

In ICD-11, a category is a higher-level grouping within the classification that clusters related entities (diagnoses, findings or other health concepts) under a code. All ICD-11 categories have a specific ICD code and a URI.

Figure 3-36 - ICD-11 categories

3.3.3 Entity Details

- **Description**
  - Description is a short summary of the disease condition specified by the entity. For example, the description of the entity 9B10.21 Diabetic cataract is "This refers to an unspecified group of metabolic diseases in which a person has high blood sugar, either because the pancreas does not produce enough insulin, or because cells do not respond to the insulin that is produced. This diagnosis is with diabetic cataract."
- **Inclusions**
  - Inclusions are the diagnostic terms or synonyms that are grouped under the entity.
- **Exclusions**
  - Terms that are classified elsewhere and should not be coded under this entity.

Description

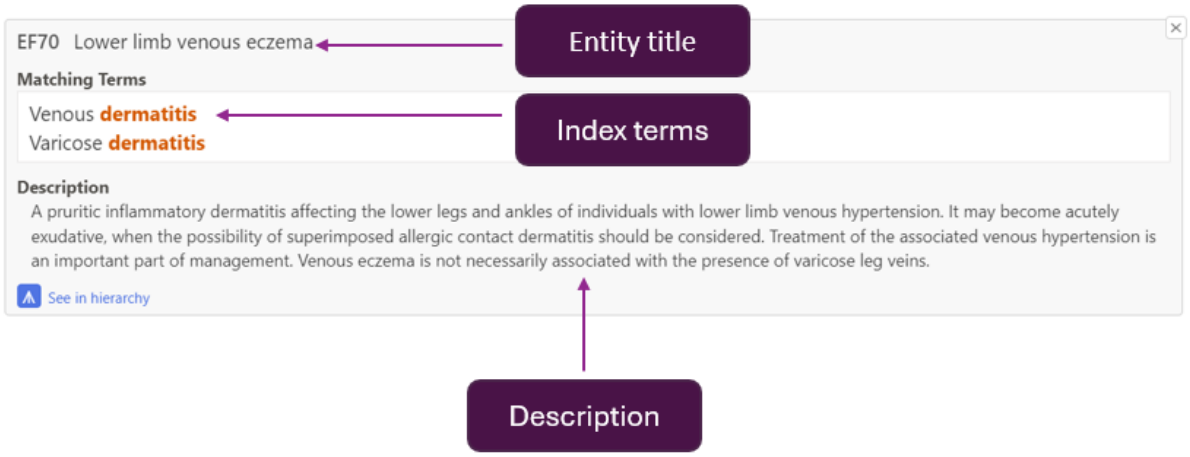


Figure 3-37 - Entity details - Description

Inclusions

Destination Entities

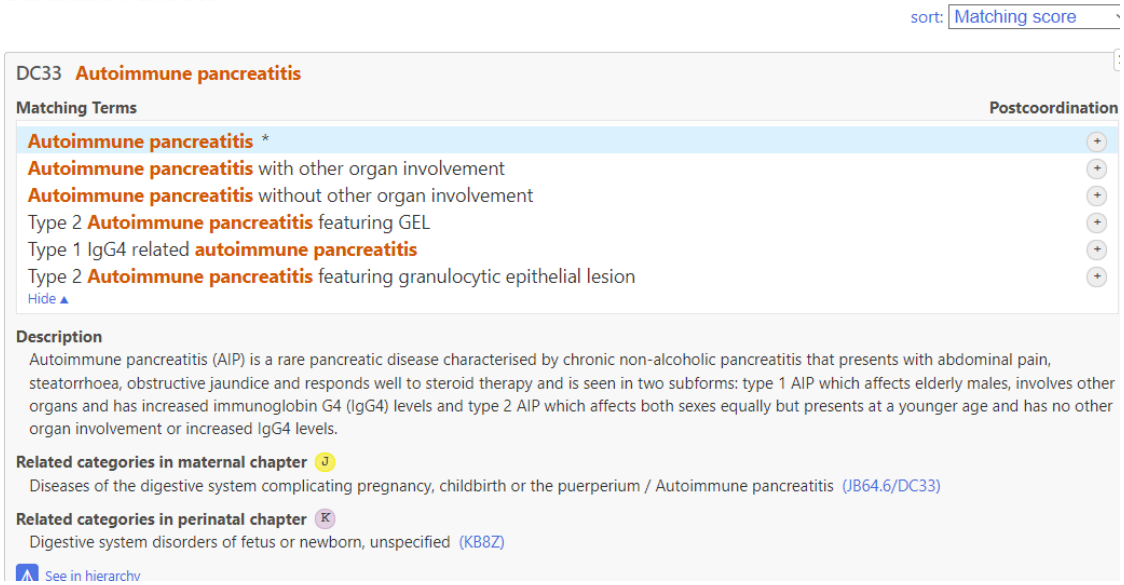


Figure 3-38 - Entity details - Inclusions

Exclusions

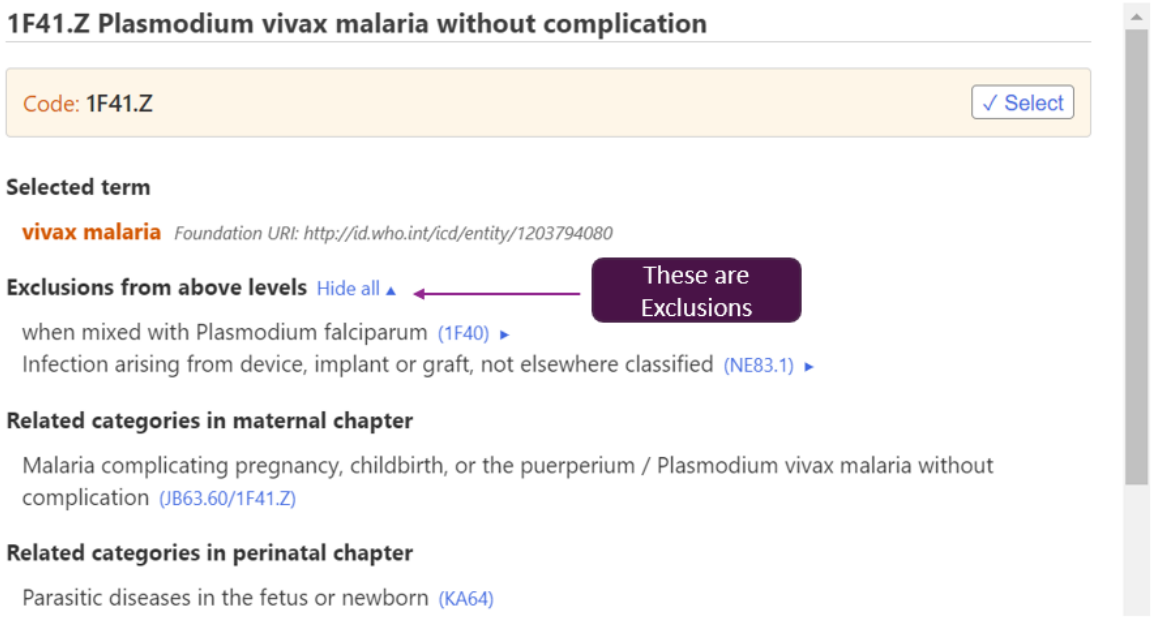


Figure 3-39 - Entity details - Exclusions

3.3.3.1 Overview of Entity Details

Example:

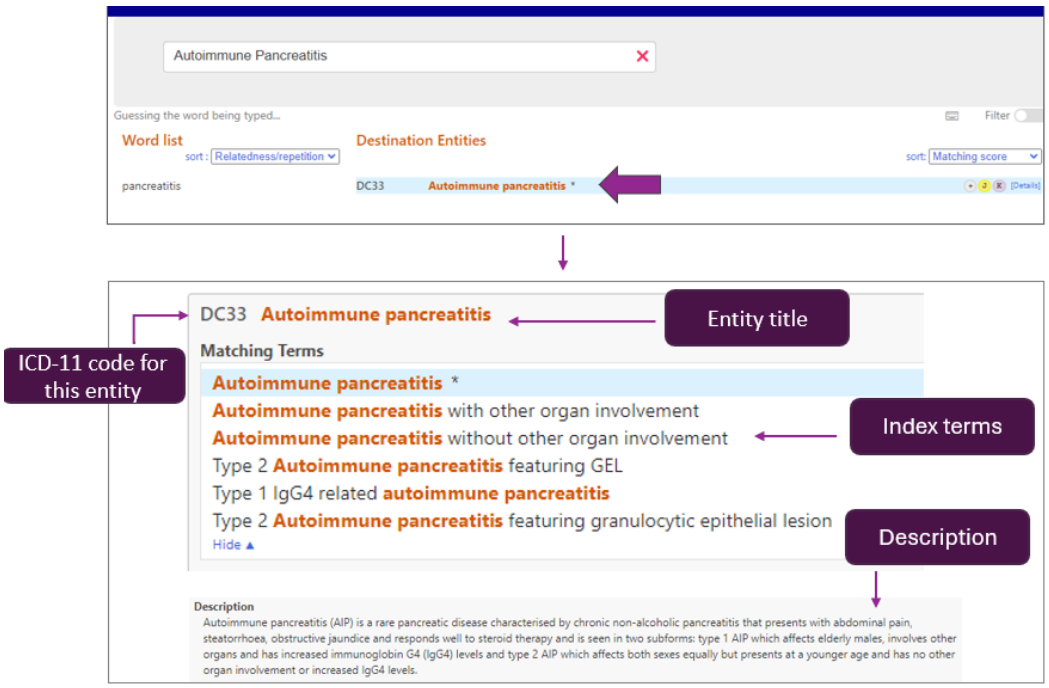


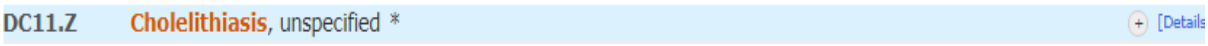
Figure 3-40 - Example - Summary of entity details

3.3.4 ICD-11 Coding Tool – Icons

The Coding Tool uses specific icons to facilitate coding and inform coders about the required actions.

3.3.4.1 An Exact Match

- A BLUE highlighted stem code indicates an exact match.



3.3.4.2 Optional Postcoordination

- A GREY icon indicates optional postcoordination.

3.3.4.3 Mandatory Postcoordination

- A RED icon indicates mandatory postcoordination.

3.3.4.4 A Coding Note

- A GREEN icon indicates a coding note.

3.3.4.5 A Related Category or Categories in the Maternal Chapter

- A YELLOW icon indicates a related category or categories in the maternal chapter.

3.3.4.6 A Related Category or Categories in the Perinatal Chapter

- A PURPLE icon indicates a related category or categories in the perinatal chapter.

EXERCISE 2

1. Please match the icons in column 1 with the items in column 2 and indicate the correct match in column 3.

Column 1	Column 2	Column 3
	a. Exact match	
	b. Optional postcoordination	
	c. Categories in the maternal chapter	
	d. Categories in the perinatal chapter	
	e. Mandatory postcoordination	
BLUE highlighted stem code	f. Coding note	

3.3.5 Using the Coding Tool

For coding, WHO provides the ICD-11 Coding Tool, a simple automated way to find and select the needed categories. Before we discuss the basic coding scenarios under the next section, here are some examples of using the Coding Tool.

Example 1: Coding Urolithiasis

Step 1

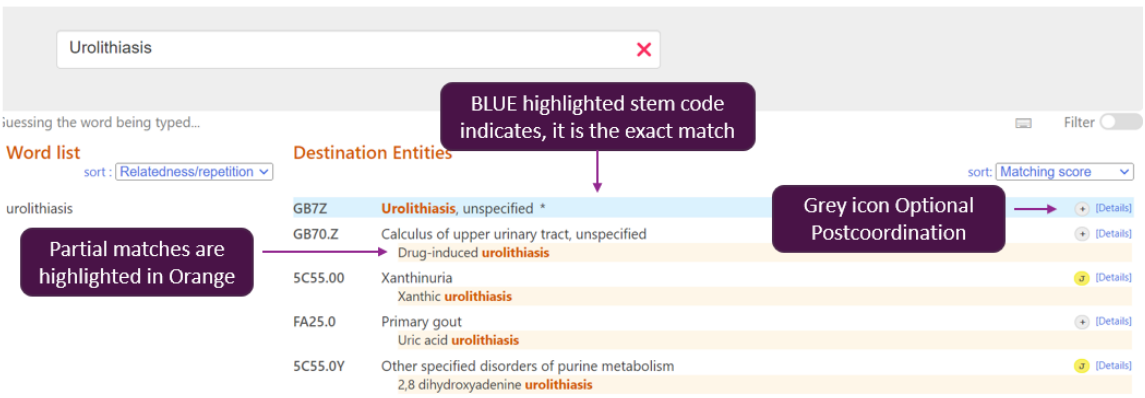


Figure 3-41 - Example 1 - Step 1

Step 2

When postcoordination is available, you can click on the "+" icon to view the postcoordination options.

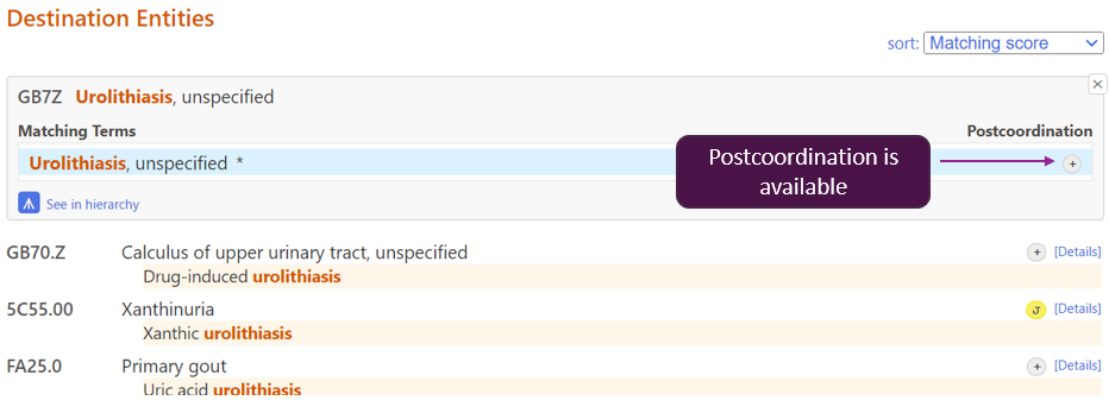


Figure 3-42 - Example 1 - Step 2

Step 3: Urolithiasis – postcoordination

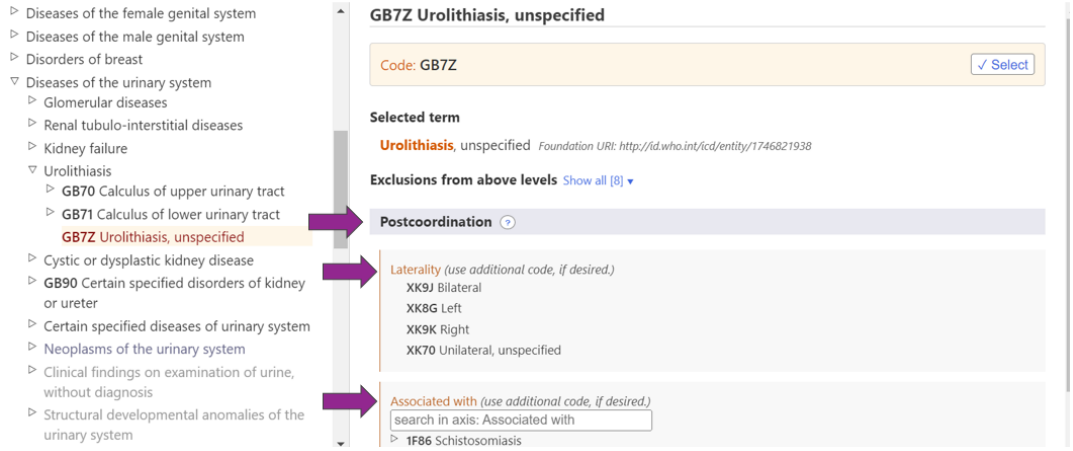


Figure 3-43 - Example 1 - Step 3

Example 2: Coding Non-ST elevated myocardial infarction (Non-STEMI)

Step 1

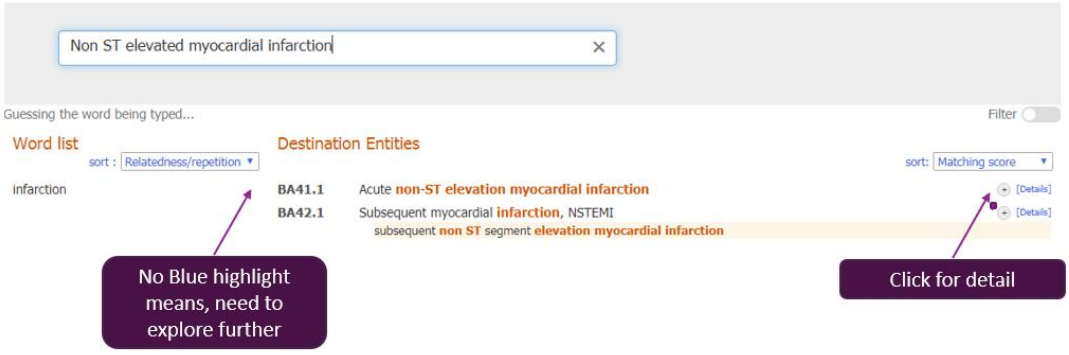


Figure 3-44 - Example 2 - Step 1

Step 2

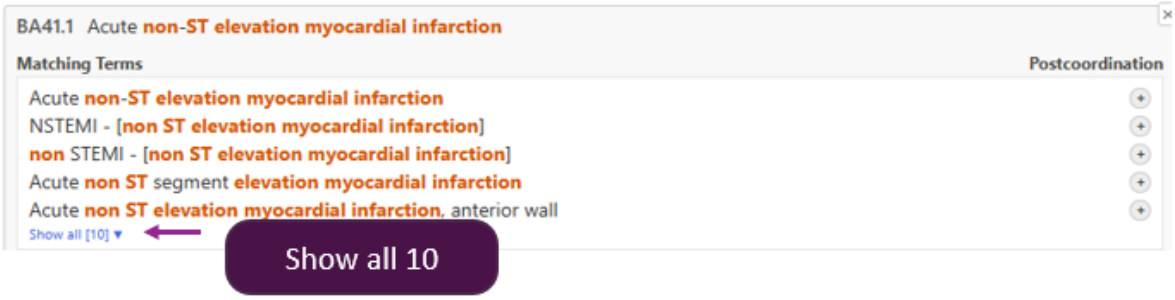


Figure 3-45 - Example 2 - Step 2

Step 3

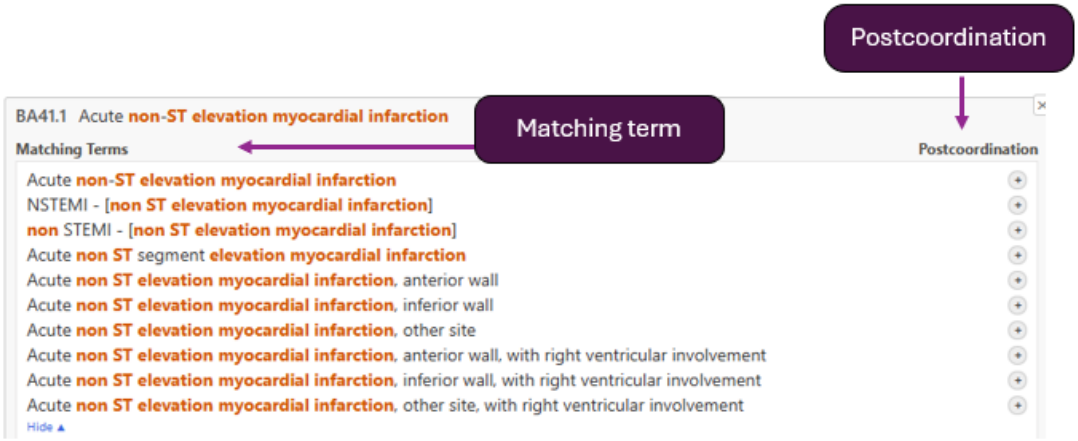


Figure 3-46 - Example 2 - Step 3

Step 4

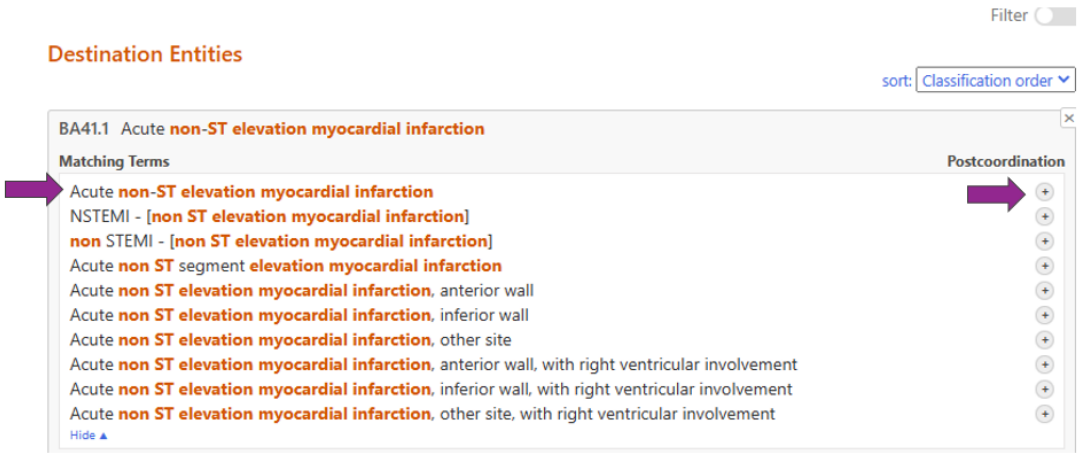


Figure 3-47 - Example 2 - Step 4

Step 5

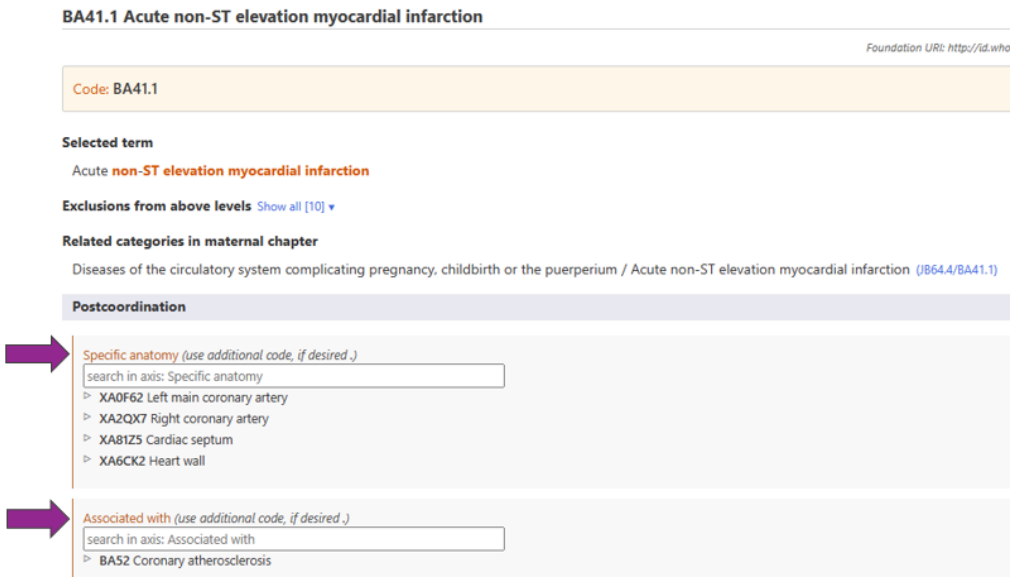


Figure 3-48 - Example 2 - Step 5

3.4 Basic Coding Scenarios with the ICD-11 Coding Tool

This section explains different coding scenarios using the ICD-11 Coding Tool.

Basic coding scenarios

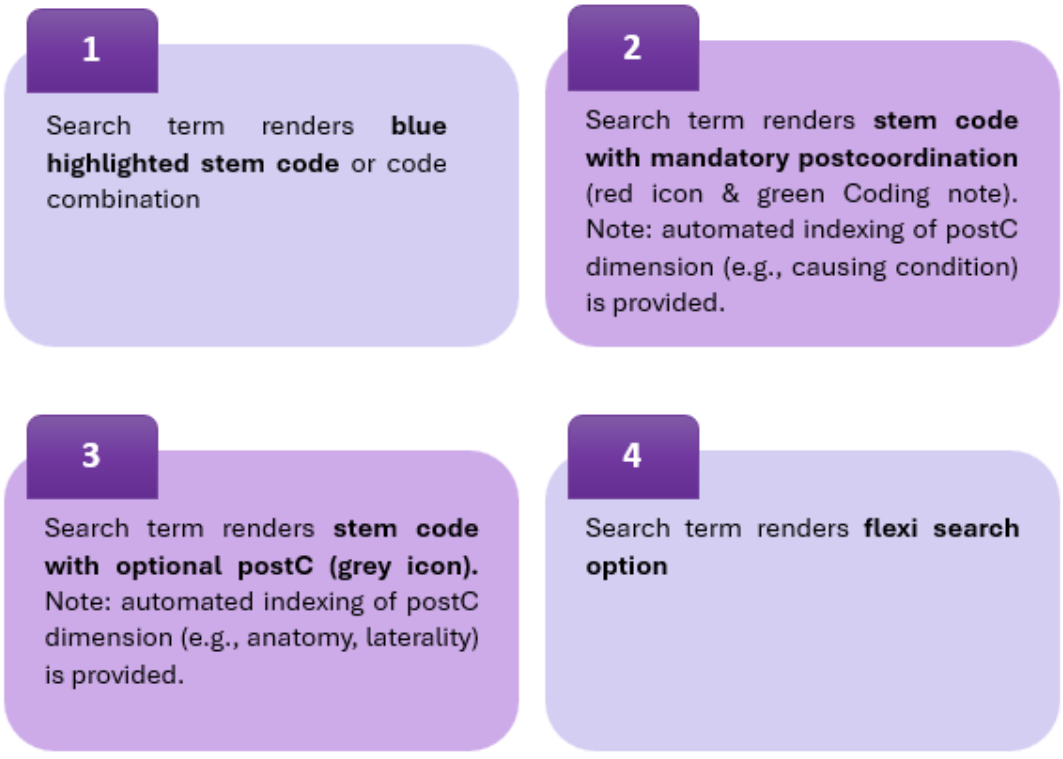


Figure 3-49 - Basic coding scenarios with the ICD-11 Coding Tool

3.4.1 Search Term Renders Blue Highlighted Stem Code

Example 1: Blue highlighted stem code

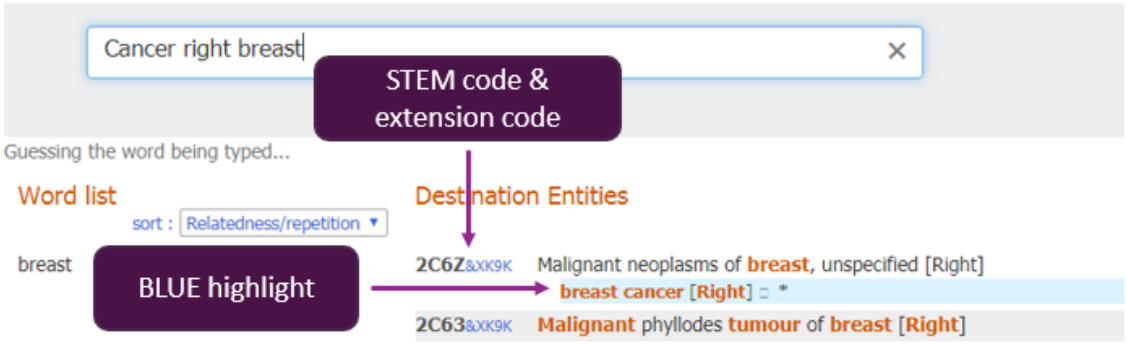


Figure 3-50 - Example 1 - Blue highlighted stem code

Example 2: Selecting the blue highlighted stem code as the correct code choice

Step 1

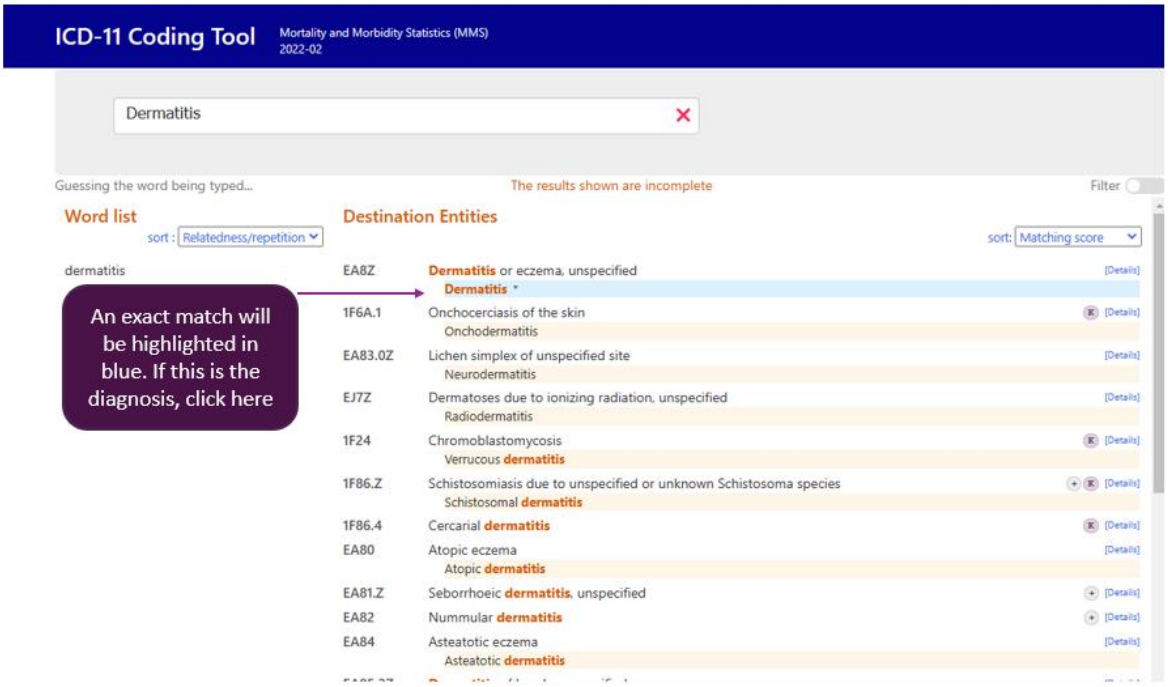


Figure 3-51 - Example 3 - Blue highlighted stem code - Step 1

Step 2

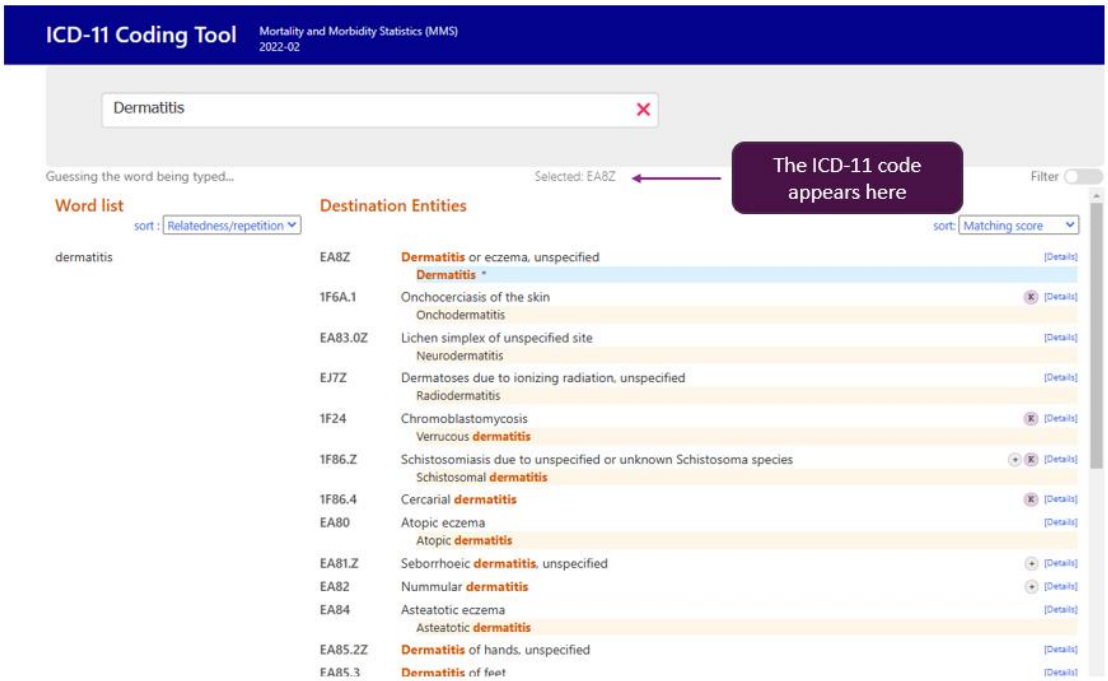


Figure 3-52 - Example 3 - Blue highlighted stem code - Step 2

3.4.2 Search Term Renders Stem Code with Mandatory Postcoordination (Red Icon) Coding Note (Green Icon)

The red + icon indicates the mandatory postcoordination. Coders must click on the red + icon and search for additional information.

The green icon indicates a coding note providing important information to the coder.

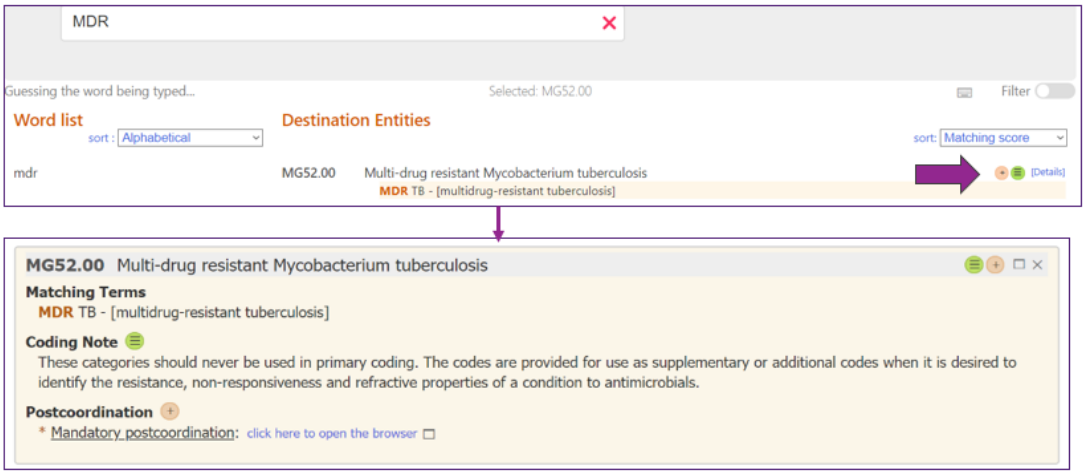


Figure 3-53 - Search term renders stem code with mandatory postcoordination and coding note

Example 1

Step 1

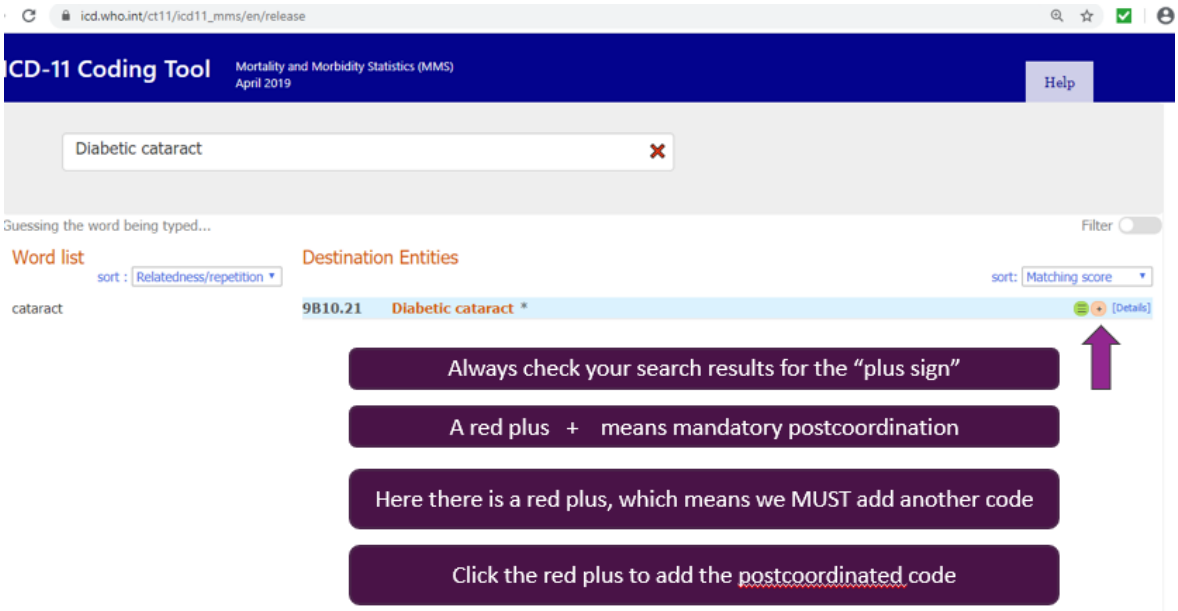


Figure 3-54 - Example 1 - Search term renders stem code with mandatory postcoordination and coding note - Step 1

Step 2

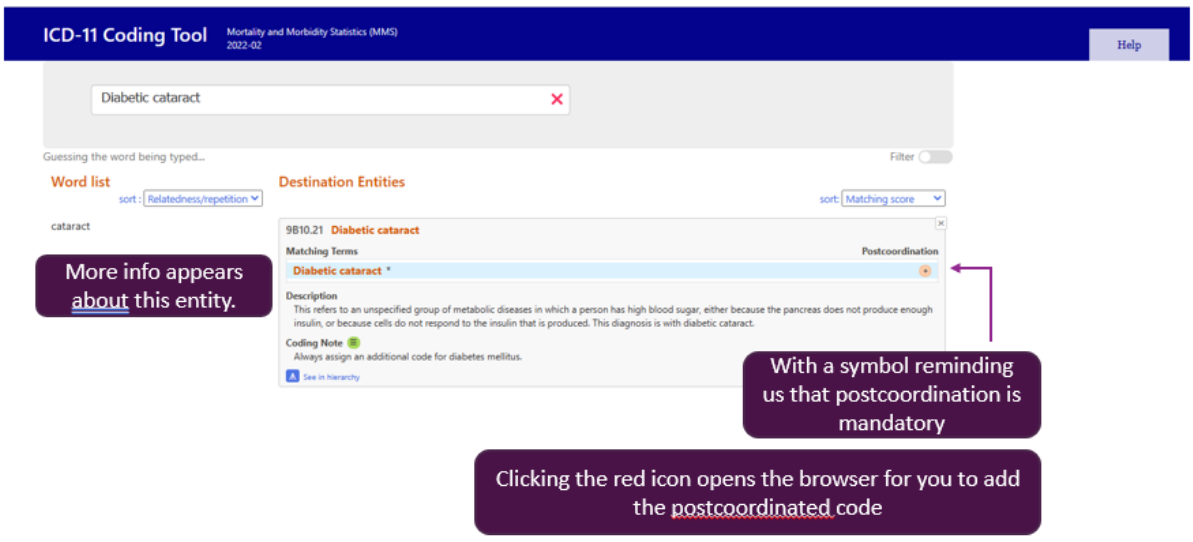


Figure 3-55 - Example 1 - Search term renders stem code with mandatory postcoordination and coding note - Step 2

Step 3

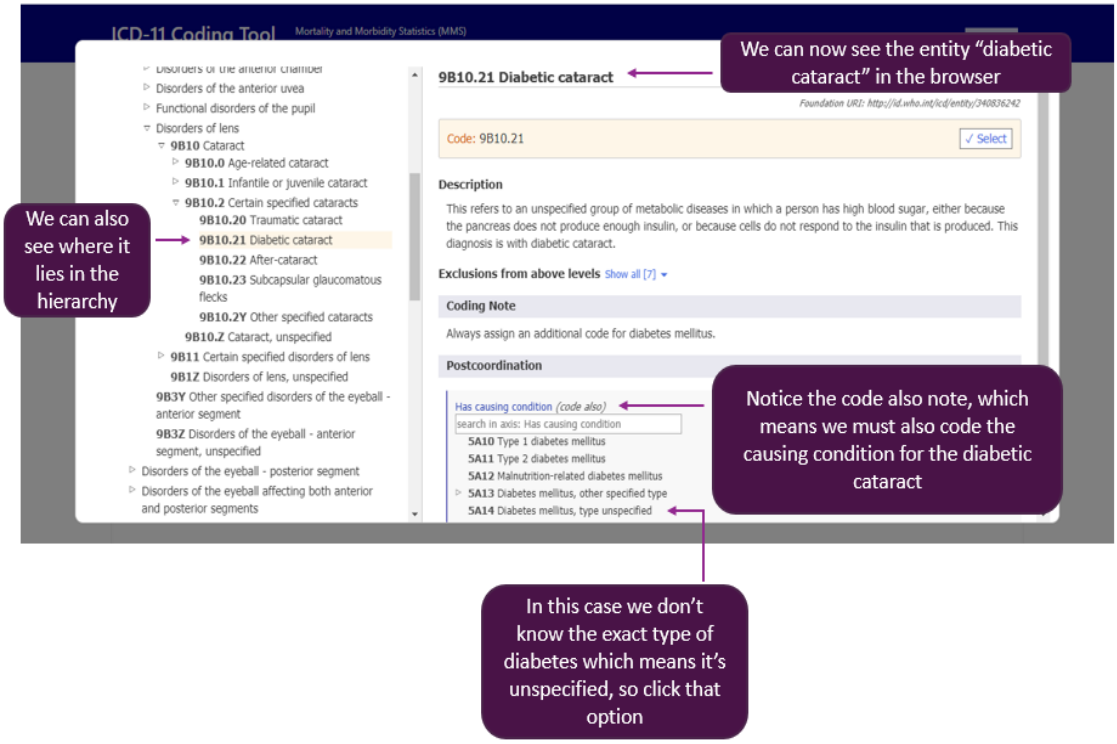


Figure 3-56 - Example 1 - Search term renders stem code with mandatory postcoordination and coding note - Step 3

Step 4

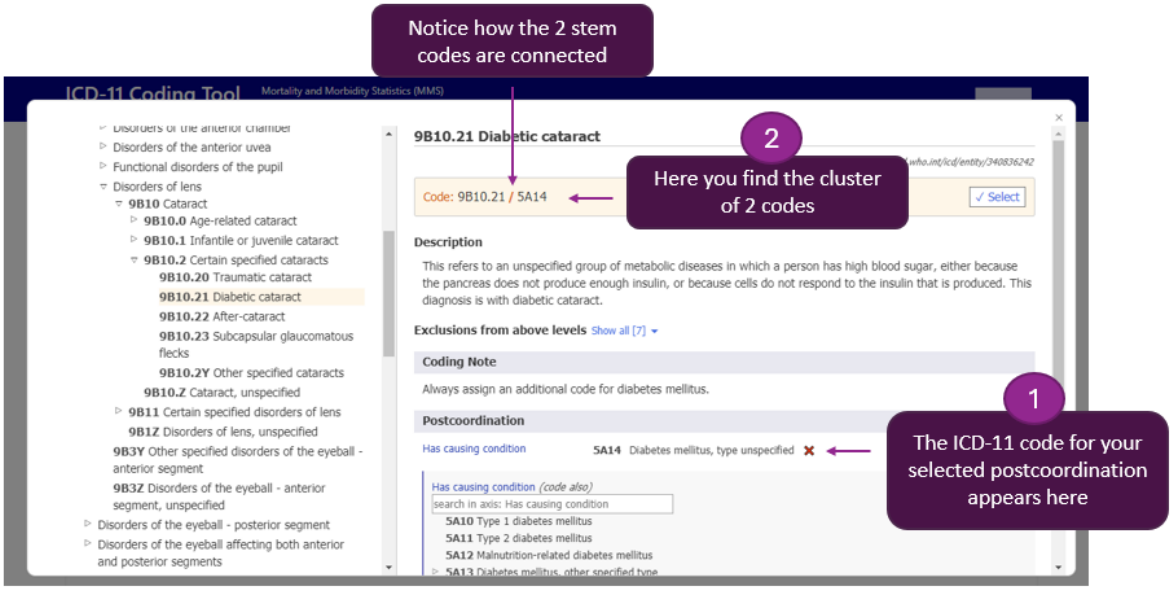


Figure 3-57 - Example 1 - Search term renders stem code with mandatory postcoordination and coding note - Step 4

3.4.3 Search Term Renders Stem Code with Optional Postcoordination (Grey Icon)

The grey + icon indicates that postcoordination is optional. The coder may decide to continue postcoordination to add further detail.

Example 1

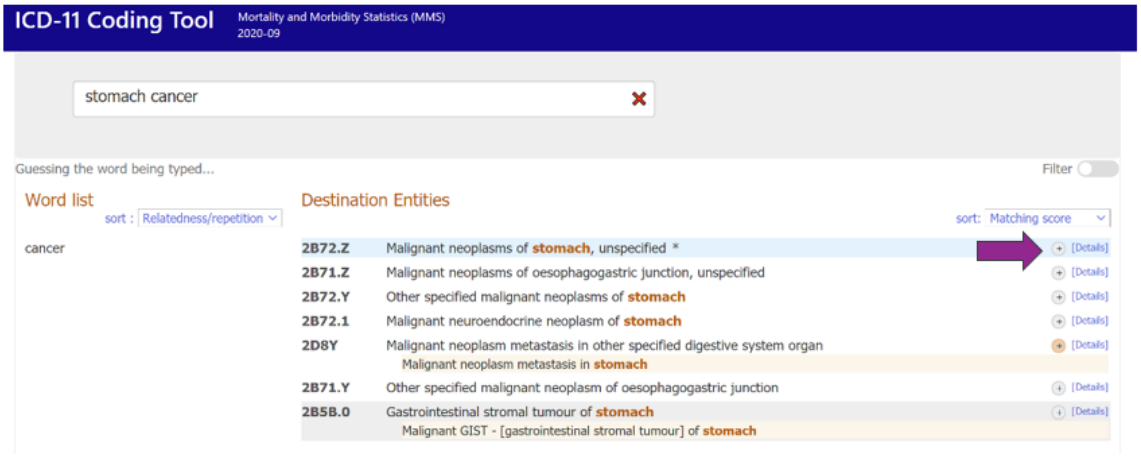


Figure 3-58 - Example 1 - Search term renders stem code with optional postcoordination (grey icon)

3.4.4 Flexible Search

When the coding tool doesn't find matching entities, the coder can try a flexible search option. To do that, the user must click on the "Try flexible search" button.

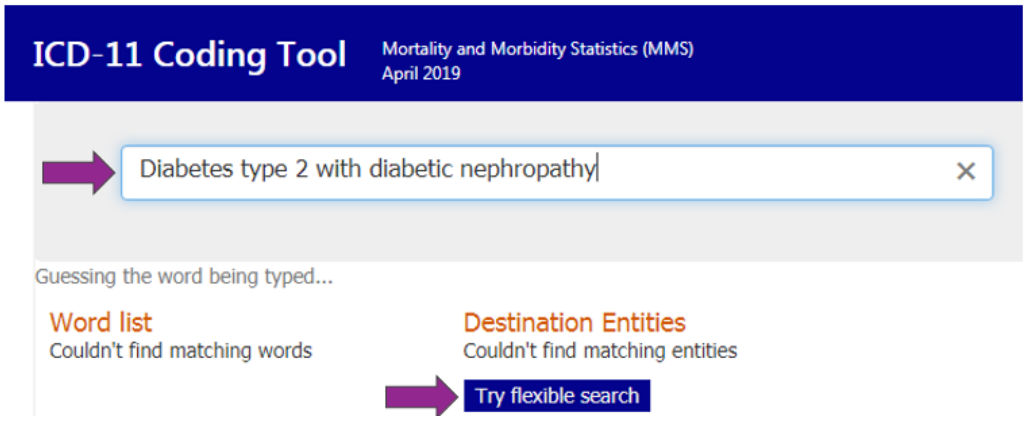


Figure 3-59 - Flexible search step 1

Example 1: Diabetes type 2 with diabetic nephropathy

Step 1

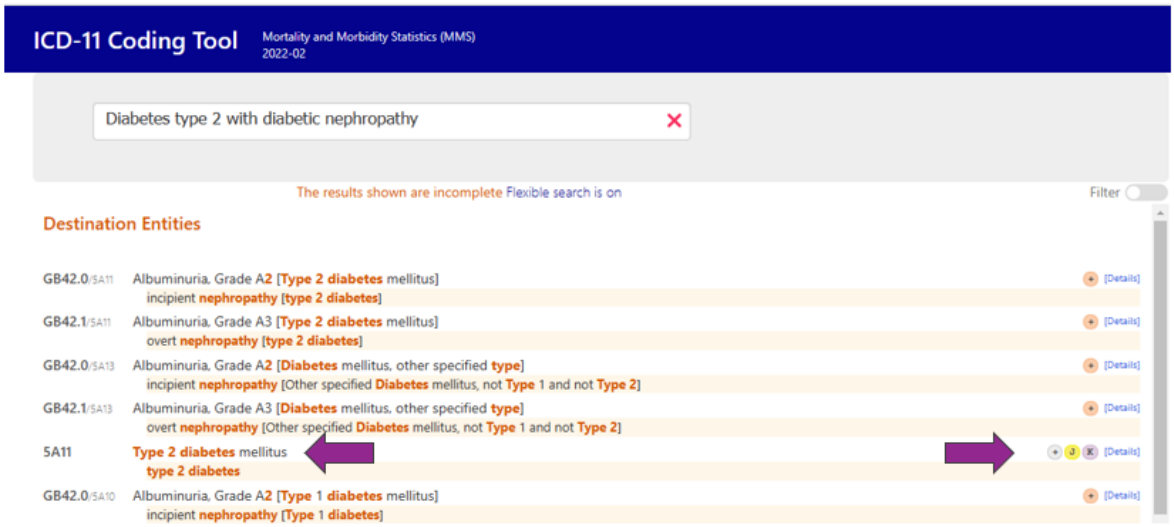


Figure 3-60 - Example 1 - Flexible search - Step 1

Step 2

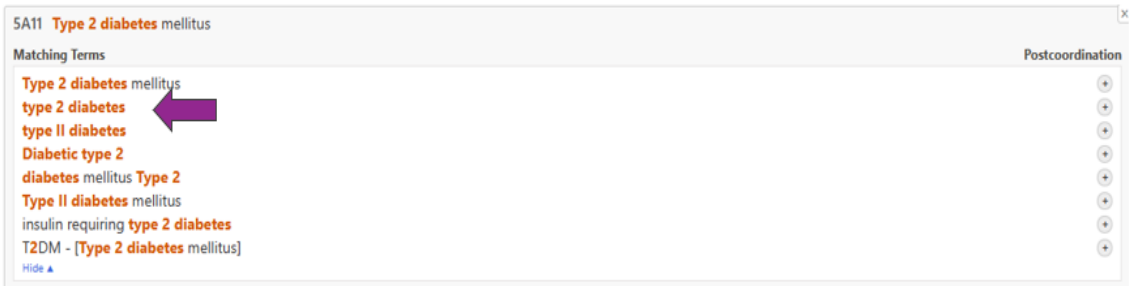


Figure 3-61 - Example 1 - Flexible search - Step 2

Step 3

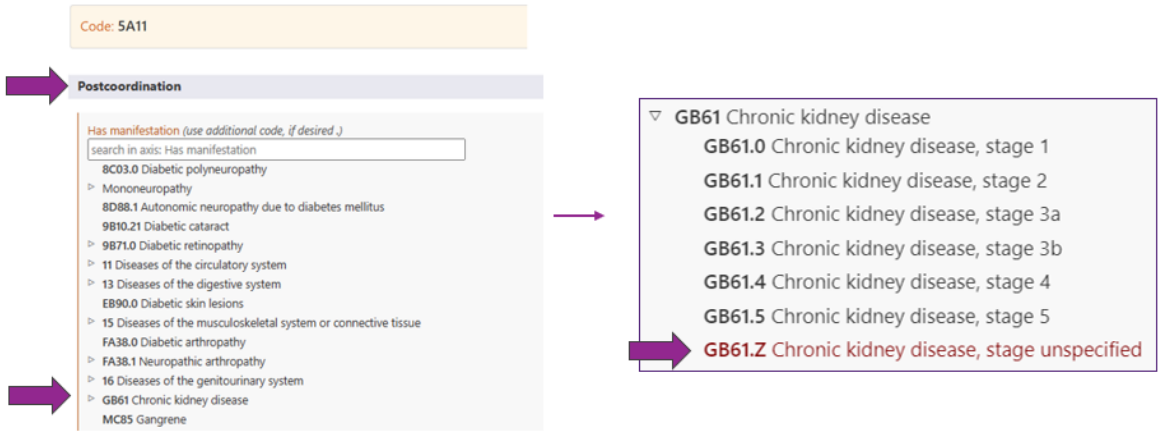


Figure 3-62 - Example 1 - Flexible search - Step 3

Step 4

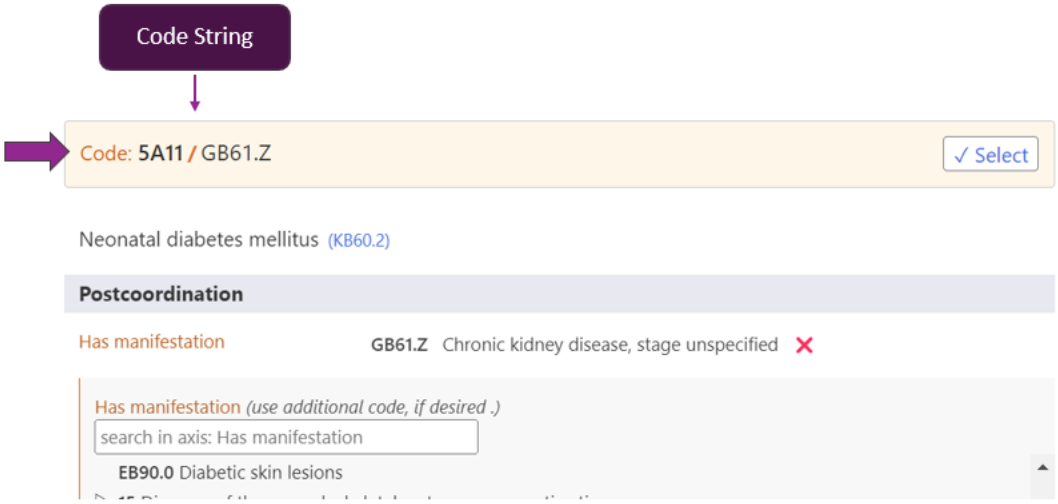


Figure 3-63 - Example 1 - Flexible search - Step 4

Step 5 (result)

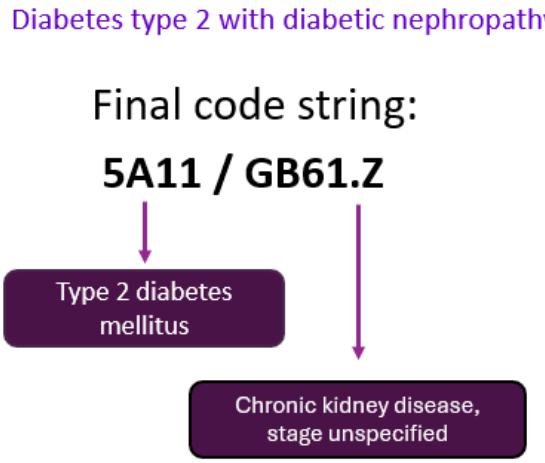


Figure 3-64 - Example 1 - Flexible search - Step 5

Example 2: Diabetes type 2 with diabetic nephropathy and neuropathy

Step 1

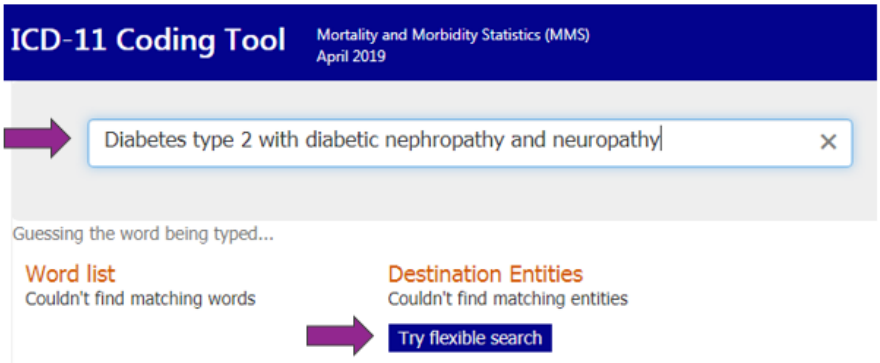


Figure 3-65 - Example 2 - Flexible search - Step 1

Step 2

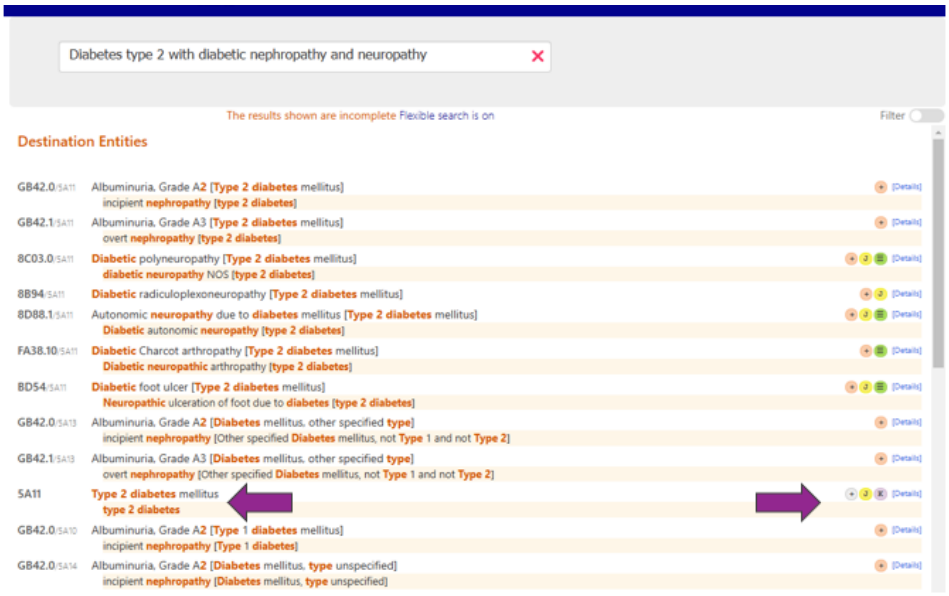


Figure 3-66 - Example 2 - Flexible search - Step 2

Step 3

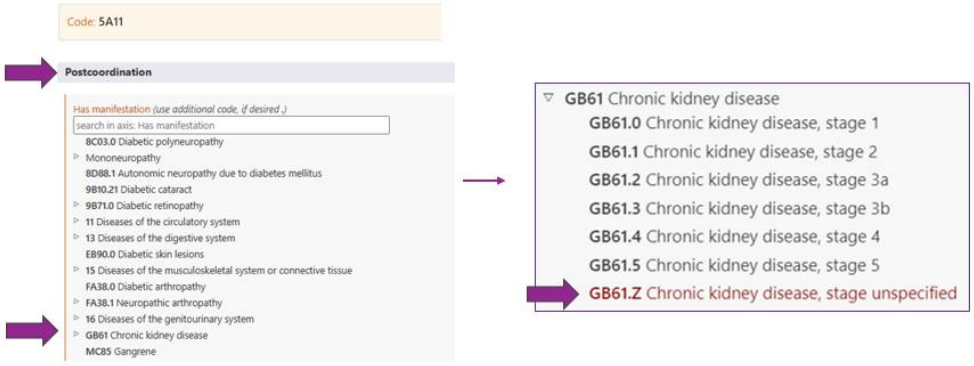


Figure 3-67 - Example 2 - Flexible search - Step 3

Step 4

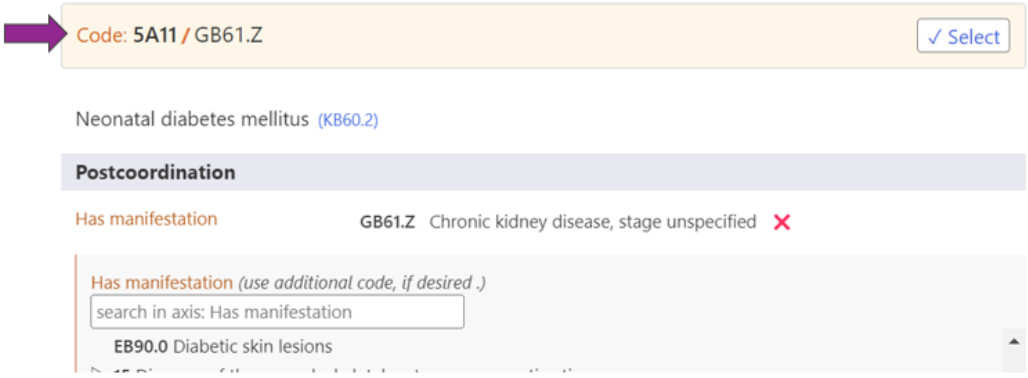


Figure 3-68 - Example 2 - Flexible search - Step 4

Step 5

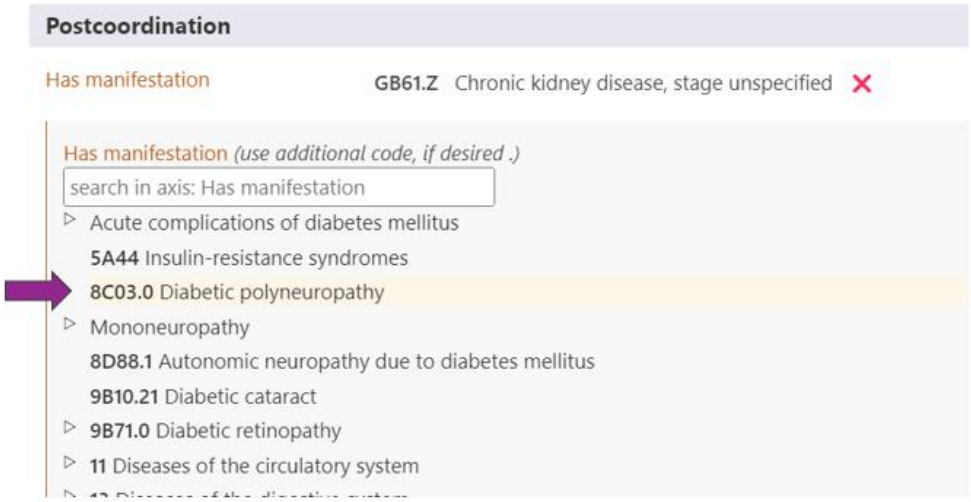


Figure 3-69 - Example 2 - Flexible search - Step 5

Step 6

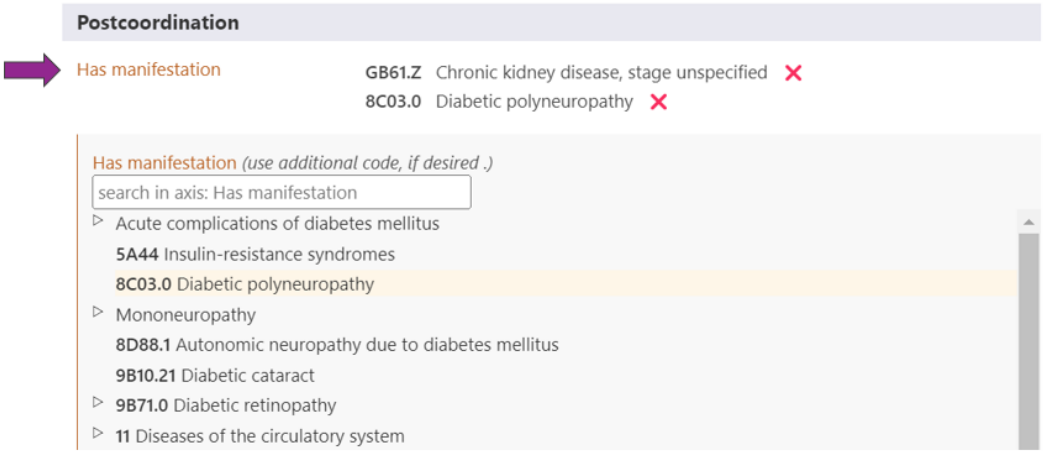


Figure 3-70 - Example 2 - Flexible search - Step 6

Step 7

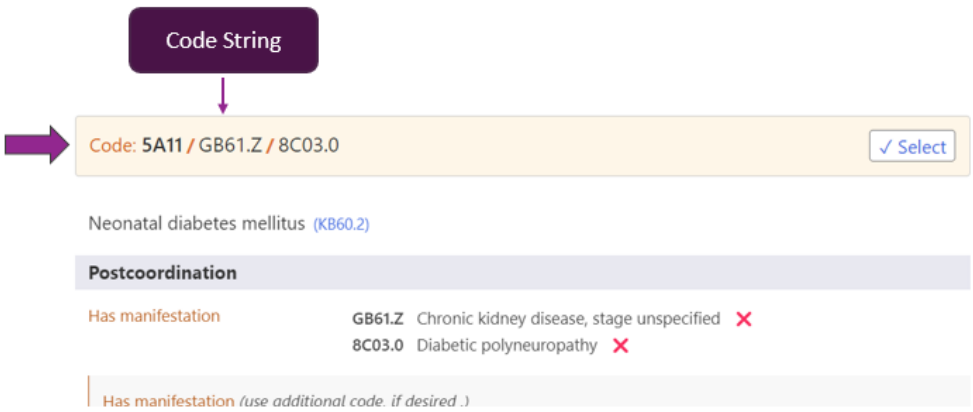


Figure 3-71 - Example 2 - Flexible search - Step 7

Step 8 (result)

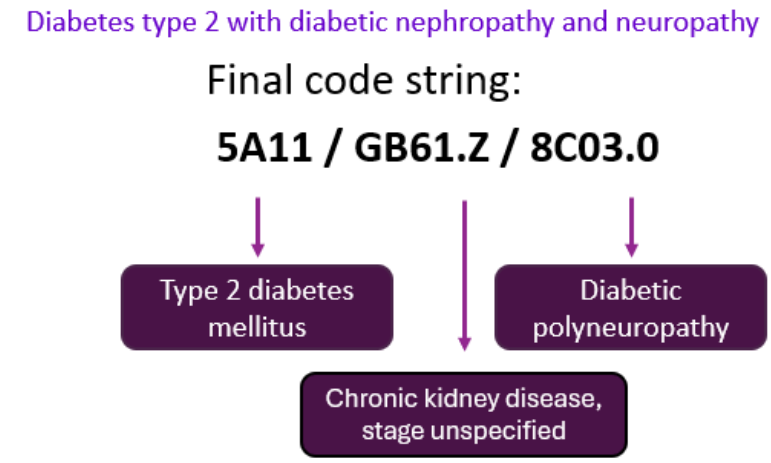


Figure 3-72 - Example 2 - Flexible search - Step 8 - answer - final code string

Example 3: Cellulitis of index finger

Step 1

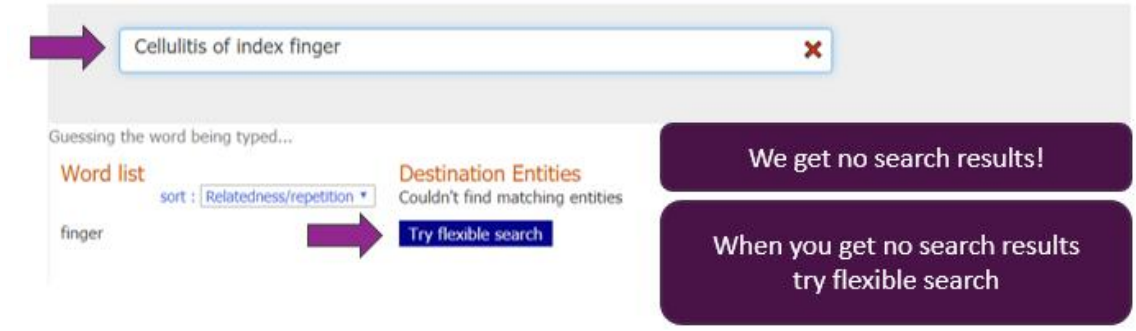


Figure 3-73 - Example 3 - Flexible search - Step 1

Step 2

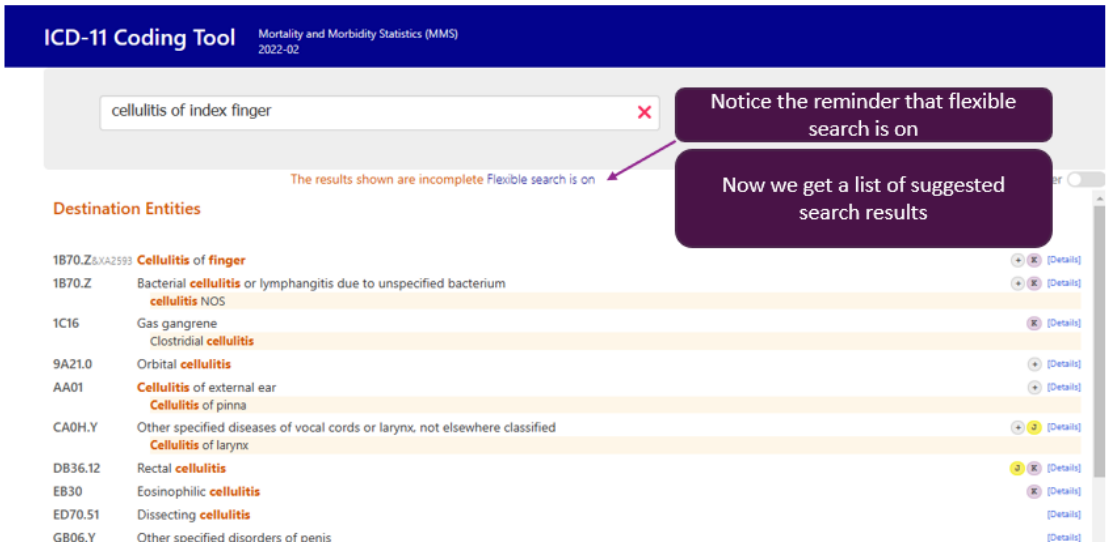


Figure 3-74 - Example 3 - Flexible search - Step 2

Step 3

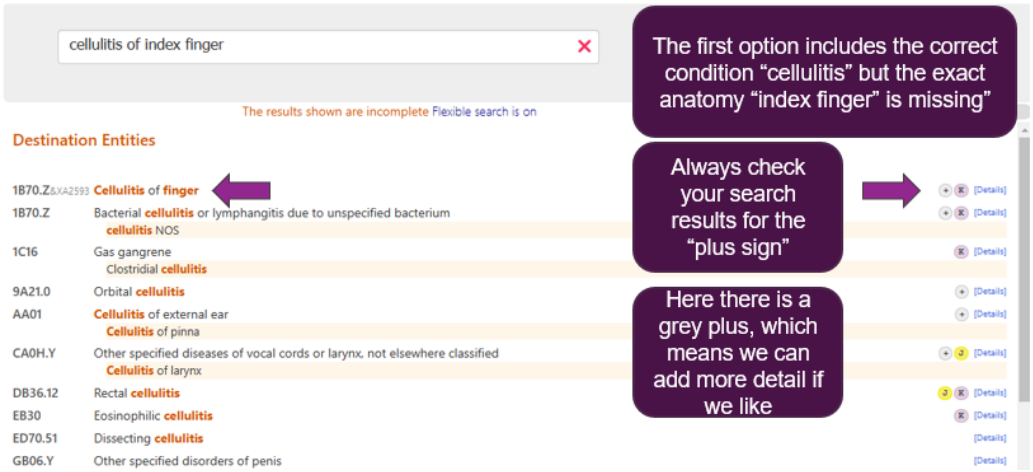


Figure 3-75 - Example 3 - Flexible search - Step 3

Step 4

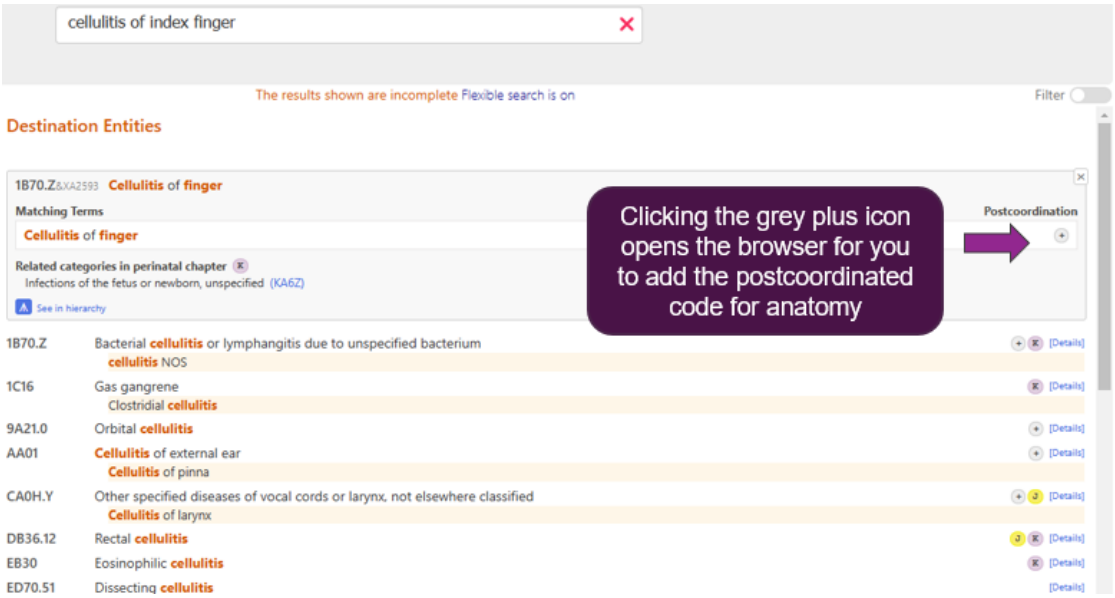


Figure 3-76 - Example 3 - Flexible search - Step 4

Step 5

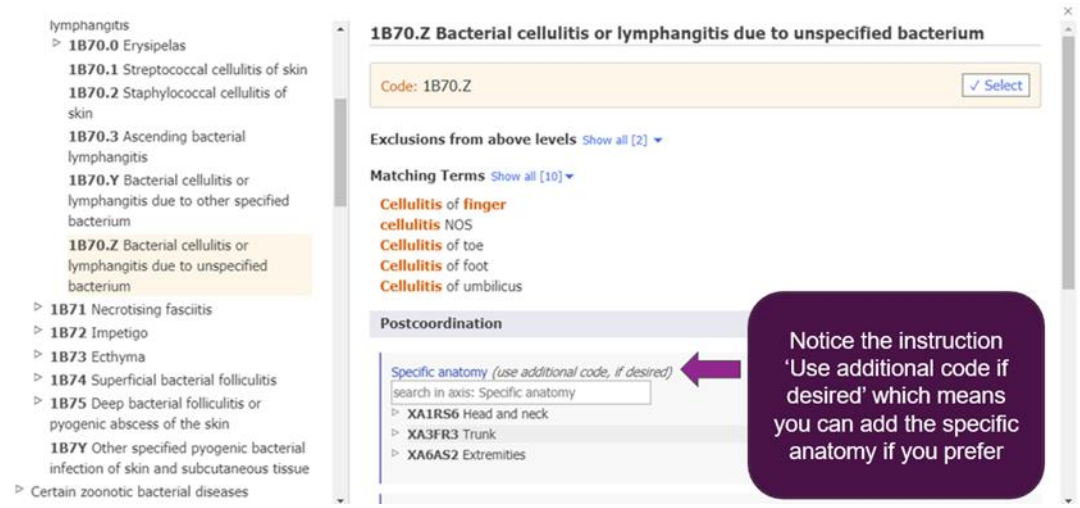


Figure 3-77 - Example 3 - Flexible search - Step 5

Step 6

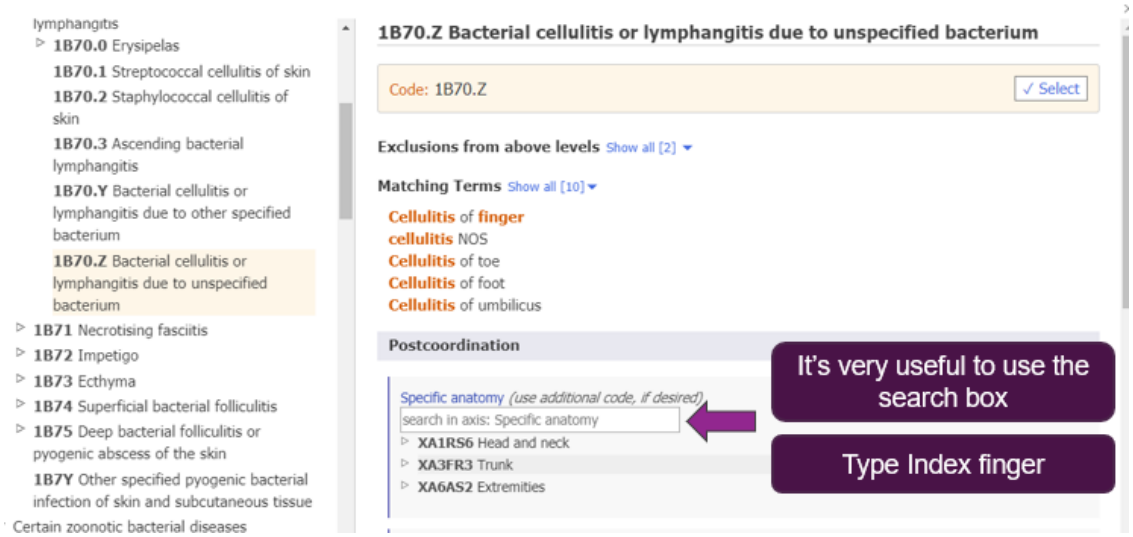


Figure 3-78 - Example 3 - Flexible search - Step 6

Step 7

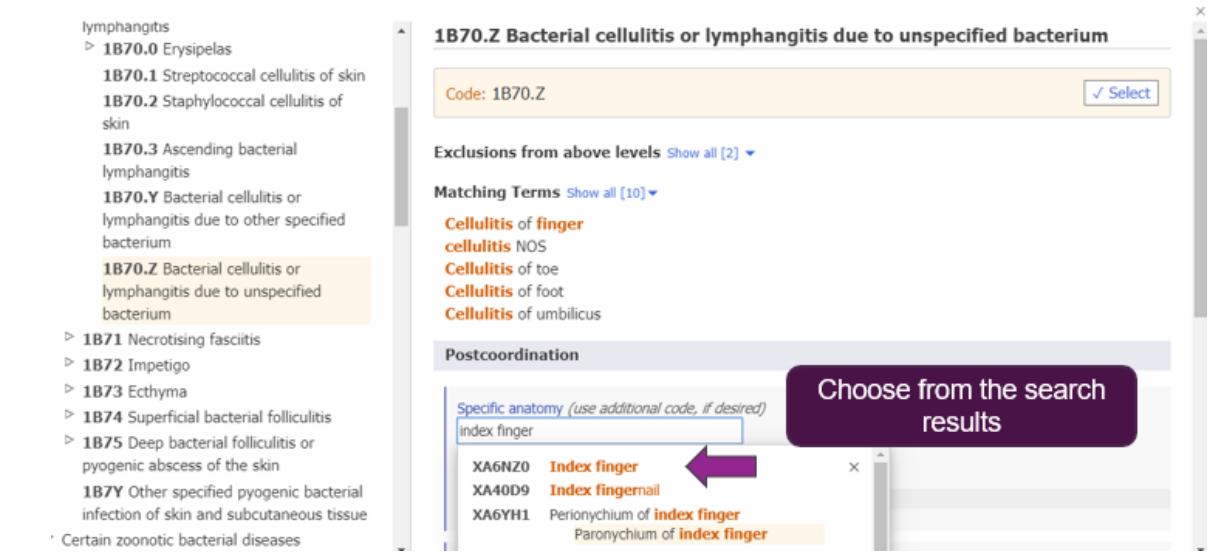


Figure 3-79 - Example 3 - Flexible search - Step 7

Step 8

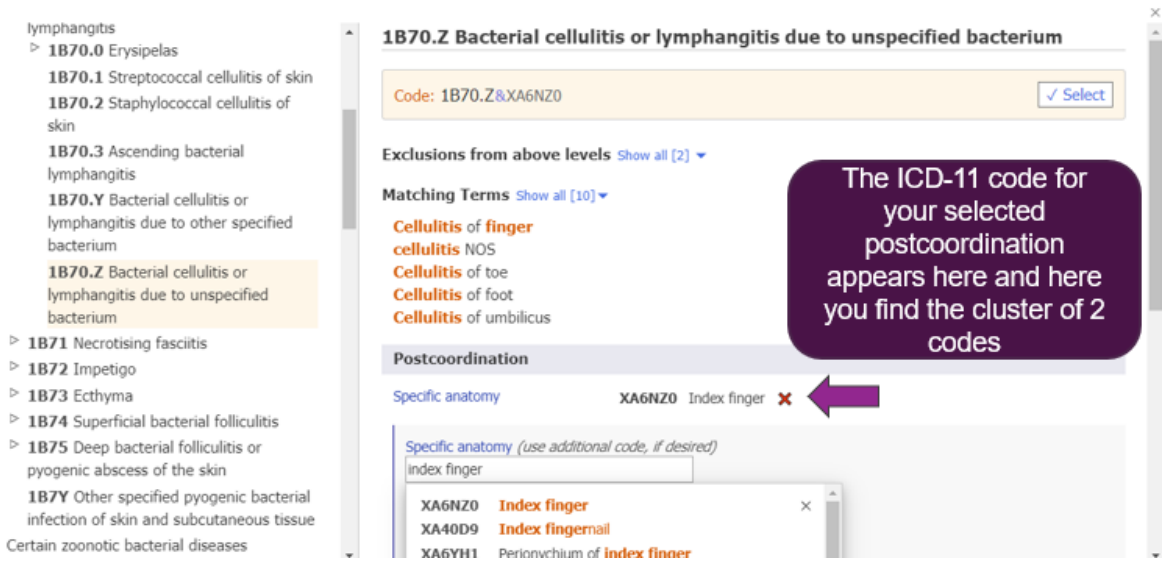


Figure 3-80 - Example 3 - Flexible search - Step 8

Step 9

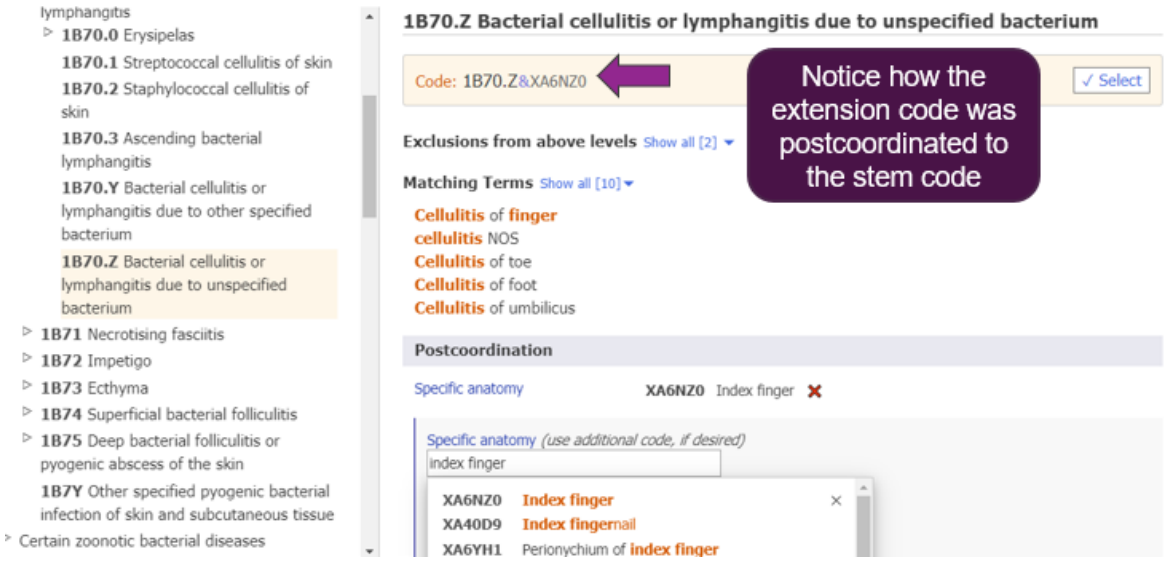


Figure 3-81 - Example 3 - Flexible search - Step 9

Code cluster: 1B70.Z&XA6NZ0

Example 4: Broken leg after fall in the hospital

Step 1

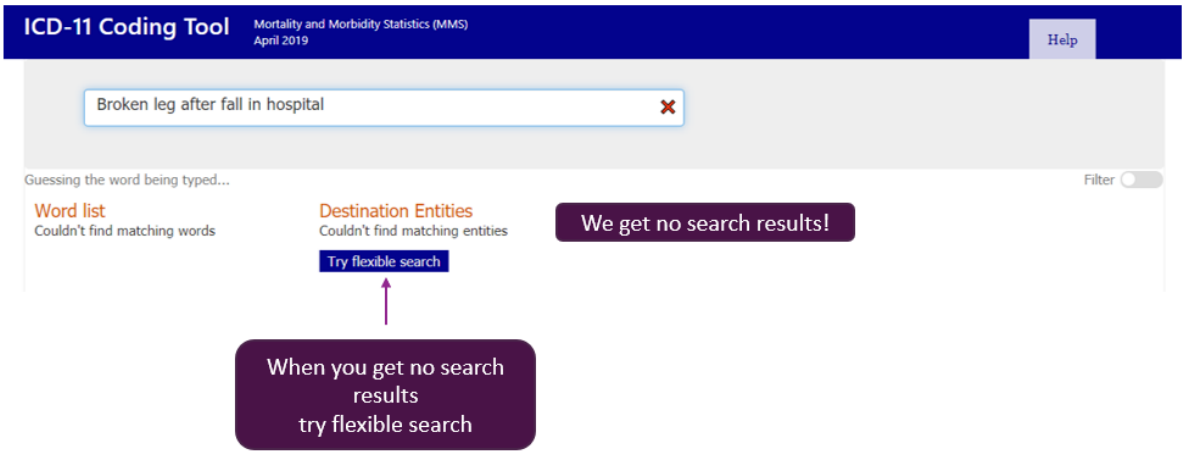


Figure 3-82 - Example 4 - Flexible search - Step 1

Step 2

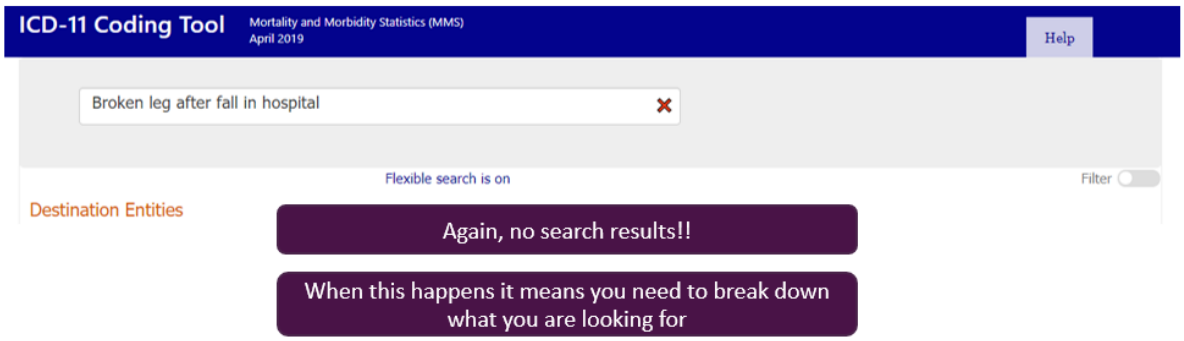


Figure 3-83 - Example 4 - Flexible search - Step 2

Step 3

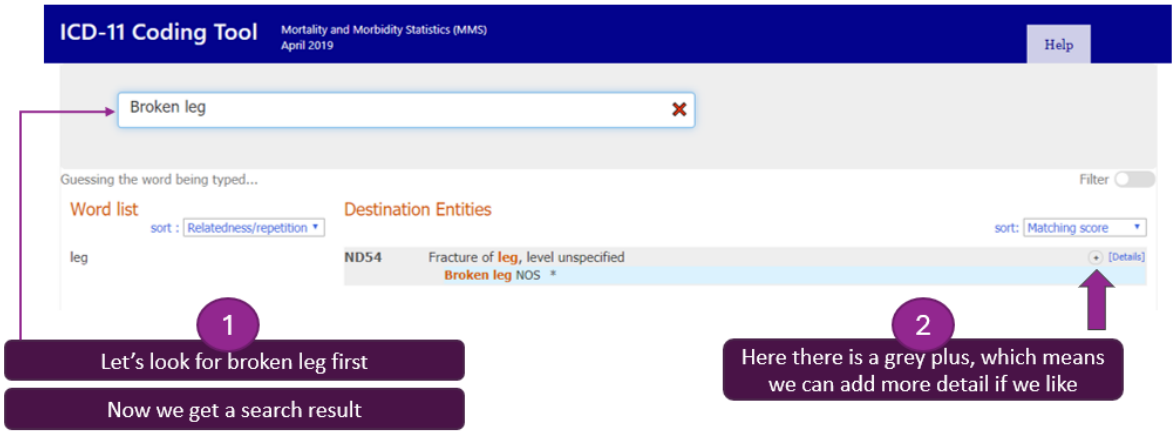


Figure 3-84 - Example 4 - Flexible search - Step 3

Step 4

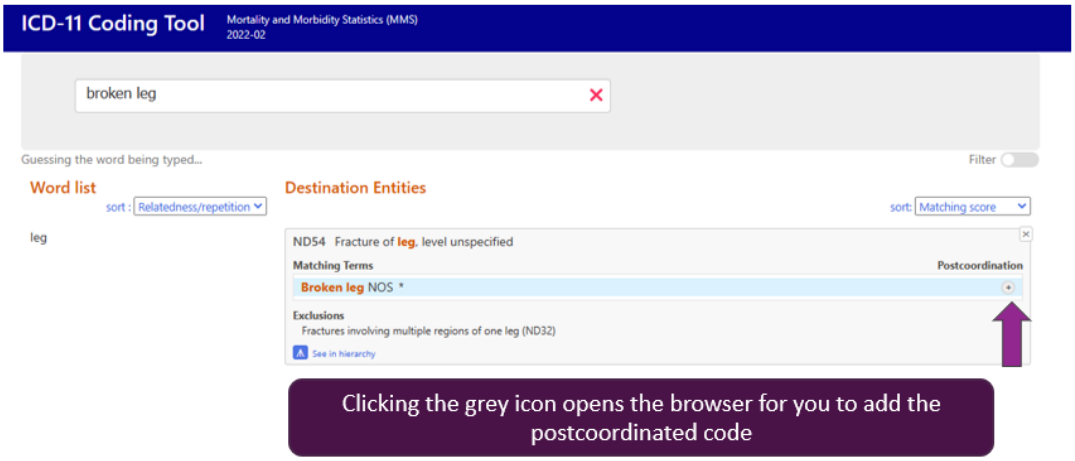


Figure 3-85 - Example 4 - Flexible search - Step 4

Step 5

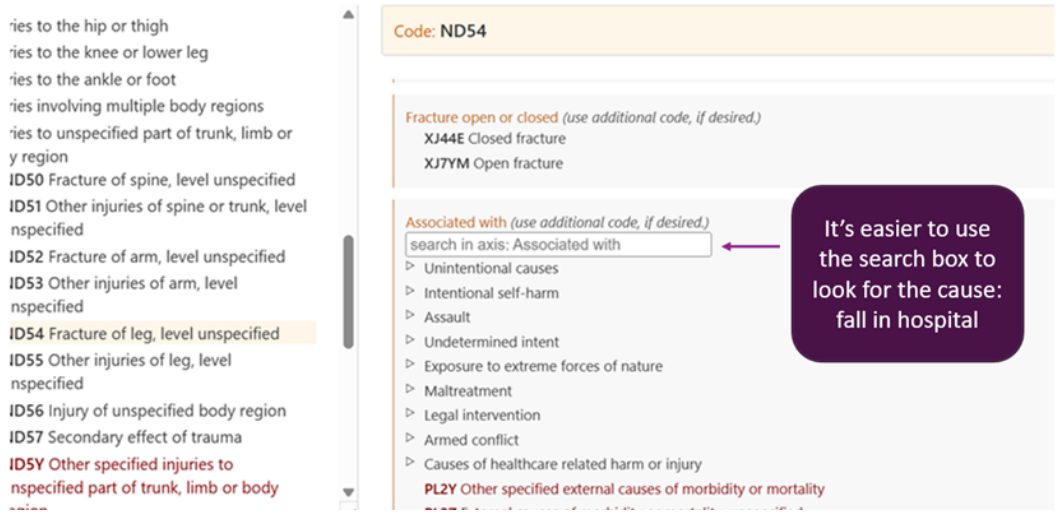


Figure 3-86 - Example 4 - Flexible search - Step 5

Step 6

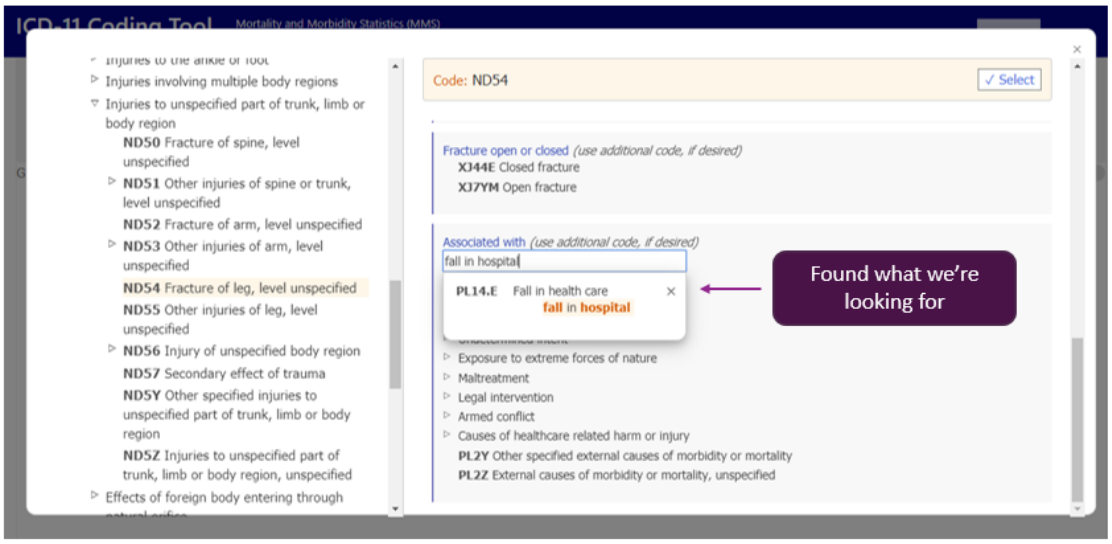


Figure 3-87 - Example 4 - Flexible search - Step 6

3.4.5 Guidance for Maternal Coding (Yellow J Icon)

If the patient is pregnant, the coders can click on the yellow J icon to search for the appropriate codes from the related categories in the maternal chapter.

Example:

Step 1: This is how the ICD-11 Coding Tool helps draw your attention to the fact that there is a maternal chapter alternative code for this condition:

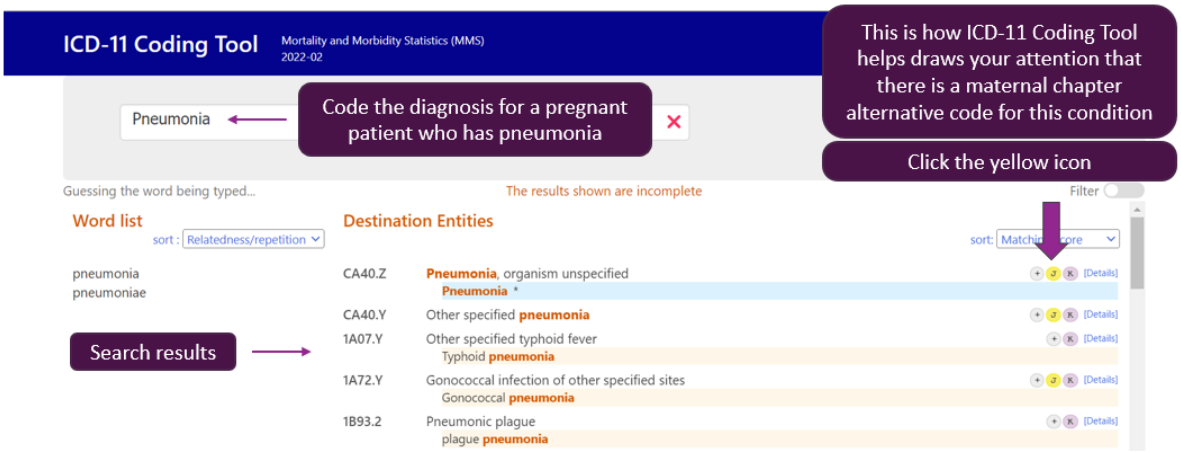


Figure 3-88 - Example - Yellow J icon - Step 1

Step 2: Notice the arrowed special part: it tells you that for maternal cases, there is an alternative code. For maternal cases, the codes from the pregnancy, childbirth or the puerperium chapter take sequencing priority over codes from other chapters.

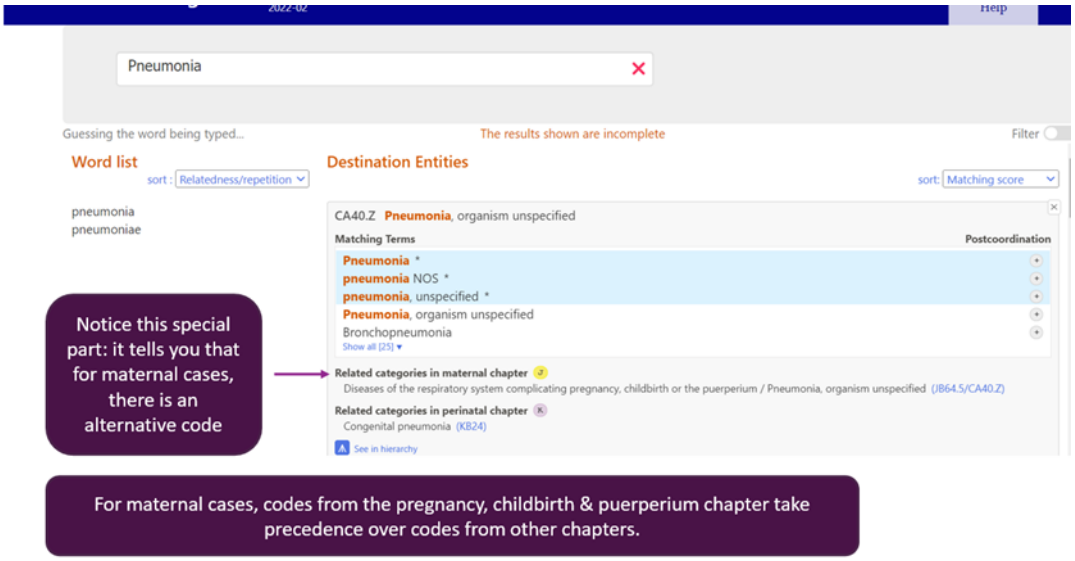


Figure 3-89 - Example - Yellow J icon - Step 2

Step 3

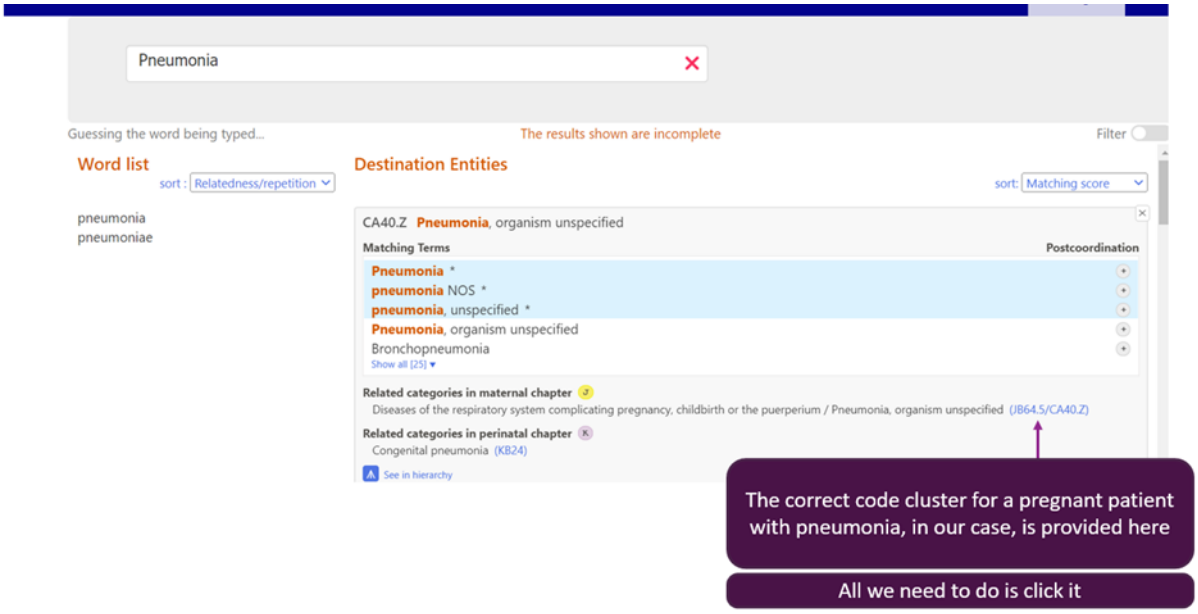


Figure 3-90 - Example - Yellow J icon - Step 3

Step 4

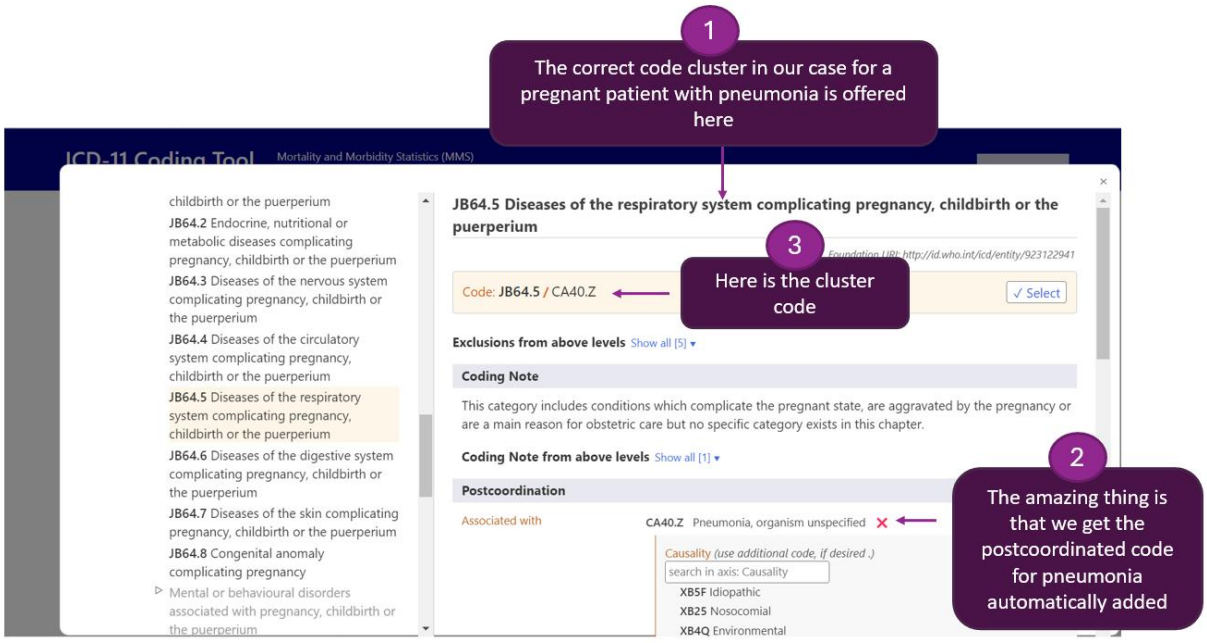


Figure 3-91 - Example - Yellow J icon - Step 4

3.4.6 Guidance for Perinatal Coding (Purple K Icon)

The purple K icon appears under destination entities if the patient is a newborn or in the perinatal period. Click on the Purple K icon to continue with coding.

Example

Step 1

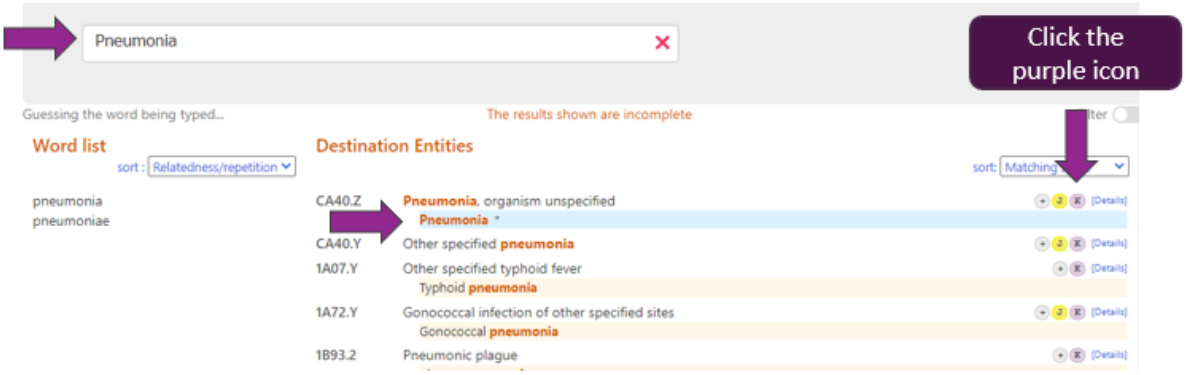


Figure 3-92 - Example - Purple K icon - Step 1

Step 2

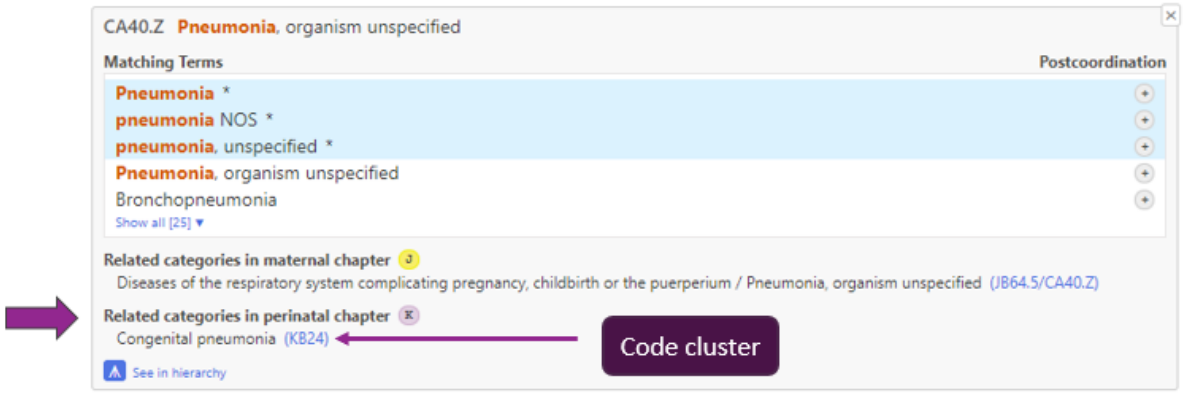


Figure 3-93 - Example - Purple K icon - Step 2

3.4.7 Summary: Using the Coding Tool

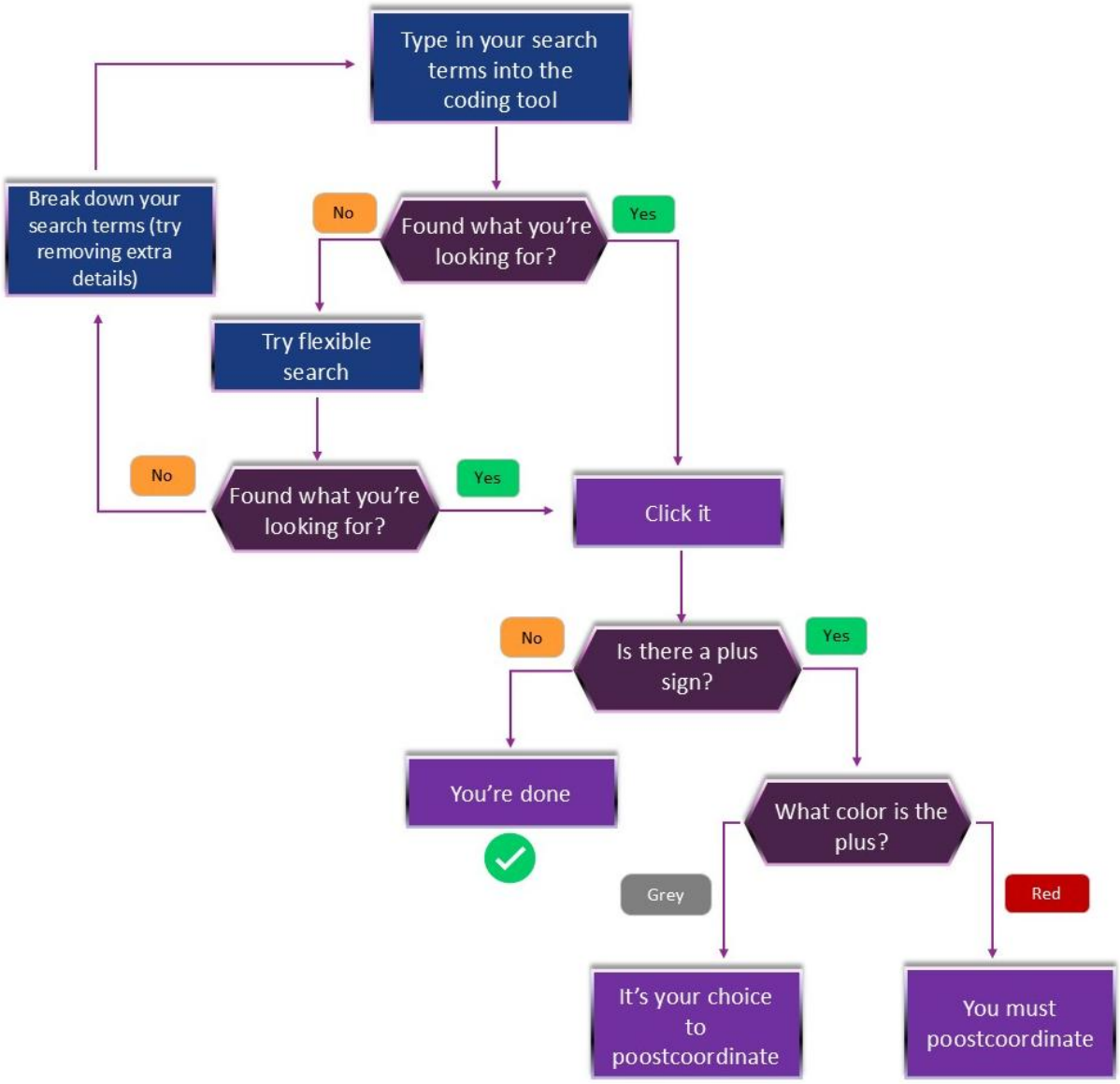


Figure 3-94 - Summary - Using the Coding Tool

Please refer to the WHO Reference Guide for the correct use of ICD-11.

https://icdcdn.who.int/icd11referenceguide/en/html/index.html

The content in this chapter is sourced from the World Health Organization's International Classification of Diseases Eleventh Revision (ICD-11). Please refer to the International Classification of Diseases Eleventh Revision (ICD-11). Geneva: World Health Organization; 2022.

MODULE 4

Chapter 1
Certain Infectious or Parasitic Diseases

MODULE 4: ICD-11 CHAPTER 1

4 CERTAIN INFECTIOUS OR PARASITIC DISEASES

4.1 Description

This chapter includes certain conditions caused by pathogenic organisms or microorganisms, such as bacteria, viruses, parasites or fungi.

- Codes begin with the prefix 1
- Codes range from 1A00 – 1H0Z
- Some infectious and parasitic diseases are coded to other chapters.
- Categories are grouped by
  - Clinical syndromes
  - Modes of transmission
  - Infectious agents
  - Conditions of public health concern
- Includes more infectious diseases than ICD-10
- Influenza is categorized under Chapter 1
- Acute rheumatic fever is also moved to Chapter 1
- Tuberculosis and leprosy are grouped under “Mycobacterial diseases”
- 21 top-level blocks

4.2 Top-level Blocks

- Gastroenteritis or colitis of infectious origin
- Predominantly sexually transmitted infections
- Certain staphylococcal or streptococcal diseases
- Pyogenic bacterial infections of the skin or subcutaneous tissues
- Certain zoonotic bacterial diseases
- Other bacterial diseases
- Human immunodeficiency virus disease
- Viral infections of the central nervous system
- Non-viral and unspecified infections of the central nervous system
- Dengue
- Certain arthropod-borne viral fevers
- Certain zoonotic viral diseases
- Other viral diseases
- Influenza
- Viral hepatitis
- Viral infections characterized by skin or mucous membrane lesions
- Mycoses
- Parasitic diseases
- Sepsis
- Sequelae of infectious diseases

4.3 Exclusions

- Infection arising from device, implant or graft not elsewhere classified (NE83.1)
- Coded elsewhere
- Infections of the fetus or newborn (KA60-KA6Z)
- Human prion diseases (8E00-8E0Z)
- Pneumonia (CA40)
- Related categories in the perinatal chapter
- Infections of the fetus or newborn, unspecified (KA6Z)

4.4 Coded Elsewhere

- Infections of the fetus or newborn
- Human prion diseases
- Pneumonia CA40

4.5 Chapter-specific Notes

1. HIV
2. Sepsis with or without septic shock

4.5.1 Coding HIV

- HIV compromises the immune system leading to other infections (e.g., cytomegalovirus infection, mycobacterium infection)
- When an HIV-caused disease is reported by the doctor, postcoordinate the HIV caused disease with the appropriate subcategory for HIV disease

4.5.2 Coding Sepsis

- Sepsis is a life-threatening organ dysfunction
- Sepsis is not considered a disease but a reaction to an infectious disease
- Septic shock is a subset of sepsis in which circulatory, metabolic and cellular abnormalities are profound enough to substantially increase mortality
- Use a stem code for the causing infection
- Add an extension code for the infectious agent
- Assign a stem code for sepsis with or without septic shock

Example 1: Urinary tract infection due to E coli causing sepsis without septic shock

- Urinary tract infection due to E. coli GC08.0
- Sepsis without septic shock – 1G40
- Infectious agent
    - Bacteria
    - Gram-negative
    - Escherichia
    - Escherichia coli – XN6P4
- Cluster: GC08.0/1G40&XN6P4

Example 2: Measles with otitis media

- Measles with other complications – 1F03.Y
- Has manifestation
    - Other specified otitis media AB0Y
- Cluster: 1F03.Y / AB0Y

Example 3: Meningitis due to adenovirus

- Meningitis due to adenovirus – 1C8E.2
- Postcoordination is available for
    - Specific anatomy
    - Infectious agent
- Infectious agent is precoordinated
- Therefore, it is not necessary to postcoordinate the infectious agent

Example 4: Bronchopneumonia due to streptococcus with sepsis and acute type 1 respiratory failure

- Bronchopneumonia due to streptococcus – CA40.07
- Sepsis without septic shock – 1G40
- Acute respiratory failure type 1 – CB41.00
- Cluster: CA40.07/1G40/CB41.00

CODING EXERCISES

Assign the correct ICD-11 code(s) for each of the following conditions or case descriptions.

1. Acute bronchiolitis due to respiratory syncytial virus

2. Gastroenteritis due to Campylobacter

Select the correct code:

   a. 1A22
   b. 1A06
   c. 1A09

3. HIV resulting in candida stomatitis

4. A patient presented to the emergency department with a several-day history of fever, chills and small-volume haemoptysis. A bronchoalveolar lavage (BAL) sample was positive for H1N1 influenza. She received a course of Tamiflu. What are the codes for these disease titles?

   Influenza:

   H1N1 influenza:

5. Chronic viral hepatitis C

6. Congenital syphilis in an 18-month-old child

7. Oral candidiasis in a HIV patient

8. Acute pneumococcal tracheitis

9. Dracunculiasis

10. Non-infective diarrhoea in a 3-week-old infant

11. Tuberculosis of lung, confirmed

12. Axillary cutaneous abscess

13. Streptococcal sore throat

14. Cytomegalovirus pancreatitis

15. Internal hirudiniasis

16. Kaposi's sarcoma of skin of the back in HIV patient

17. Infection by Schistosoma mansoni and Fasciolopsis buski causing severe abdominal pain

18. Epidemic typhus due to Rickettsia prowazekii

19. Granular trachomatous conjunctivitis

20. Mycotic Madura foot

21. Dwarf tapeworm infestation

22. Sequelae of leprosy

23. Classical cholera

24. Varicella meningitis

The content in this chapter is sourced from the World Health Organization's International Classification of Diseases Eleventh Revision (ICD-11). Please refer to the International Classification of Diseases Eleventh Revision (ICD-11). Geneva: World Health Organization; 2022.

MODULE 5

Chapter 2
Neoplasms

MODULE 5: ICD-11 CHAPTER 2

5 NEOPLASMS

5.1 Description

A neoplasm is an abnormal or uncontrolled cellular proliferation that is not coordinated with an organism's normal tissue growth, replacement or repair requirements.

- Codes begin with the prefix 2
- Codes range from 2A00 – 2F9Z

5.2 Top-level Blocks (Top Eight)

1. Neoplasm of the brain or central nervous system (CNS)
2. Neoplasms of haematopoietic or lymphatic tissue
3. Malignant neoplasms except of lymphoid, haematopoietic, CNS or related tissues
4. In situ neoplasms except of lymphoid, haematopoietic, CNS or related tissues
5. Benign neoplasms except of lymphoid, haematopoietic, CNS or related tissues
6. Neoplasms of uncertain behaviour except of lymphoid, haematopoietic, CNS or related tissues
7. Neoplasms of unknown behaviour except of lymphoid, haematopoietic, CNS or related tissues
8. Inherited cancer-predisposing syndromes

5.3 Structure

Included categories are:

- Neoplasms of brain or CNS – 2A00 – 2A0Z
- Neoplasms of haematopoietic or lymphoid tissues 2A20 – 2B3Z
- Neoplasms except of lymphoid, CNS or related tissues – 2B50 – 2F9Z

Example 1

A patient was admitted with a tumour of the temporal lobe. Histopathology showed the tumour was an anaplastic astrocytoma.

Step 1

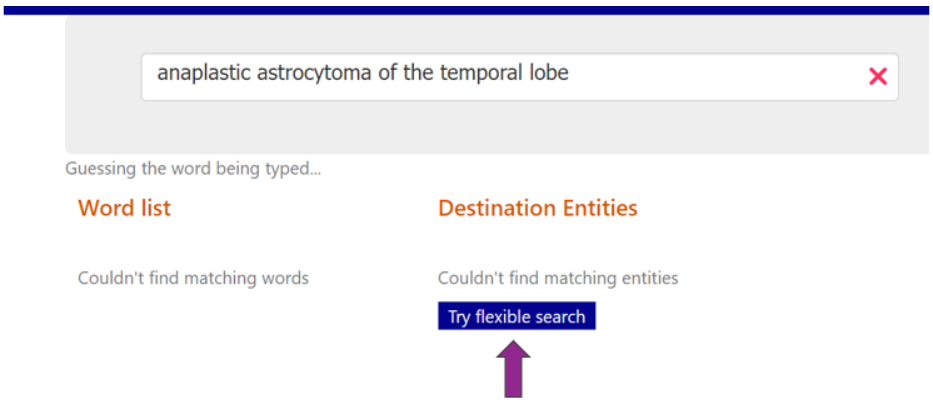


Figure 5-1 - Example 1 - Step 1

Step 2

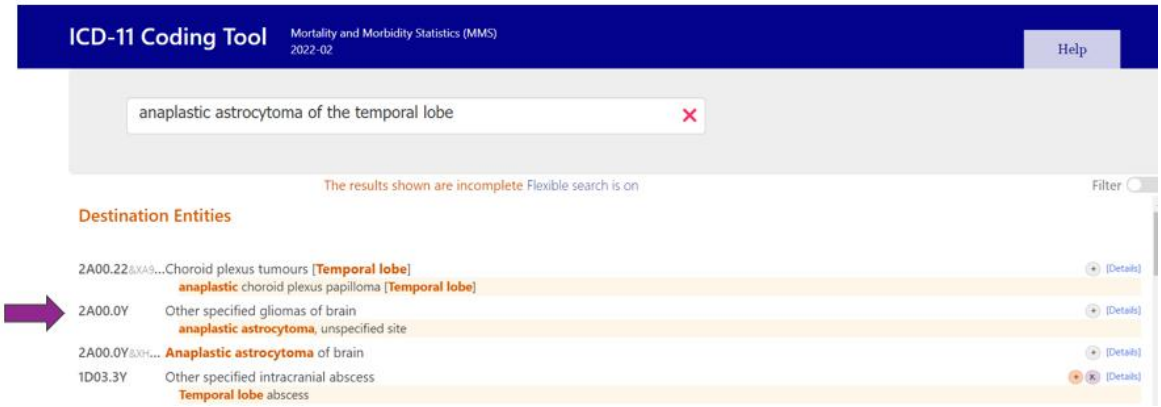


Figure 5-2 - Example 1 - Step 2

Step 3

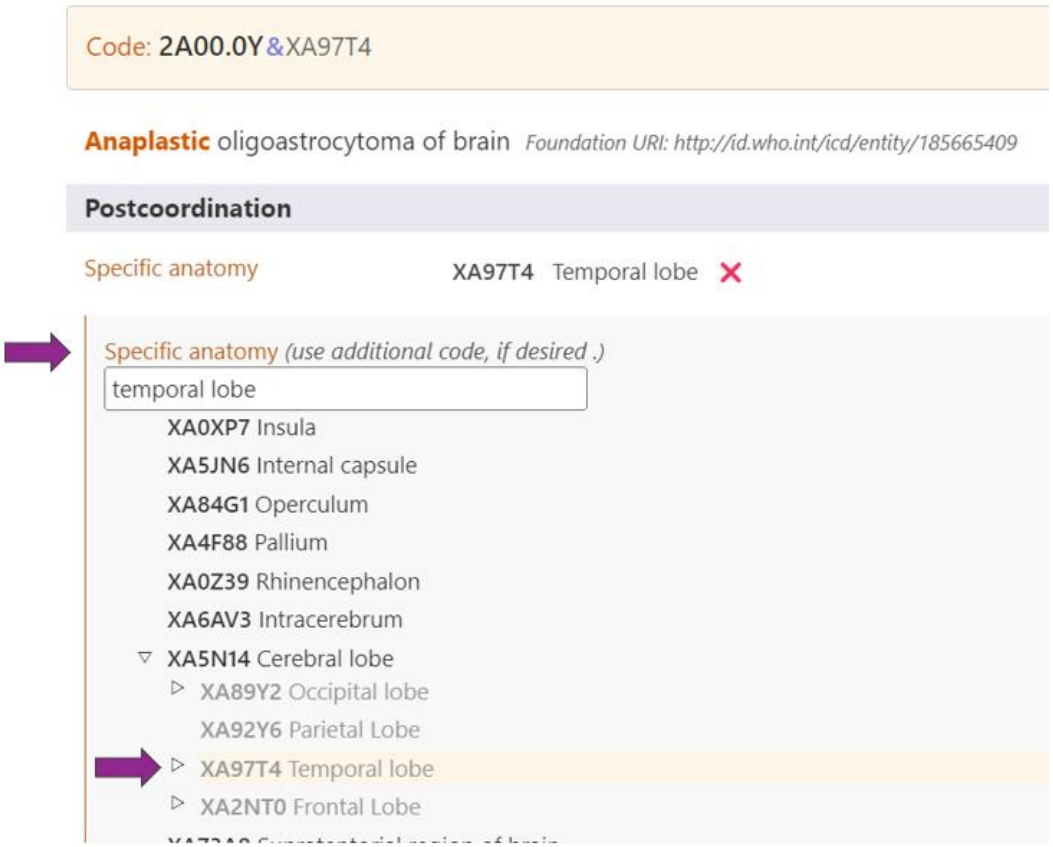


Figure 5-3 - Example 1 - Step 3

Step 4

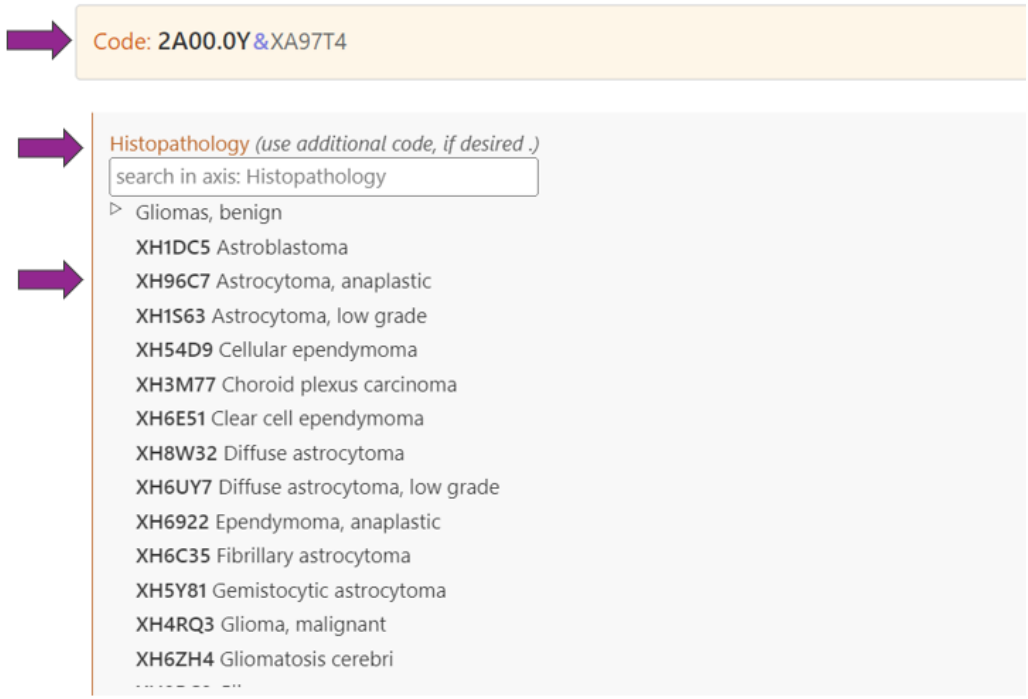


Figure 5-4 - Example 1 - Step 4

Step 5

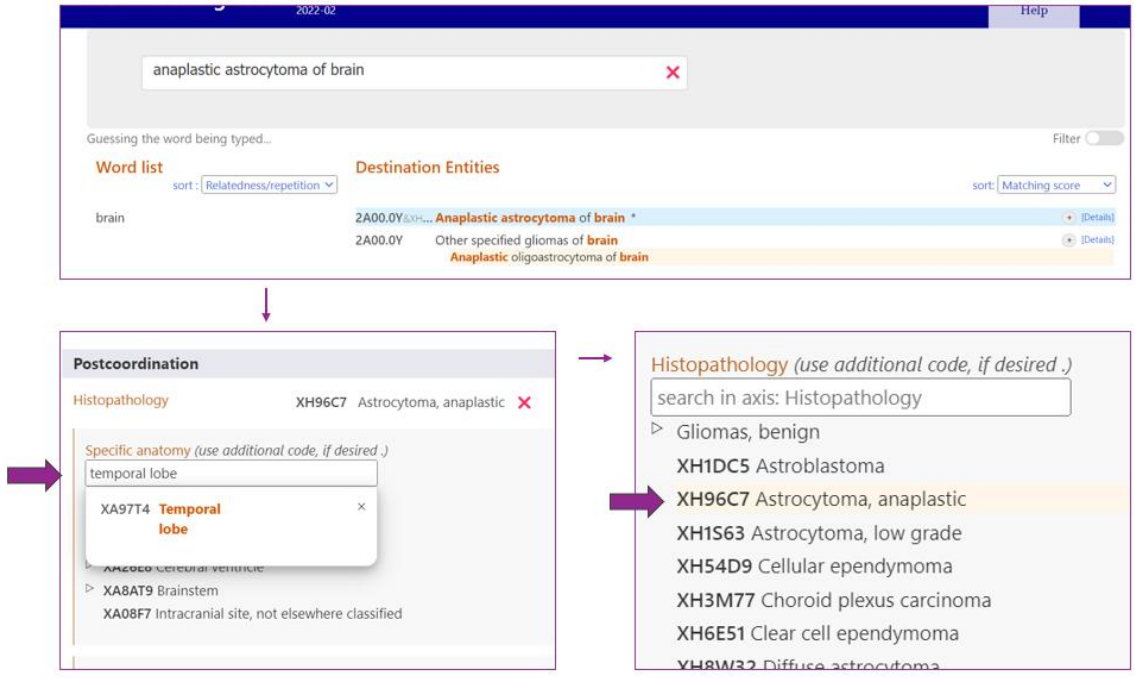


Figure 5-5 - Example 1 - Step 5

Answer

- 2A00.0Y – Other specified gliomas of the brain
- XA97T4 – Temporal lobe
- XH96C7 – Astrocytoma, anaplastic
- Cluster - 2A00.0Y&XA97T4&XH96C7

Example 2

A patient was admitted with adenocarcinoma of the rectum for Hartmann's operation.

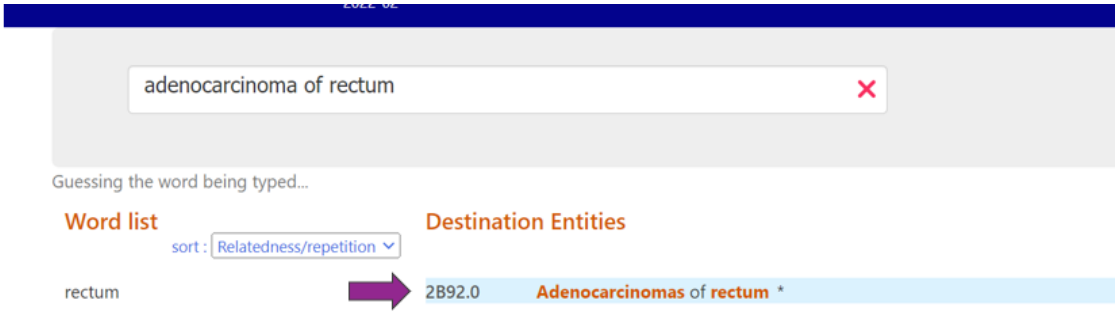


Figure 5-6 – Example 2

- This is an exact match with a blue highlight
- Specific anatomy and histology are precoordinated

Example 3

A patient was admitted with an Ewing sarcoma of the right tibial shaft for resection.

Step 1

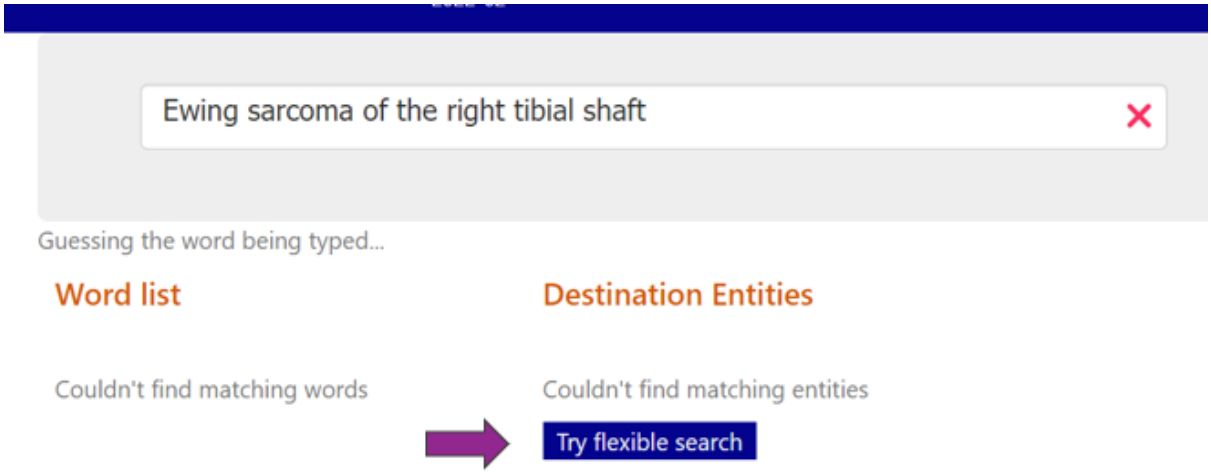


Figure 5-7 - Example 3 - Step 1

Step 2

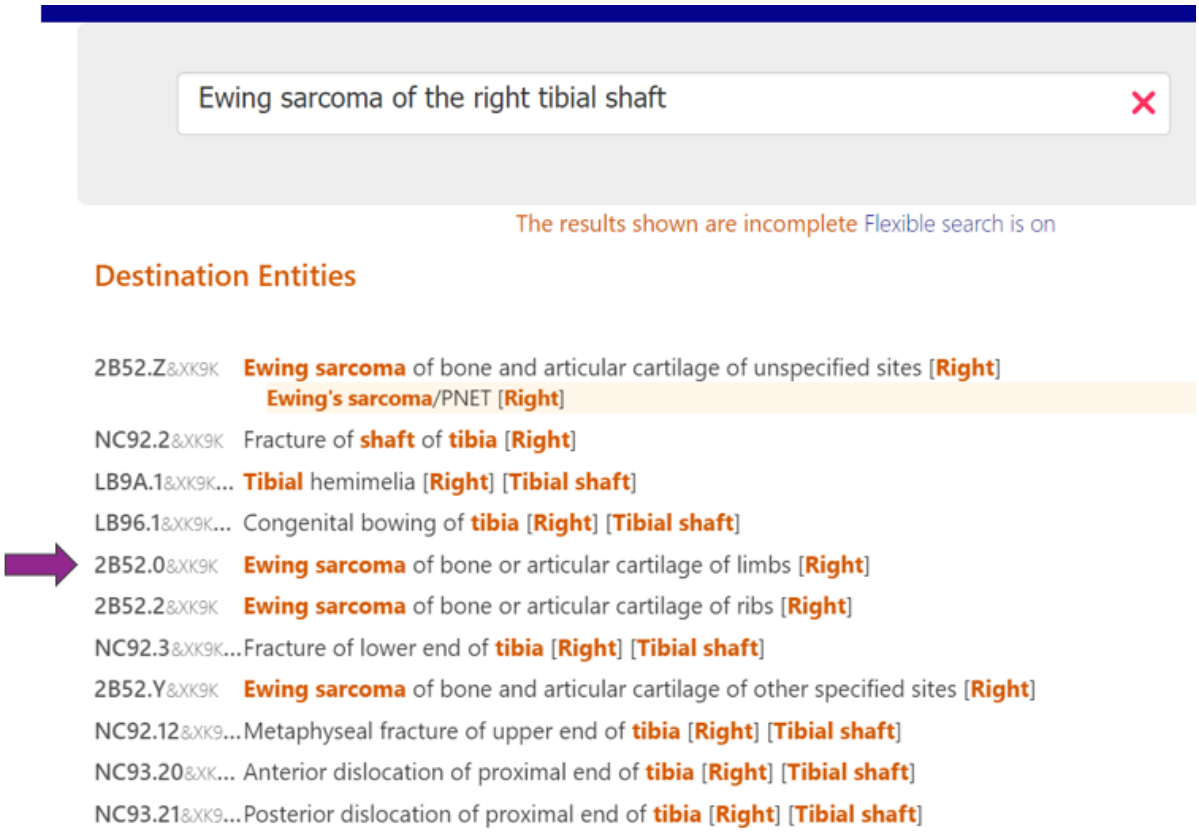


Figure 5-8 - Example 3 - Step 2

Step 3

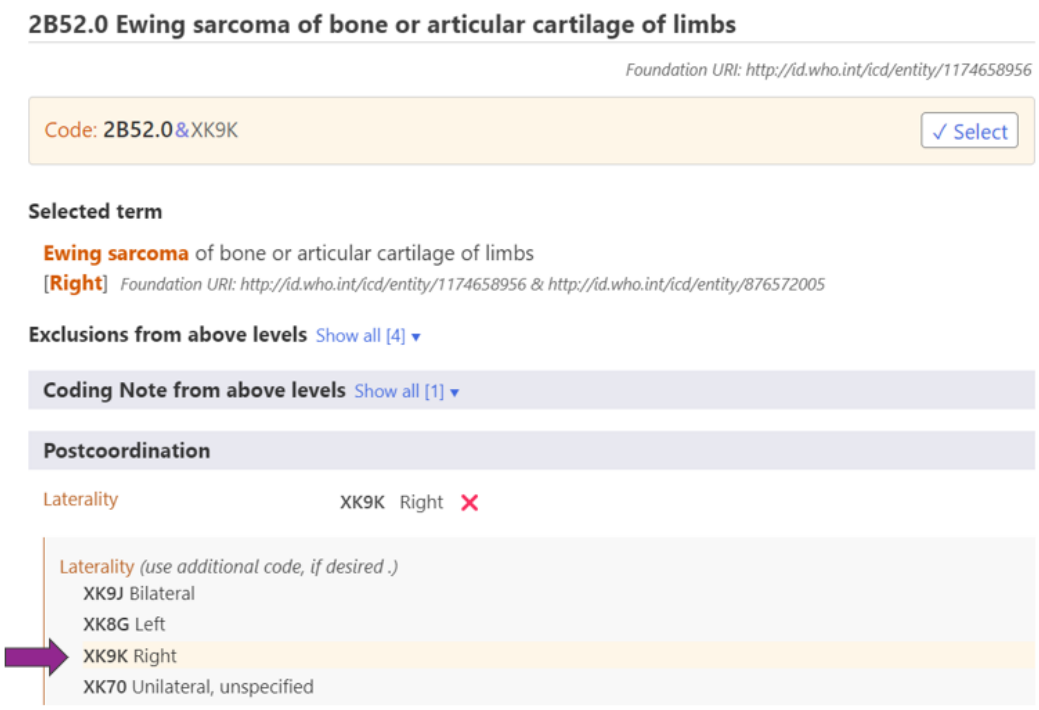


Figure 5-9 - Example 3 - Step 3

Step 4

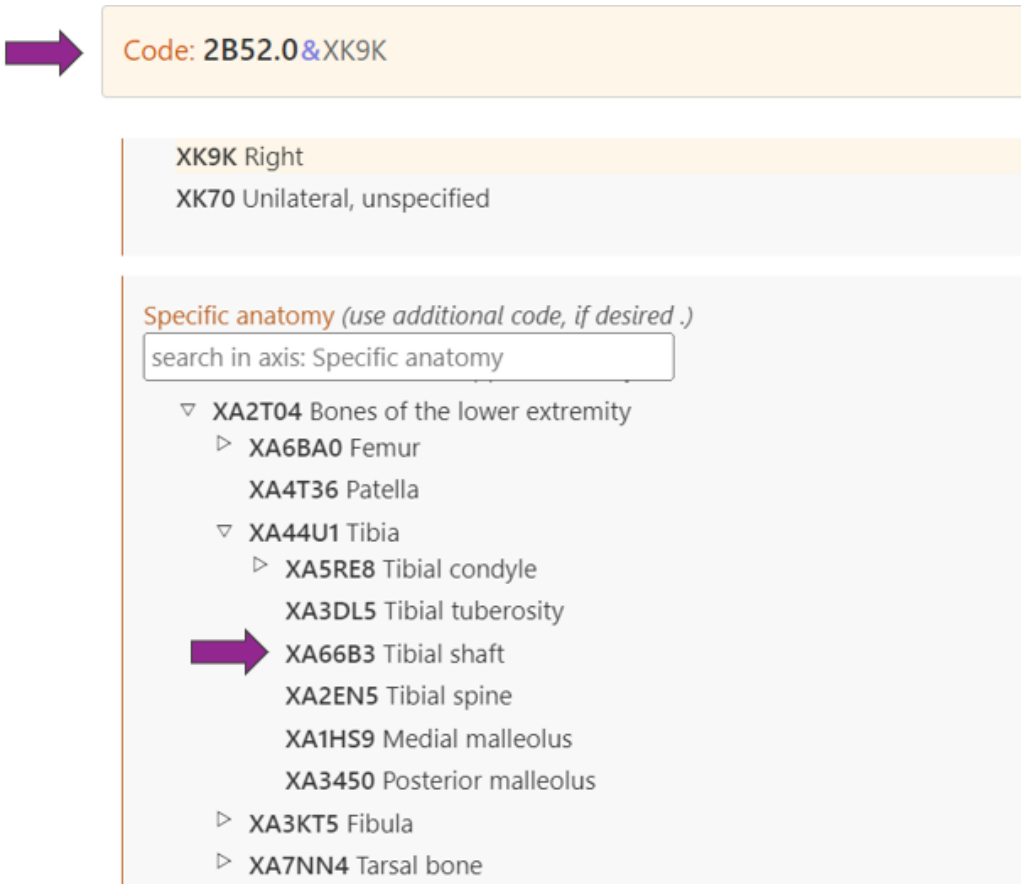


Figure 5-10 - Example 3 - Step 4

Answer

A patient was admitted with an Ewing sarcoma of the right tibial shaft for resection.

- 2B52.0 – Ewing sarcoma of bone or articular cartilage of limbs
- XK9K – Right
- XA66B3 – Tibial shaft
- Cluster - 2B52.0&XK9K&XA66B3

CODING EXERCISES

Assign the correct ICD-11 code(s) for each of the following conditions or case descriptions.

1. Myelodysplastic syndrome

2. Diffuse large B cell lymphoma

   Select the correct code:

   i. 2A81.7 …….
   ii. 2A82.3 …….
   iii. 2A81.Z …….

3. Squamous cell carcinoma of the middle-third of oesophagus

4. Malignant bronchial adenoma

5. Cholangiocarcinoma

6. Polycythaemia vera

7. Acute myelomonocytic leukaemia

8. Squamous cell carcinoma cervix uteri and upper two-thirds of vagina

9. Lesion on neck identified as metastatic to squamous cell carcinoma of tonsil

10. Malignant fibrous histiocytoma, knee

11. Pleomorphic adenoma, salivary glands

12. Bilateral synchronous Wilms tumour (patient is four years old)

13. Mycosis fungoides

14. Myxoma of larynx

15. Paget's disease of the nipple

16. Periosteal chondroma of left humerus

17. Squamous cell carcinoma vermilion border of lower lip

18. Burkitts lymphoma

19. Transitional cell papilloma of bladder

20. Metastatic carcinoma of brain

21. Carcinoid tumour of small intestine

22. Anaplastic seminoma, left testis

23. Secondary neoplasm in the lung

The content in this chapter is sourced from the World Health Organization's International Classification of Diseases Eleventh Revision (ICD-11). Please refer to the International Classification of Diseases Eleventh Revision (ICD-11). Geneva: World Health Organization; 2022.

MODULE 6

Chapter 3
Blood and Blood-forming Organs

MODULE 6: ICD-11 CHAPTER 3

6 BLOOD AND BLOOD-FORMING ORGANS

6.1 Description

This chapter includes diseases of the blood and diseases of blood-forming organs.

- Codes begin with the prefix 3
- Codes range from 3A00 to 3C0Z

6.2 Top-level Blocks

- Anaemias or other erythrocyte disorders
- Coagulation defects, purpura or other haemorrhagic or related conditions
- Diseases of spleen

6.3 Exclusions

The following conditions are excluded from Chapter 3

- Complications of pregnancy, childbirth or the puerperium (Chapter 18)
- Diseases of the immune system (Chapter 04)
- Certain conditions originating in the perinatal period (Chapter 19)
- Injury, poisoning or certain other consequences of external causes (Chapter 22)
- Human immunodeficiency virus disease(1C60-1C62.Z)
- Endocrine, nutritional or metabolic diseases (Chapter 05)
- Congenital malformations, deformations or chromosomal abnormalities (Chapter 20)
- Other diseases of the blood or blood-forming organs or certain disorders involving the immune mechanism complicating pregnancy, childbirth or the puerperium (JB64.1)

6.4 Coded Elsewhere

- Neoplasms of haematopoietic or lymphoid tissues
- Symptoms, signs or clinical findings of blood, blood-forming organs or the immune system

Example 1

A patient presented to hospital with pallor, jaundice, iron overload, fatigue and shortness of breath. Blood and genetic testing were undertaken, confirming a diagnosis of thalassaemia.

The patient was discharged with a referral to a haematologist.

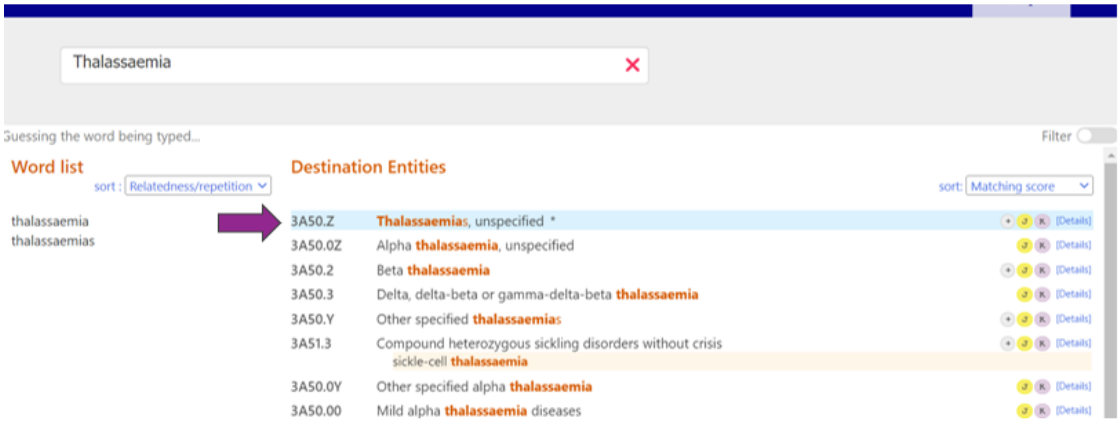


Figure 6-1 - Example 1

Example 2

A patient was admitted due to an abnormal blood profile. After further tests a diagnosis of congenital Heinz body anaemia was made.

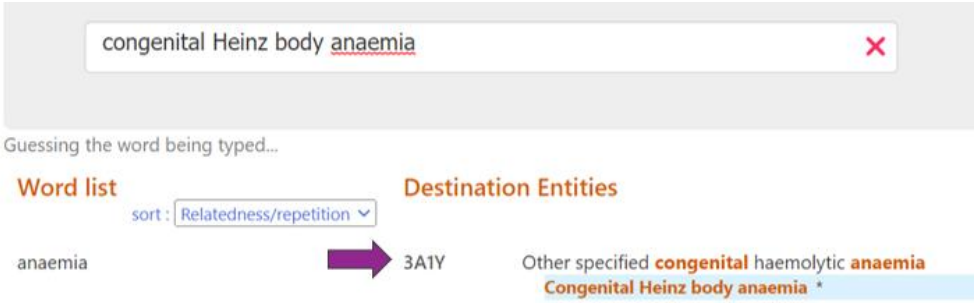


Figure 6-2 - Example 2

Example 3

A patient presented with left upper quadrant abdominal pain, fever with chills, nausea and vomiting and pleuritic chest pain. A chest and abdominal X-ray demonstrated splenic infarction.

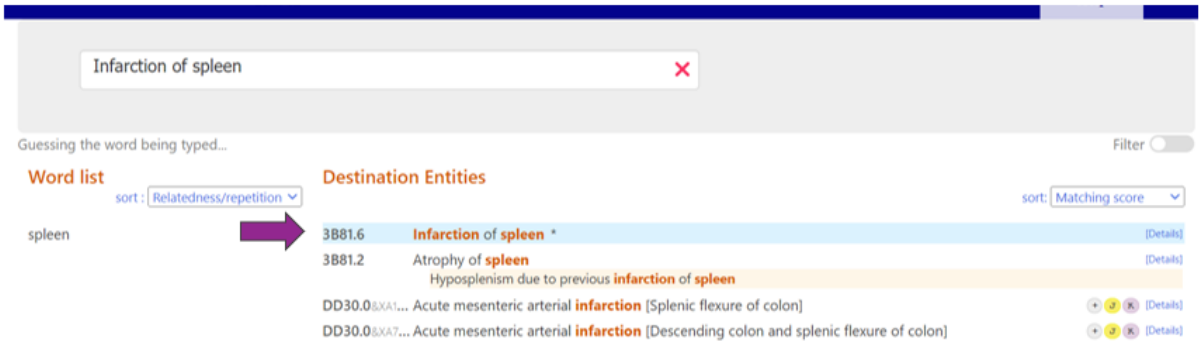


Figure 6-3 - Example 3

CODING EXERCISES

Assign the correct ICD-11 code(s) for each of the following conditions or case descriptions.

1. Iron deficiency anaemia

2. Hypogammaglobulinaemia

3. Thalassaemia major

4. Darier-Roussy sarcoid

5. Cholelithiasis in a patient with hereditary elliptocytosis

6. Hypochromic microcytic anaemia

7. Deficiency of pyruvate kinase leading to anaemia

8. Drug-induced enzyme deficiency anaemia

9. Hyperimmunoglobulin E (Hyper-IgE) syndrome (Job-Buckley Syndrome)

10. Thrombotic thrombocytopenic purpura

11. Antepartum haemorrhage in a 30-week pregnant woman with Von Willebrand's disease

12. Sarcoidosis with myositis

13. Malarial anaemia (Plasmodium malariae)

14. Streptococcal splenic abscess arising from bland infarction of spleen (found at autopsy)

15. Agnogenic myeloid metaplasia due to chronic exposure to benzene (toluene)

16. Classical haemophilia

17. Congenital pancytopenia

18. Acute mesenteric lymphadenitis

19. Drug-induced neutropenia

20. Congenital dysphagocytosis

21. Chronic congestive splenomegaly

The content in this chapter is sourced from the World Health Organization's International Classification of Diseases Eleventh Revision (ICD-11). Please refer to the International Classification of Diseases Eleventh Revision (ICD-11). Geneva: World Health Organization; 2022.

MODULE 7

Chapter 4
Diseases of the Immune System

MODULE 7: ICD-11 CHAPTER 4

7 DISEASES OF THE IMMUNE SYSTEM

7.1 Description

This chapter includes diseases of the immune system.

- Codes begin with the prefix 4
- Codes range from 4A00 – 4B4Z
- There are 10 top-level blocks

7.2 Top-level Blocks

- Primary immunodeficiencies
- 4A20 Acquired immunodeficiencies
- Non-organ-specific systemic autoimmune disorders
- Autoinflammatory disorders
- Allergic or hypersensitivity conditions
- Immune system disorders involving white cell lineages
- Certain disorders involving the immune system
- 4B40 Diseases of the thymus

7.3 Coded Elsewhere

- Organ-specific autoimmune disorders
- Symptoms, signs or clinical findings of blood, blood-forming organs, or the immune system

Example 1

A patient was admitted with a persistent dry cough, fatigue and shortness of breath. A chest computed tomography (CT) scan identified an abnormality, so a bronchoscopy with biopsy was performed, confirming a diagnosis of sarcoidosis of the lung.

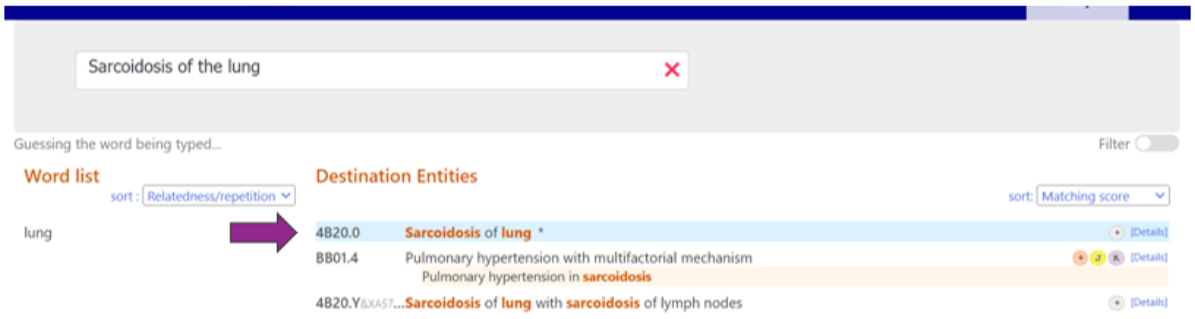


Figure 7-1 - Example 1

Example 2

A patient was admitted with recurring purpura, an elevated erythrocyte sedimentation rate and hypergammaglobulinaemia. A diagnosis of Waldenström hypergammaglobulinaemia was made.

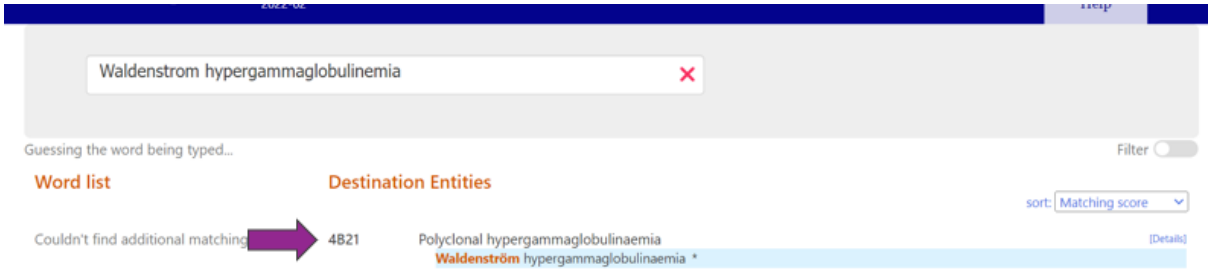


Figure 7-2 - Example 2

Example 3

A patient was admitted 62 days post-kidney transplant with a maculopapular rash, fever and diarrhoea. The diagnosis of acute graft-versus-host disease was made, and treatment was initiated.

Step 1

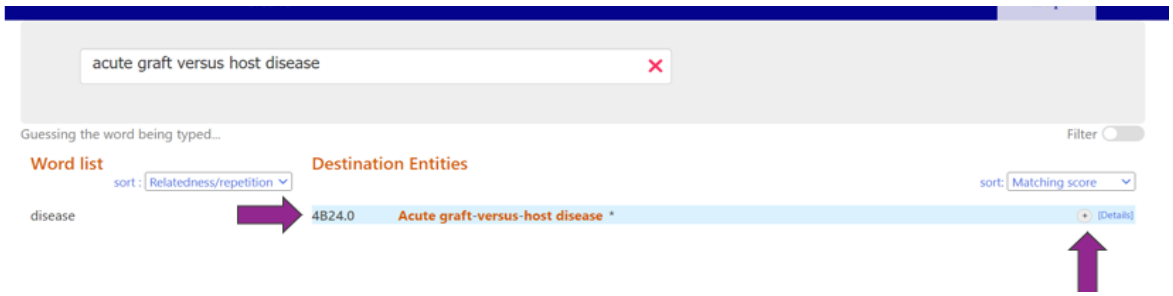


Figure 7-3 - Example 3 - Step 1

Step 2

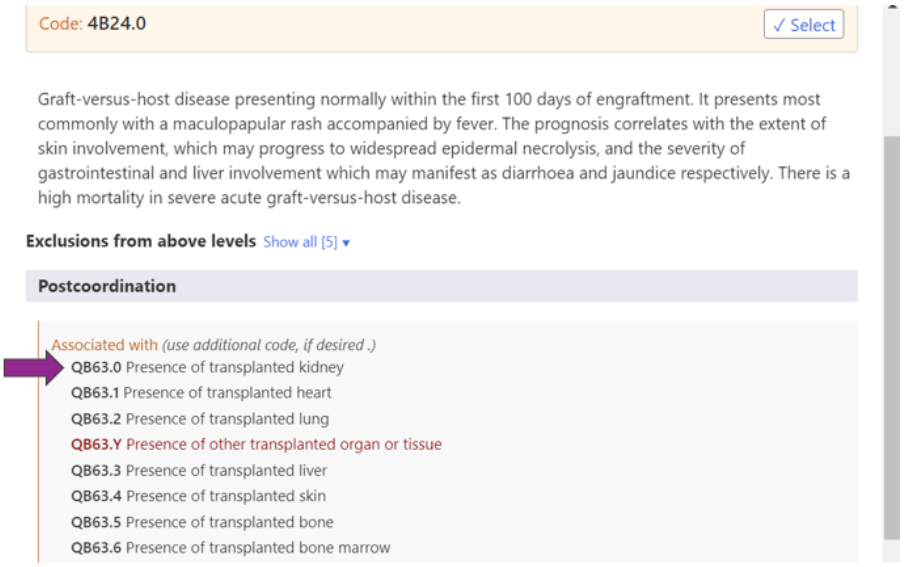


Figure 7-4 - Example 3 - Step 2

Answer

- 4B24.0 Acute graft-versus-host disease
- QB63.0 Presence of transplanted kidney
- Cluster: 4B24.0/QB63.0

CODING EXERCISES

Assign the correct ICD-11 code(s) for each of the following conditions or case descriptions.

1. Cyclic neutropenia

2. Combined immunodeficiency due to CD3 gamma deficiency
   Select the correct code:
   i. 4A01.1Y …….
   ii. 4A01.10 …….
   iii. 4A01.2Y …….

3. Anaphylaxis due to allergic reaction to food

4. Good syndrome

5. A 26-year-old female patient presents to the emergency department with febrile neutropenia.

   Select the correct code for condition titles:

   i. Neutropenia, unspecified
   ii. Fever of other or unknown origin

6. Behçet disease

7. Persistent hyperplasia of thymus

8. Primary biliary cholangitis

9. Type 1 Hereditary angioedema

10. Histiocytosis of mononuclear phagocytes

11. Immunodeficiency onset at age 25

12. Drug-induced neutropaenia

13. Transient neonatal neutropaenia caused by neonatal sepsis

14. The patient was diagnosed of having a syndrome of synovitis, acne, pustulosis, hyperostosis, and osteitis known as SAPHO syndrome

15. Hereditary agammaglobulinaemia

The content in this chapter is sourced from the World Health Organization's International Classification of Diseases Eleventh Revision (ICD-11). Please refer to the International Classification of Diseases Eleventh Revision (ICD-11). Geneva: World Health Organization; 2022.

MODULE 8

Chapter 5
Endocrine, Nutritional or Metabolic Diseases

MODULE 8: ICD-11 CHAPTER 5

8 ENDOCRINE, NUTRITIONAL OR METABOLIC DISEASES

8.1 Description

This chapter includes endocrine, nutritional and metabolic diseases.

- Codes begin with the prefix 5
- Codes range from 5A00 – 5D46

8.2 Top-level Blocks

- Endocrine diseases
- Nutritional disorders
- Metabolic disorders
- Postprocedural endocrine or metabolic disorders

Categories of Endocrine diseases

- Disorders of the thyroid gland or thyroid hormone system
- Diabetes mellitus
- Other disorders of glucose regulation or pancreatic internal secretion
- Disorders of the parathyroids or parathyroid hormone system
- Disorders of the pituitary hormone system
- Disorders of adrenal glands or adrenal hormone system
- Disorders of the gonadal hormone system
- Certain disorders of puberty
- Polyglandular dysfunction
- Endocrine disorders, not elsewhere classified

Categories of Nutritional disorders

- Undernutrition
- Overweight, obesity or specific nutrient excesses

Categories of Metabolic disorders

- Inborn errors of metabolism
- Disorders of metabolic absorption or transport
- Disorders of fluid, electrolyte or acid-base balance
- Disorders of lipoprotein metabolisms or certain specified lipidaemias
- Metabolic or transporter liver disease
- Other metabolic disorders

Categories of Postprocedural endocrine or metabolic disorders

- Postprocedural hypothyroidism
- Postprocedural hypoinsulinaemia
- Postprocedural hypoparathyroidism
- Postprocedural ovarian failure

- Postprocedural testicular hypofunction
- Postprocedural adrenocortical hypofunction

Diabetes mellitus

- Reflects current international terminology:
  - Type 1 Diabetes mellitus (insulin-dependent diabetes mellitus)
  - Type 2 Diabetes mellitus (non-insulin dependent diabetes mellitus)
- Manifestations often associated with diabetes are included.
  - The “has manifestation” postcoordination in the Browser ensures the addition of manifestation codes.
- Documentation of terms such as “due to,” “caused by,” “diabetic” or “arising from” indicates a causal relationship between diabetes and another condition.
- When a condition due to diabetes mellitus is documented, postcoordinate the condition and the diabetes mellitus stem codes to form a cluster.
- When ambiguous terms such as “with,” “after,” “in” and “following” are documented, diabetes mellitus and another condition must not be linked.

8.3 Exclusions

- Transitory endocrine or metabolic disorders specific to fetus or newborn (KB60-KB6Z)
- Pregnancy, childbirth or the puerperium (Chapter 18)

8.4 Coded Elsewhere

- Symptoms, signs or clinical findings of endocrine, nutritional or metabolic diseases (MA50-MA6Y)
- Endocrine, nutritional or metabolic diseases complicating pregnancy, childbirth or the puerperium (JB64.2)

Example 1: Chronic kidney disease (stage 4) due to type 2 diabetes mellitus

Step 1

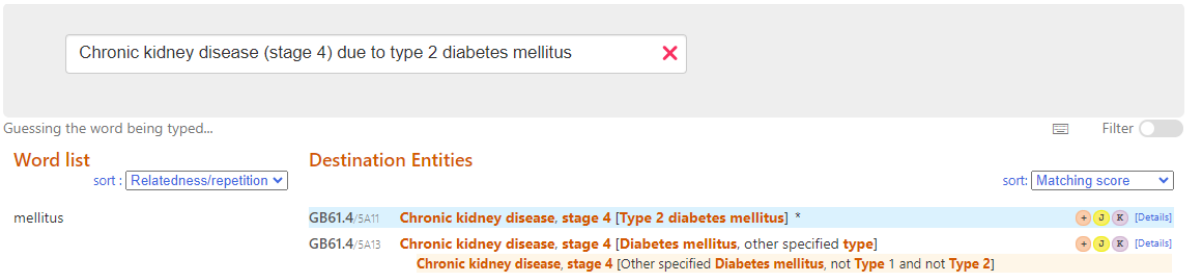


Figure 8-1 - Example 1 - Step 1

Step 2

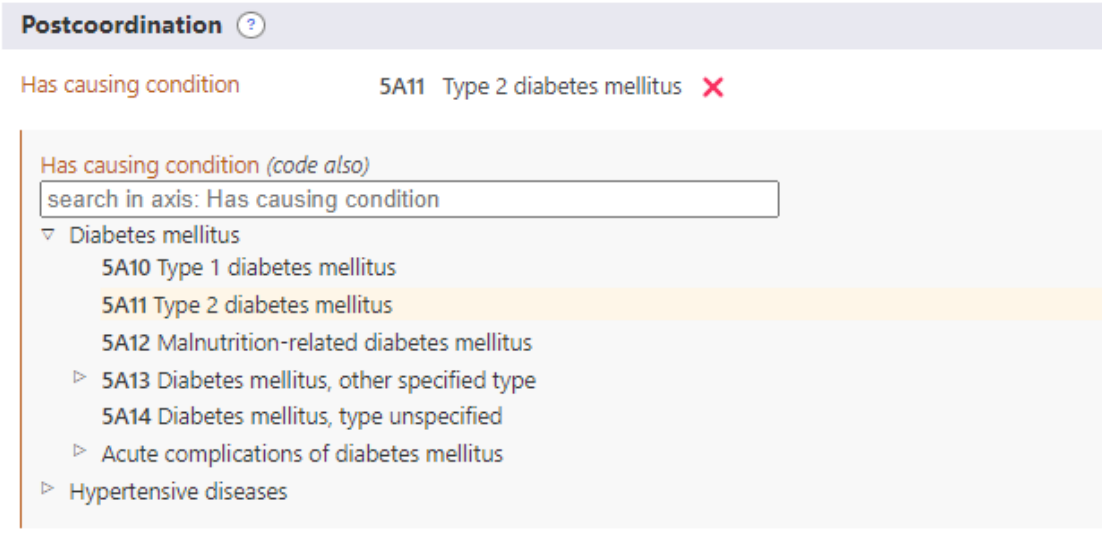


Figure 8-2 - Example 1 - Step 2

GB61.4 chronic kidney disease, stage 4

5A11 Type 2 diabetes mellitus

Cluster: GB61.4/5A11

Example 2: Chronic kidney disease due to diabetes mellitus

Step 1

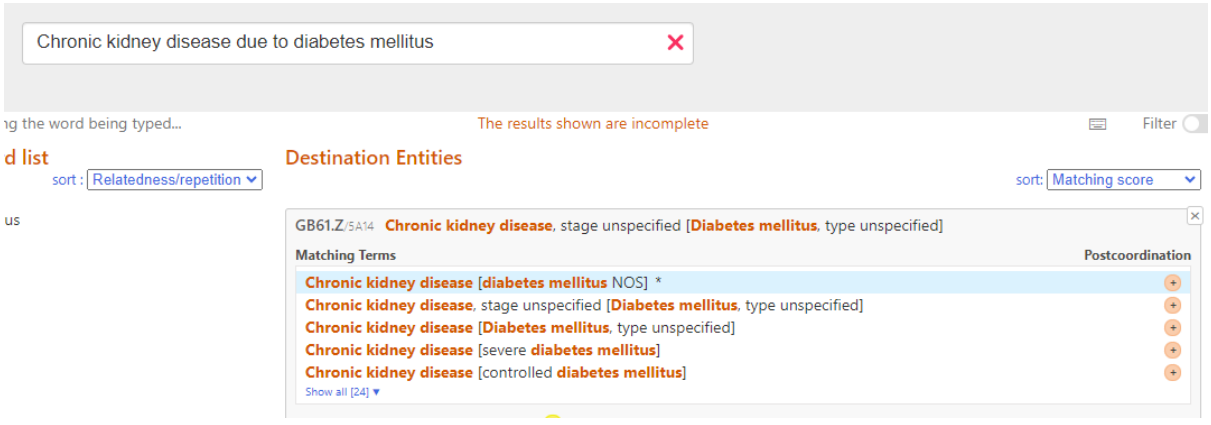


Figure 8-3 - Example 2 - Step 1

Step 2

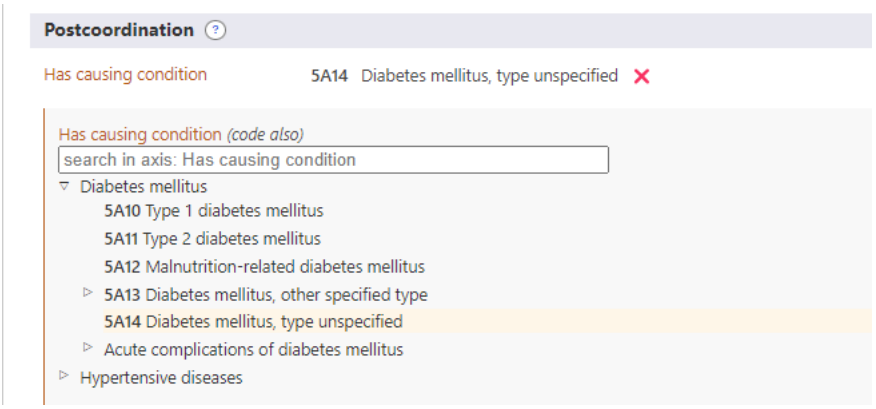


Figure 8-4 - Example 2 - Step 2

GB61.Z Chronic kidney disease, stage unspecified

5A14 Diabetes mellitus, type unspecified

Cluster: GB61.Z/5A14

CODING EXERCISES

Assign the correct ICD-11 code(s) for each of the following conditions or case descriptions.

1. Type 2 diabetes mellitus with (related) peripheral angiopathy, left foot

2. Cystic fibrosis, admitted because of chronic Pseudomonas bronchitis

3. Obesity associated with Prader-Willi syndrome

4. Medullary carcinoma of thyroid with hyperparathyroidism

5. Hyponatraemia as part of syndrome of inappropriate secretion of antidiuretic hormone; Guillain-Barré syndrome

6. Gouty arthropathy, left ankle and knee

7. Hashimoto's thyroiditis in 36-year-old male with Down's syndrome

8. Diabetic cataract

9. Angina pectoris and hypercholesterolaemia

10. Menkes disease (inherited copper deficiency)

11. Moderate endogenous obesity

12. Post-pancreatectomy hyperglycaemia

13. Familial amyloidosis

14. Sick euthyroid syndrome

15. Reactive hypoglycaemia

16. Myxedema, congenital

17. Severe malnutrition

18. Hereditary coproporphyria

19. Familial Mediterranean fever

20. Potassium deficiency in pregnancy (30 weeks)

The content in this chapter is sourced from the World Health Organization's International Classification of Diseases Eleventh Revision (ICD-11). Please refer to the International Classification of Diseases Eleventh Revision (ICD-11). Geneva: World Health Organization; 2022

MODULE 9

Chapter 6
Mental, Behavioural or Neurodevelopmental Disorders

MODULE 9: ICD-11 CHAPTER 6

9 MENTAL, BEHAVIOURAL OR NEURODEVELOPMENTAL DISORDERS

9.1 Description

Mental, behavioural and neurodevelopmental disorders are syndromes characterised by clinically significant disturbance in an individual's cognition, emotional regulation or behaviour that reflects a dysfunction in the psychological, biological or developmental processes that underlie mental and behavioural functioning. These disturbances are usually associated with distress or impairment in personal, family, social, educational, occupational or other important areas of functioning.

- The codes begin with the prefix 6
- Codes range from 6A00 – 6E6Z
- There are 21 top-level blocks

9.2 Top-level Blocks

1. Neurodevelopmental disorders
2. Schizophrenia or other primary psychotic disorders
3. Catatonia
4. Mood disorders
5. Anxiety or fear-related disorders
6. Obsessive-compulsive or related disorders
7. Disorders specifically associated with stress
8. Dissociative disorders
9. Feeding or eating disorders
10. Elimination disorders
11. Disorders of bodily distress or bodily experience
12. Disorders due to substance use or addictive behaviours
13. Impulse control disorders
14. Disruptive behaviour or dissocial disorders
15. Personality disorders and related traits
16. Paraphilic disorders
17. Factitious disorders
18. Neurocognitive disorders
19. Mental or behavioural disorders associated with pregnancy, childbirth or the puerperium
20. Psychological or behavioural factors affecting disorders or diseases classified elsewhere
21. Secondary mental or behavioural syndromes associated with disorders or diseases classified elsewhere

9.3 Exclusions

- Acute stress reaction (QE84)
- Uncomplicated bereavement (QE62)

9.4 Coded Elsewhere

- Sleep-wake disorders (07)
- Sexual dysfunctions (HA00-HA0Z)
- Gender incongruence (HA60-HA6Z)

Example 1: Severe alcohol intoxication

Step 1

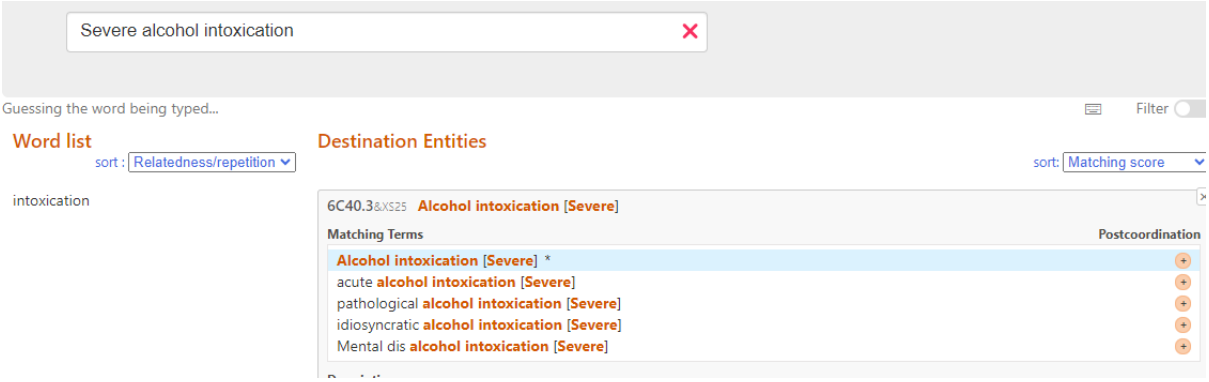


Figure 9-1 - Example 1 - Step 1

Step 2

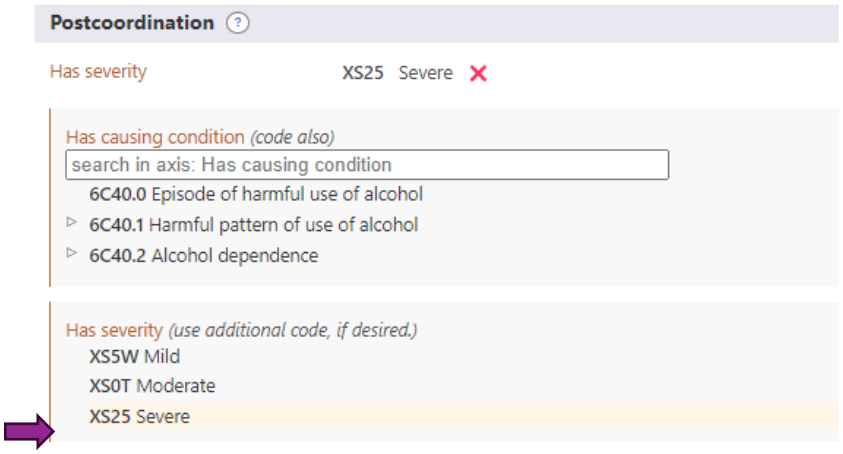


Figure 9-2 - Example 1 -Step 2

6C40.3 Alcohol intoxication

XS25 Severe

Cluster: 6C40.3&XS25

Example 2: Panic disorder

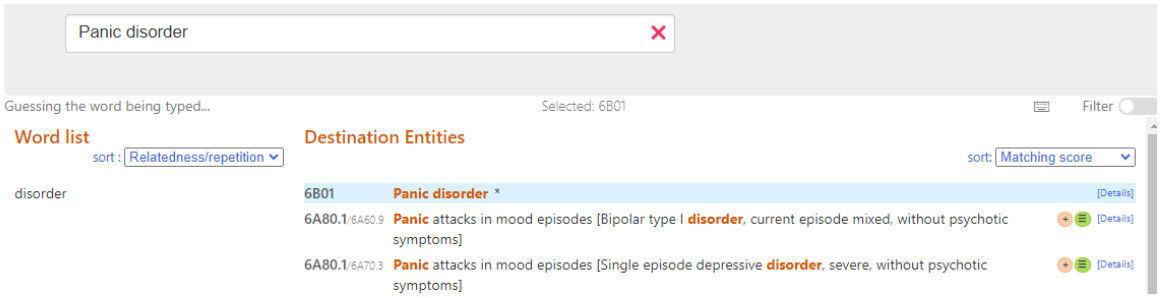


Figure 9-3 - Example 2

6B01 panic disorder

CODING EXERCISES

Assign the correct ICD-11 code(s) for each of the following conditions or case descriptions.

1. Trichotillomania

2. Psychogenic impotence

3. Korsakoff psychosis

4. Alzheimer's disease with dementia, first identified at the age of 72 years old

5. Huntington's disease with dementia

6. Dyslexia—identified by schoolteacher (grade 3)

7. Flashbacks and episodes of bizarre behaviour secondary to the use of the drug LSD (lysergic acid diethylamide), which was last used 25 years ago

8. Panic attack

9. Bipolar affective disorder, currently severely depressed but not psychotic

10. Paranoid schizophrenia

11. Anxiety disorder

12. Dementia (without organic cause) in HIV patient

13. Hypomanic episode

14. Dysthymia

15. Mental retardation, with autistic features

16. Acute stress reaction

17. Heroin dependence

18. Acute alcoholic delirium

19. Paranoid delusions

20. Syncope

The content in this chapter is sourced from the World Health Organization's International Classification of Diseases Eleventh Revision (ICD-11). Please refer to the International Classification of Diseases Eleventh Revision (ICD-11). Geneva: World Health Organization; 2022

MODULE 10

Chapter 7
Sleep-wake Disorders

MODULE 10: ICD-11 CHAPTER 7

10 SLEEP-WAKE DISORDERS

10.1 Description

Sleep-wake disorders are characterised by difficulty initiating or maintaining sleep (insomnia disorders), excessive sleepiness (hypersomnolence disorders), respiratory disturbance during sleep (sleep-related breathing disorders), disorders of the sleep-wake schedule (circadian rhythm sleep-wake disorders), abnormal movements during sleep (sleep-related movement disorders) or problematic behavioural or physiological events that occur while falling asleep, during sleep or upon arousal from sleep (parasomnia disorders).

- Codes begin with the prefix 7
- Codes range from 7A00 – 7B2Z

10.2 Top-level Blocks

1. Insomnia disorders
2. Hypersomnolence disorders
3. Sleep-related breathing disorders
4. Circadian rhythm sleep-wake disorders
5. Sleep-related movement disorders
6. Parasomnia disorders

Example 1: Moderate primary insomnia

Step 1

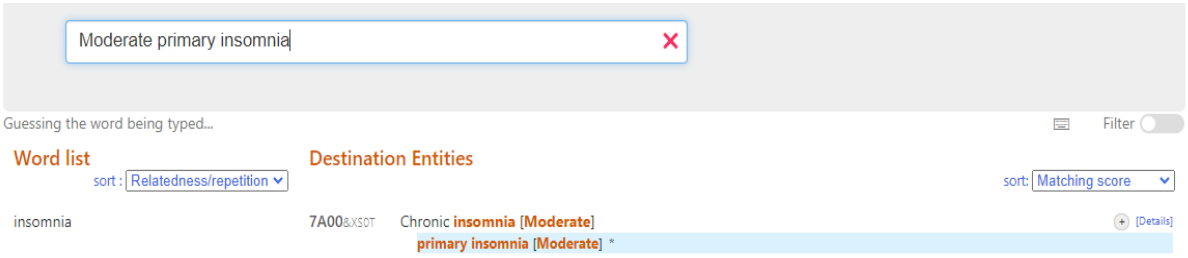


Figure 10-1 - Example 1 - Step 1

Step 2

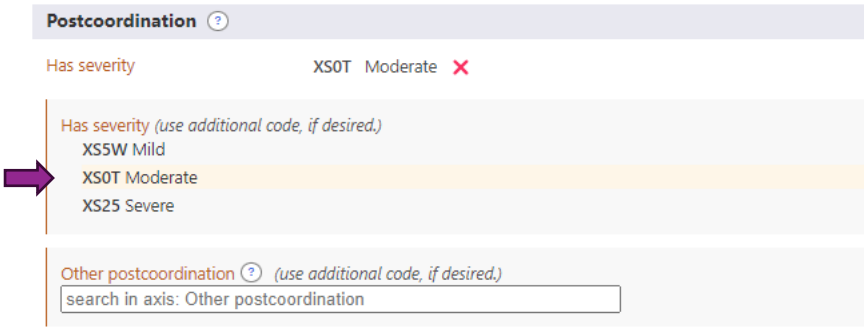


Figure 10-2 - Example 1 - Step 2

7A00 Chronic insomnia

XS0T Moderate

Cluster: 7A00&XS0T

Example 2: Sleep apnoea

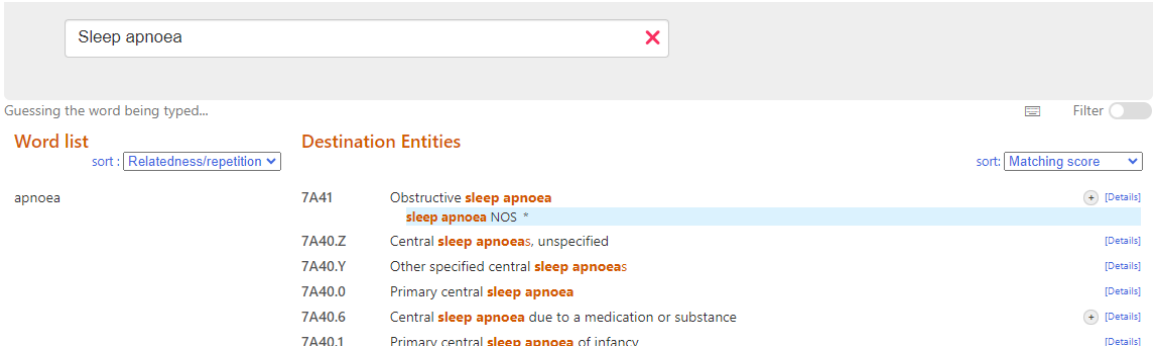


Figure 10-3 - Example 2

7A41 Sleep Apnoea

CODING EXERCISES

Assign the correct ICD-11 code(s) for each of the following conditions or case descriptions.

1. Narcolepsy

2. Restless legs syndrome

3. Circadian rhythm disorder

4. Parasomnia

5. Hypersomnia

6. Obesity hypoventilation syndrome

7. Hypersomnia due to clonazepam prescribed by GP

8. Hypersomnolence

9. Central sleep apnoea in a patient on chlorpromazine

10. Nightmare disorder

The content in this chapter is sourced from the World Health Organization's International Classification of Diseases Eleventh Revision (ICD-11). Please refer to the International Classification of Diseases Eleventh Revision (ICD-11). Geneva: World Health Organization; 2022.

MODULE 11

Chapter 8
Diseases of the Nervous System

MODULE 11: ICD-11 CHAPTER 8

11 DISEASES OF THE NERVOUS SYSTEM

11.1 Description

This is a group of conditions in or associated with the nervous system.

- Codes begin with the prefix 8
- Codes range from 8A00 – 8E7Z

11.2 Top-level Blocks

1. Movement disorders
2. Disorders with neurocognitive impairment as major feature
3. Multiple sclerosis or other white matter disorders
4. Epilepsy or seizures
5. Headache disorders
6. Cerebrovascular diseases
7. Spinal cord disorders excluding trauma
8. Motor neuron diseases or related disorders
9. Disorders of the nerve root, plexus or peripheral nerves

11.3 Exclusions

- Endocrine, nutritional or metabolic diseases (Chapter 05)
- Complications of pregnancy, childbirth and the puerperium (Chapter 18)
- Certain conditions originating in the perinatal period (Chapter 19)
- Injury, poisoning or certain other consequences of external causes (Chapter 22)

11.4 Coded Elsewhere

- Neoplasms of the nervous system
- Injuries of the nervous system
- Structural developmental anomalies of the nervous system (LA00-LA0Z)
- Syndromes with central nervous system anomalies as a major feature (LD20)
- Non-viral and unspecified infections of the central nervous system(1D00-1D0Z)
- Symptoms, signs or clinical findings of the nervous system (MB40-MB9Y)
- Paralytic symptoms (MB50-MB5Z)
- Dissociative neurological symptom disorder(6B60)
- Diseases of the nervous system complicating pregnancy, childbirth or the puerperium (JB64.3)

Example 1

A male patient with multiple sclerosis presents for review of disease progression and medication dosages.

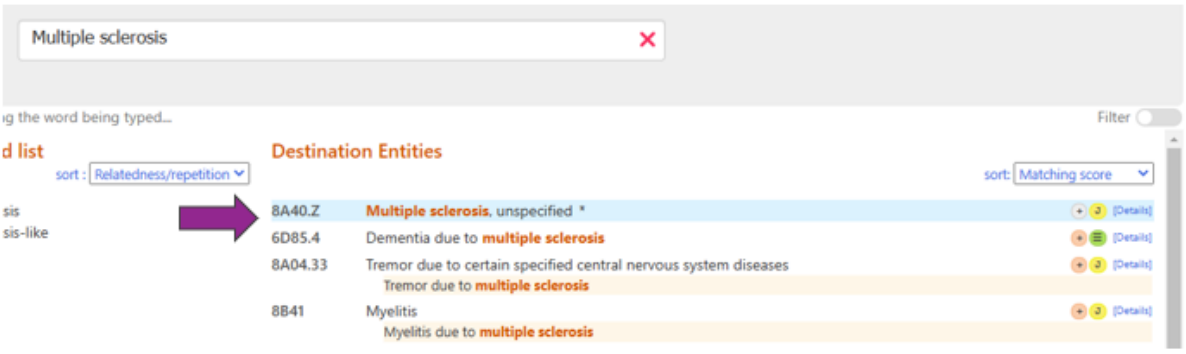


Figure 11-1 - Example 1

Example 2

A 30-year-old male presented with a ventriculoperitoneal (VP) shunt leak following an insertion of a VP shunt three months ago.

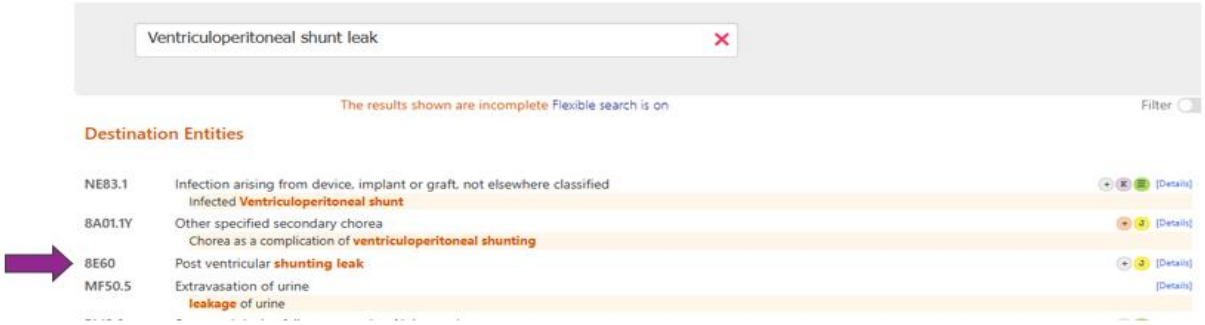


Figure 11-2 - Example 2

Example 3

A patient suffers from a cerebral infarction due to the occlusion of the middle cerebral artery (MCA) with flaccid hemiplegia and aphasia (evidencing middle cerebral artery syndrome).

Step 1

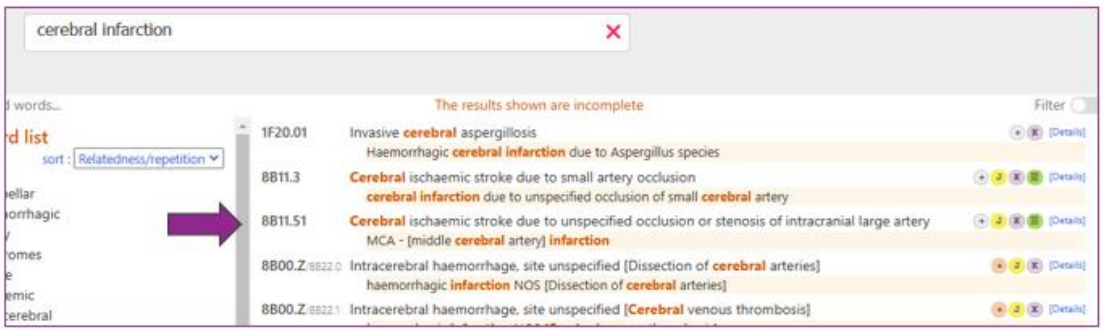


Figure 11-3 - Example 3 - Step 1

Step 2

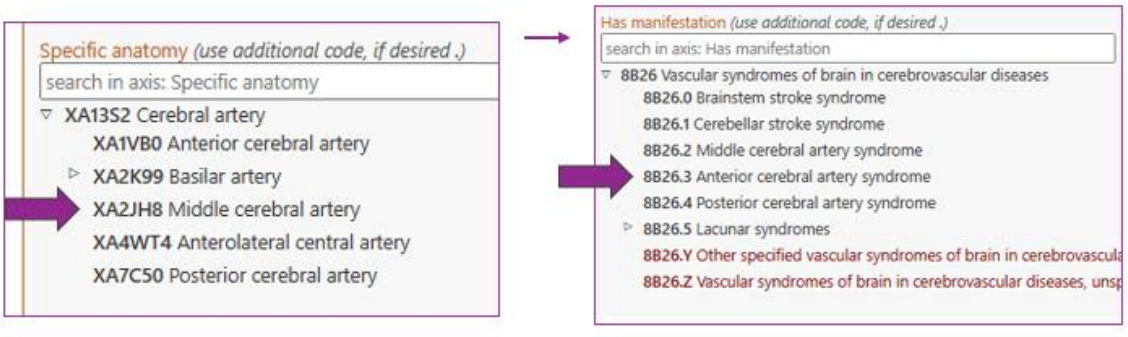


Figure 11-4 - Example 3 - Step 2

Step 3

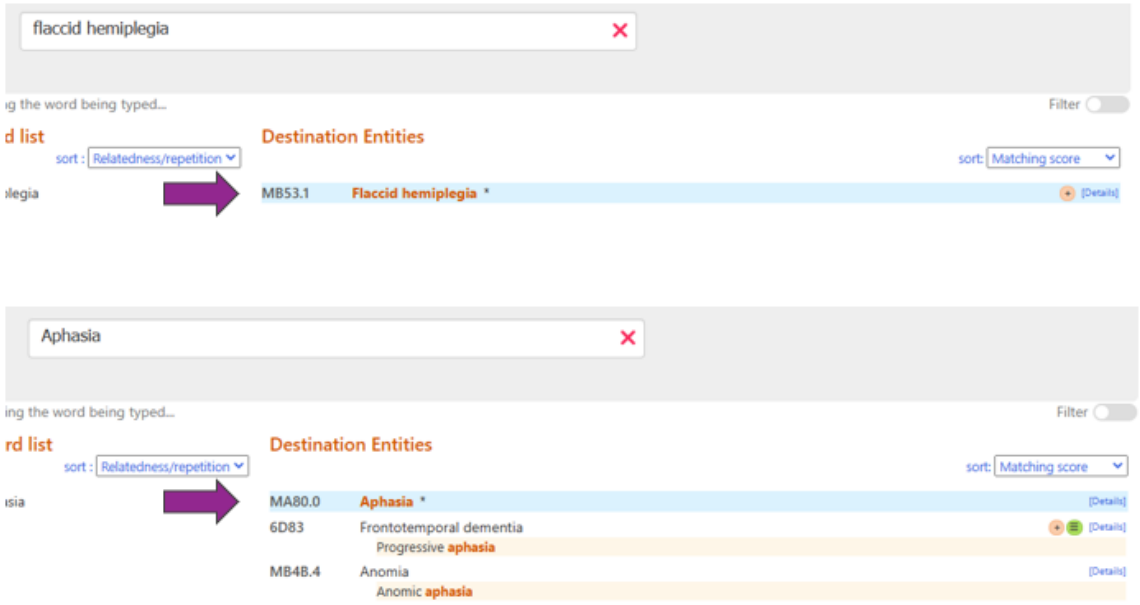


Figure 11-5 - Example 3 - Step 3

Answer

8B11.51 Cerebral ischaemic stroke due to unspecified occlusion or stenosis of intracranial large artery

XA2JH8 Middle cerebral artery

8B26.2 Middle cerebral artery syndrome

MB53.1 Flaccid hemiplegia

MA80.0 Aphasia

Cluster: 8B11.51 & XA2JH8 / 8B26.2 / MB53.1** / MA80.0**

Underlined text indicates optional extension code

**** manual postcoordination

CODING EXERCISES

Assign the correct ICD-11 code(s) for each of the following conditions or case descriptions.

1. Ataxia due to alcoholic cerebellar degeneration

2. Acute disseminated encephalomyelitis
   Select correct code:
   i. 8A42.Z ……
   ii. 1D00.Z ……
   iii. 8A42.0 ……

3. Post-traumatic epilepsy due to head injury

4. Diabetic polyneuropathy

5. Herpesviral encephalitis

6. Cerebrospinal fluid (CSF) leaks from a diagnostic lumbar puncture

7. Parkinsonism secondary to drug haloperidol (taken for affective psychosis)

8. Congenital muscular dystrophy

9. Carpal tunnel syndrome

10. Chronic fatigue syndrome

11. Grand mal seizures in known epileptic

12. Tension headache

13. Transient ischaemic attack

14. Spastic hemiplegia (sequelae of stroke 18 months ago)

15. Sleep apnoea

16. Post-herpes zoster trigeminal neuralgia

17. Intracerebral abscess, gonococcal

18. Pneumococcal meningitis

19. Tic douloureux

20. Paralysis agitans

21. Motor neuron disease

22. Bernard-Horner syndrome

23. Multiple sclerosis

The content in this chapter is sourced from the World Health Organization's International Classification of Diseases Eleventh Revision (ICD-11). Please refer to the International Classification of Diseases Eleventh Revision (ICD-11). Geneva: World Health Organization; 2022.

MODULE 12

Chapter 9
Diseases of the Visual System

MODULE 12: ICD-11 CHAPTER 9

12 DISEASES OF THE VISUAL SYSTEM

12.1 Description

This refers to any diseases of the visual system, which includes the eyes and adnexa, the visual pathways and brain areas, which initiate and control visual perception and visually guided behaviour.

- Codes begin with the prefix 9
- The range of codes in this chapter is 9A00–9E1Z
- There are 12 top-level blocks

12.2 Top-level Blocks

1. Disorders of the ocular adnexa or orbit
2. Disorders of the eyeball – anterior segment
3. Disorders of the eyeball – posterior segment
4. Disorders of the eyeball affecting both anterior and posterior segments
5. Disorders of the visual pathways or centres
6. Glaucoma or glaucoma suspect
7. Strabismus or ocular motility disorders
8. Disorders of refraction or accommodation
9. Postprocedural disorders of eye or ocular adnexa
10. Impairment of visual functions
11. Vision impairment
12. Neoplasms of the eye or ocular adnexa

12.3 Exclusions

- Certain conditions originating in the perinatal period (Chapter 19)
- Certain infectious or parasitic diseases (Chapter 01)
- Complications of pregnancy, childbirth and the puerperium (Chapter 18)
- Endocrine, nutritional or metabolic diseases (Chapter 05)
- Injury, poisoning or certain other consequences of external causes (Chapter 22)
- Posterior cortical atrophy (8A21.0)

12.4 Coded Elsewhere

- Reasons for contact with the health care system in relation to eyes or vision ()
- Neoplasms of the eye or ocular adnexa ()
- Contusion of eyeball or orbital tissues (NA06.9)
- Foreign body in multiple parts of external eye (ND70.2)
- Oculocutaneous albinism (EC23.20)
- Traumatic injury to eyeball (NA06.8)
- Birth injury to eye (KA41)
- Late congenital syphilitic oculopathy (1A60.2)

- Symptoms, signs or clinical findings of the visual system (MC10-MC2Y)
- Structural developmental anomalies of the eye, eyelid or lacrimal apparatus (LA10-LA1Z)

12.5 Chapter – Specific Note for Chapter 9

Codes for vision impairment including blindness are not to be used as the preferred code for the main condition if the cause is documented, unless the episode of care was mainly for blindness itself and the cause is not documented.

Example 1: Serous retinal detachment

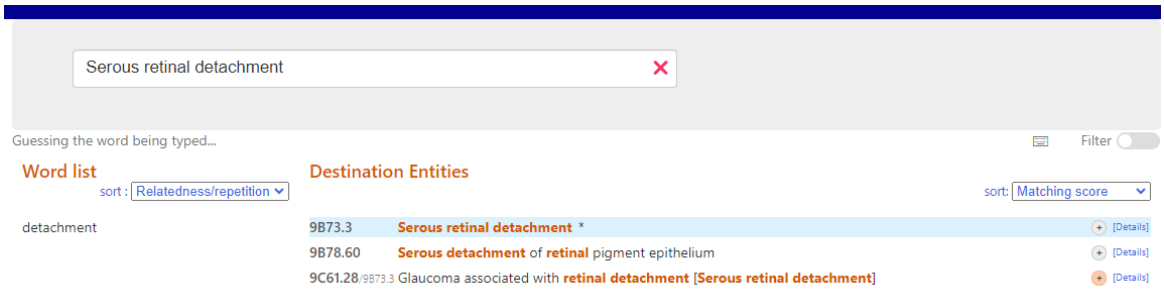


Figure 12-1 - Example

9B73.3 – Serous retinal detachment

Example 2: Senile nuclear sclerosis of the left eye

Step 1

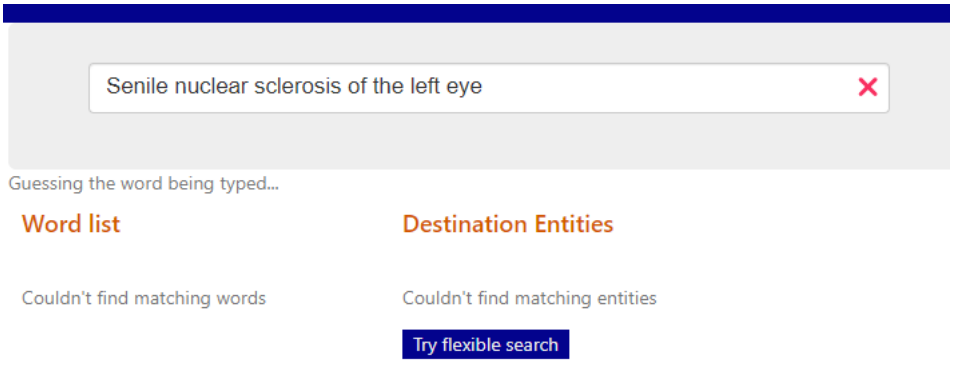


Figure 12-2 - Example 2 - Step 1

Step 2

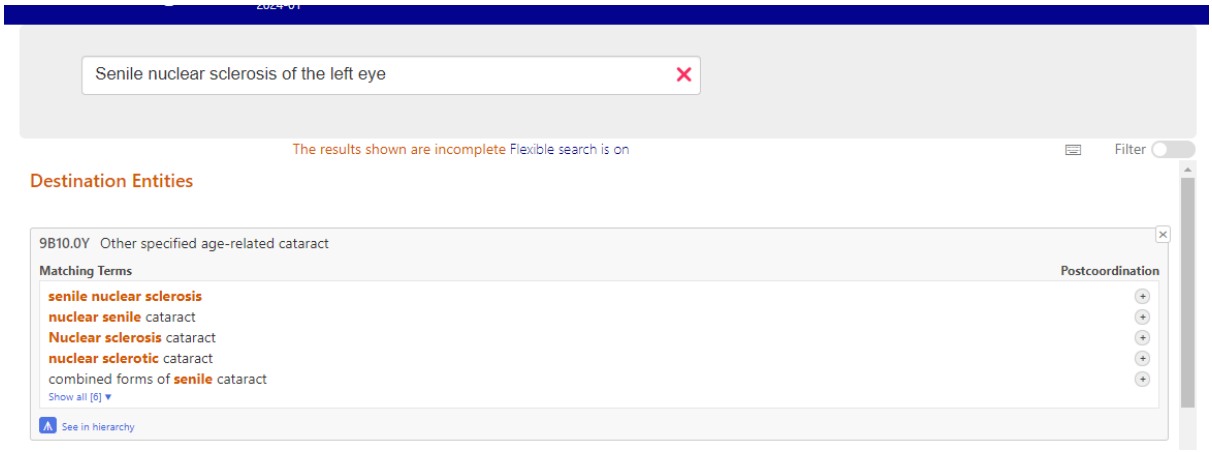


Figure 12-3 - Example 2 - Step 2

Postcoordinate for laterality

Step 3

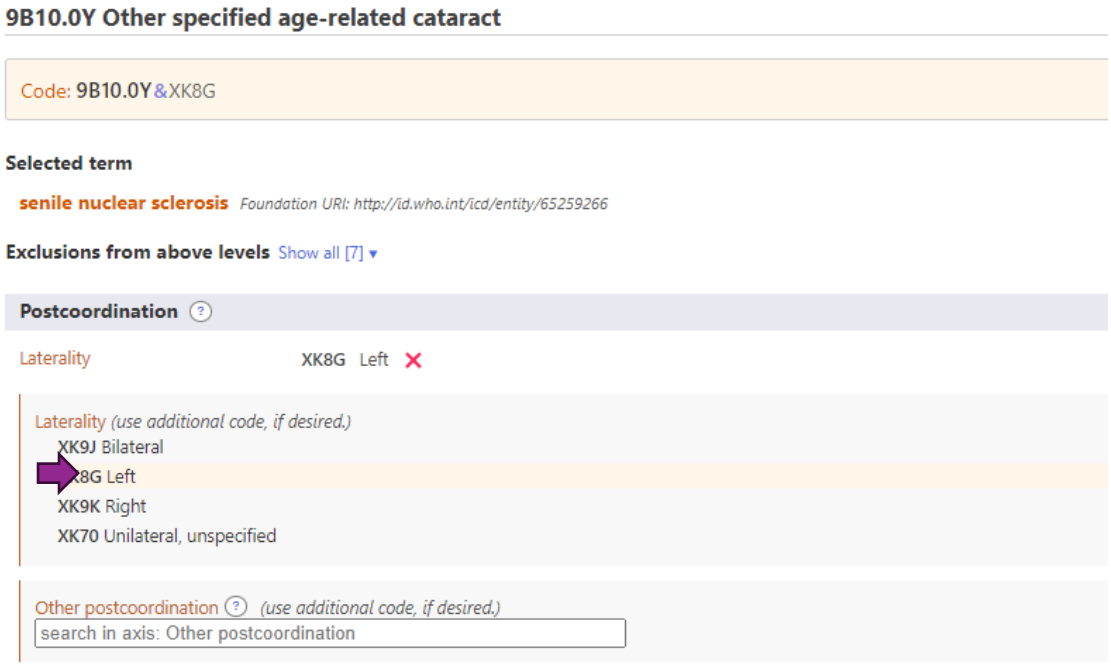


Figure 12-4 - Example 2 - Step 3

Code cluster : 9B10.0Y&XK8G

CODING EXERCISES

Assign the correct ICD-11 code(s) for each of the following conditions or case descriptions.

1. Juvenile cataract

2. Tuberculous chorioretinitis

3. Progressive external ophthalmoplegia

4. Blindness right eye, with concurrent low vision left eye

5. Chronic simple glaucoma, both eyes

6. Marginal corneal ulcer

7. Bilateral exophthalmos resulting from cavernous sinus thrombosis

8. Left ectropion

9. Keratomalacia due to protein-calorie malnutrition and vitamin A deficiency

10. Intermittent esotropia

11. Blepharoconjunctivitis

12. Stenosis of lacrimal duct

13. Enophthalmos

14. Pterygium

15. Fold in Descemet's membrane

16. Miotic pupillary cyst

17. Retinal detachment with retinal break

18. Retained (old) foreign body in iris

19. Vitreous syndrome following cataract surgery

20. Astigmatism

The content in this chapter is sourced from the World Health Organization's International Classification of Diseases Eleventh Revision (ICD-11). Please refer to the International Classification of Diseases Eleventh Revision (ICD-11). Geneva: World Health Organization; 2022.

MODULE 13

Chapter 10

Diseases of the Ear and Mastoid Process

MODULE 13: ICD-11 CHAPTER 10

13 DISEASES OF THE EAR AND MASTOID PROCESS

13.1 Description

This chapter contains diseases of the ear and the mastoid process.

- The codes begin with the prefix A
- Codes in this chapter range from AA00–AC0Z
- There are six top-level blocks

13.2 Top-level Blocks

1. Diseases of external ear
2. Diseases of middle ear or mastoid
3. Diseases of inner ear
4. Disorders with hearing impairment
5. Disorders of ear, not elsewhere classified
6. Postprocedural disorders of ear or mastoid process

13.3 Exclusions

- Complications of pregnancy, childbirth and the puerperium (Chapter 18)
- Certain infectious or parasitic diseases (Chapter 01)
- Certain conditions originating in the perinatal period (Chapter 19)
- Injury, poisoning or certain other consequences of external causes (Chapter 22)
- Neoplasms (Chapter 02)
- Endocrine, nutritional or metabolic diseases (Chapter 05)

13.4 Coded Elsewhere

- Structural developmental anomalies of the ear (LA20–LA2Z)
- Symptoms, signs or clinical findings of ear or mastoid process (MC40–MC6Y)

13.5 Chapter-specific Note for Chapter 10

Codes for acquired hearing impairment should not be used alone if the underlying cause is documented—unless the episode of care was mainly for the hearing loss itself and the cause was not documented.

Example 1: Perforation of left ear drum

Step 1

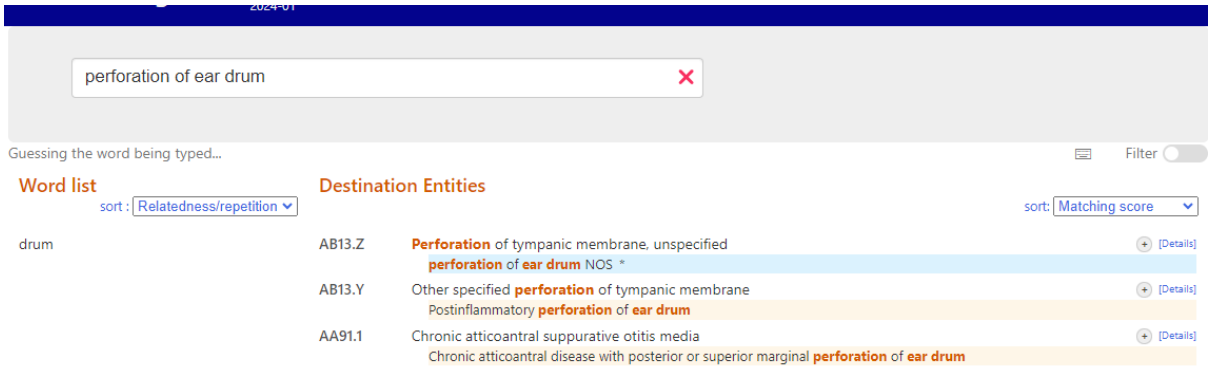


Figure 13-1 - Example 1 - Step 1

Postcoordinate for laterality

Step 2

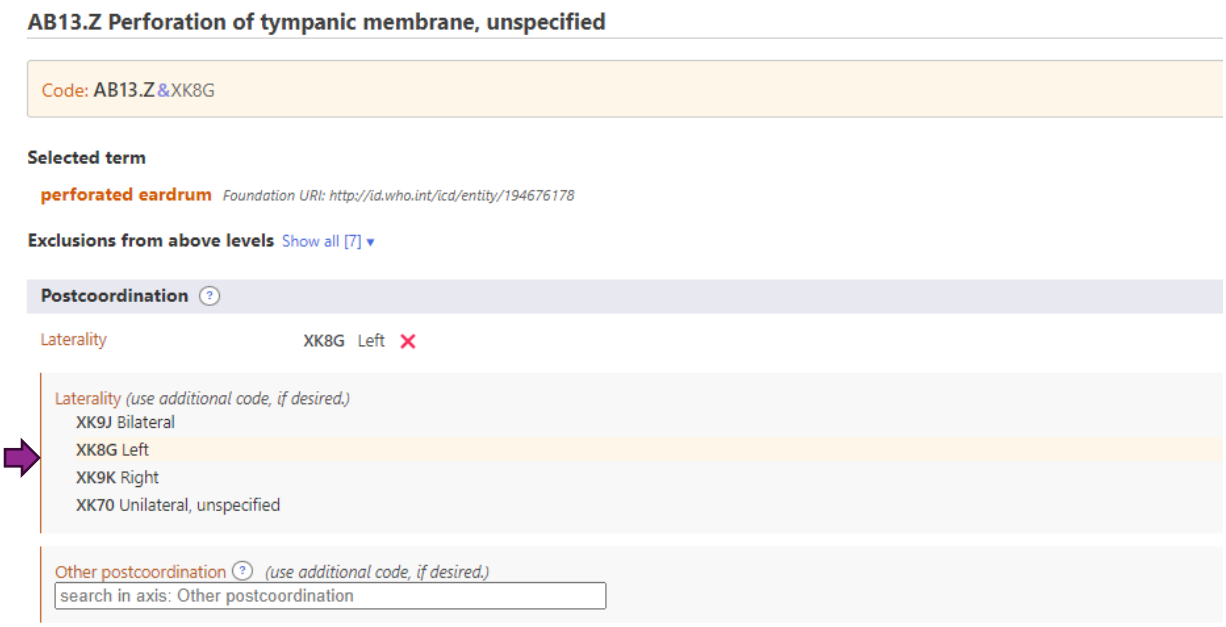


Figure 13-2 - Example 1 - Step 2

Code cluster: AB13.Z&XK8G

Example 2: Mastoiditis

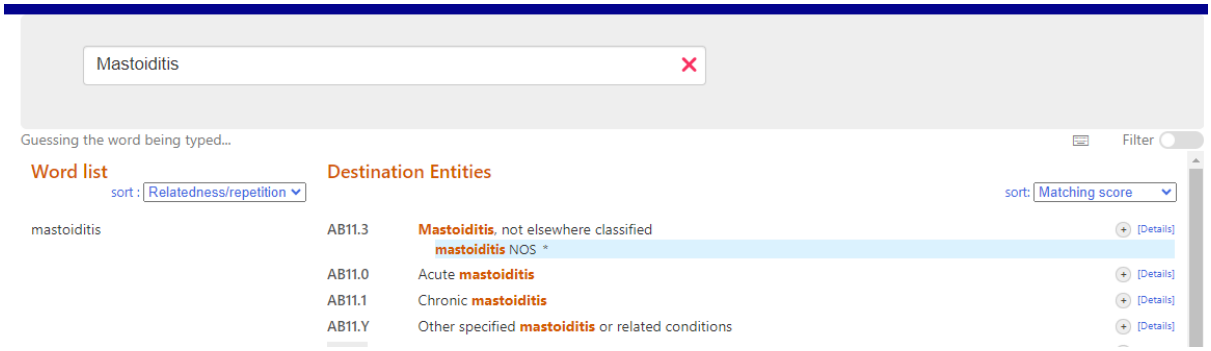


Figure 13-3 - Example 2

Code: AB11.3

CODING EXERCISES

Assign the correct ICD-11 code(s) for each of the following conditions or case descriptions.

1. Acute purulent otitis media

2. Mixed conductive and sensorineural hearing loss, bilateral

3. Glue ear

4. Aspergillosis in otitis externa

5. Malignant chemodectoma, right middle ear

6. Otitis media in scarlet fever

7. Cauliflower ear

8. Benign paroxysmal positional vertigo

9. Acute streptococcal mastoiditis

10. Stricture of eustachian tube

11. Impacted cerumen (wax in ear)

12. Non-traumatic perforation of tympanic membrane

13. Obliterative otosclerosis, involving the oval window

14. Meniere's disease

15. Noise induced hearing loss

16. Hyperacusis

17. Recurrent cholesteatoma of postmastoidectomy cavity

18. Peripheral vertigo

19. Ankylosis of ear ossicles

20. Bullous myringitis

The content in this chapter is sourced from the World Health Organization's International Classification of Diseases Eleventh Revision (ICD-11). Please refer to the International Classification of Diseases Eleventh Revision (ICD-11). Geneva: World Health Organization; 2022.

MODULE 14

Chapter 11

Diseases of the Circulatory System

MODULE 14: ICD-11 CHAPTER 11

14 DISEASES OF THE CIRCULATORY SYSTEM

14.1 Description

This refers to diseases of the organ system that pass nutrients (such as amino acids, electrolytes and lymph), gases, hormones, blood cells, etc. to and from cells in the body to help fight diseases, stabilize body temperature and pH and to maintain homeostasis.

- Codes begin with the prefix B
- Codes in this chapter range from BD00 – BE2Z
- There are 16 top-level blocks

14.2 Top-level Blocks

1. Hypertensive diseases
2. Hypotension
3. Ischaemic heart diseases
4. Diseases of coronary artery
5. Pulmonary heart disease or diseases of pulmonary circulation
6. Pericarditis
7. Acute or subacute endocarditis
8. Heart valve diseases
9. Chronic rheumatic heart diseases, not elsewhere classified
10. Diseases of the myocardium or cardiac chambers
11. Cardiac arrhythmia
12. Heart failure
13. Diseases of arteries or arterioles
14. Diseases of veins
15. Disorders of lymphatic vessels or lymph nodes
16. Postprocedural disorders of circulatory system

14.3 Exclusions

- Certain infectious or parasitic diseases (Chapter 01)
- Certain conditions originating in the perinatal period (Chapter 19)
- Congenital malformations, deformations and chromosomal abnormalities (Chapter 20)
- Complications of pregnancy, childbirth and the puerperium (Chapter 18)
- Injury, poisoning or certain other consequences of external causes (Chapter 22)
- Endocrine, nutritional or metabolic diseases (Chapter 05)

14.4 Coded Elsewhere

- Infections of the circulatory system ()
- Developmental anomalies of the circulatory system ()
- Neoplasms of the circulatory system ()
- Symptoms, signs or clinical findings of the circulatory system (MC80-MC9Y)

- Cerebrovascular diseases(8B00-8B2Z)
- Functional vascular disorders of the skin (EG00-EG02)
- Diseases of the circulatory system complicating pregnancy, childbirth or the puerperium (JB64.4)

Example 1

A patient was admitted due to a blood pressure reading of 185/123. A diagnosis of combined diastolic and systolic hypertension was established.

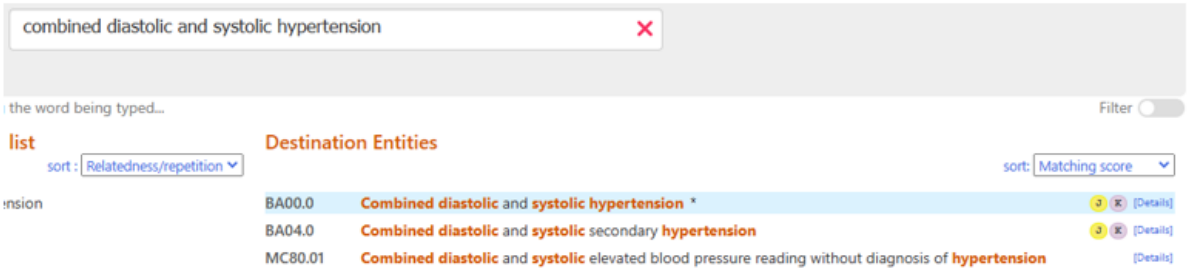


Figure 14-1 - Example 1

Example 2

A patient was admitted with hypertensive heart disease with congestive heart failure, stage 3. Their medications were adjusted, and the patient returned home the following day.

Step 1

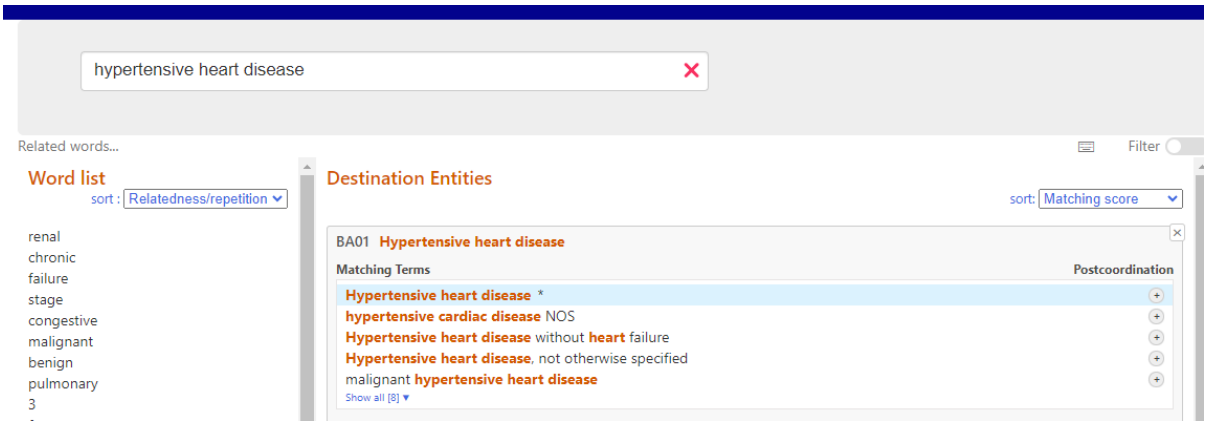


Figure 14-2 - Example 2 - Step 1

Step 2

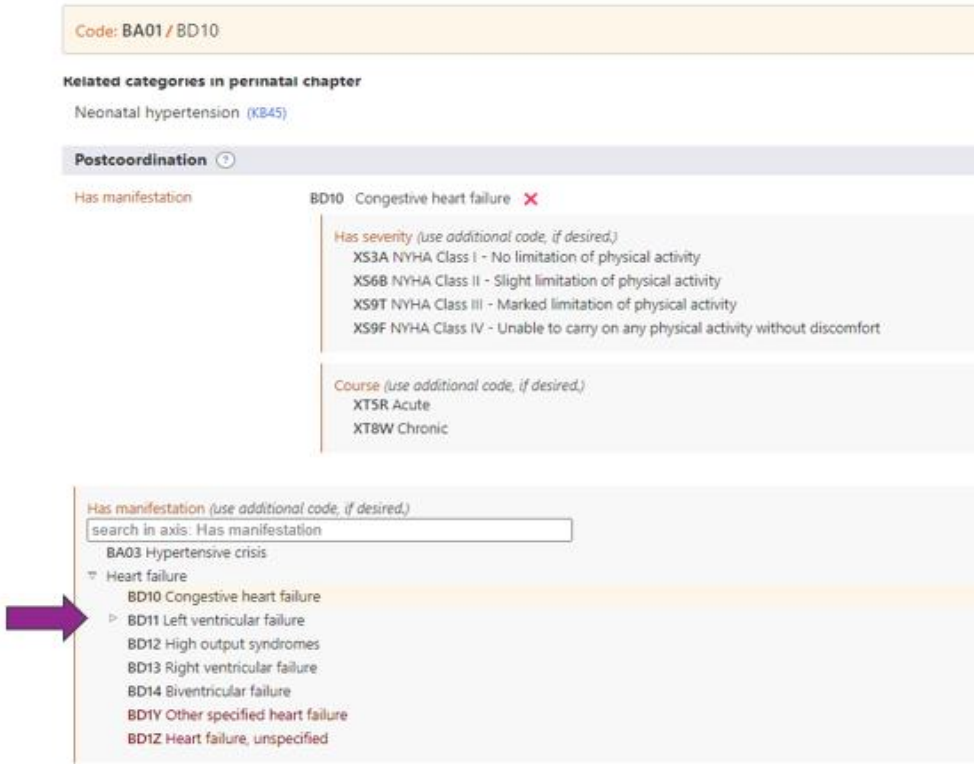


Figure 14-3 - Example 2 - Step 2

Step 3

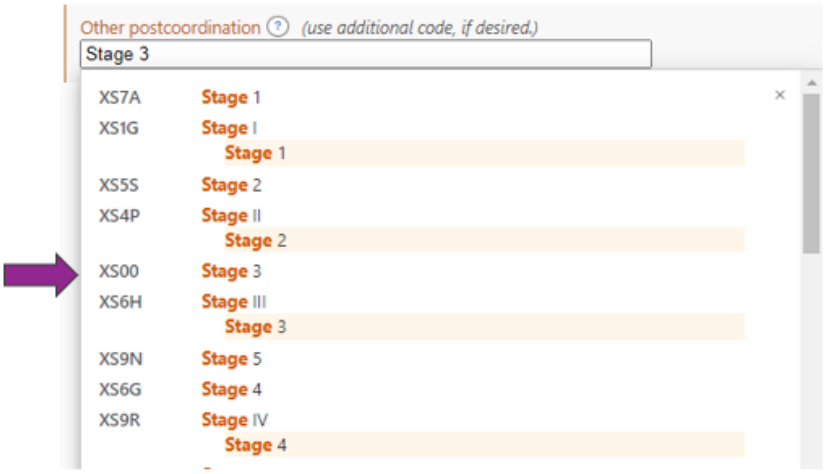


Figure 14-4 - Example 2 - Step 3

Answer: BA01/BD10&XS00

Example 3

A patient was admitted with dyspnoea and fatigue. It was noted that the patient had rheumatic fever as a child. An echocardiogram was performed which showed mild regurgitation in both mitral and aortic valves. Patient was referred to a cardiologist on discharge.

Step 1

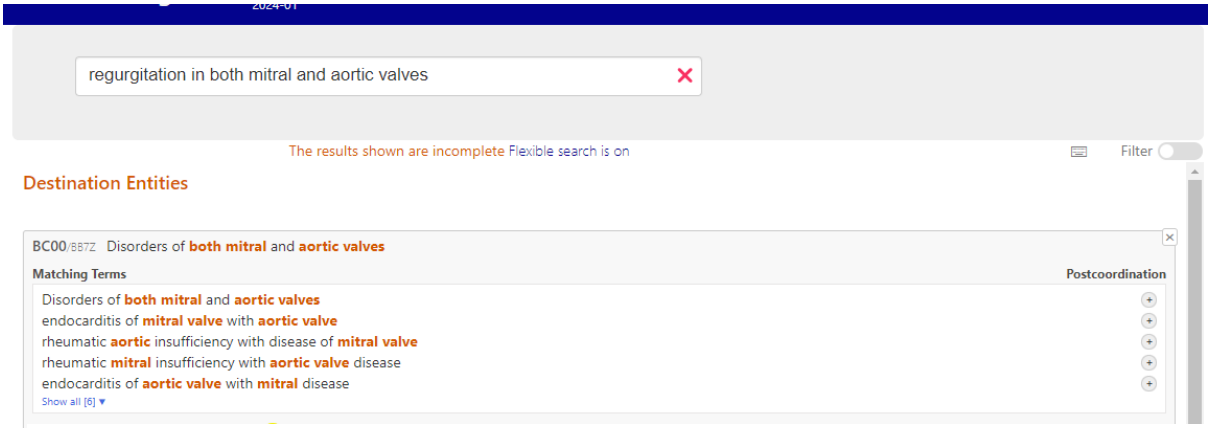


Figure 14-5 - Example 3 - Step 1

Step 2

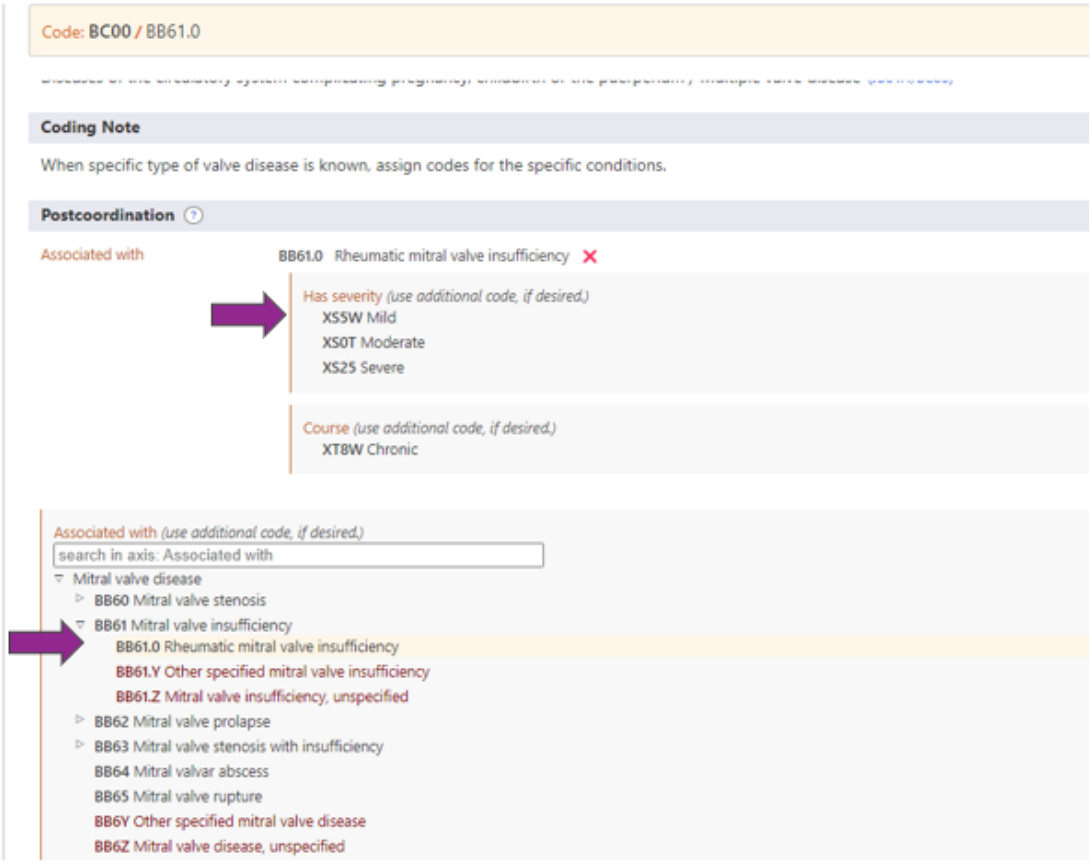


Figure 14-6 - Example 3 - Step 2

Step 3

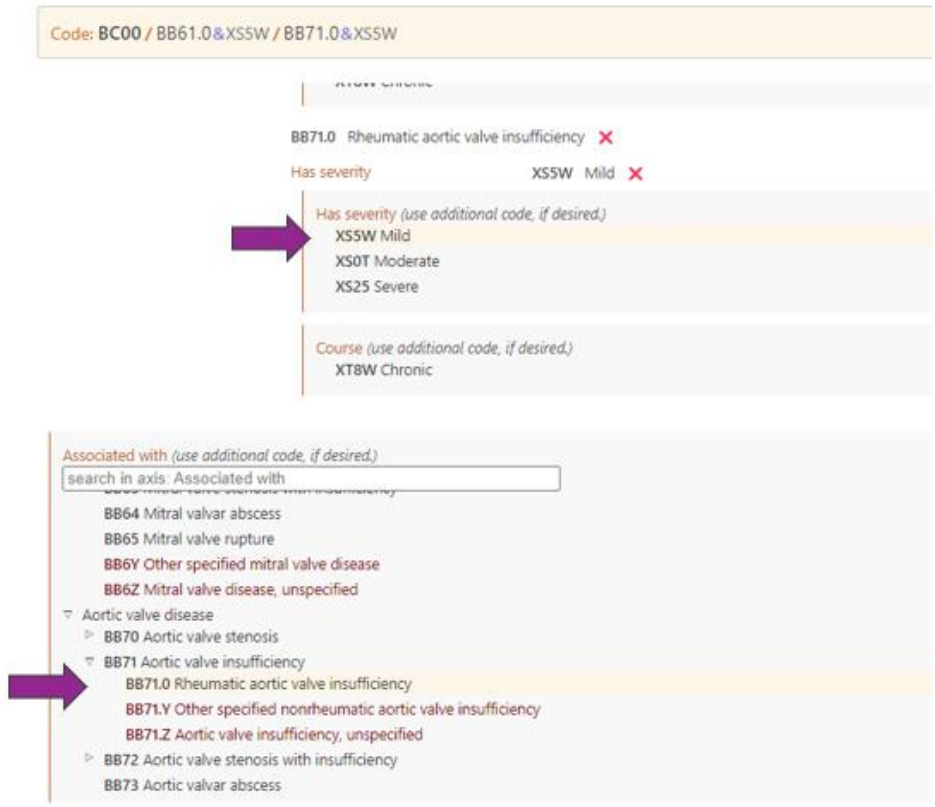


Figure 14-7 - Example 3 - Step 3

BC00 Multiple valve disease

BB61.0 Rheumatic mitral valve insufficiency

XS5W Mild

BB71.0 Rheumatic aortic valve insufficiency

XS5W Mild

Cluster: BC00/BB61.0&XS5W/BB71.0&XS5W

Underlined text indicates optional extension code

CODING EXERCISES

Assign the correct ICD-11 code(s) for each of the following conditions or case descriptions.

1. Dissection of the anterior descending coronary artery

2. Syphilitic aneurysm of aorta

3. Acute cor pulmonale

4. Chronic myocardial infarction (acute episode was six weeks ago)

5. Right ventricular failure

6. Coronary thrombosis: patient died on day 2 of admission

7. Dissection of abdominal aorta

8. Strangulated internal haemorrhoids

9. Bleeding oesophageal varices in chronic (continuous) alcoholism

10. Right bundle branch block

11. Left ventricular failure after cardiac catheterisation

12. Two acute myocardial infarctions, one precipitating admission (anterolateral) and one on day 5 of episode of care (inferolateral)

13. Unstable angina pectoris

14. Paroxysmal ventricular tachycardia

15. Rupture of a cerebral aneurysm

16. Mitral regurgitation

17. Aortic valve insufficiency

18. Hypertensive renal failure

19. Occlusion of right internal carotid artery with infarction

20. Deep vein thrombosis of right leg

21. Mitral stenosis with aortic insufficiency

The content in this chapter is sourced from the World Health Organization's International Classification of Diseases Eleventh Revision (ICD-11). Please refer to the International Classification of Diseases Eleventh Revision (ICD-11). Geneva: World Health Organization; 2022

MODULE 15

Chapter 12

Diseases of the Respiratory System

MODULE 15: ICD-11 CHAPTER 12

15 DISEASES OF THE RESPIRATORY SYSTEM

15.1 Description

This chapter covers diseases of the respiratory system.

- Codes start with the prefix C
- The codes range from CA00 – CB7Z
- There are 09 top-level blocks

15.2 Top-level Blocks

1. Upper respiratory tract disorders
2. Certain lower respiratory tract diseases
3. Lung infections
4. Lung diseases due to external agents
5. Respiratory diseases principally affecting the lung interstitium
6. Pleural, diaphragm or mediastinal disorders
7. Certain diseases of the respiratory system
8. Respiratory failure
9. Postprocedural disorders of the respiratory system

15.3 Exclusions

- Endocrine, nutritional or metabolic diseases (Chapter 05)
- Congenital malformations, deformations and chromosomal abnormalities (Chapter 20)
- Injury, poisoning or certain other consequences of external causes (Chapter 22)
- Certain conditions originating in the perinatal period (Chapter 19)
- Certain infectious or parasitic diseases (Chapter 01)
- Complications of pregnancy, childbirth and the puerperium (Chapter 18)

15.4 Coded Elsewhere

- Developmental respiratory diseases ()
- Neoplasms of the respiratory system ()
- Symptoms, signs or clinical findings of the respiratory system (MD10-MD6Y)
- Pulmonary heart disease or diseases of pulmonary circulation (BB00-BB0Z)
- Sleep-related breathing disorders(7A40-7A4Z)
- Diseases of the respiratory system complicating pregnancy, childbirth or the puerperium (JB64.5)

Example 1

A patient was admitted with shortness of breath, coughing and fever. A chest X-ray demonstrated pneumonia, and sputum culture indicated that the patient had Pseudomonas pneumonia.

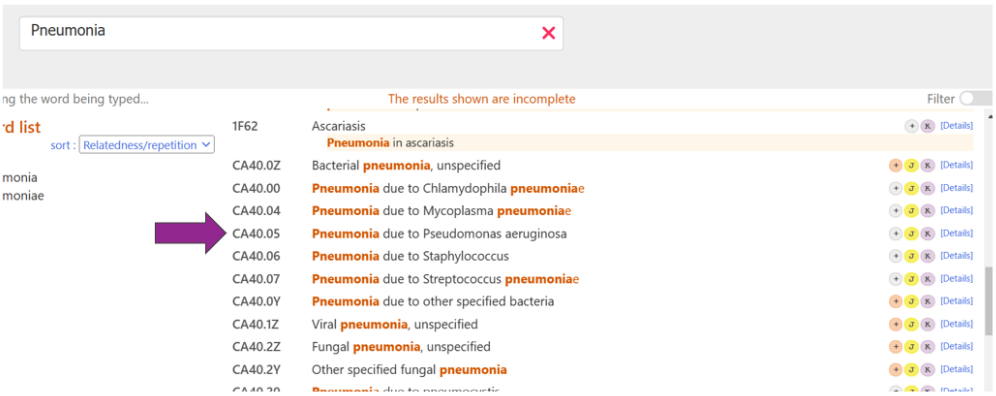


Figure 15-1 - Example 1

Example 2

A patient was admitted with a shortness of breath, sharp pain on inhalation and increased heart rate. A chest x-ray showed a spontaneous tension pneumothorax.

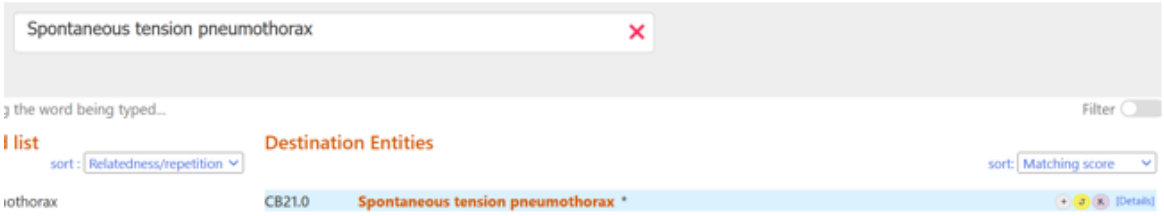


Figure 15-2 - Example 2

Example 3

A patient was admitted with an acute exacerbation of chronic obstructive pulmonary disease (COPD)

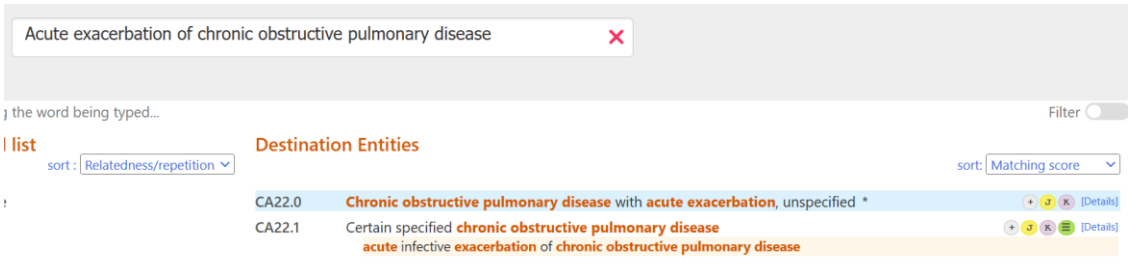


Figure 15-3 - Example 3

CODING EXERCISES

Assign the correct ICD-11 code(s) for each of the following conditions or case descriptions.

1. Idiopathic pulmonary fibrosis

2. Type 1 chronic respiratory failure

3. Subglottic oedema

4. Bronchitis (10-year-old female)

5. Aspiration pneumonitis after inhaling food while eating in restaurant

6. Anthracosis and tuberculosis of lung (confirmed by chest X-ray and sputum microscopy)

7. Nasopharyngeal polyp

8. Legionnaires' disease

9. Rheumatoid lung disease

10. Bronchopneumonia due to Pseudomonas infection

11. Bronchopneumonia

12. Pneumonia in acute coccidiodomycosis

13. Pneumonia, left lower lobe (LLL) of lung, pneumococcal

14. Peritonsillar abscess, acute tonsillitis (due to Klebsiella infection)

15. Acute exacerbation of chronic obstructive airways disease

16. Occupational bronchitis due to using epoxy resins

17. Acute maxillary sinusitis

18. Emphysema with chronic bronchitis

19. Allergic rhinitis due to pollen

20. Acute pulmonary oedema

21. Chronic obstructive pulmonary disease

22. Deviated nasal septum

The content in this chapter is sourced from the World Health Organization's International Classification of Diseases Eleventh Revision (ICD-11). Please refer to the International Classification of Diseases Eleventh Revision (ICD-11). Geneva: World Health Organization; 2022.

MODULE 16

Chapter 13

Diseases of the Digestive System

MODULE 16: ICD-11 CHAPTER 13

16 DISEASES OF THE DIGESTIVE SYSTEM

16.1 Description

This chapter covers the diseases of the digestive system.

- Codes begin with the prefix D
- Codes range from DA00 – DE2Z
- There are 17 top-level blocks

16.2 Top-level Blocks

1. Diseases or disorders of orofacial complex
2. Diseases of oesophagus
3. Diseases of the stomach or the duodenum
4. Diseases of small intestine
5. Diseases of appendix
6. Diseases of large intestine
7. Diseases of anal canal
8. Diseases of liver
9. Diseases of gallbladder or biliary tract
10. Diseases of pancreas
11. Diseases of peritoneum
12. Diverticular disease of intestine
13. Ischaemic vascular disorders of intestine
14. Hernias
15. Inflammatory bowel diseases
16. Functional gastrointestinal disorders
17. Postprocedural disorders of digestive system

This chapter follows the anatomical hierarchy of the digestive tract according to rostral-caudal order. Exceptions are categories for hernia, functional gastrointestinal disorders and inflammatory bowel diseases.

16.3 Exclusions

- Endocrine, nutritional or metabolic diseases (Chapter 05)
- Injury, poisoning or certain other consequences of external causes (Chapter 22)
- Neoplasms (Chapter 02)
- Certain infectious or parasitic diseases (Chapter 01)
- Complications of pregnancy, childbirth and the puerperium (Chapter 18)
- Mental, behavioural or neurodevelopmental disorders (Chapter 06)

16.4 Coded Elsewhere

- Digestive system disorders of fetus or newborn (KB80-KB8Z)

- Symptoms, signs or clinical findings of the digestive system or abdomen (MD80-ME4Y)
- Structural developmental anomalies of the digestive tract (LB10-LB1Z)
- Diseases of the digestive system complicating pregnancy, childbirth or the puerperium (JB64.6)

16.5 Related Categories in the Perinatal Chapter

- Digestive system disorders of fetus or newborn, unspecified (KB8Z)

Example 1

Paralytic ileus

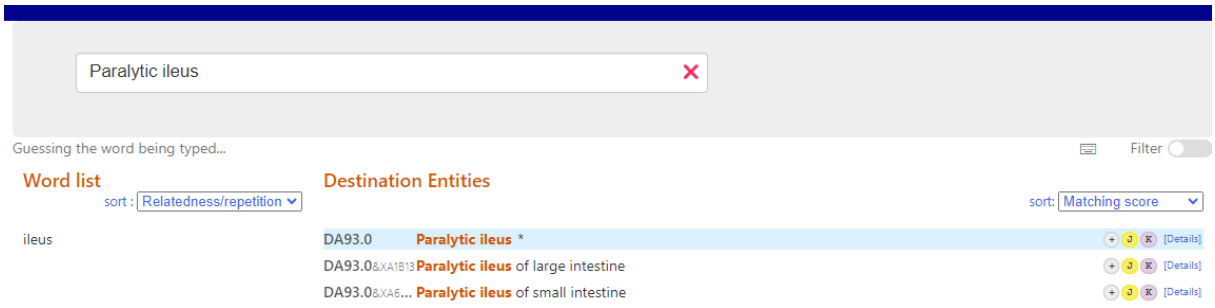


Figure 16-1 - Example 1

Blue highlighted stem code

Code: DA93.0

Example 2

Right inguinal hernia with gangrene

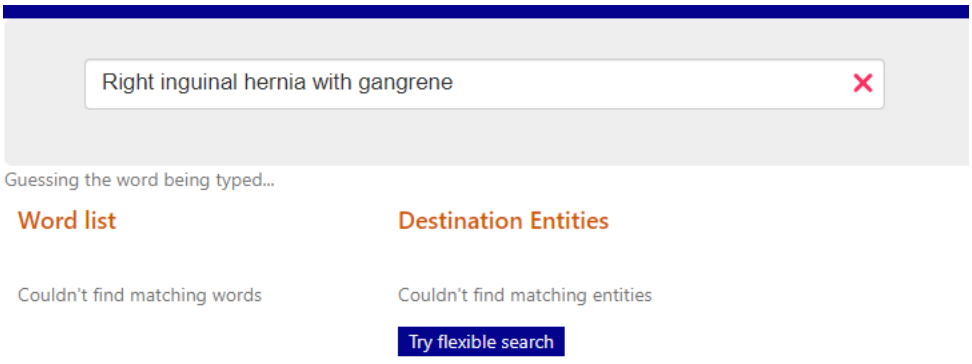


Figure 16-2 - Example 2 - Step 1

Step 2

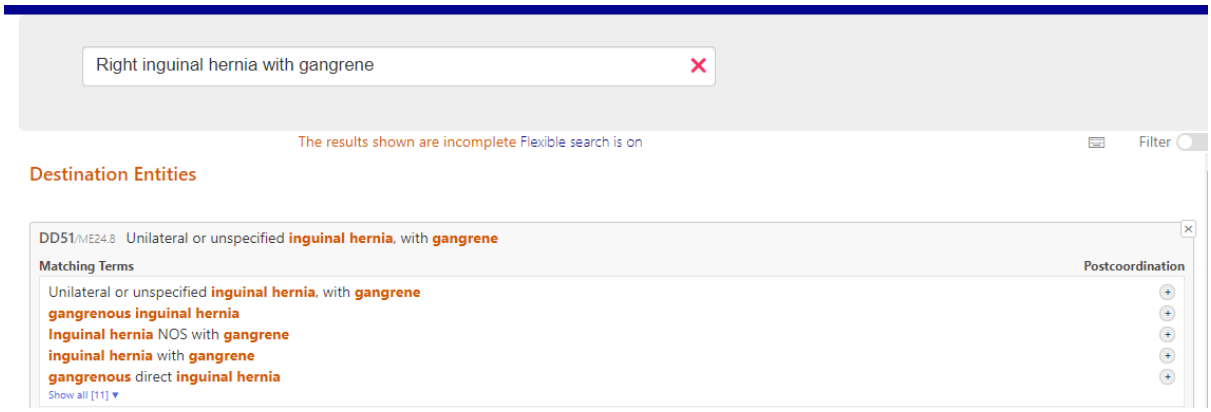


Figure 16-3 - Example 2 - Step 2

Postcoordinate for laterality and manifestation

Step 3

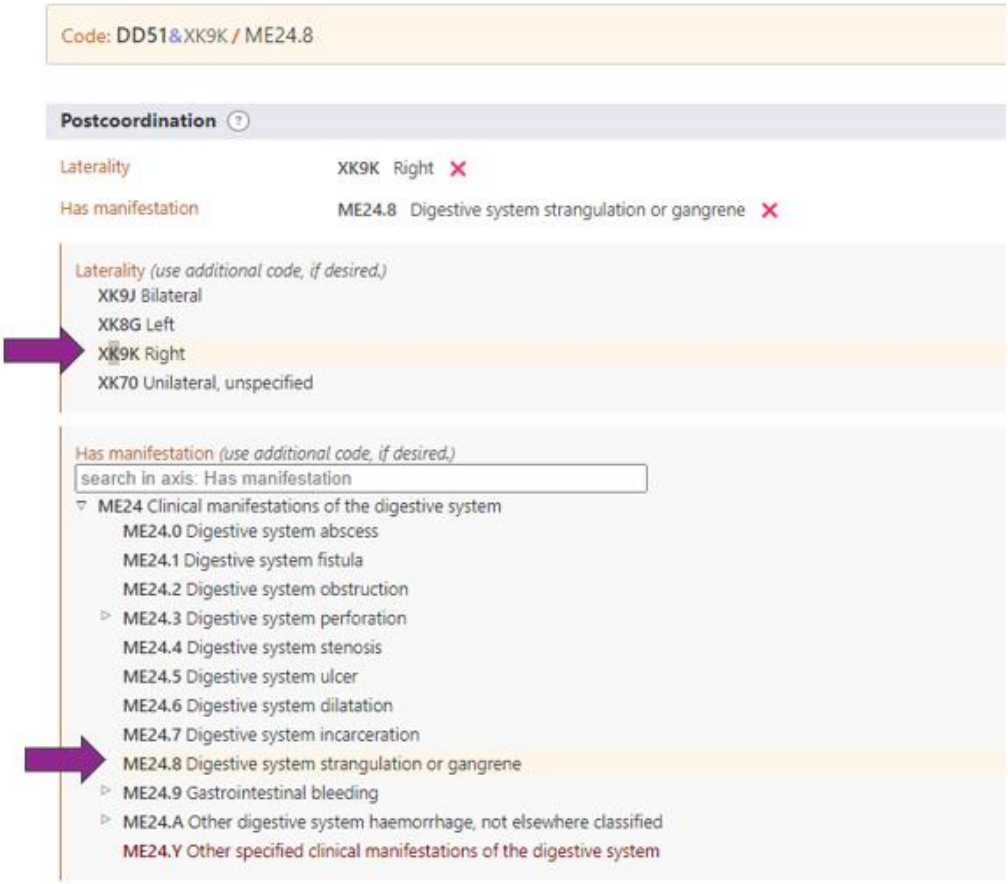


Figure 16-4 - Example 2 - Step 3

Code cluster: DD51&XK9K/ME24.8

CODING EXERCISES

Assign the correct ICD-11 code(s) for each of the following conditions or case descriptions.

1. Adenomatous rectal polyp

2. Chronic gastrojejunal ulcer

3. Obstructed left inguinal hernia

4. Diverticulitis of jejunum and ileum with perforation

5. Postgastrectomy dumping syndrome

6. Anal fissure with perianal abscess

7. Dental caries of dentine (4 teeth), chronic periodontitis

8. Portal hypertension in schistosomiasis

9. Cholestatic hepatitis, pruritis of trunk

10. Temporomandibular joint pain-dysfunction syndrome

11. Calculus bile duct, cholangitis and cholecystitis

12. Gastrointestinal haemorrhage

13. Protein intolerance leading to malabsorption

14. Crohn's disease of small intestine

15. Bleeding gastric ulcer

16. Reflux oesophagitis

17. Acute ruptured appendicitis

18. Anorectal fistula

19. Gastroenteritis

The content in this chapter is sourced from the World Health Organization's International Classification of Diseases Eleventh Revision (ICD-11). Please refer to the International Classification of Diseases Eleventh Revision (ICD-11). Geneva: World Health Organization; 2022.

MODULE 17

Chapter 14
Diseases of the Skin

MODULE 17: ICD-11 CHAPTER 14

17 DISEASES OF THE SKIN

17.1 Description

Diseases of the skin incorporate conditions affecting the epidermis, its appendages (hair, hair follicle, sebaceous glands, apocrine sweat gland apparatus, eccrine sweat gland apparatus and nails) and associated mucous membranes (conjunctival, oral and genital), the dermis, the cutaneous vasculature and the subcutaneous tissue (subcutis).

- Codes begin with the prefix E
- The range of codes is EA00 – EM0Z
- There are 14 top-level blocks

17.2 Inclusions

- Diseases of the epidermis
- Diseases of the dermis
- Diseases of the epidermal appendages (hair, hair follicle, sebaceous glands, apocrine sweat gland apparatus, eccrine sweat gland apparatus and nails)
- Diseases of subcutaneous tissue
- Diseases of cutaneous vasculature

17.3 Top-level Blocks

1. Certain skin disorders attributable to infection or infestation
2. Inflammatory dermatoses
3. Metabolic and nutritional disorders affecting the skin
4. Genetic and developmental disorders affecting the skin
5. Sensory and psychological disorders affecting the skin
6. Skin disorders involving specific cutaneous structures
7. Skin disorders involving certain specific body regions
8. Skin disorders associated with pregnancy, the neonatal period and infancy
9. Adverse cutaneous reactions to medication
10. Skin disorders provoked by external factors
11. Benign proliferations, neoplasms and cysts of the skin
12. Disorders of the skin of uncertain or unpredictable malignant potential
13. Cutaneous markers of internal disorders
14. Postprocedural disorders of the skin

This chapter has undergone major restructuring from previous versions of ICD, with the addition of more detailed content. Detail has come from the fusion of the American, British and German dermatological terminologies.

17.4 Coded Elsewhere

- Malignant neoplasms involving the skin ()
- Haematoma of surgical wound of skin (NE81.00)
- Superficial incisional site infection (NE81.20)
- Neonatal phototherapy burn (KC50)
- Symptoms or signs involving the skin (ME60-ME6Y)

Example 1

Psoriasis

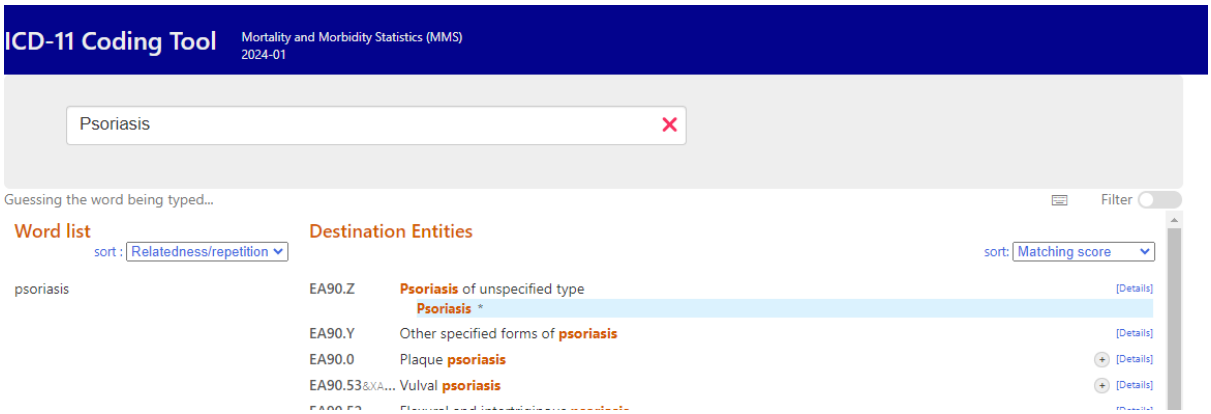


Figure 17-1 - Example 1

Code: EA90.Z

Example 2

Adult atopic eczema

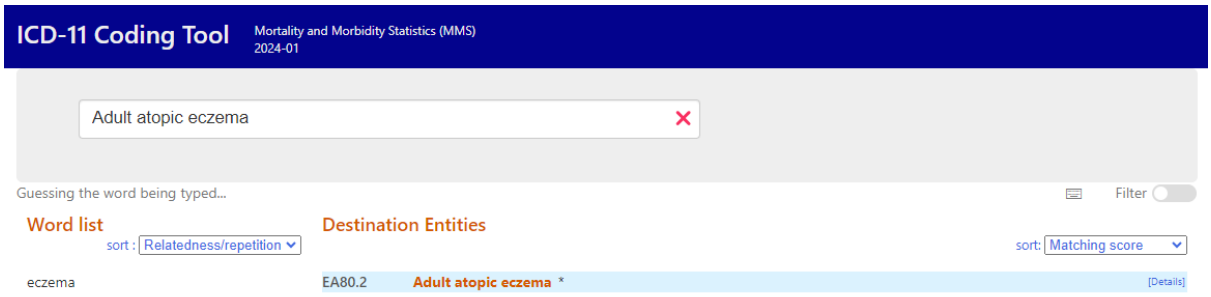


Figure 17-2 - Example 2

Blue highlighted stem code

Code: EA80.2

CODING EXERCISES

Assign the correct ICD-11 code(s) for each of the following conditions or case descriptions.

1. Trichorrhexis invaginata

2. Drug induced androgenic alopecia

3. Contact dermatitis due to cosmetics

4. Arthropathic psoriasis

5. Perforating granuloma annulare

6. Discoid lupus erythematosus

7. Focal oral mucinosis

8. Allergic contact dermatitis due to food

9. Severe keloid scarring due to acne

10. Grover disease

11. Plastic reconstructive surgery for scars from burns received in a house fire, two years previously

12. Scrotal cyst

13. Pilonidal sinus with abscess

14. Keloid scar

15. Acne rosacea

16. Abscess of the right trunk

17. Decubitus ulcer

18. Seborrhoeic keratosis

19. Infected ingrown toenail

20. Hidradenitis suppurativa

The content in this chapter is sourced from the World Health Organization's International Classification of Diseases Eleventh Revision (ICD-11). Please refer to the International Classification of Diseases Eleventh Revision (ICD-11). Geneva: World Health Organization; 2022.

MODULE 18

Chapter 15

Diseases of the Musculoskeletal System or Connective Tissue

MODULE 18: ICD-11 CHAPTER 15

18 DISEASES OF THE MUSCULOSKELETAL SYSTEM OR CONNECTIVE TISSUE

18.1 Description

This chapter contains diseases of the musculoskeletal system and connective tissue diseases.

- Codes begin with the prefix F
- Codes of this chapter range from FA00 – FC0Z
- There are six top-level blocks

18.2 Top-level Blocks

1. Arthropathies
2. Conditions associated with the spine
3. Soft tissue disorders
4. Osteopathies or chondropathies
5. FC00 Certain specified acquired deformities of the musculoskeletal system or connective tissue, not elsewhere classified
6. Postprocedural disorders of the musculoskeletal system

18.3 Exclusions

- Injury, poisoning or certain other consequences of external causes (Chapter 22)
- Endocrine, nutritional or metabolic diseases (Chapter 05)
- Complications of pregnancy, childbirth and the puerperium (Chapter 18)
- Certain infectious or parasitic diseases (Chapter 01)
- Temporomandibular joint disorders (DA0E.8)
- Certain conditions originating in the perinatal period (Chapter 19)

18.4 Coded Elsewhere

- Neoplasms of the musculoskeletal system ()
- Monogenic autoinflammatory syndromes(4A60)
- Nonorgan specific systemic autoimmune disorders(4A40-4A4Z)
- Symptoms, signs or clinical findings of the musculoskeletal system (ME80-MF1Y)
- Structural developmental anomalies of the skeleton (LB70-LB9Z)
- Syndromes with connective tissue involvement as a major feature (LD28)
- Syndromes with skeletal anomalies as a major feature (LD24)

Example 1

Osteoarthritis of the right knee

Step 1

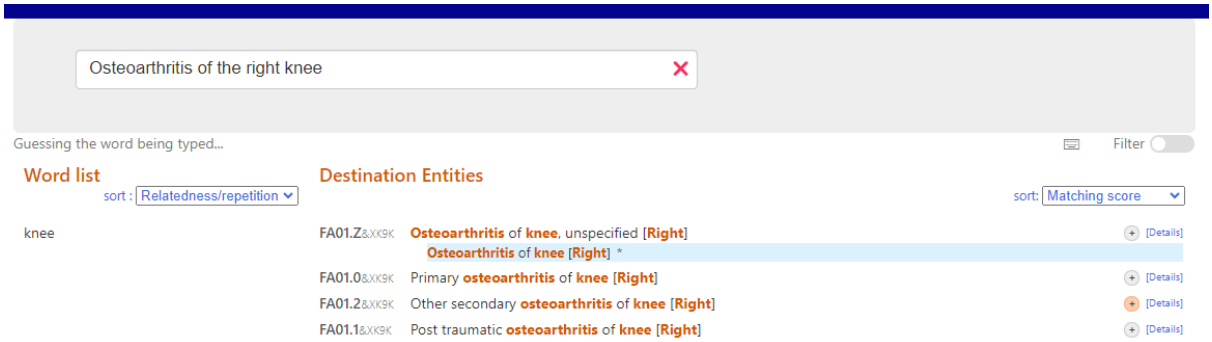


Figure 18-1 - Example 1 - Step 1

Step 2

Postcoordinate for laterality

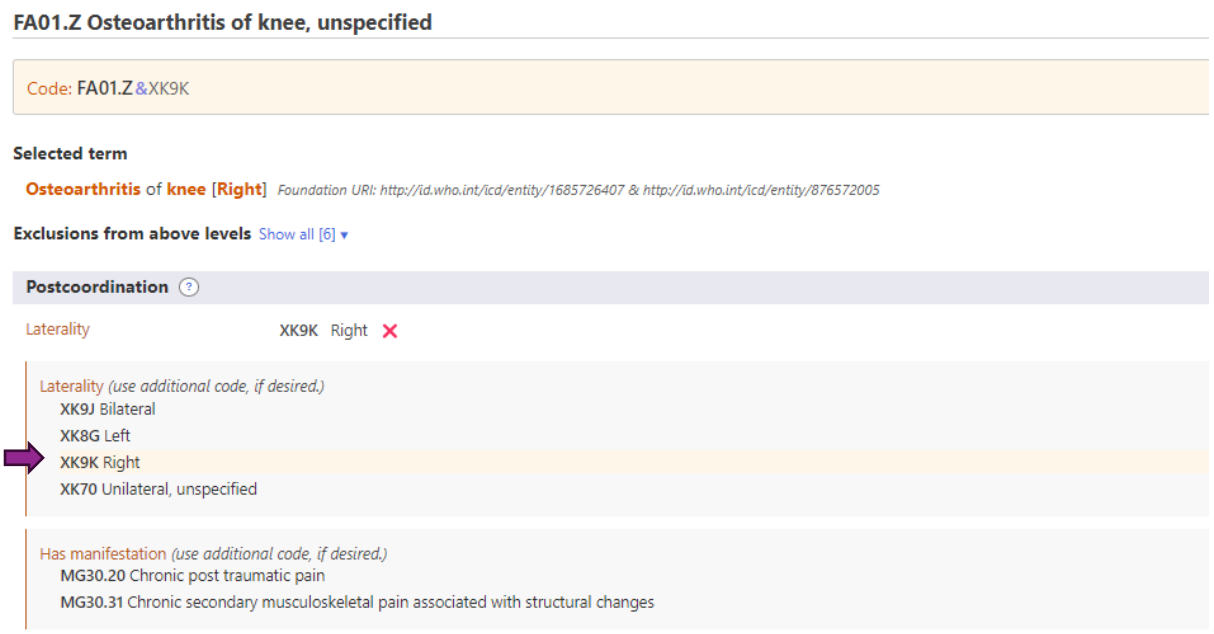


Figure 18-2 - Example 1 - Step 2

FA01.Z Osteoarthritis of knee, unspecified

XK9K Right

Cluster: FA01.Z&XK9K

Example 2

Pathological fracture of the third lumbar vertebra due to osteoporosis

Step 1

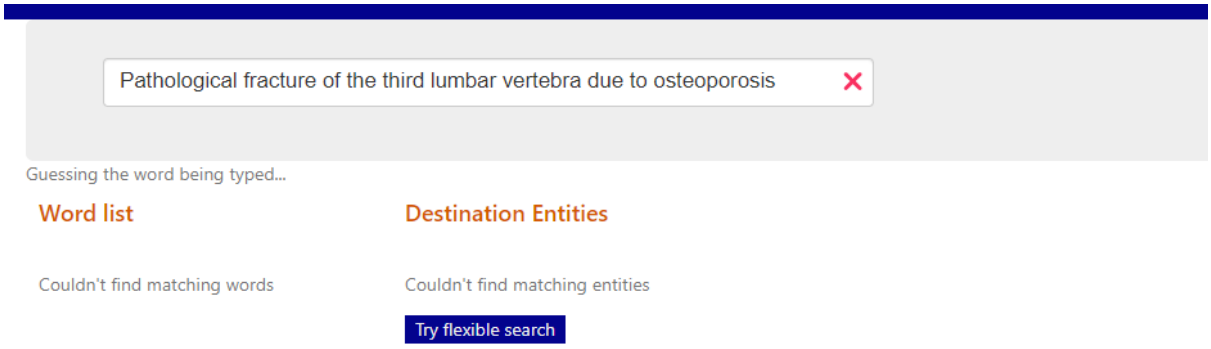


Figure 18-3 - Example 2 - Step 1

Step 2

Postcoordinate for specific anatomy

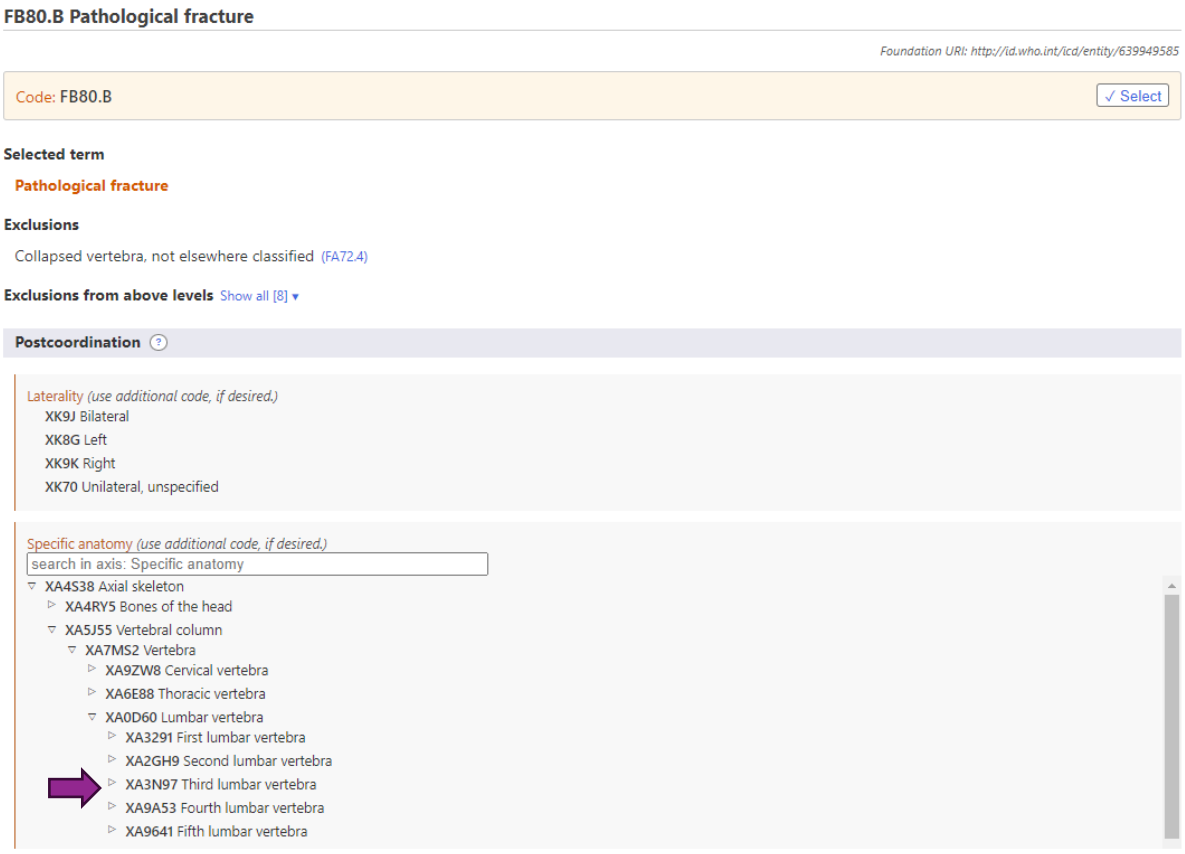


Figure 18-4 - Example 2 - Step 2

Step 3

Postcoordinate for associated conditions

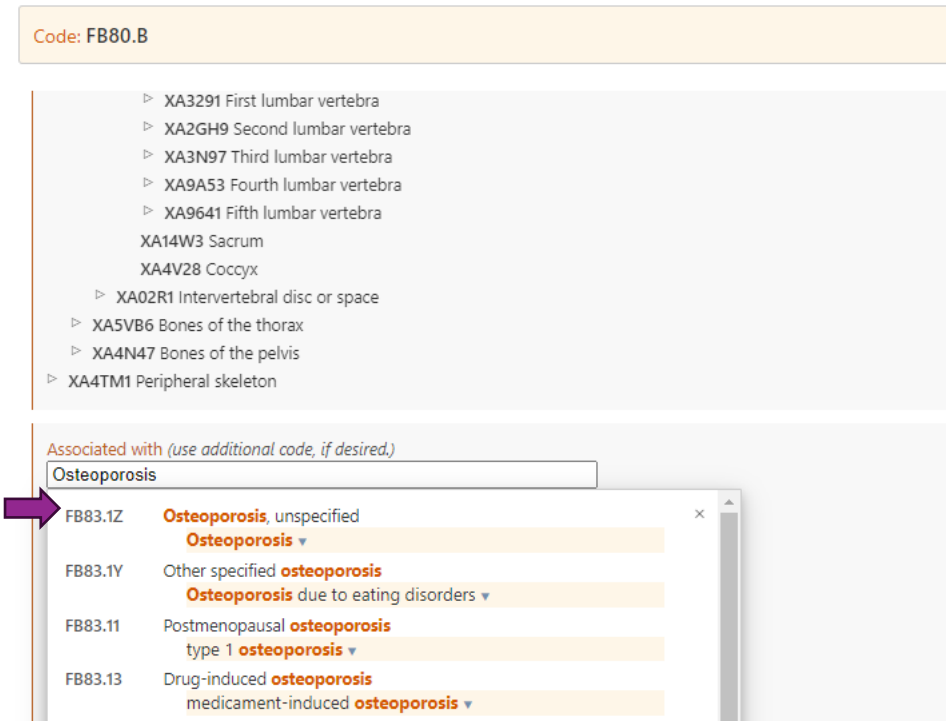


Figure 18-5 - Example 2 - Step 3

FB80.B Pathological fracture

XA3A97 Third lumbar vertebra

FB83.1Z Osteoporosis

Code cluster: FB80.B&XA3A97/FB83.1Z

CODING EXERCISES

Assign the correct ICD-11 code(s) for each of the following conditions or case descriptions.

1. Rubella arthritis

2. Gout of the big toe

3. Bilateral post-traumatic coxarthrosis

4. Osteolysis

5. Tuberculous arthritis

6. Erosive osteoarthrosis

7. Charcot's arthropathy

8. Bursitis of shoulder

9. Myalgia

10. Flail elbow joint

11. 10-year-old boy suffering from juvenile arthritis for the past 12 months

12. 55-year-old female admitted with postmenopausal osteoporosis of the spine

13. Abscess of the tendon sheath of elbow. Cultures grew Staphylococcus aureus.

14. Osteoporotic crush fracture of T8–T9 vertebrae

15. Herniated intervertebral disc

16. Synovitis of right knee

17. Chronic rheumatoid arthritis

18. Scoliosis

19. Left second and third hammer toes

20. Right hallux valgus

The content in this chapter is sourced from the World Health Organization's International Classification of Diseases Eleventh Revision (ICD-11). Please refer to the International Classification of Diseases Eleventh Revision (ICD-11). Geneva: World Health Organization; 2022.

MODULE 19

Chapter 16

Diseases of the Genitourinary System

MODULE 19: ICD-11 CHAPTER 16

19 DISEASES OF THE GENITOURINARY SYSTEM

19.1 Description

Any disease characterised by pathological changes to the genitourinary system is included in this chapter.

- Codes begin with the prefix G
- Codes of this chapter range from GA00 – GC8Z
- There are six top-level blocks under this chapter

19.2 Top-level Blocks

1. Diseases of the female genital system
2. Diseases of the male genital system
3. Disorders of breast
4. Diseases of the urinary system
5. Other conditions of the genitourinary system
6. Postprocedural disorders of the genitourinary system

19.3 Exclusions

- Injury, poisoning or certain other consequences of external causes (Chapter 22)
- Endocrine, nutritional or metabolic diseases (Chapter 05)
- Complications of pregnancy, childbirth and the puerperium (Chapter 18)
- Certain infectious or parasitic diseases (Chapter 01)

19.4 Coded Elsewhere

- Contact with health services for reasons associated with reproduction (QA20-QA4Z)
- Predominantly sexually transmitted infections (1A60-1A9Z)
- Symptoms, signs or clinical findings of the genitourinary system (MF30-MG0Y)
- Female gonococcal pelvic inflammatory disease (1A71)

Example 1

Acute kidney failure

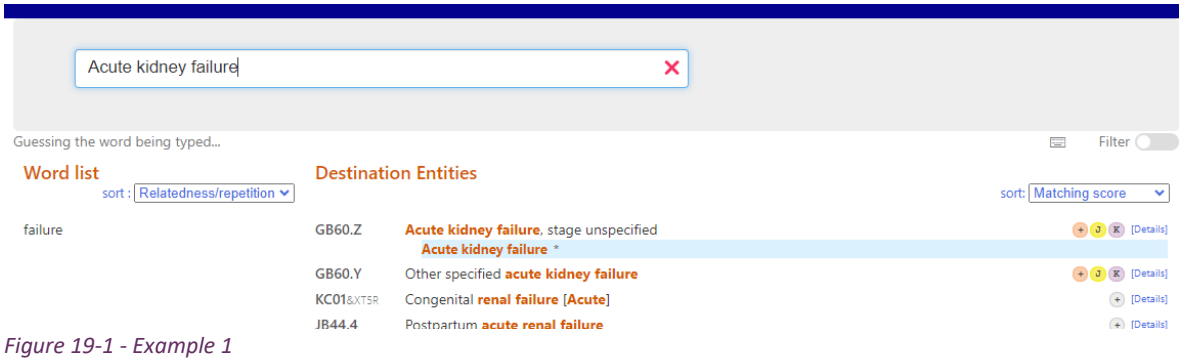


Figure 19-1 - Example 1

Postcoordination options are available for causing conditions, associated conditions and severity.

GB60.Z Acute kidney failure, stage unspecified
Code: GB60.Z

Example 2
Complete uterovaginal prolapse

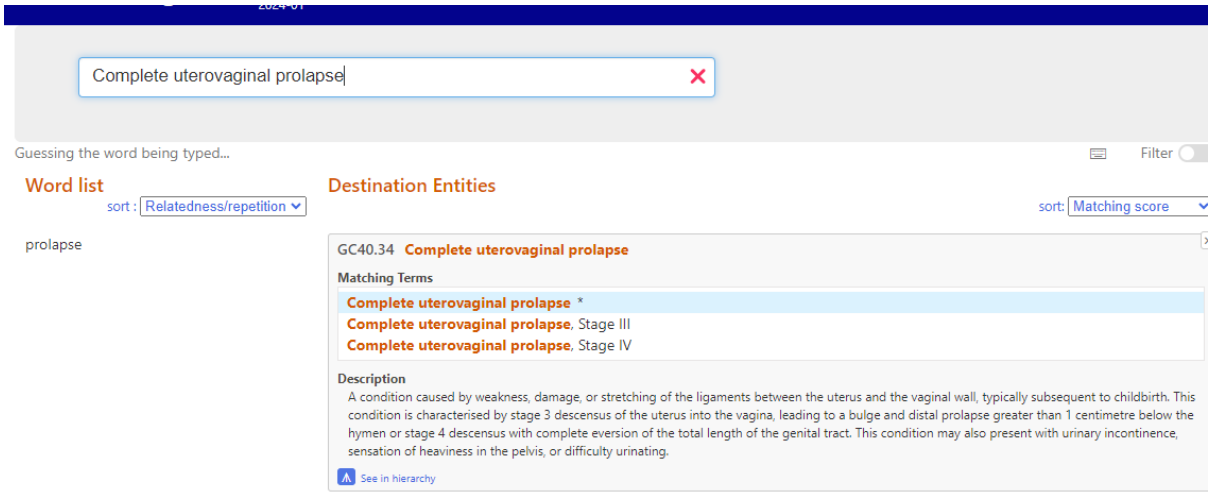


Figure 19-2 - Example 2

There are no postcoordination options for this code.

GC40.34 Complete uterovaginal prolapse

Code : GC40.34

CODING EXERCISES

Assign the correct ICD-11 code(s) for each of the following conditions or case descriptions.

1. Habitual aborter (without current pregnancy)

2. Postprocedural irradiation cystitis

3. Postprocedural renal failure

4. Renal tubulo-interstitial disorder due to brucellosis

5. Acute diffuse membranous glomerulonephritis

6. Acute cystitis with urolithiasis

7. Incomplete uterovaginal prolapse

8. Glomerulitis in diabetes mellitus

9. Decubitus ulcer of the cervix with cervicitis

10. Leukoplakia of penis

11. Interstitial cystitis

12. Hydronephrosis with obstruction of the ureteropelvic junction due to echovirus infection

13. Newborn diagnosed with congenital renal failure

14. Escherichia coli urinary tract infection

15. End-stage renal failure

16. Urethral stricture due to infection

17. Chronic cystitis

18. Staghorn calculus of kidney

19. Phimosis

20. Benign prostatic hypertrophy

The content in this chapter is sourced from the World Health Organization's International Classification of Diseases Eleventh Revision (ICD-11). Please refer to the International Classification of Diseases Eleventh Revision (ICD-11). Geneva: World Health Organization; 2022.

MODULE 20

Chapter 17

Conditions Related to Sexual Health

MODULE 20: ICD-11 CHAPTER 17

20 CONDITIONS RELATED TO SEXUAL HEALTH

20.1 Description

This chapter contains conditions related to sexual health. Chapter 17, which focuses on conditions related to sexual health, differs from other ICD-11 chapters in that it does not follow a taxonomy based on aetiology or body systems. Instead, it organizes sexually related conditions into more relevant disease categories that were previously classified under mental and behavioural disorders in earlier ICD versions. This chapter facilitates the classification of gender identity-related conditions without stigma and acknowledges these conditions as legitimate clinical concepts, thereby allowing for appropriate health interventions within the healthcare system.

20.1.1 Sexual Health

Sexual health is a state of physical, mental and social well-being in relation to sexuality. It requires a positive and respectful approach to sexuality and sexual relationships, as well as the possibility of having pleasurable and safe sexual experiences, free of coercion, discrimination and violence.

Sex (for classification purposes) refers to the biological characteristics that define humans as female or male. While these sets of biological characteristics are not mutually exclusive, as there are individuals who possess both, they tend to differentiate humans as males and females.

- Codes begin with the prefix H
- Codes range from HA00–HA8Z

20.2 Top-level Blocks

1. Sexual dysfunctions
2. Sexual pain disorders
3. Aetiological considerations in sexual dysfunctions and sexual pain disorders
4. Gender incongruence
5. Changes in female genital anatomy
6. Changes in male genital anatomy

20.3 Coded Elsewhere

- Changes in male genital anatomy
- Changes in female genital anatomy
- Paraphilic disorders (6D30-6D3Z)
- Adrenogenital disorders (5A71)
- Predominantly sexually transmitted infections (1A60-1A9Z)
- Contact with health services for contraceptive management (QA21)

Example 1

Premature ejaculation

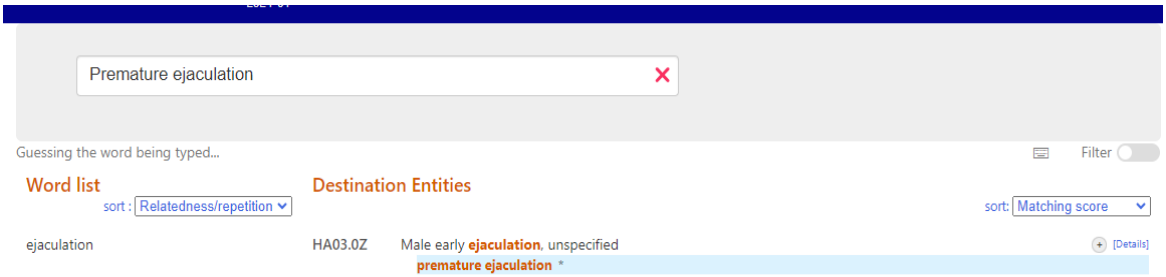


Figure 20-1 - Example 1

HA03.0Z Male early ejaculation unspecified

Code: HA03.0Z

Example 2

Vaginismus

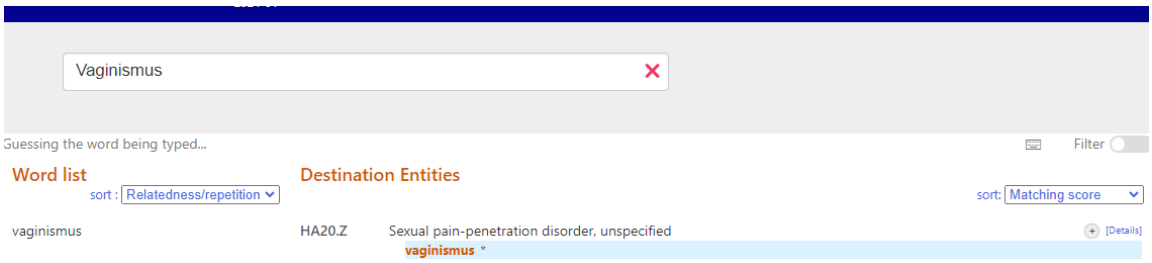


Figure 20-2 - Example 2

HA20.Z Sexual pain-penetration disorder, unspecified

Code: HA20.Z

CODING EXERCISES

Assign the correct ICD-11 code(s) for each of the following conditions or case descriptions.

1. Gender incongruence

2. Erectile dysfunction

3. Acquired generalized genito-pelvic penetration disorder

4. Pedophilia

5. Hypoactive sexual desire dysfunction

6. Female sexual arousal dysfunction

7. Anorgasmia

8. Gender incongruence in a 7-year-old

9. Exhibitionistic disorder

10. Male delayed ejaculation

Classification of Diseases Eleventh Revision (ICD-11). Please refer to the International Classification of Diseases Eleventh Revision (ICD-11). Geneva: World Health Organization; 2022.

MODULE 21

Chapter 18

Pregnancy, Childbirth or the Puerperium

MODULE 21: ICD-11 CHAPTER 18

21 PREGNANCY, CHILDBIRTH OR THE PUERPERIUM

21.1 Description

This chapter covers a group of conditions characterised as occurring during the period of time from conception to delivery (pregnancy), during labour and delivery (childbirth) or during the approximately six weeks after delivery, during which the uterus returns to its original size (puerperium).

- One of the special group chapters in ICD-11
- Takes precedence over the body system chapters
- Structure follows the natural progression in pregnancy following the antenatal period, delivery and puerperium
- For obstetric cases additional codes may be assigned from Chapter 24
    - E.g., QA46 Outcome of delivery
- Codes begin with the prefix J
- There are nine top-level blocks

21.2 Top-level Blocks

1. Abortive outcome of pregnancy
2. Oedema, proteinuria or hypertensive disorders in pregnancy, childbirth or the puerperium
3. Obstetric haemorrhage (grouped together regardless of the time within the pregnancy/delivery)
4. Certain specified maternal disorders predominately related to pregnancy
5. Maternal care related to the fetus, amniotic cavity or possible delivery problems
6. Complications of labour or delivery
7. Delivery
8. Complications predominately related to the puerperium
9. Certain obstetric conditions, not elsewhere classified

21.3 Exclusions

- Postpartum necrosis of pituitary gland (5A61.0)
- Obstetrical tetanus (1C14)
- Injury, poisoning or certain other consequences of external causes (Chapter 22)

21.4 Coded Elsewhere

- Gestational trophoblastic diseases
- Contact with health services for reasons associated with reproduction (QA20-QA4Z)

Coding note at the beginning of the chapter says:

- The codes included in this chapter are to be used for conditions related to or aggravated by the pregnancy, childbirth or by the puerperium (maternal causes or obstetric causes).

21.5 Specific Notes

21.5.1 JA05 Complications following abortion, ectopic or molar pregnancy

- JA05 is not to be assigned for the main condition unless a new episode of care is solely for the treatment of the complication
- May be used as optional additional codes with JA00–JAOZ

21.5.2 Delivery

- Use as the main condition if the information recorded is a statement of delivery or the method of delivery
- May be used as additional codes to indicate the type or method of delivery

21.5.3 Certain maternal diseases classifiable elsewhere but complicating pregnancy, childbirth, and the puerperium

- Subcategories in this section should be assigned as the main condition instead of the categories outside chapter 18
- Codes from other chapters may be postcoordinated

21.6 Definitions

21.6.1 Maternal death

- A maternal death is the death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and the site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management, but not from accidental or incidental causes
- The ICD codes in Chapter 18 are used to code maternal deaths
- Chapter 18 codes range from JA00–JB6Z

21.6.2 Accidental causes of maternal deaths examples

- Pregnant woman hit by a bus
- Death of a pregnant woman due to an assault

21.6.3 Incidental causes of maternal deaths examples

- Drug overdose or substance abuse-related conditions
- Alcohol intoxication

21.6.4 Late maternal death

- A late maternal death is the death of a woman from direct or indirect obstetric causes more than 42 days but less than one year after termination of pregnancy
- The applicable ICD codes for late maternal deaths are JB61.0 to JB61.Z

21.6.5 Pregnancy-related death

- A pregnancy-related death is the death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the cause of death

21.6.6 Direct obstetric death

- Direct obstetric deaths are those resulting from obstetric complications of the pregnant state (pregnancy, labour and puerperium), from interventions, omissions, incorrect treatment or from a chain of events resulting from any of the above
- Examples include eclampsia, amniotic fluid embolism, obstructed labour and puerperal sepsis
- Direct obstetric deaths are coded to (JA00-JB4Z, JB61.0, and JB62.0)

21.6.7 Indirect obstetric death

- Indirect obstetric deaths are those resulting from previous existing diseases or diseases that developed during pregnancy and which was not due to direct obstetric causes but which was aggravated by the physiologic effects of pregnancy
- Examples: congenital heart disease, malaria
- Indirect obstetric deaths are coded to the ICD codes:
    - JB61.1 (late maternal deaths)
    - JB62.1 (sequelae of indirect causes)
    - JB63–JB64

Example 1

A pregnant patient was admitted with abdominal pain and tightening at 35 weeks gestation. A vaginal examination showed a closed cervix. The woman was observed overnight, and it was determined that she was in false labour. She was reassured and discharged home.

Steps

Figure 21-1 - Example 1

Answer

JABD.0 False labour before 37 completed weeks of gestation

XT84 Duration of pregnancy 34-36 completed weeks

Cluster: JA8D.0&XT84

Underlined text indicates optional extension code

Example 2

The patient was admitted in labour with spontaneous rupture of membranes at 38 weeks and 5 days gestation. She became fully dilated, and the baby was longitudinal lie with vertex presentation. She had a spontaneous vaginal delivery of a live male infant.

Figure 21-2 - Example 2

Answer

JB20.0 Spontaneous vertex delivery
QA46.0 Single live birth

Example 3

A patient was admitted 10 days post-caesarean delivery of twins with wound redness and sensitivity. She had some lower abdominal pain and a slight fever. She was commenced on antibiotics for a caesarean wound infection.

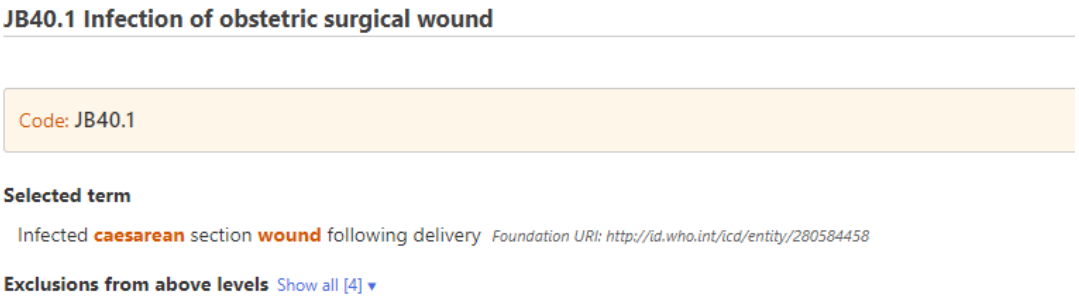


Figure 21-3 - Example 3

CODING EXERCISES

Assign the correct ICD-11 code(s) for each of the following conditions or case descriptions.

1. Hyperemesis in pregnancy with dehydration

2. HELLP syndrome

3. A patient was admitted in established labour. There was an obstructed labour due to a persistent occipito-posterior (POP) malposition.

   Select the correct code:

   i. JB04.Z
   ii. JB06.Y
   iii. JB04.0

4. Insert the correct codes for the conditions listed below.

   i. Prolonged pregnancy .....
   ii. Spontaneous vertex delivery .....
   iii. Outcome of delivery: Single live birth .....
   iv. First degree labial tear .....
   v. Third stage postpartum haemorrhage .....

5. Spontaneous abortion

6. Varicose veins, lower legs, in pregnancy

7. Live twin delivery

8. Cardiomyopathy in the puerperium

9. Foetal distress affecting labour and delivery

10. Premature separation of the placenta

11. Puerperal sepsis

12. Obstetrical tetanus

13. Gestational mammary abscess

14. Postpartum acute renal failure

15. Complete spontaneous abortion complicated by an embolism

16. Severe pre-eclampsia with significant proteinuria

17. Protein-deficiency anaemia complicating pregnancy

18. Normal spontaneous vaginal delivery, following two previous caesarean sections

19. Hyperemesis gravidarum

20. Breech presentation

21. Pernicious anaemia in pregnancy

22. Postpartum haemorrhage

23. Retention of products of conception with haemorrhage following delivery

24. Ruptured right tubal pregnancy

The content in this chapter is sourced from the World Health Organization's International Classification of Diseases Eleventh Revision (ICD-11). Please refer to the International Classification of Diseases Eleventh Revision (ICD-11). Geneva: World Health Organization; 2022.

MODULE 22

Chapter 19

Certain Conditions Originating in the Perinatal Period

MODULE 22: ICD-11 CHAPTER 19

22 CERTAIN CONDITIONS ORIGINATING IN THE PERINATAL PERIOD

22.1 Description

This chapter covers a group of conditions characterised as occurring during the period of time from conception to delivery (pregnancy), during labour and delivery (childbirth) or during the approximately six weeks after delivery during which the uterus returns to the original size (puerperium).

- Codes begin with the prefix K
- Codes range from KA00–KD5Z
- There are 14 top-level blocks

22.2 Top-level Blocks

1. Fetus or newborn affected by maternal factors
2. Disorders related to the length of gestation
3. Birth injury
4. Infections
5. Haemorrhagic or haematological disorders
6. Neurological disorders
7. Respiratory disorders
8. Cardiovascular disorders
9. Endocrine and metabolic disorders
10. Digestive system disorders
11. Genitourinary disorders
12. Disorders involving integument
13. Disturbances of temperature regulation
14. Certain disorders originating in the perinatal period

22.3 Exclusions

- Postpartum necrosis of pituitary gland (5A61.0)
- Obstetrical tetanus(1C14)
- Injury, poisoning or certain other consequences of external causes (22)

22.4 Coded Elsewhere

- Gestational trophoblastic diseases
- Contact with health services for reasons associated with reproduction (QA20–QA4Z)

22.5 Perinatal Period

- Refers to diseases and disorders that originate immediately before and after birth
- Codes are used in neonatal records
- However, some conditions will persist throughout a person's life
- It may be necessary, on occasions, to assign a code from this chapter to an adult
- When both birth weight and gestational age are available, the priority of assignment should be given to birth weight

22.6 Definitions

22.6.1 Perinatal Period

The perinatal period commences at 22 completed weeks (154 days) of gestation (the time when birth weight is normally 500g) and ends 7 completed days after birth

22.6.2 Neonatal Period

The neonatal period commences at birth and ends 28 complete days after birth

22.6.3 Neonatal Death

Deaths among live births during the first 28 completed days of life

22.6.4 Early Neonatal Death

Deaths occurring during the first 7 days of life

22.6.5 Late Neonatal Death

Deaths occurring after the 7th day but before 28 complete days of life

22.6.6 Live Birth

Live birth is the complete expulsion or extraction from its mother of a product of conception, irrespective of the duration of pregnancy, which after such separation, breaths or shows any other evidence of life, such as beating of the heart, pulsation of the umbilical cord, or definite movement of voluntary muscles, whether or not the umbilical cord has been cut or the placenta is attached; each product of such a birth is considered live born.

22.6.7 Fetal Death

Fetal death is death prior to the complete expulsion or extraction from its mother of a product of conception, irrespective of the duration of pregnancy, death is indicated by the fact that after such separation the fetus does not breath or shows any other evidence of life, such as beating of the heart, pulsation of the umbilical cord, or definite movement of voluntary muscles.

22.6.8 Birth Weight

The first weight of the fetus or newborn obtained after birth

22.6.9 Low Birth Weight

Birth weight less than 2500g (up to and including 2499g)

22.6.10 Very Low Birth Weight

Birth weight is less than 1500g (up to and including 1499g)

22.6.11 Extremely Low Birth Weight

Birth weight is less than 1000g (up to and including 999g)

22.6.12 Gestational Age

Measured from the first day of the last normal menstrual period and expressed in completed days or completed weeks

22.6.13 Pre-Term

Less than 37 complete weeks (less than 259 days) of gestation

22.6.14 Term

From 37 completed weeks to less than 42 completed weeks (259–293 days) of gestation

22.6.15 Post-Term

42 completed weeks or more (294 days or more) of gestation

Example 1

A newborn was transferred to the children's hospital with a suspected meconium plug. An abdominal ultrasound confirmed the diagnosis.

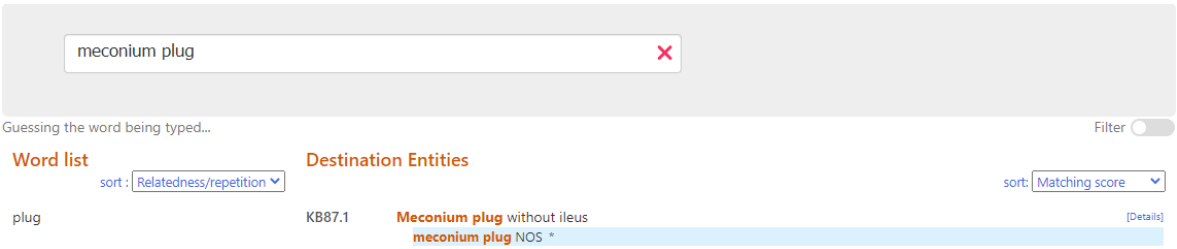


Figure 22-1 - Example 1

Example 2

A newborn in hospital at 32/40 (birth weight 2300g) developed transient tachypnoea of newborn and bradycardia in the postnatal period.

Step 1

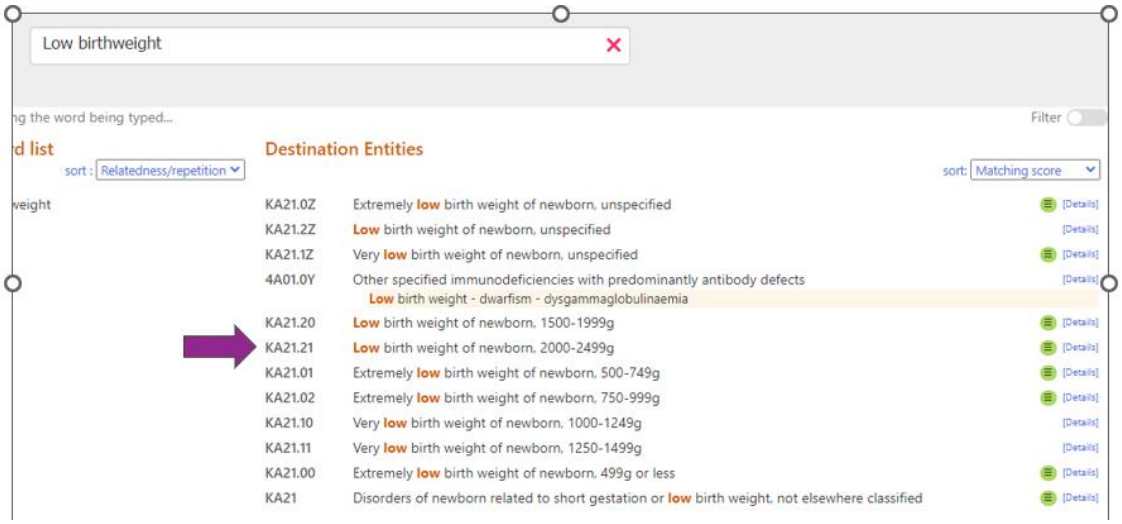


Figure 22-2 - Example 2 - Step 1

KA21.21 Low birth weight of the newborn, 2000–2499g

Step 2

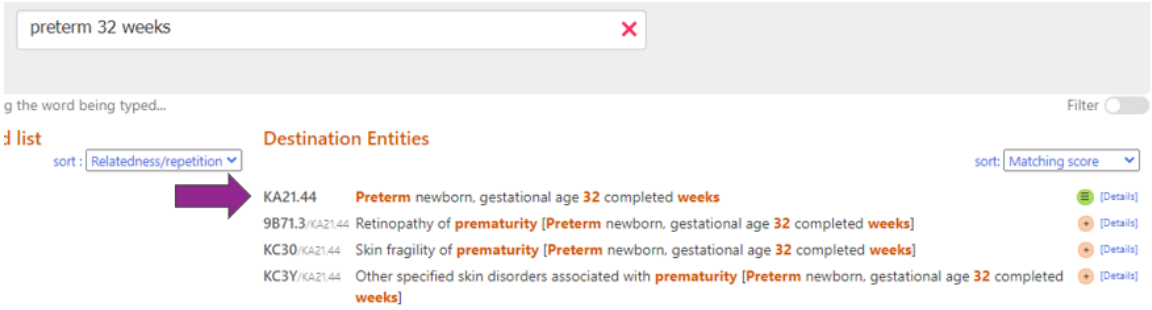


Figure 22-3 - Example 2 - Step 2

KA21.44 Preterm newborn, 32 weeks

Step 3

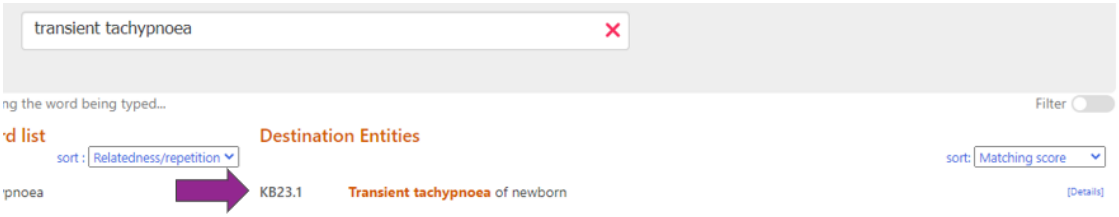


Figure 22-4 - Example 2 - Step3

KB23.1 Transient tachypnoea of newborn

Step 4

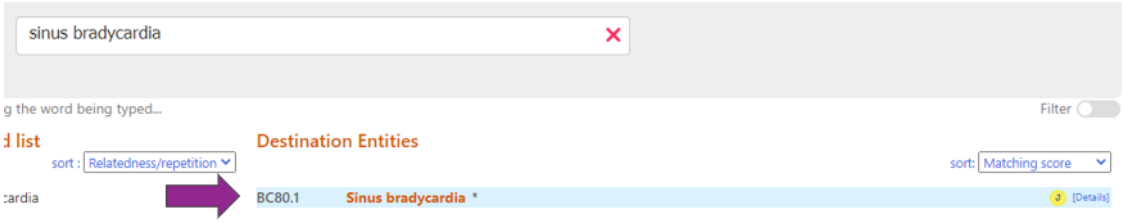


Figure 22-5 - Example 2 - Step 4

BC80.1 Sinus bradycardia

Step 5

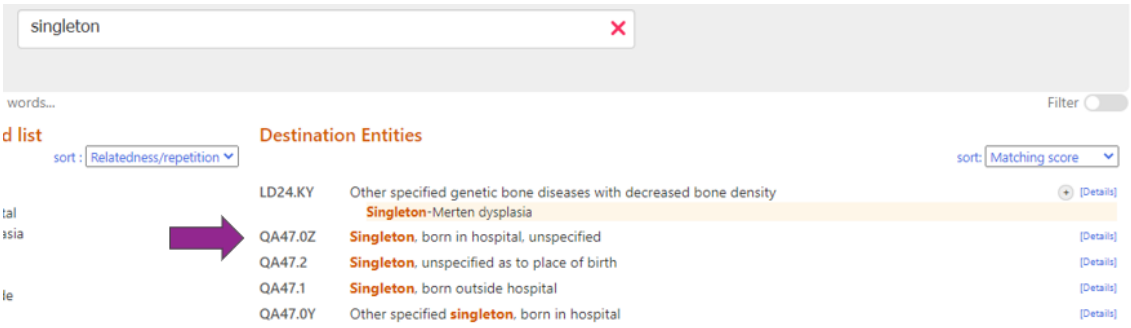


Figure 22-6 - Example 2 - Step 5

QA47.0Z Singleton born in hospital

Cluster: KA22.21/KA21.44/KB23.1/BC80.1/QA47.0Z

Example 3

An infant born in hospital developed a fever post-delivery. A diagnosis of congenital pneumonia due to streptococcus group B was established.

Step 1

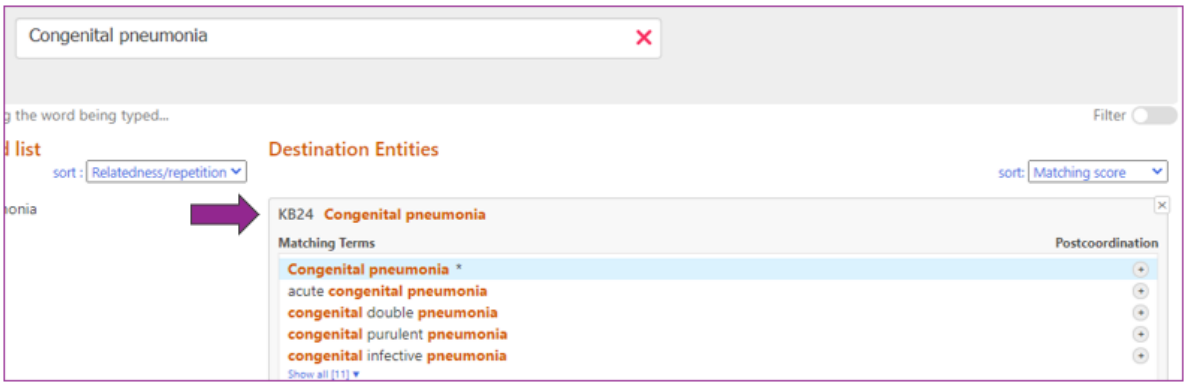


Figure 22-7 - Example 3 - Step 1

Step 2

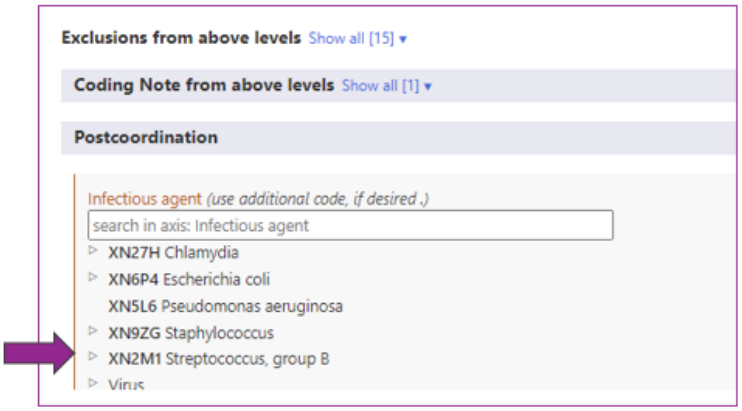


Figure 22-8 - Example 3 - Step 2

KB24 Congenital pneumonia XN2M1–Group B streptococcus

QA47.0Z Singleton born in hospital

Cluster: KB24&XN2M1/QA47.0Z

CODING EXERCISES

Assign the correct ICD-11 code(s) for each of the following conditions or case descriptions.

1. Premature liveborn, born in hospital at 36 weeks.
    - Preterm newborn, 36 weeks gestation
    - Singleton born in hospital, NOS

    Select the two correct codes:

    i. KA21.47 ……..
    ii. KA21.48 ……..
    iii. QA47.0Y ……..
    iv. KA21.4Z ……..
    v. QA47.00 ……..
    vi. QA47.0Z ……..

2. A newborn twin (SVD) delivered in hospital at 38 weeks gestation noted to have acute conjunctivitis during admission. A swab showed Pseudomonas aeruginosa.
    - Neonatal conjunctivitis due to Pseudomonas aeruginosa
    - Liveborn twin, delivered vaginally

    Provide the correct codes for the conditions listed below.

    - Neonatal conjunctivitis ……..
    - Pseudomonas aeruginosa ……..
    - Liveborn twin, delivered vaginally ……..

    i. KA65.4
    ii. XN8J7
    iii. XN5L6
    iv. KA65.0
    v. QA47.30
    vi. QA47.0Z

3. Term newborn born in hospital reviewed for a cephalohaematoma due to vacuum assisted vaginal delivery.

    Provide the correct cluster and additional codes for the conditions listed below:

    - Cephalohaematoma due to vacuum delivery ……..
    - Single liveborn born in hospital ……..

4. A 10-day old infant (neonate) was readmitted for assessment due to a failure to thrive.

5. An infant was transferred to the children's hospital with suspected hypoxic ischaemic encephalopathy (HIE) on a background of low Apgar scores (5-minute Apgar score was 6) and meconium-stained amniotic fluid at birth. A CT scan at the children's hospital confirmed a diagnosis of moderate birth asphyxia.

(Remember it is the baby's record you are coding in these exercises)

6. Low birth weight, baby weighed 900 g

7. Fetal death

8. Congenital hydrocele

9. Feeding problems of newborn

10. Birth injury to spine

11. Fetal malnutrition

12. Congenital renal failure

13. Congenital tuberculosis

14. Termination of pregnancy affecting newborn (coding newborn's record)

15. Transient neonatal thrombocytopenia

16. Neonatal jaundice due to an inborn error of metabolism, known as classical phenylketonuria

17. Baby born at 42 weeks' gestation, weighing 4000 g

18. Baby born showing ill effects from the mother's chemotherapy treatment (for cancer)

19. Premature baby (1450 grams) having asphyxia with an Apgar score of 3 at 1 minute, subsequently developed pneumothorax, respiratory distress syndrome and physiological jaundice

20. Congenital left hip subluxation

21. Hyaline membrane disease of newborn

22. ABO incompatibility affecting newborn

23. Fetal sepsis

24. Facial paralysis in newborn

25. Erythroblastosis fetalis

The content in this chapter is sourced from the World Health Organization's International Classification of Diseases Eleventh Revision (ICD-11). Please refer to the International Classification of Diseases Eleventh Revision (ICD-11). Geneva: World Health Organization; 2022.

MODULE 23

Chapter 20
Developmental Anomalies

MODULE 23: ICD-11 CHAPTER 20

23 DEVELOPMENTAL ANOMALIES

23.1 Description

This chapter includes conditions caused by the failure of a particular body site or body system to develop correctly during the antenatal period.

- Codes begin with the prefix L
- Codes of this chapter range from LA00–LD9Z
- There are four top-level blocks

23.2 Top-level Blocks

1. Structural developmental anomalies primarily affecting one body system
2. Multiple developmental anomalies or syndromes
3. Chromosomal anomalies, excluding gene mutations
4. Conditions with disorders of intellectual development as a relevant clinical feature

Not all congenital anomalies are classified in Chapter 20 of ICD-11. Many conditions are classified in other chapters. (For example, 5C50.0 Phenylketonuria is classified in *Chapter 05 Endocrine, Nutritional or Metabolic Disorders*.)

23.3 Exclusions

- Inborn errors of metabolism(5C50-5C5Z)

Example 1

Klinefelter syndrome

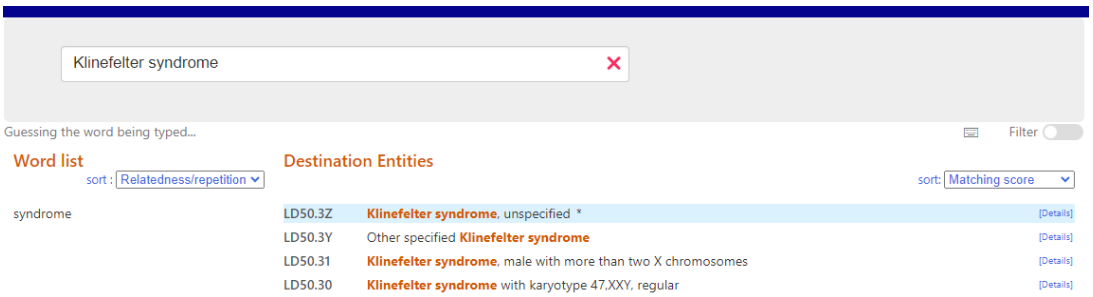


Figure 23-1 - Example 1

LD50.3Z Klinefelter syndrome, unspecified

Code: LD50.3Z

Example 2

Choanal atresia

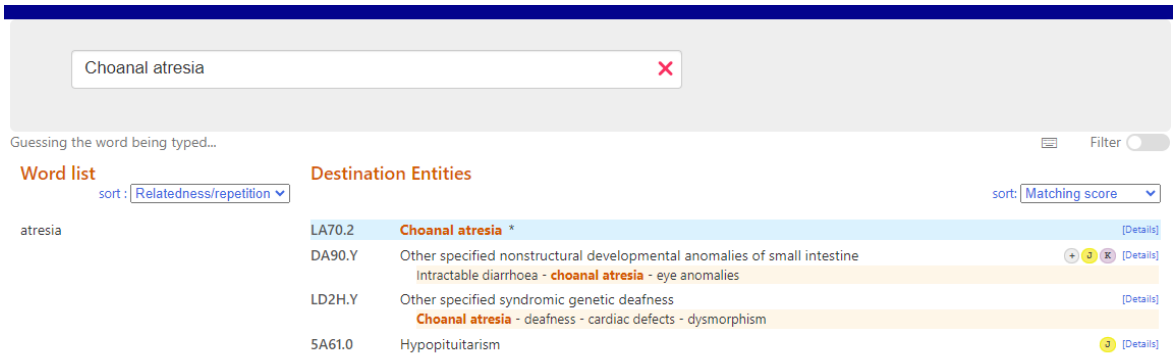


Figure 23-2 - Example 2

LA70.2 Choanal atresia

Code: LA70.2

CODING EXERCISES

Assign the correct ICD-11 code(s) for each of the following conditions or case descriptions.

1. Patent ductus arteriosus

2. Cervical spina bifida with hydrocephalus

3. Von Recklinghausen's disease

4. Tetralogy of Fallot

5. Laryngocele

6. Marfan's syndrome

7. Cyclopia

8. Down's syndrome

9. Extra marker chromosome

10. Chimera 46,XX/46,XY

11. Mother contracted rubella during pregnancy. Baby born with cortical cataracts. *(Code baby's record)*

12. Medial cleft palate

13. Clubfoot

14. Ventricular septal defect with pulmonary stenosis, dextroposition of aorta and hypertrophy of the right ventricle (together these conditions form the syndrome Tetralogy of Fallot)

15. Congenital polycystic kidneys

16. Accessory toe of left foot, congenital

17. Congenital ventricular septal defect

18. Prader-Willi syndrome

19. Cystic lung, congenital

The content in this chapter is sourced from the World Health Organization's International Classification of Diseases Eleventh Revision (ICD-11). Please refer to the International Classification of Diseases Eleventh Revision (ICD-11). Geneva: World Health Organization; 2022.

MODULE 24

Chapter 21

Symptoms, Signs or Clinical Findings Not Elsewhere Classified

MODULE 24: ICD-11 CHAPTER 21

24 SYMPTOMS, SIGNS OR CLINICAL FINDINGS NOT ELSEWHERE CLASSIFIED

24.1 Description

Clinical findings include those found using physical, laboratory and imaging techniques. Diseases can manifest in many ways and in different body systems. Such specific manifestations may be a reason for treatment or encounter, with or without identifying or addressing the underlying condition.

Categories in this chapter include the less well-defined conditions and symptoms that, without the necessary study of the case to establish a final diagnosis, could be designated 'not otherwise specified', 'unknown aetiology' or 'transient'.

A symptom is subjective evidence of a condition— something the patient perceives such as a headache or chest pain.

A sign is objective evidence of a condition—something clinicians observe, such as an enlarged liver or abnormal heart sound.

- Codes begin with the prefix M
- Codes of this chapter range from MA00–MH2Y

The conditions and signs or symptoms included in this chapter:

- Cases for which no more specific diagnosis can be made even after all the facts bearing on the case have been investigated
- Signs or symptoms existing at the time of initial encounter that proved to be transient and whose causes could not be determined
- Provisional diagnoses in a patient who failed to return for further investigation or care
- Cases referred elsewhere for investigation or treatment before the diagnosis was made
- Cases in which a more precise diagnosis were not available for any other reason
- Certain symptoms for which supplementary information is provided represent important problems in medical care in their own right
- These categories should be used in conjunction with a code from another chapter that identifies the underlying condition

24.2 Top-level Blocks

1. Symptoms of blood, blood-forming organs or the immune system
2. Symptoms, signs or clinical findings of blood, blood-forming organs or the immune system
3. Symptoms, signs or clinical findings of endocrine, nutritional or metabolic diseases
4. Symptoms, signs or clinical findings of speech or voice
5. Mental or behavioural symptoms, signs or clinical findings
6. Symptoms, signs or clinical findings of the nervous system
7. Symptoms, signs or clinical findings of the visual system
8. Symptoms, signs or clinical findings of ear or mastoid process
9. Symptoms, signs or clinical findings of the circulatory system
10. Symptoms, signs or clinical findings of the respiratory system

11. Symptoms, signs or clinical findings of the digestive system or abdomen
12. Symptoms, signs or clinical findings involving the skin
13. Symptoms, signs or clinical findings of the musculoskeletal system
14. Symptoms, signs or clinical findings of the genitourinary system
15. General symptoms, signs or clinical findings
16. Ill-defined and unknown causes of mortality

24.3 Exclusions

- Certain conditions originating in the perinatal period (19)
- Clinical findings on antenatal screening of mother (JA66)

Example 1

Retention of urine

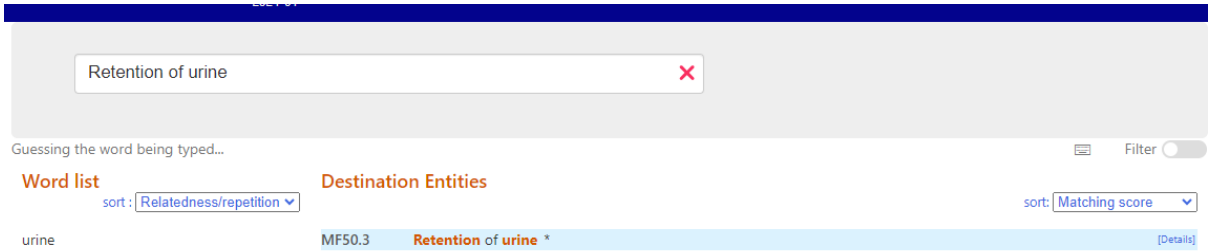


Figure 24-1 - Example 1

MF50.3 Retention of urine

Code: MF50.3

Example 2

Abnormal EEG

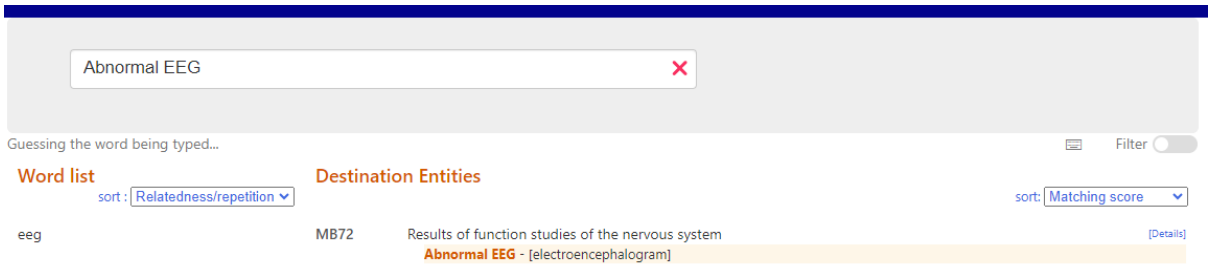


Figure 24-2 - Example 2

MB72 Results of function studies of the nervous system Abnormal EEG - [electroencephalogram]

Code: MB72

CODING EXERCISES

Assign the correct ICD-11 code(s) for each of the following conditions or case descriptions.

1. Pyrexia of unknown origin

2. False-positive Wassermann reaction for syphilis

3. Hyperglycaemia

4. Scaling of skin of the hands

5. Petechiae

6. Hallucinations (visual)

7. Anorexia

8. Intracranial space-occupying lesion

9. Abnormal glucose tolerance test

10. A 25-year-old patient was admitted for investigation of debilitating malaise and fatigue

11. An elderly woman was admitted because of concern about heart palpitations

12. Abnormal findings reported on semen tests

13. Swelling and tenderness of glands in neck

14. Syncope, cause undetermined

15. Right upper quadrant abdominal pain

16. Instantaneous death

17. Urinary incontinence

18. Dysphagia

19. Abnormal Papanicolaou smear of cervix

20. Haematuria

The content in this chapter is sourced from the World Health Organization's International Classification of Diseases Eleventh Revision (ICD-11). Please refer to the International Classification of Diseases Eleventh Revision (ICD-11). Geneva: World Health Organization; 2022.

MODULE 25

Chapter 22
Injury, poisoning or certain other consequences of external causes

Chapter 23
External cause of morbidity or mortality

MODULE 25

ICD-11 Chapter 22: Injury, poisoning or certain other consequences of external causes; and Chapter 23: External cause of morbidity or mortality

25 CHAPTER 22: INJURY, POISONING OR CERTAIN OTHER CONSEQUENCES OF EXTERNAL CAUSES

25.1 Description

This chapter covers injuries, poisonings and other consequences of external causes. In the ICD, **injury** means physical or physiological bodily harm resulting from interaction of the body with energy (mechanical, thermal, electrical, chemical or radiant or due to extreme pressure) in an amount, or at a rate of transfer, that exceeds physical or physiological tolerance. Injury can also result from a lack of vital elements, such as oxygen.

Poisoning and toxic effects of substances are also included, as is damage of or due to implanted devices.

Injury usually has rapid onset in response to a well-defined event (e.g., a car crash, striking the ground after falling, drinking a strongly alkaline liquid, an overdose of a medication or a burn sustained during a surgical procedure). These events are often referred to as *external causes of injury*.

The injurious energy can, however, originate from the injured person and/or from his or her immediate environment (e.g., a person running on a hot day sustains heat exhaustion), and injury can be caused by the injured person (i.e., intentional self-harm).

Injury includes manifestations that are evident immediately after onset, which may persist or not, and manifestations that first become evident later.

- Codes begin with the prefix N
- Codes range from NA00 – NF2Z
- There are eighteen top-level blocks in this chapter

25.2 Top-level Blocks

1. Injuries to the head
2. Injuries to the neck
3. Injuries to the thorax
4. Injuries to the abdomen, lower back, lumbar spine or pelvis
5. Injuries to the shoulder or upper arm
6. Injuries to the elbow or forearm
7. Injuries to the wrist or hand
8. Injuries to the hip or thigh
9. Injuries to the knee or lower leg
10. Injuries to the ankle or foot
11. Injuries involving multiple body regions
12. Injuries to unspecified part of trunk, limb or body region
13. Effects of foreign body entering through natural orifice

14. Burns
15. Frostbite
16. Harmful effects of substances
17. Injury or harm arising from surgical or medical care, not elsewhere classified
18. Other or unspecified effects of external causes

25.3 Exclusions

- Stress fracture, not elsewhere classified (FB80.A)
- Pathological fracture (FB80.B)
- Certain specified obstetric trauma (JB0A)
- Malunion of fracture (FB80.7)
- Birth injury (KA40-KA4Z)
- Nonunion of fracture (FB80.8)

The general hierarchy of chapter 22 consists of the following:

1st level	**Broad category of anatomy (e.g., head; hip & thigh)**
2nd level	Broad category of injury type (e.g., fracture; open wound)
3rd level	Further specification

OR

1st level	**Broad category of cause of injury**
2nd level	Specific injury type
3rd level	Further specificity of injury type

25.4 Chapter 22 – Types of Injuries

Chapter 22: Injury, poisoning or certain other consequences of external causes utilizes post coordination to detail the injury or harm.

Examples of details that can be postcoordinated include:

- Site of injury
- Type of fracture
- Laterality
- External cause codes

25.4.1 Superficial injury

- Abrasion
- Blister (non-thermal)
- Contusion, including bruise and haematoma

- Injury from a superficial foreign body (splinter) without a major open wound
- Insect bite (non-venomous)

25.4.2 Open wound

- Animal bite
- Cut
- Laceration
- Puncture wound:
  - NOS
  - with (penetrating) foreign body

25.4.3 Fracture

Types of fractures

- **Open fractures** – Have a wound connecting from the skin to the fracture site. They occur when an external object penetrates the skin to the fractured bone, or a bone fragment penetrates the skin from within. A compound fracture is an open fracture.
- **Closed fractures** – Do not have a connecting wound. 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. Pathological fractures are usually spontaneous but may occur after a minor injury or movement.

Example

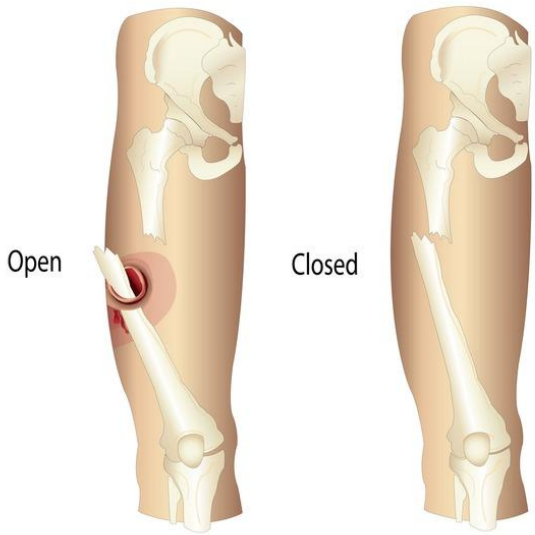


Figure 25-1 - Open and Closed fractures

- **Closed fractures**
  - Comminuted }
  - Depressed }
  - Elevated }
  - Fissured }

  - Greenstick }
  - Impacted } with or without delayed healing
  - Linear }
  - March }
  - Simple }
  - Slipped epiphysis }
  - Spiral }
- **Dislocated** }
- **Displaced** }
- **Open fractures**
  - Compound }
  - Infected }
  - Missile } with or without delayed healing
  - Puncture }
  - With foreign body }

25.4.4 Degree of Burns

- Epidermal
- Superficial partial thickness
- Deep partial thickness
- Full thickness

Epidermal

A burn in which the epidermis has been damaged but remains intact. These are also known as "first-degree burns."

Superficial partial thickness

A burn in which the epidermis and the superficial aspect of the dermis have been damaged.

Deep partial thickness

A burn that involves the epidermis and most of the dermis, with the deepest layer remaining viable.

Full thickness
A burn which involves the full thickness of the skin. The underlying structures (with the exception of some subcutaneous fat) are undamaged. These are also known as "third-degree burns."

A full-thickness burn can also involve the underlying tissues (e.g., fascia, muscle, bone, tendon and nerves). These are also known as "deep full thickness," "complex," or "fourth degree" burns.

25.4.5 Specific notes

As per the ICD-11 Reference Guide, there is one chapter-specific note.

Where multiple injuries are recorded, and no one of these has been selected as the “main condition,” code to one of the categories provided for statements of multiple injuries of:

- same type to the body region;
- different types to the same body region; or

- same type to different body regions.

Then postcoordinate the stem codes that describe each individual injury.

Note the following exceptions:

- For internal injuries recorded with superficial injuries and/or open wounds only, code to internal injuries as the “main condition.”
- For fractures of skull and bones with associated intracranial injury, code to the intracranial injury as the “main condition.”
- For intracranial haemorrhage recorded with other injuries to the head only, code to intracranial haemorrhage as the “main condition.”
- For fractures recorded with open wounds of same location only, code to fracture as the “main condition.”
- For multiple injuries of different types and/or different body regions, code injuries separately and do not place codes in the same cluster.
- There is also a coding note at code “NE60 Harmful effects of drugs, medicaments or biological substances, not elsewhere classified” which states:
    - When a specified harmful effect of a substance or substances is known, code to the specific condition.
- ICD-11 does not include the codes for poisoning by drug in the injuries chapter that existed in previous versions of the ICD.
- In ICD-11, you should assign code(s) for the manifestation(s) of the poisoning if known, or NE60 if the manifestations are not known.
- The drug is identified with the assignment of an external cause code and a specific drug extension code.

CHAPTER 23: EXTERNAL CAUSE OF MORBIDITY OR MORTALITY

25.5 Description

This chapter covers the external causes of morbidity and mortality, describing circumstances in which injuries occur. The WHO definition of an injury is: “Injuries are caused by acute exposure to physical agents such as mechanical energy, heat, electricity, chemicals, and ionizing radiation interacting with the body in amounts or at rates that exceed the threshold of human tolerance.”

In some cases (for example, drowning or frostbite), injuries result from the sudden lack of essential agents such as oxygen or heat.

Injuries may be categorized in several ways. However, for most analytical purposes and identifying intervention opportunities, it is especially useful to categorize injuries according to whether they were deliberately inflicted and by whom.

- Codes begin with the prefix P
- Codes range from PA00–PL2Z
- There are nine blocks

Commonly used categories are:

- Unintentional (i.e., accidental)
- Intentional (i.e., deliberate)
- Interpersonal (e.g., assault and homicide)
- Self-harm (e.g,. abuse of drugs and alcohol, self-mutilation, suicide)
- Legal intervention (e.g., action by police or other law enforcement personnel)
- War, civil insurrection and disturbances (e.g., demonstrations and riots)
- Undetermined intent

25.6 Top-level Blocks

1. Unintentional causes
2. Intentional self-harm
3. Assault
4. Undetermined intent
5. Exposure to extreme forces of nature
6. Maltreatment
7. Legal intervention
8. Armed conflict
9. Causes of healthcare-related harm or injury

The general hierarchy of Chapter 23 consists of the following sections:

1st level	Intent of external cause (unintentional, intentional self-harm, assault, undetermined intent and intent pending)
2nd level	The broad category of the mechanism of external cause
3rd level	More specific mechanisms and objects/ substances involved in causing injury
4th level	Further characterization of the external cause

25.7 Specific Notes

- Codes from this chapter are not to be used as main condition codes in morbidity coding.
- However, the external cause will be the underlying cause of death, if the death is caused by an accident or violence.
- These codes are intended for use as additional optional codes to identify the external cause of conditions classified in Chapter 22.
- These codes may also be used as additional optional codes with conditions classified to other chapters.

25.8 Patient Quality and Safety

Coded health information is essential for evaluating and reporting on the quality of care and patient safety. It enables monitoring of key metrics such as in-hospital mortality rates and the frequency of adverse events across various medical conditions. The primary users of this information include:

Health System Payers: This group comprises ministries of health and health insurance companies in privately funded healthcare systems, that use this data for informed decision-making and resource allocation.

Stakeholders: This category includes health quality councils, hospital administrators, clinical leaders and public advocacy organizations, all of whom leverage coded health information to improve care quality and patient safety initiatives.

Ultimately, coded health information is vital for enhancing healthcare services and fostering accountability within the health system.

Exposure to healthcare events can sometimes lead to unintended and undesirable outcomes. The healthcare system, the individuals receiving care, and the potential complications that may arise during treatment are highly varied and intricate. Effectively capturing this complexity within an information system is a significant challenge, currently beyond the practical capabilities of standard administrative systems designed to utilize the ICD.

The conceptual model in ICD-11 comprises three key components:

1. The resultant injury or harm: What was the primary impact on the patient's health?

2. The cause or source of harm: What was the cause of the harm?
3. The mode/mechanism of harm: How did the source of harm lead to the adverse outcome?

25.8.1 The Resultant Injury or Harm

At the top hierarchy level, four main categories are used to classify events caused by:

- Substances (drugs and medicaments, etc.)
- Procedures
- Devices
- A mix of other types of causes
    - Problems associated with transfusions, or problems associated with diagnosis, including missed or incorrect diagnosis, etc.

The code for the injury or harm is classified similarly as an injury or condition. It may be a code from body system chapters, but more often, it is a code from Chapter 22.

25.8.2 The Cause of Harm

- A code is selected from the relevant block in Chapter 23: External Causes of Morbidity or Mortality

25.8.3 The Mode/Mechanism of Harm

- A code is selected from the relevant block in Chapter 23: External Causes of Morbidity or Mortality
- Sanctioning rules in the Tabular List Browser guide the coders to the subset of “mode’”codes based on the selected “cause” (e.g., if “cause” is a drug, then the relevant “modes” are categories such as overdose and underdose)

When the three-part quality and safety model does not apply:

- Conditions arising without explicit documentation suggesting a causal link to an aspect of care. For example:
    - Pulmonary embolism arising two days after a surgical procedure
    - Low blood pressure one day after administering a drug
    - Urinary tract infection arising in the hospital without any mention of catheters
- In the above examples, the three-part model of quality and safety would not apply if there is no explicit documentation asserting a causal link to another aspect of care, whether that is a drug, procedure, device or other aspect of care.
- In such cases, the medical condition should be classified and postcoordinated with an extension code for diagnosis timing (e.g., XY7V–post-operative; XY69–developed after admission).

25.8.4 Examples - Patient Quality and Safety

Example 1

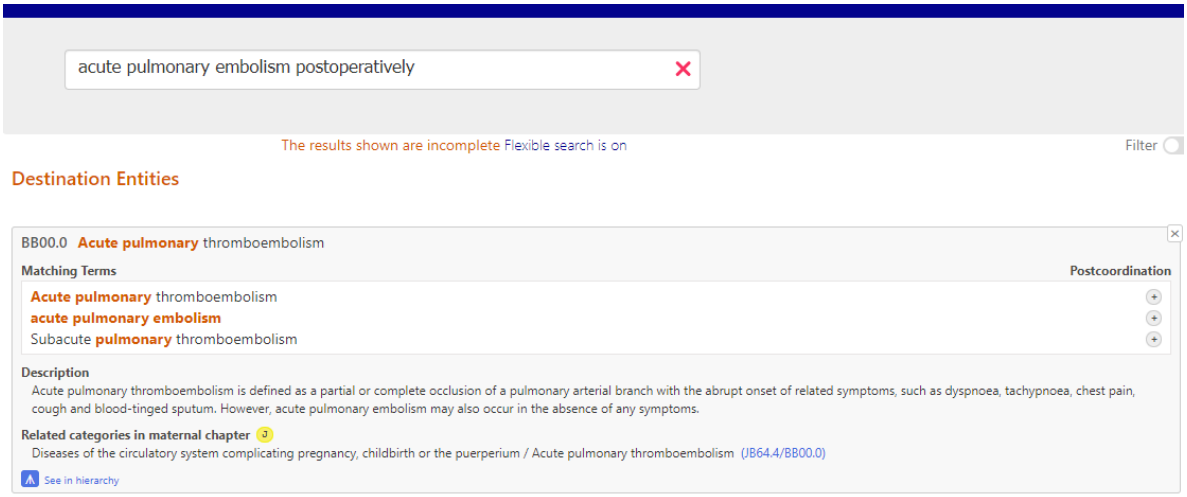


Figure 25-2 - Example 1

A patient develops an acute pulmonary embolism postoperatively

The three-part quality and safety model does not apply

BB00.0 Acute pulmonary thromboembolism

XYTV Postoperative

Cluster: BB00.0&XY7V

Chronic post-procedural conditions

- There are many chronic post-procedural clinical conditions that occur as a consequence of specific procedures and techniques or as a result of the removal of an organ. For example,
    - Postmastectomy lymphoedema
    - Post irradiation hypothyroidism
- In many instances, these chronic postprocedural conditions are located within various body system chapters
- There are precoordinated codes to capture both the condition and the fact that it was caused by a procedure
- Some may wish to use these codes in isolation (i.e., without postcoordination)
- It is recommended that coders use the three-part model with these codes when possible
- This allows more specificity of clinical detail:
    - Type of surgical procedure that caused the condition (cause of harm)
    - Mode through which the procedure caused the condition (mode of harm)
- When the mode is not specified, select:
    - PL11.Z–Unspecified mode of injury or harm associated with a surgical or other medical procedure Or
    - PL12.Z–Mode of injury or harm associated with a surgical or other medical device, implant, or graft, unspecified as appropriate
- Place of occurrence and activity codes are not required with complications of medical care

Example 2

A patient was admitted with a urethral stricture due to the previous radiotherapy for the treatment of prostate cancer.

Harm–GC72 Postprocedural urethral stricture

Step 1

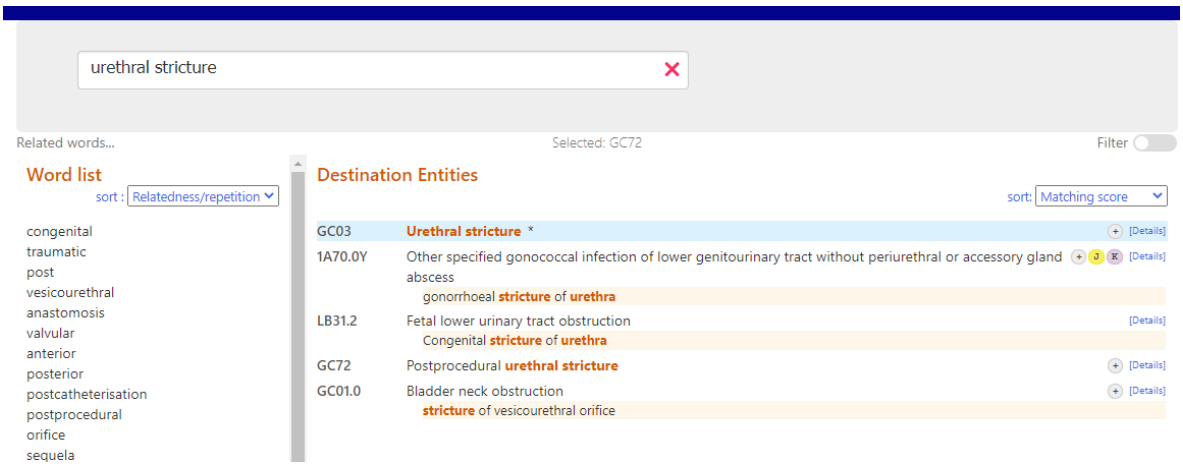


Figure 25-3 - Example 2 – Step 1

Postcoordinate for associated conditions

Cause–PK81.C Radiation therapy associated with injury harm or therapeutic use

Step 2

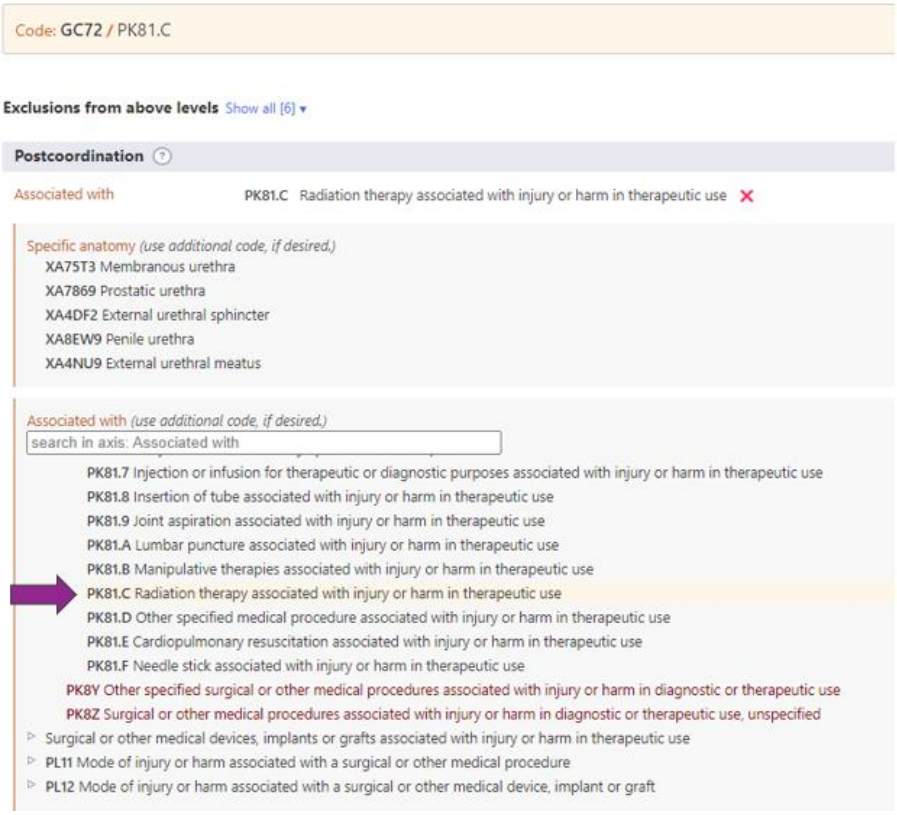


Figure 25-4 - Example 2 - Step 2

Step 3 - Now postcoordinate for the mode of injury

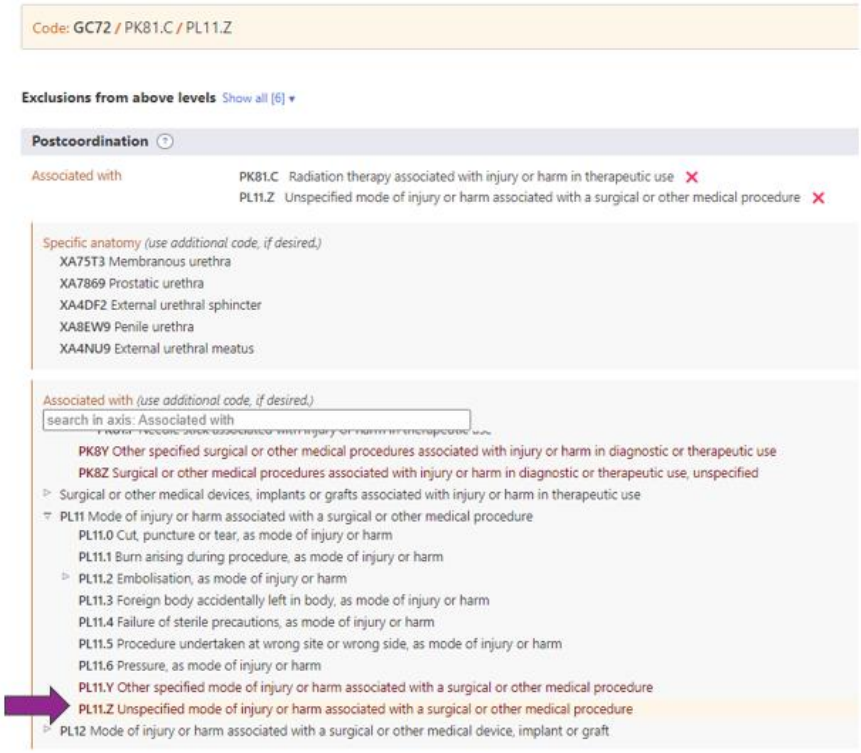


Figure 25-5 - Example 2 - Step 3

Answer

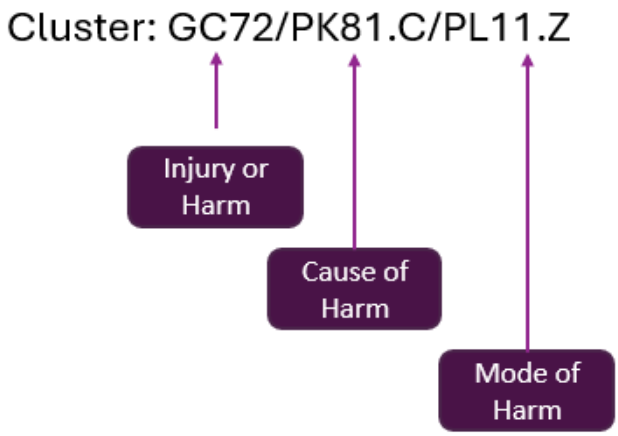


Figure 25-6 - Example 2 - Answer

25.8.5 Adverse events and circumstances in healthcare that do not cause injury or harm

- Sometimes events occur during health care that could potentially cause harm but actually result in no adverse consequence to the patient as a recorded medical condition.
    - A fall in the hospital without fracture or injury
    - Incorrect drug administered without harm to the patient
    - Dislodged orthopaedic devise without symptoms or problems
- For the above circumstances, codes should be chosen from *Chapter 24 Factors influencing health status or contact with health services*.

Example 3

Fall in health care without injury or harm

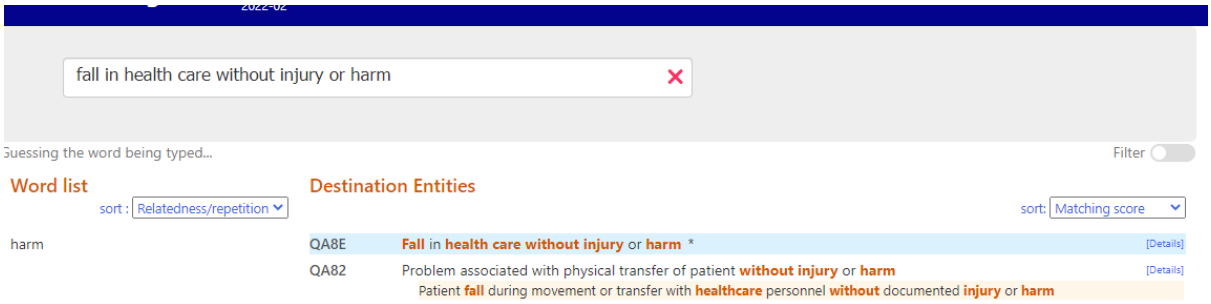


Figure 25-7 - Example 3

- QA8E–Fall in health care without injury or harm
- Blue highlight indicates an exact match—
- No postcoordination is available

25.8.6 Coding Examples for Chapters 22 and 23

- These two chapters cover the classification of injuries, poisoning and other consequences of accidents, violence and external causes and the circumstances of accidents and violence.

- The codes within chapters 22 and 23 are assigned together to capture the clinical concept, i.e., the injury and its cause.

Example 1

A 34-year-old woman was admitted with a ruptured medial collateral ligament of the left knee after her dog ran into her at high speed.

Step 1

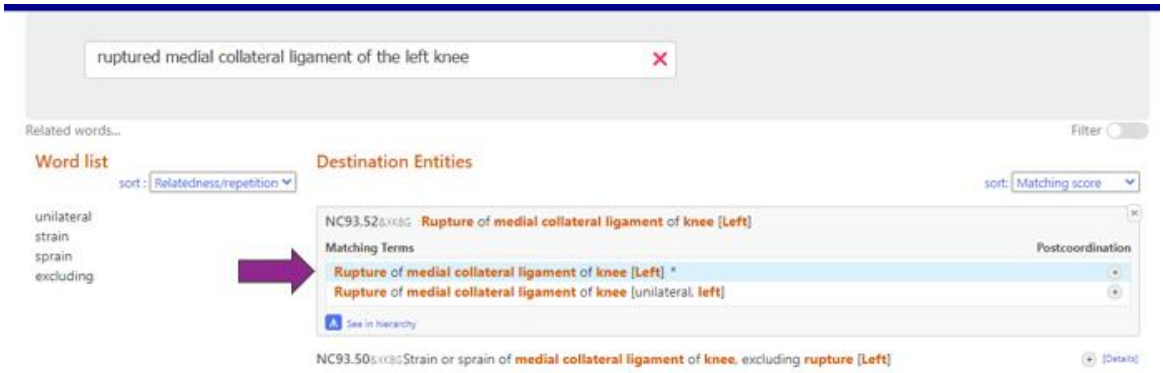


Figure 25-8 - Example 1 - Step 1

Step 2 - Postcoordination

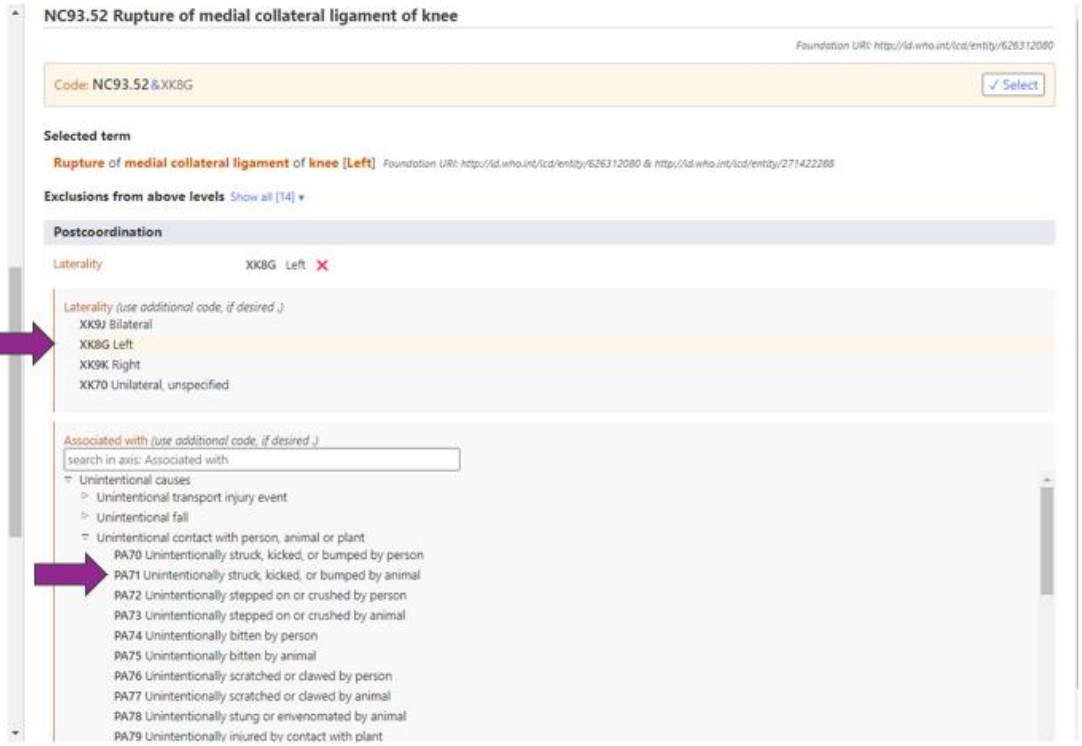


Figure 25-9 - Example 1 - Step 2

Step 3 – Postcoordination

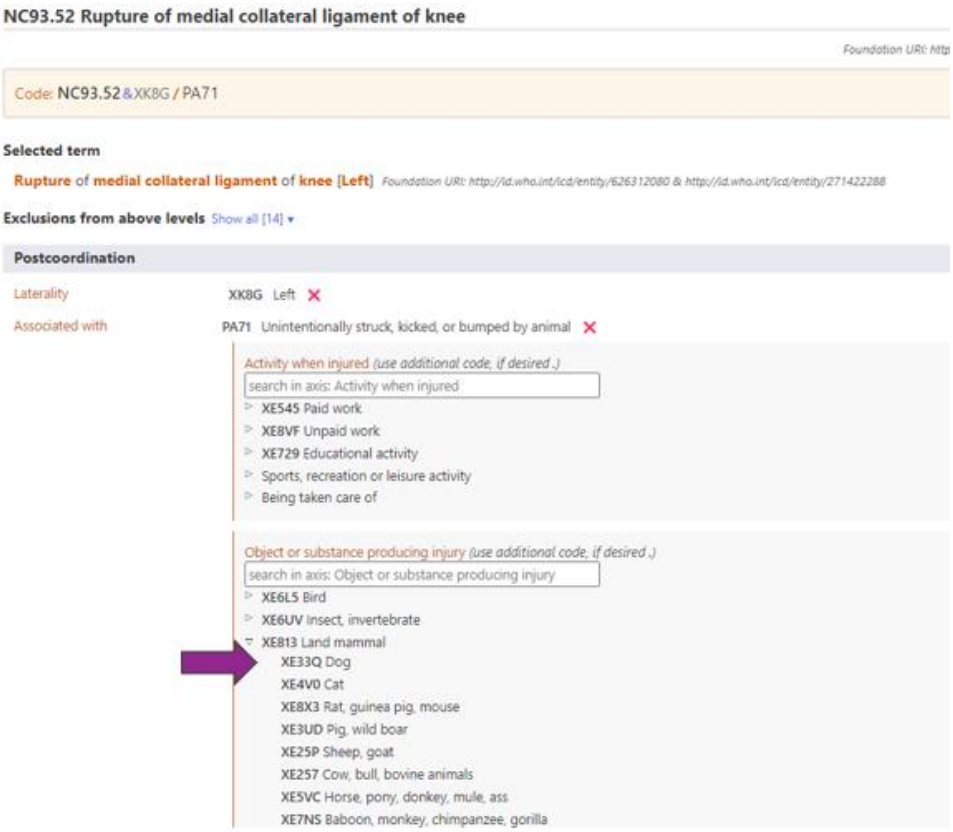


Figure 25-10 - Example 1 - Step 3

- A 34-year-old woman was admitted with a ruptured medial collateral ligament of the left knee after her dog ran into her at high speed
- NC93.52 Rupture of medial collateral ligament of the knee
- XK8G Left
- PA71 Unintentionally struck, kicked or bumped by animal
- XE33Q Dog
- Cluster: NC93.52&XK8G/PA71&XE33Q
- Postcoordination is also available for activity and place of occurrence

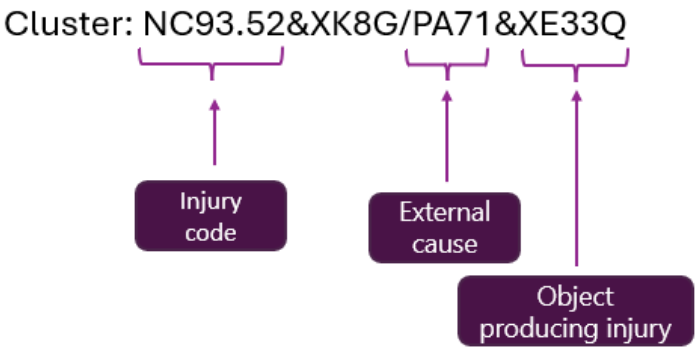


Figure 25-11 - Example 1 - Answer

Example 2

A man was admitted post motorbike accident (driver fell from a motorbike at low speed). The patient incurred a large laceration on his left thumb in the accident.

Step 1

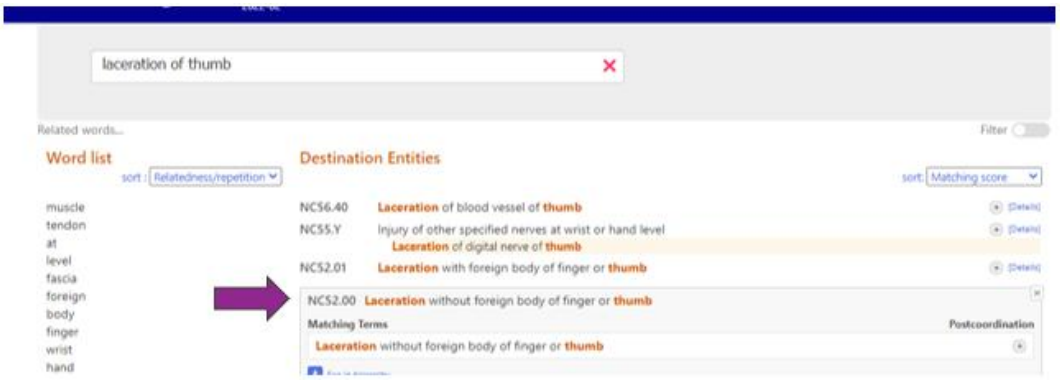


Figure 25-12 - Example 2 - Step 1

Step 2

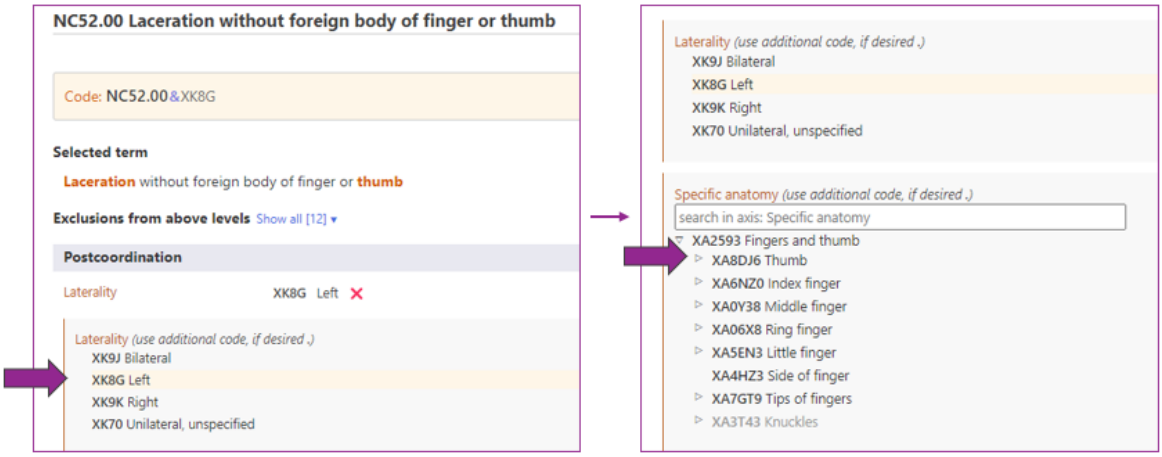


Figure 25-13 - Example 2 - Step 2

Step 3

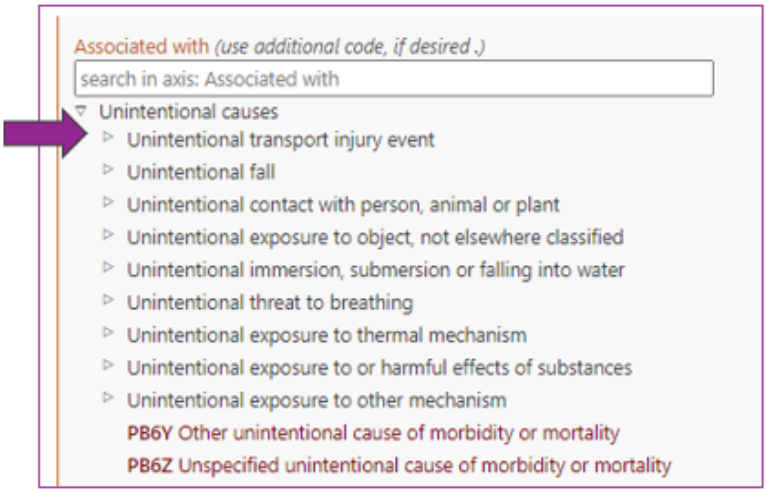


Figure 25-14 - Example 2 - Step 3

Step 4

Figure 25-15 - Example 2 - Step 4

Step 5

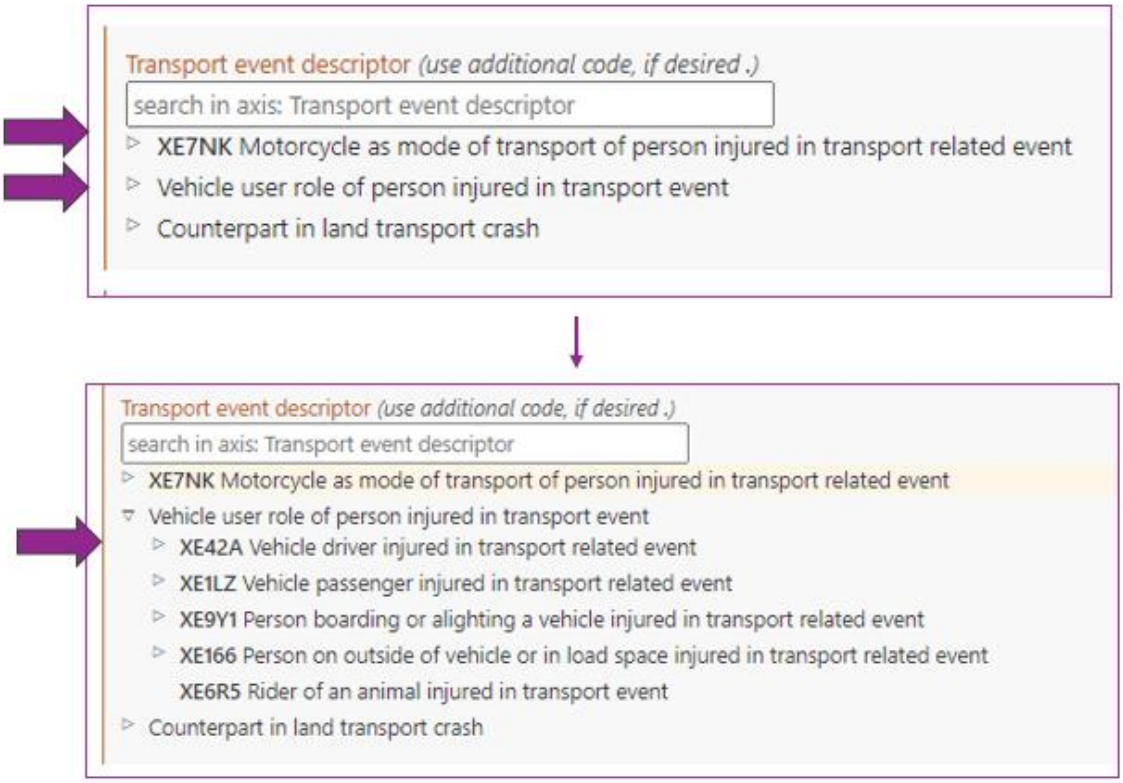


Figure 25-16 - Example 2 - Step 5

Step 6

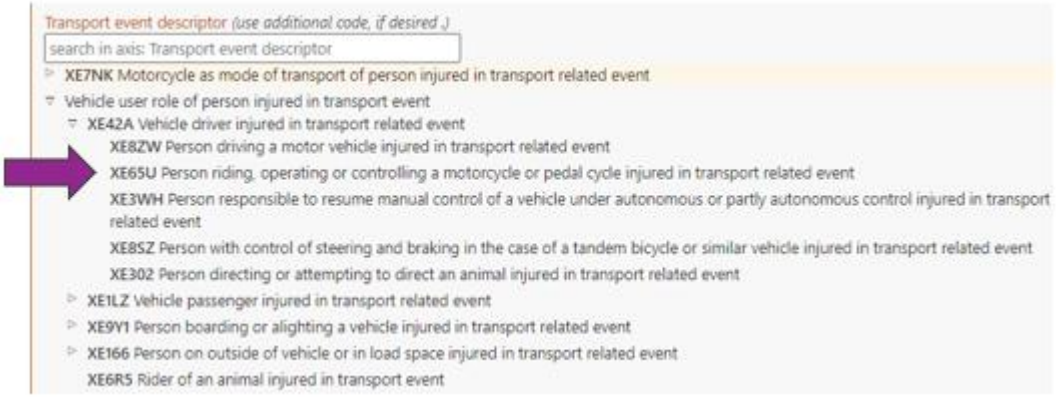


Figure 25-17 - Example 2 - Step 6

Answer

- NC52.00 Laceration without foreign body of finger or thumb
- XK8G Left
- XABDJ6 Thumb
- PA03 Unintentional land transport traffic event injuring a motorcyclist
- XE65U Person riding, operating, or controlling a motorcycle or pedal cycle
- XE7NK Motorcycle as the mode of transport of person injured

Cluster: NC52.00&XK8G&XA8DJ6/PA03&XE65U&XE7NK

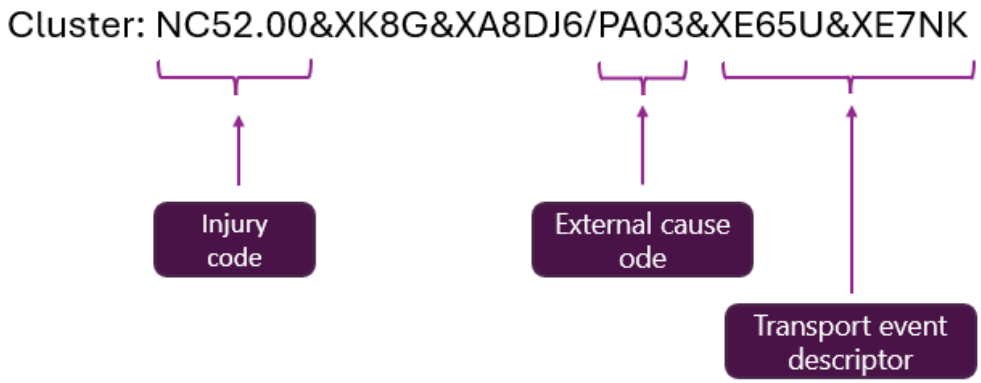


Figure 25-18 - Example 2 - Answer

Example 3

A patient was admitted ten days post-total hip replacement with a superficial incisional wound infection resulting from the insertion of hip prosthesis. IV antibiotics were commenced.

Step 1

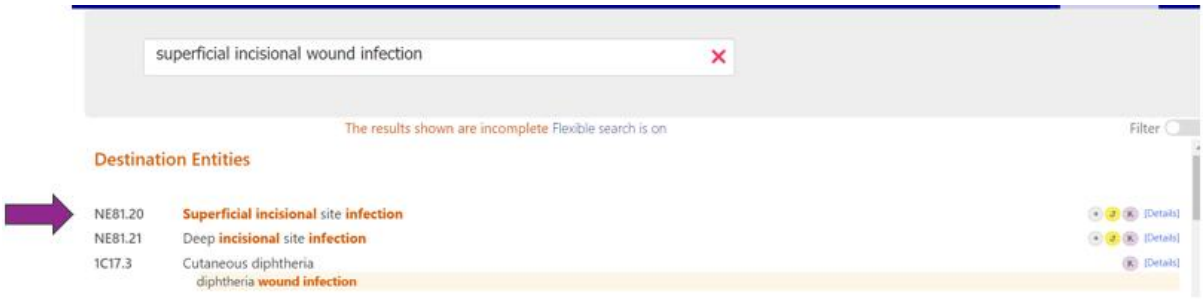


Figure 25-19 - Example 3 - Step 1

Step 2

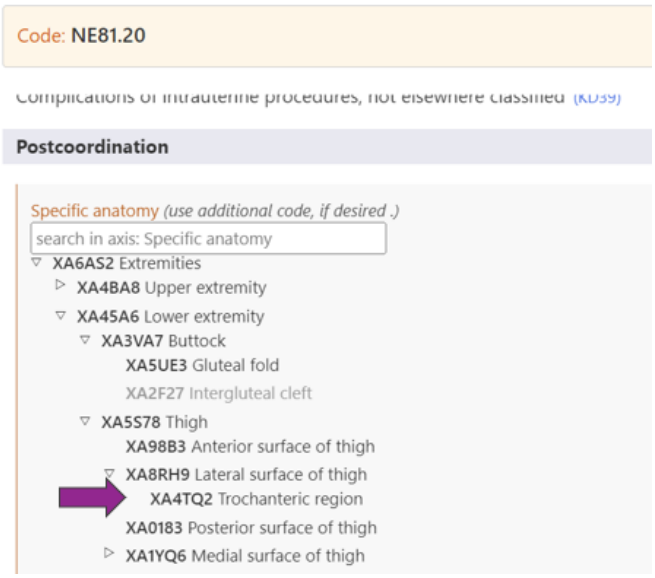


Figure 25-20 - Example 3 - Step 2

Step 3

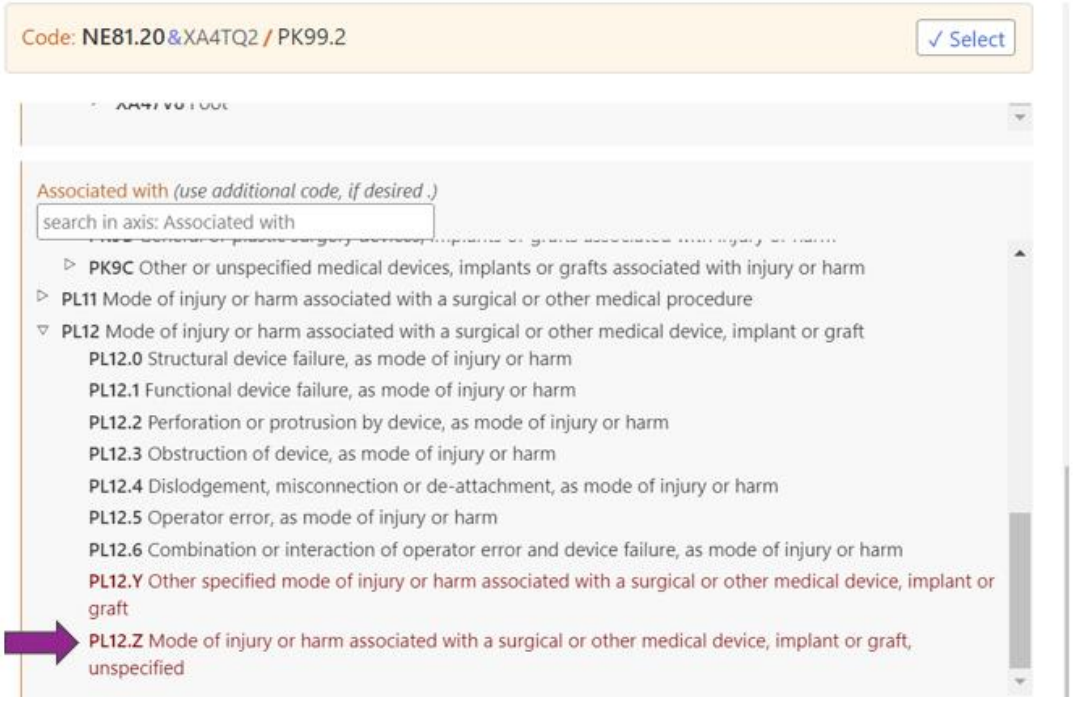


Figure 25-21 - Example 3 - Step 3

Answer

Cluster: NE81.20&XA4TQ2/PK99.2/PL12.Z

- **Harm** – NE81.20 Superficial incisional site infection. XA4TQ2 Trochanteric region
- **Cause** – PK99.2 Orthopaedic devices associated with injury or harm, prosthetic or other implants materials or accessory devices
- **Mode** – PL12.Z Mode of injury or harm associated with a surgical or other medical devices, implant or graft, unspecified

CODING EXERCISES

Assign the correct ICD-11 code(s) for each of the following conditions or case descriptions.

1. The patient was admitted with a haemorrhagic disorder following warfarin treatment. The patient's INR was high. The patient had been over warfarinised.

2. The patient was admitted for laparoscopic cholecystectomy for gallbladder calculus and chronic cholecystitis. During the removal of the gallbladder from the fossa, a minor laceration of the liver occurred, which was sutured.
    - Harm: Minor laceration of liver
    - Cause: Laparoscopic cholecystectomy
    - Mode: Accidental laceration

    Choose the appropriate code from the list:

    i. NB91.11
    ii. PK80.32
    iii. PL11.0
    iv. PK80.31
    v. NB91.1Z
    vi. PL11.Z

3. Elderly patient was admitted following burn to the dorsum of the right hand (4% of total body surface area, 2 % full thickness, no loss of limb) due to splashing of hot water when pouring a cup of tea from the electric kettle at home.

4. A patient was admitted post-suicide attempt, having slashed both wrists multiple times (volar surface) with a kitchen knife at home. The patient stated she wanted to die.

   Assign the codes below to the external cause:

   - Suicide attempt – cutting
   - Intent – suicide
   - Kitchen knife
   - Home

   Choose the appropriate code from the list:

   i. PC35.1Y
   ii. XE8WH
   iii. XE97V
   iv. XK9K
   v. XE266
   vi. PC53.0

5. A patient was admitted for surgical correction of a displaced closed fracture of the shaft of the right femur (sustained after falling more than 1 meter from a step ladder while cleaning the guttering at a primary school as part of paid work).

Assign the codes below to the injury:

- Fracture of the shaft of the right femur
- Right (laterality)
- Displaced fracture
- Closed fracture

Choose the appropriate code from the list:

i. PA61
ii. NC72.5
iii. XJ44E
iv. XK9K
v. XJ8PQ
vi. NC72.7

6. Multiple lacerations to the abdomen, inflicted by a knife during a fight in a bar. The victim was a bar attendant working in the bar.

7. Peritonitis as a result of swab being left in wound following an operation to remove the appendix.

8. Cerebral contusion due to fall from the bed onto the floor whilst sleeping at home.

9. Adverse reaction to anaesthetic.

10. A jockey fractured his temporal bone following being thrown from a horse at the racetrack.

11. The late effect of fracture of ulna caused by tripping over child's toy at home two months ago.

12. Sprained ankle during recreational football game at local park, after colliding with another person.

13. Accidental perforation of the eardrum by knitting needle at home in a 2-year-old child.

14. A 4-year-old girl fractured her fibula after falling from a child's tricycle in driveway at home.

15. A 19-year-old professional golfer sustained a twisting injury to his left knee on the golf course. Arthroscopy revealed a tear of the medial cartilage.

16. A 15-year-old boy sustained a knife laceration to the left thumb one month ago while gutting a fish on a pier. Exploration was carried out at that time, but it was subsequently felt that deeper structures were involved, and the patient was readmitted. Exploration of the muscles of the left thumb was carried out, and the damaged flexor pollicis muscle was repaired. The patient was a recreational fisherman.

17. The final diagnosis for this 24-year-old motorcycle rider involved in a collision with a car was a closed fracture mid-shaft right femur and a compound fracture mid-shaft right tibia.

18. The patient was admitted with scar contractures of wrist wounds as a late effect of trying to slash her wrist in a suicide attempt six months ago.

19. Patient was admitted in a comatose state. She was found on the kitchen floor by her husband with an empty bottle of diazepam next to her. The patient's stomach was pumped, and she regained consciousness. She subsequently underwent psychiatric counselling for attempted suicide.

20. The second degree burn to leg sustained from uncontrolled house fire.

The content in this chapter is sourced from the World Health Organization's International Classification of Diseases Eleventh Revision (ICD-11). Please refer to the International Classification of Diseases Eleventh Revision (ICD-11). Geneva: World Health Organization; 2022.

MODULE 26

Chapter 24

Factors Influencing Health Status or Contact with Health Services

MODULE 26: ICD-11 CHAPTER 24

26 FACTORS INFLUENCING HEALTH STATUS OR CONTACT WITH HEALTH SERVICES

26.1 Description

Episodes of health care or contact with healthcare services are not restricted to identifying, treating or investigating current illness or injury. Episodes may also occur when someone who may not currently be sick requires or receives limited care or services; the healthcare practitioner should document the details of the relevant circumstances as the “main condition.” Chapter 24 provides a broad range of categories for classifying these circumstances.

Categories in this chapter are provided for occasions when circumstances other than a disease, injury or external cause classifiable elsewhere are recorded as "diagnoses" or "problems.”

- Codes begin with the prefix Q
- Codes range from QA00 – QF4Z

This can arise in two main ways:

1. When a person who may or may not be sick encounters health services for some specific purpose, such as to receive limited care or service for a current condition, to donate an organ or tissue, to receive prophylactic vaccination or to discuss a problem which is in itself not a disease or injury.
2. When some circumstance or problem influences the person's health status but is not a current illness or injury.
    - Such circumstance or problem may be elicited during population surveys, when the person may or may not be currently sick.
    - It may also be recorded as additional information to be considered when the person receives care for some illness or injury.

26.2 Top-level Blocks

1. Reasons for contact with the health services
2. Factors influencing health status

Reasons for contact with the health services

Episodes of health care may occur when someone who may not currently be sick requires or receives limited care or services; the healthcare practitioner should document the details of the relevant circumstances as the “main condition.”

Examples: immunisation, organ donor, contraceptive management

Chapter 24 provides a broad range of categories for classifying these circumstances.

Factors influencing health status

Patient management in episodes of health care may be affected by other health, behavioural, social or environmental factors.

Examples: poverty, hazardous behaviours or the need for assistance

Chapter 24 Suspected conditions, ruled out

ICD-11 includes a number of codes that can be used to describe encounters where a suspected condition has been "ruled out."

Some of these specify the condition in question.

For example:

- Observation for suspected malignant neoplasm, ruled out
- Observation for suspected tuberculosis, ruled out
- Observation for suspected allergy or hypersensitivity, ruled out

Example 1

Admission for suspected deep vein thrombosis of leg, which after investigation is ruled out

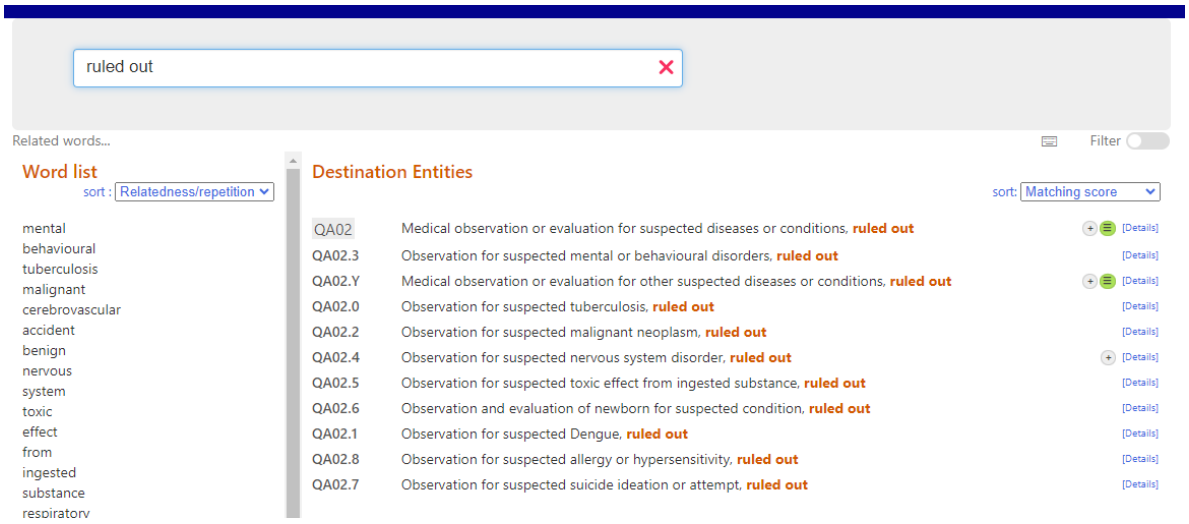


Figure 26-1 - Example 1

Select QA02.Y

Manually postcoordinate to identify the ruled-out condition

Assign BD71.4 Lower limb deep vein thrombosis

Cluster: QAO2.Y/BD71.4

Example 2

Suspected ingestion of toxic substance, ruled out

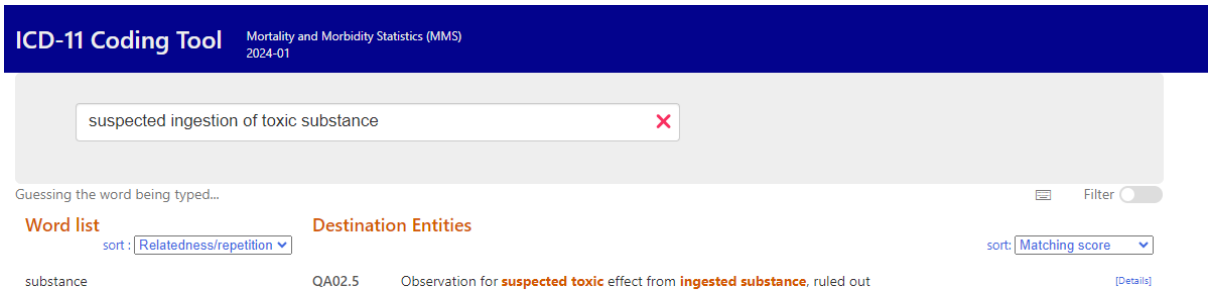


Figure 26-2 - Example 2

QA02.5 Observation for suspected toxic effect from ingested substance, ruled out

Code: QA02.5

CODING EXERCISES

Assign the correct ICD-11 code(s) for each of the following conditions or case descriptions.

1. Incidental pregnancy

2. Convalescence following surgery

3. Reversal of vasectomy (also known as vasoplasty)

4. Patient "has been in contact with cholera"

5. Outcome of delivery: single live birth (coding mother's record)

6. Routine follow-up examination after surgery for malignant bladder papilloma

7. Routine general health check-up of armed forces

8. Chemotherapy session

9. Attention to tracheostomy

10. Fitting and adjustment of external breast prosthesis

The content in this chapter is sourced from the World Health Organization's International Classification of Diseases Eleventh Revision (ICD-11). Please refer to the International Classification of Diseases Eleventh Revision (ICD-11). Geneva: World Health Organization; 2022.

MODULE 27

Chapter 25
Codes for Special Purposes

MODULE 27: ICD-11 CHAPTER 25

27 CODES FOR SPECIAL PURPOSES

27.1 Description

- Codes begin with the prefix R
- Codes range from RA00–RA26

27.2 Top-level Blocks

1. International provisional assignment of new diseases of uncertain aetiology and emergency use
2. National provisional assignment of new diseases of uncertain aetiology

Major categories

- RA00 Conditions of uncertain aetiology and emergency use
    - RA00.0 Vaping-related disorder
- RA01 COVID-19
    - RA01.0 COVID-19, virus identified
    - RA01.1 COVID-19, virus not identified
    - RA02 Post-COVID-19 condition
    - RA03 Multisystem inflammatory syndrome associated with COVID-19

Example 1: Multisystem inflammatory syndrome in a child with COVID-19

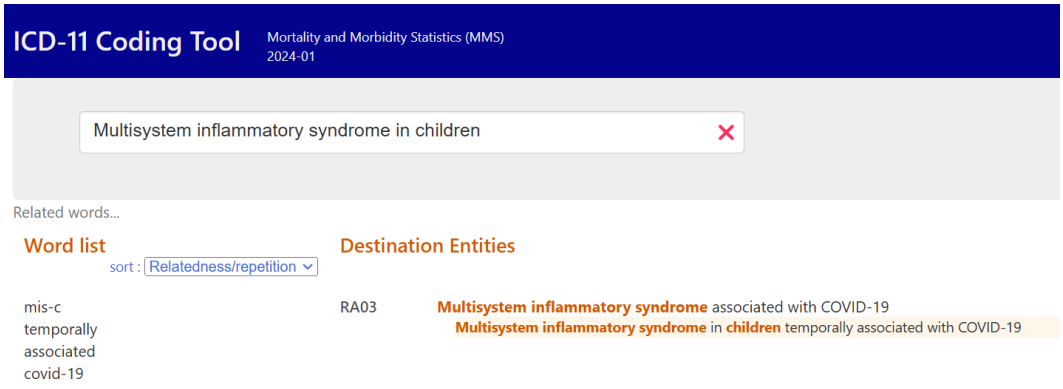


Figure 27-1: Example 1

CODING EXERCISES

Assign the correct ICD-11 code(s) for each of the following conditions or case descriptions.

1. COVID-19 with associated pneumonia (PCR positive)

2. Thyroiditis in a patient 3 months after COVID-19 infection

The content in this chapter is sourced from the World Health Organization's International Classification of Diseases Eleventh Revision (ICD-11). Please refer to the International Classification of Diseases Eleventh Revision (ICD-11). Geneva: World Health Organization; 2022.

MODULE 28

Overview of Mortality Coding

MODULE 28

28 OVERVIEW OF MORTALITY CODING

28.1 International form of the medical certificate of cause of death

28.1.1 Purpose and Importance

The International Form of Medical Certificate of Cause of Death (MCCD), recommended by the World Health Organization for use in all countries, provides a standardized format for reporting deaths.

This form plays a vital role in capturing the full chain of events leading to death, recording them in a specific sequence. By systematically documenting the conditions that contribute to death, the form helps ensure consistency and accuracy in mortality data across healthcare systems worldwide.

This foundational tool is closely linked to essential coding concepts, such as sequence, that underpin the classification of causes of death in the ICD-11 framework.

Cause of death
The cause of death encompasses **all diseases, morbid conditions or injuries** that either resulted in or contributed to death, including **circumstances of accidents or violence** that led to any fatal injuries. This concept was established by the **Twentieth World Health Assembly in 1967**.

- **Purpose of the definition**
  The purpose of this definition is to:
  - Ensure that **all relevant information is recorded accurately**.
  - **Prevent certifiers from selectively recording** some conditions while rejecting others.
  - **Exclude general symptoms or modes of dying,** such as heart failure or respiratory failure, from being listed as causes of death.

28.1.2 The Concept of the Underlying Cause of Death

The **underlying cause of death** is a critical concept in mortality coding. It refers to the **condition, event, or circumstances** that directly led to death. Here's how it works:

1. **Single Cause of Death**
   - When only one cause is recorded, it is considered the **underlying cause of death** and selected for reporting.
2. **Multiple Causes of Death**
   - When multiple causes are recorded, coders follow **mortality coding rules** to select a **single cause** for reporting.

   This selected cause is designated as the **underlying cause of death**.

28.1.3 The Definition of Underlying Cause of Death

The **underlying cause of death** is defined as:

- The **disease or injury** that initiated the sequence of events leading directly to death, or
- The **circumstances of an accident or violence** that resulted in a fatal injury.

This cause is the **starting point** of the chain of events that ultimately led to death—the condition, event or circumstances without which the patient would not have died.

28.1.4 Structure of the Certificate

The International Form of Medical Certificate of Cause of Death (MCCD) is structured to capture a clear and systematic account of the conditions leading to death. It is divided into two primary sections that together ensure comprehensive reporting.

Part 1: Sequence of events leading to death, starting with the immediate cause and working backward to the underlying cause.

Part 2: Other significant conditions contributing to the death but not directly related to the cause listed in Part I.

28.1.4.1 The International Form of Medical Certificate of Cause of Death (MCCD)

Figure 2 International Form of Medical Certificate of Cause of Death, Frame A: Medical data (WHO 2016)

***Frame A*: Medical data: Part 1 and 2**				
1 Report disease or condition directly leading to death on line a Report chain of events in due to order (if applicable) State the underlying cause on the lowest used line			Cause of death	Time interval from onset to death
		a		
		b	Due to:	
		c	Due to:	
		d	Due to:	
2 Other significant conditions contributing to death (time intervals can be included in brackets after the condition)				

Figure 28-1 International form of medical certificate of cause of death, frame A: Medical data

28.1.4.2 The Main Sections of The International Death Certificate

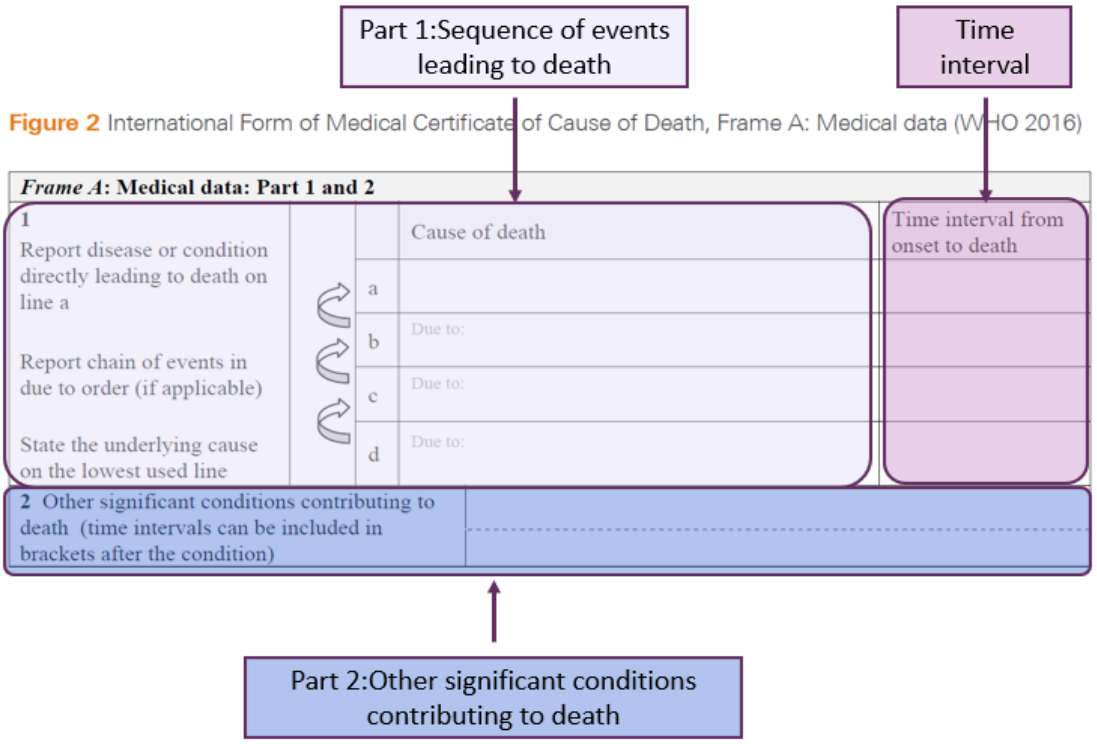


Figure 28-2 - The main sections of the international death certificate

28.1.4.3 Part 1

- Part 1 of the death certificate has four lines for reporting the sequence of events leading to death; these are labelled 1(a), 1(b), 1(c) and 1(d).
- The direct cause of death is entered at Part 1(a). If the death was a consequence of another disease or condition, this underlying cause should be entered at 1(b).
- If there are more events leading to death, list these in order at 1(c) and 1(d).

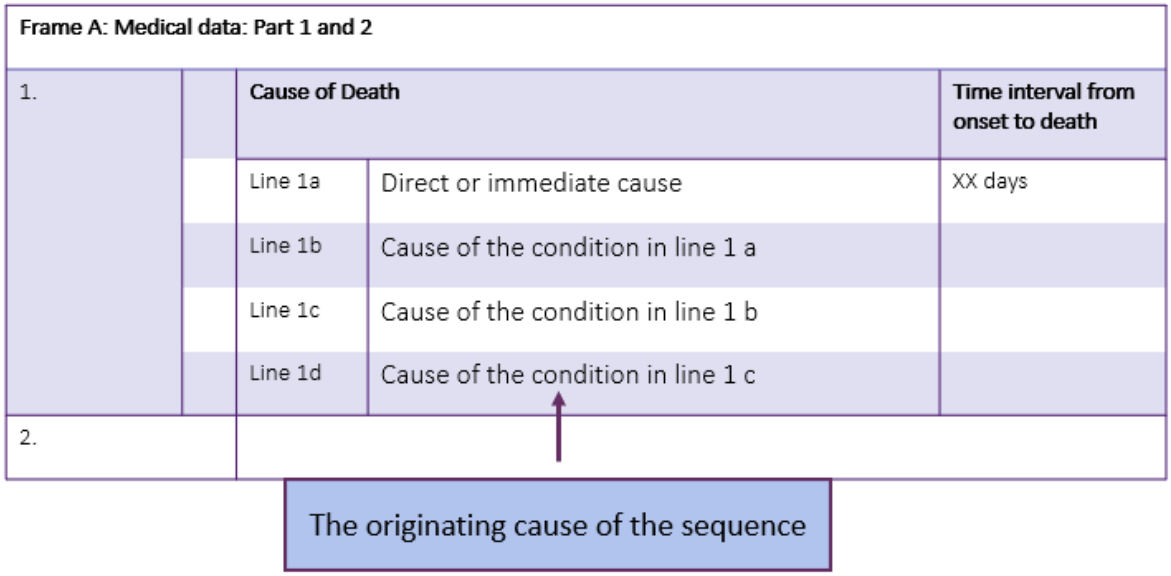


Figure 28-3 - Main sections of the death certificate - Part 1

28.1.4.4 Part 2

Part 2 of the death certificate records all other significant or contributory diseases or conditions that were present at the time of death but did not directly lead to the underlying cause of death listed in Part 1.

In summary, the MCCD is a vital tool in standardizing the documentation of mortality worldwide. Its clear structure and guidelines ensure that deaths are accurately reported, providing a foundation for reliable data collection and analysis. However, understanding how to properly complete this form requires familiarity with the core coding principles that underlie it. The next chapter will delve into these basic concepts, such as sequence, starting point and causal relationships, which are essential for accurate coding and classification in the ICD-11 system.

28.2 Basic Concepts and Definitions

The foundation of ICD-11 coding lies in its core concepts, which provide the framework for accurately recording and classifying diseases and health conditions. These principles guide the consistent application of codes across diverse medical scenarios, ensuring clarity in the relationship between different conditions and their outcomes. A clear understanding of these basic concepts is critical for producing high-quality health data and maintaining the integrity of mortality and morbidity statistics worldwide.

28.2.1 Starting Point

The starting point is the condition or event that started the sequence of acceptable causal relationships ending with the terminal cause of death.

In a correctly completed certificate, the condition reported on the lowest used line in Part 1 is the starting point of the sequence.

Example 1: Starting point

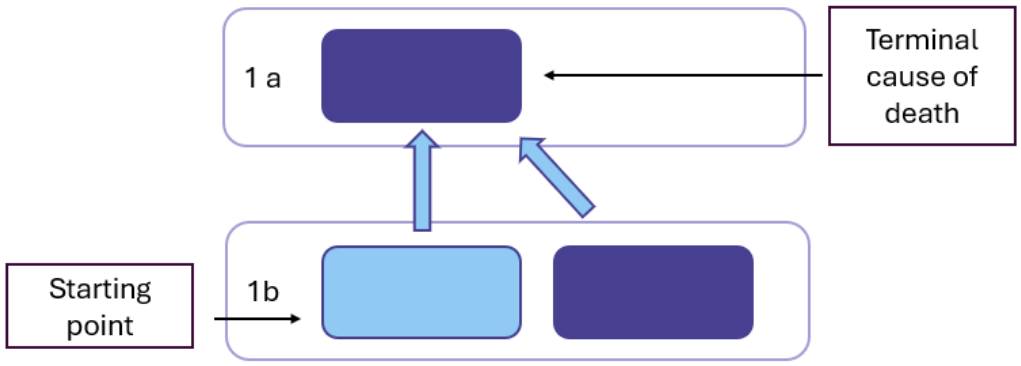


Figure 28-4 - Starting Point - Example 1

Example 2:

Part 1	a)		Pneumonia
	b)	Due to	Hip fracture
	c)	Due to	Tripped on carpet
	d)		
Part 2			

Figure 28-5 - Starting Point - Example 2

28.2.2 Terminal Cause of Death

The terminal cause of death is the condition entered first on the first line of Part 1 of the death certificate.

Example 1:

Part 1	a) Pulmonary embolism
	b) Fractured mid shaft femur
	c) Knocked down by car
	d)
Part 2	

Terminal cause of death

Figure 28-6 - Terminal cause of death example 1

28.2.3 Sequence

The term **sequence** refers to a chain or series of medical events in which each step is a complication of, or is caused by, the previous step.

That is the order in which codes are assigned to represent the chain of events or conditions that lead to a health outcome, such as death or a specific diagnosis. Accurately recording the sequence ensures that the underlying cause and contributing factors are correctly documented. This helps

provide a clearer picture of the patient's health journey, enabling better data analysis and understanding of disease patterns, treatment outcomes and public health trends.

28.2.3.1 First-mentioned Sequence

The first-mentioned sequence in ICD coding refers to the initial condition or event documented in a health record that begins the chain of events leading to a diagnosis or outcome. This sequence is critical in identifying the starting point of a patient's medical journey, helping to trace the progression of disease or injury. Properly capturing the first-mentioned sequence ensures clarity in the coding process. The first-mentioned sequence is the first reported logical causal sequence ending with the terminal condition reported on the certificate.

28.2.3.2 Identifying the First Mentioned Sequence

To identify the first mentioned sequence of causes of deaths in the death certificate, follow the instructions below.

- Begin with the terminal cause of death.
- Check whether the first condition listed on the next line could have caused the terminal cause of death.
- If not, check whether the second condition on this line could have caused the terminal cause of death.
- If not, check the next condition
- If no condition on the next line could have caused the terminal cause of death, then no sequence ending with the terminal cause of death can be established.

Example 1

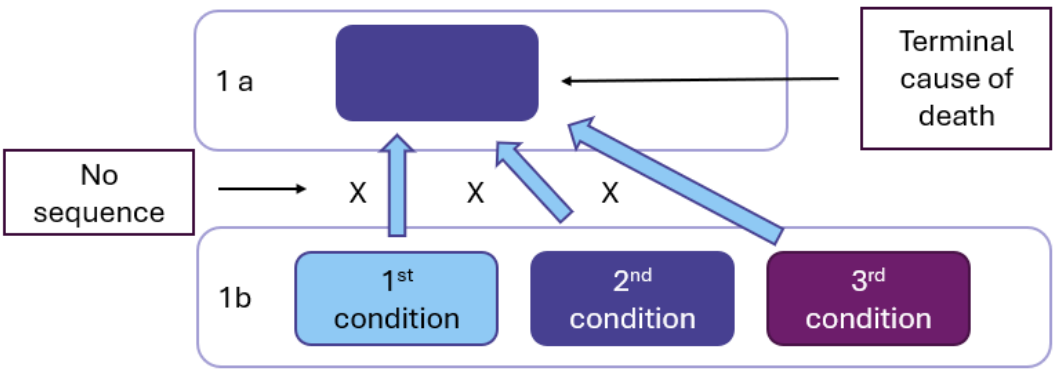


Figure 28-7 - First-mentioned sequence example 1

Example 2

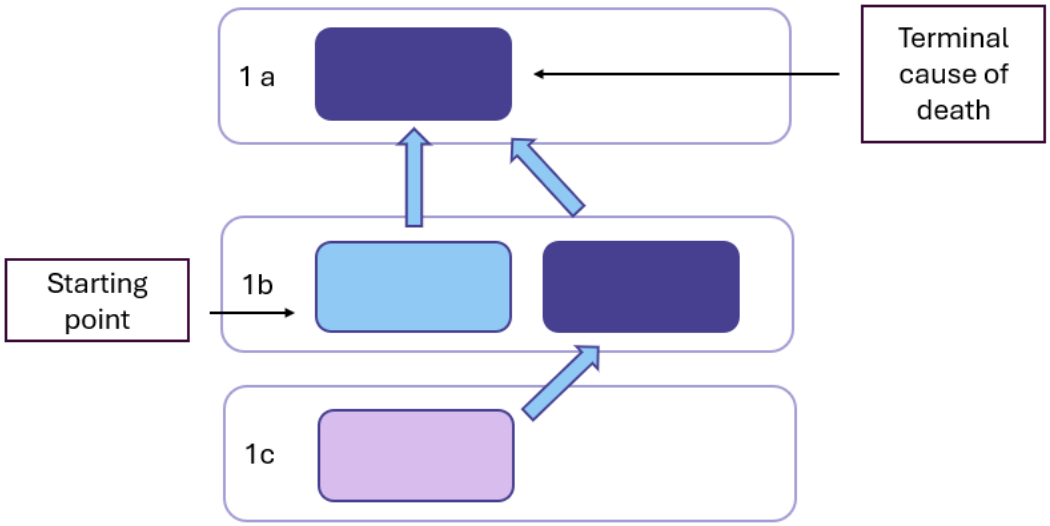


Figure 28-8 - First-mentioned sequence example 2

Example 3

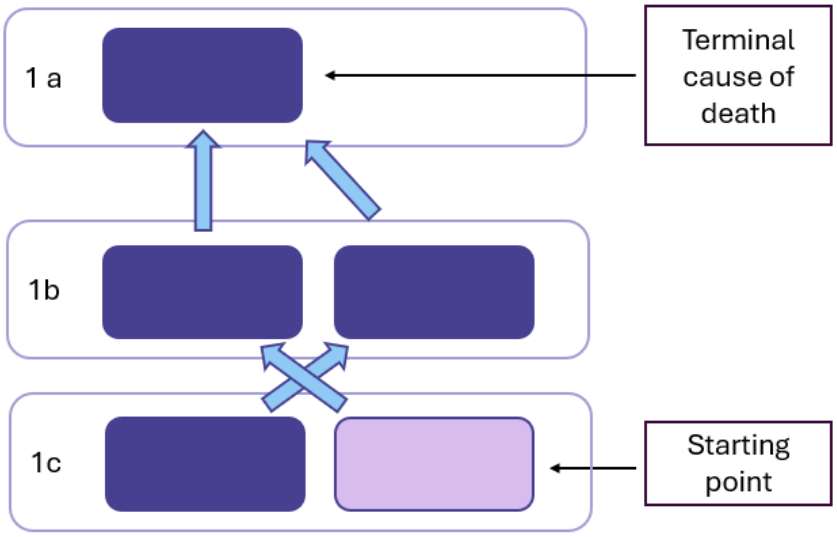


Figure 28-9 - First-mentioned sequence example 3

Example 4

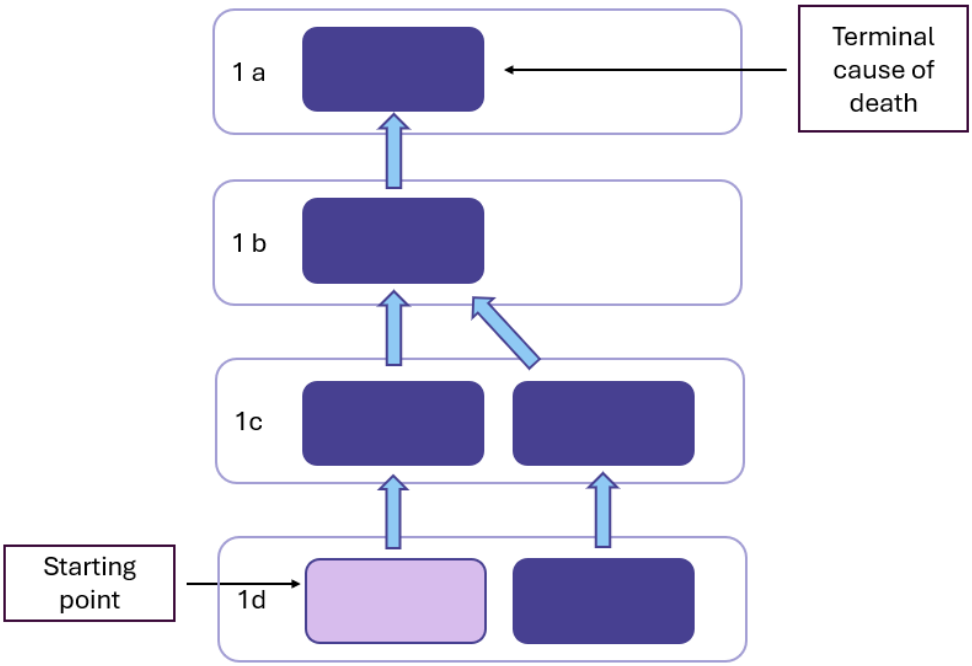


Figure 28-10 - First-mentioned sequence example 4

Example 5

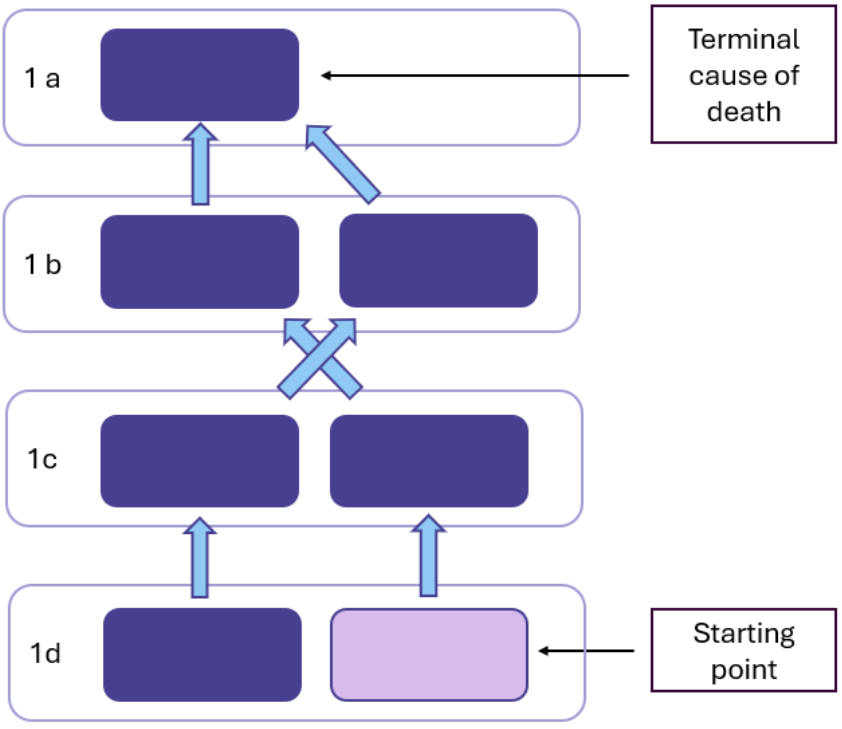


Figure 28-11 - First-mentioned sequence example 5

Example 6

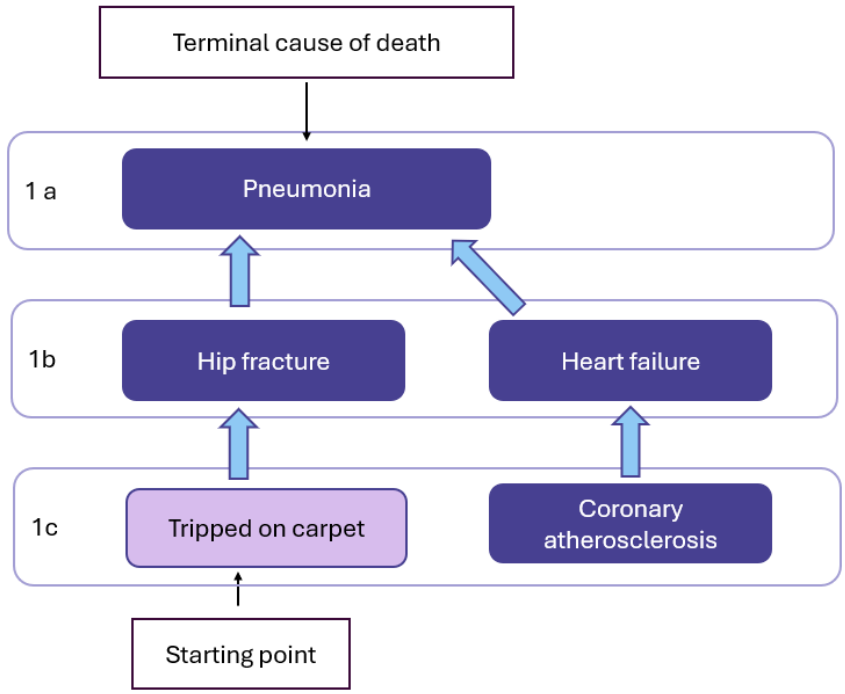


Figure 28-12 - First-mentioned sequence example 6

Example 7

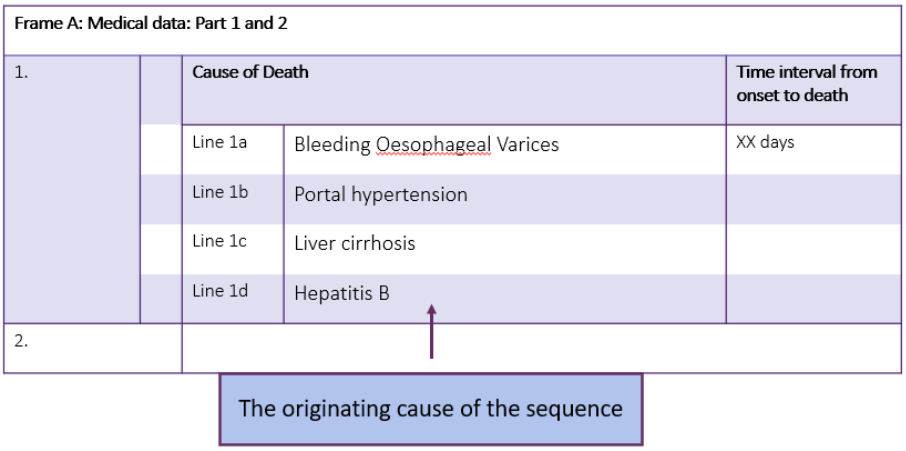


Figure 28-13 - First-mentioned sequence example 7

- Determining underlying cause of each death is important
- Bleeding oesophageal varices was the direct or immediate cause of death
- Hepatitis B was the underlying cause of death
- Knowing this, the public health response is to implement immunization programs against hepatitis B virus to prevent such deaths in future

Example 8

- A person was run over by a car on the street
- He suffered traumatic amputation of right leg and died of extensive haemorrhage
- What is the sequence of events?

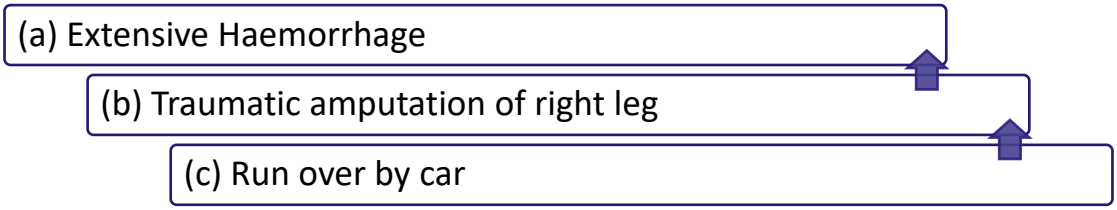


Figure 28-14 - Sequence example 8

Example 9

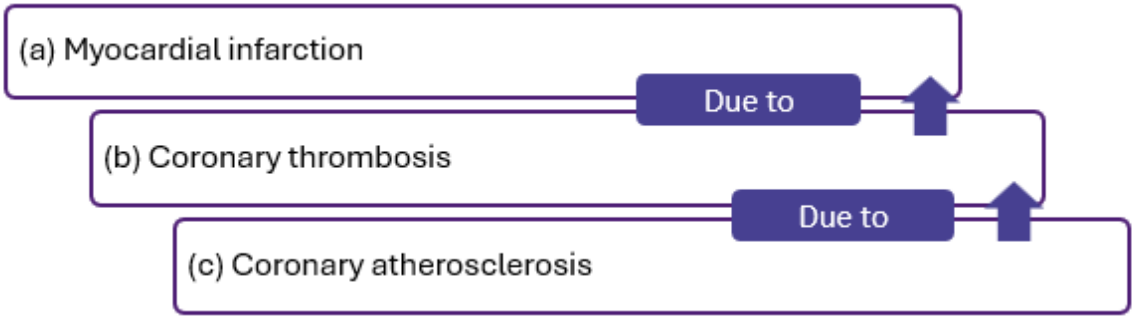


Figure 28-15 - Sequence example 9

28.2.4 Causal Relationship

In ICD-11 coding, a causal relationship exists when one condition listed on a certificate can be directly attributed to another condition also mentioned. However, determining whether this relationship is acceptable for mortality coding requires more than just a medical evaluation; it also considers epidemiological data and public health considerations.

By balancing these factors, healthcare professionals ensure that the coding accurately reflects not only individual cases but also broader health trends, enhancing the quality of mortality statistics and public health interventions.

28.2.5 Priority Underlying Condition

- Some mortality coding instructions (e.g., Steps SP6, M1) refer to the “priority underlying condition.”
- This concept sets a priority order, giving precedence to the underlying condition when specific requirements in each instruction apply to several conditions in the death certificate.
- To identify the priority underlying condition, start from the first condition reported on the lowest-used line of Part 1.

- If several conditions are reported, review them in order: move upward from the lowest used line to the next line above in turn, and read from left to right for each line.
- If you cannot find the priority underlying condition in Part 1, then search Part 2, again from left to right.

Priority underlying condition view

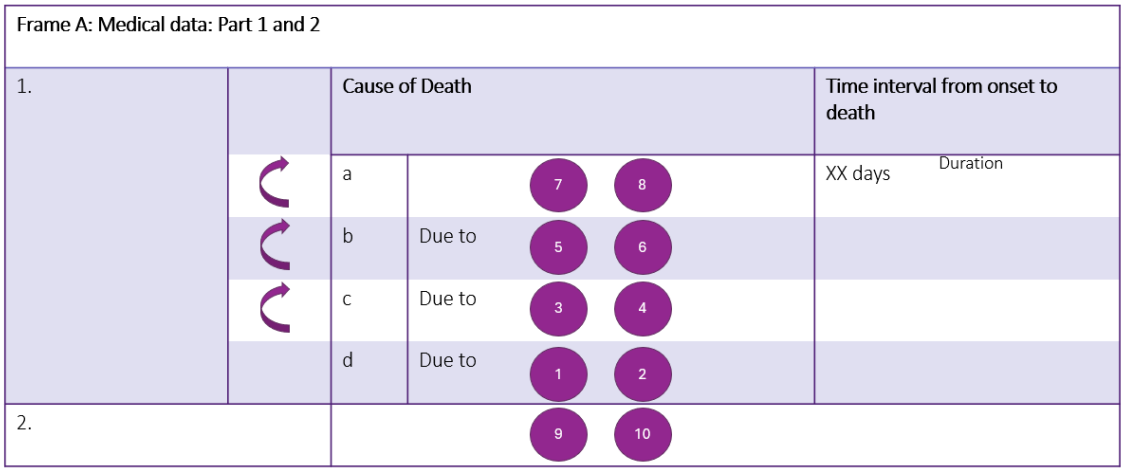


Figure 28-16 - Priority underlying condition

Example 1

- A 60-year-old woman was diagnosed with carcinoma of the breast 5 years ago and was treated with mastectomy and radiotherapy.
- She was well until 6 months ago and was diagnosed of secondary carcinoma of the femur.
- She was admitted to the hospital 2 days ago with a pathological fracture.
- She died of pulmonary embolism within a few minutes of its onset.
- She had type 2 diabetes mellitus for last 10 years.
    - Complete the MCCD for the above scenario.
    - What is the terminal condition?
    - What is the direct cause of death?
    - What is the starting point?
    - What is the first entered condition on the certificate?

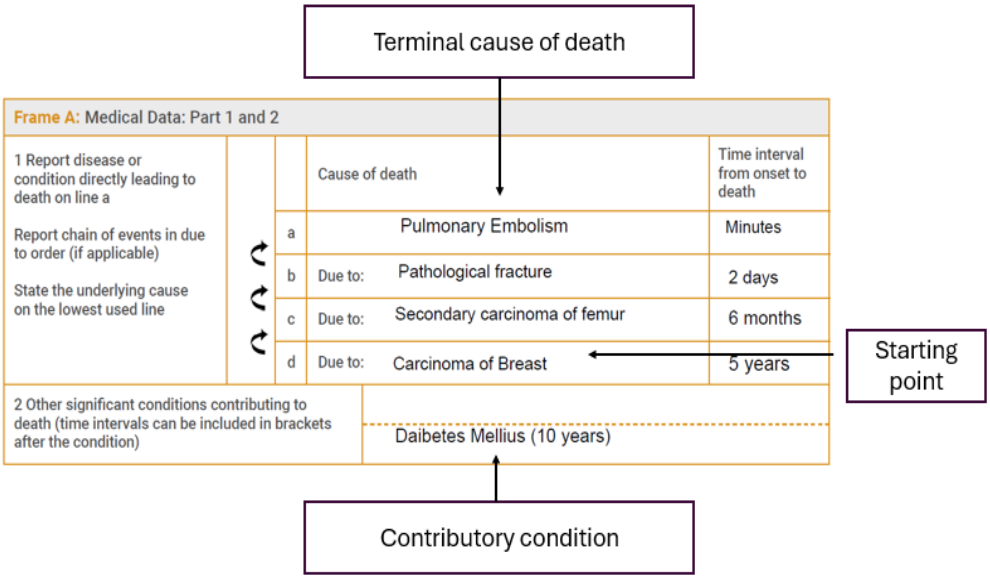


Figure 28-17 - Priority underlying condition example 1

28.2.6 Summary – Basic Concepts

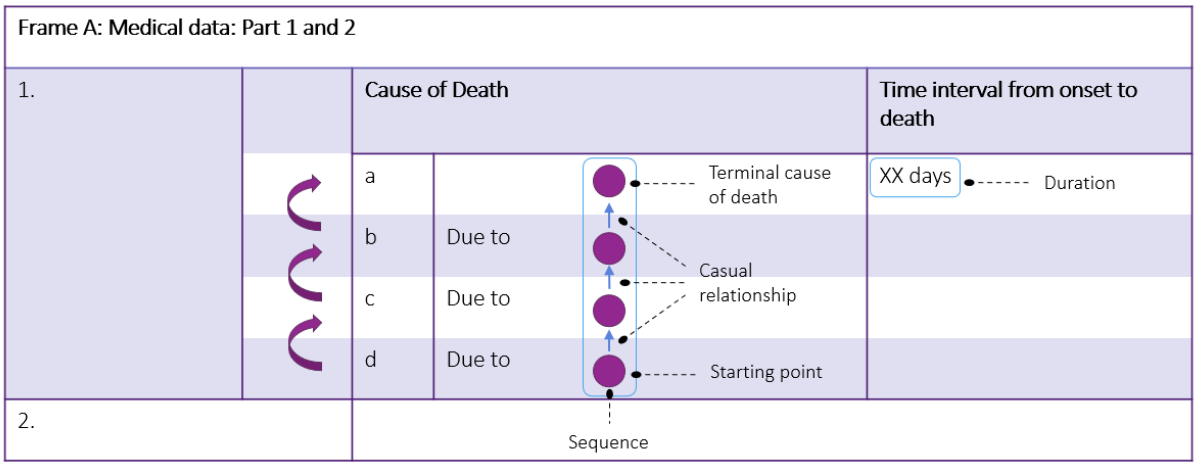


Figure 28-18 - Summary - basic concepts

28.3 Coding Instructions for Mortality

28.3.1 Selecting the Underlying Cause of Death

For most death certificates, selecting the underlying cause of death is a straightforward procedure. There are, however, many cases where the underlying cause is not immediately obvious. To ensure that both straightforward and complex cases are coded according to the ICD rules, it is important to follow the coding instructions carefully, step by step. Otherwise, the resulting mortality statistics will not be internationally comparable, which seriously reduces the value of the data for public health purposes.

Selecting the underlying cause of death involves two separate steps. The first step is identifying the starting point (Steps SP1 through SP8 below)—the disease or event that started the chain of events

leading to death. The next step is to modify the starting point, if any of the special instructions apply, to retain further information provided on the death certificate that is useful for public health (Steps M1 through M4 below).

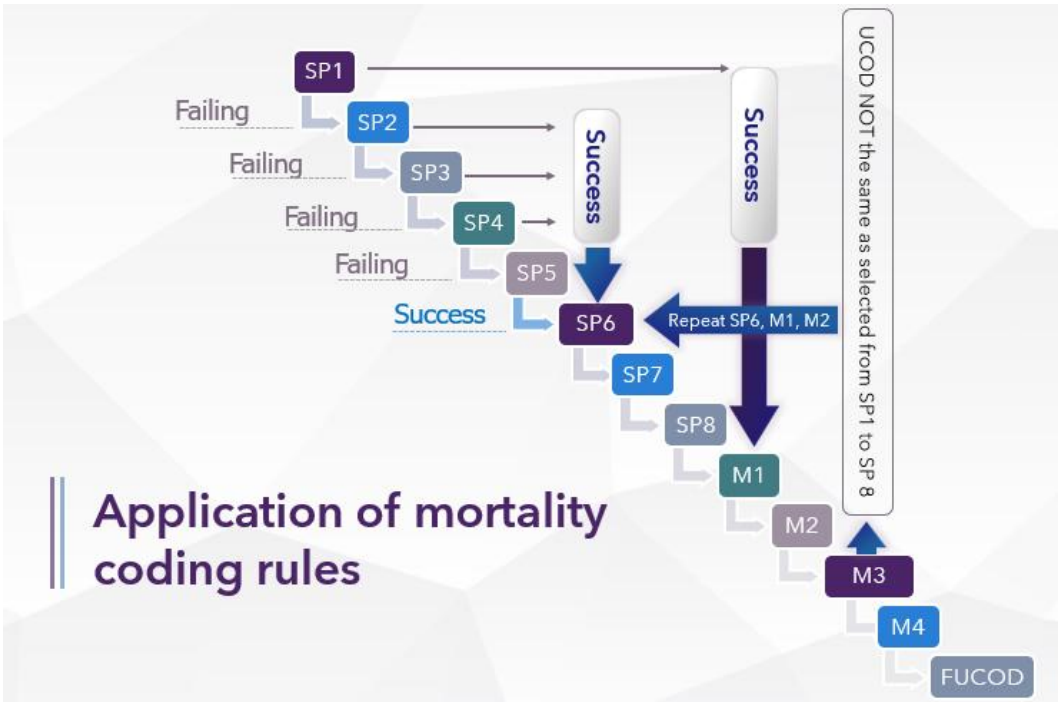


Figure 28-19 - Application of mortality coding rules

28.3.2 Finding the Starting Point

To identify the starting point, follow the eight steps specified in this section. The steps are named SP1 to SP8 (Starting Point Rule 1 to Starting Point Rule 8). Each step contains one selection rule. At each step, there is a description of the selection rule itself and an instruction on what to do next.

28.3.3 Step SP1 – Single Cause on the Medical Certificate of Cause of Death (MCCD)

If there is only one condition reported on the MCCD, in either Part 1 or Part 2, this is the starting point, and it is also the Underlying Cause of Death (UCOD). Next, verify whether step M1 or M4 apply.

If there are two or more conditions on the certificate, go to Step SP2.

Example

- The only condition reported is myocardial infarction, and it is also the underlying cause.

Part 1	a) Myocardial infarction
	b)
	c)
	d)
Part 2	

Figure 28-20 - Step SP1 example

EXERCISE 1

Identify the starting point.

Part 1	a)
	b)
	c)
	d)
Part 2	Diabetes mellitus

28.3.3.1 Step SP1 – Summary

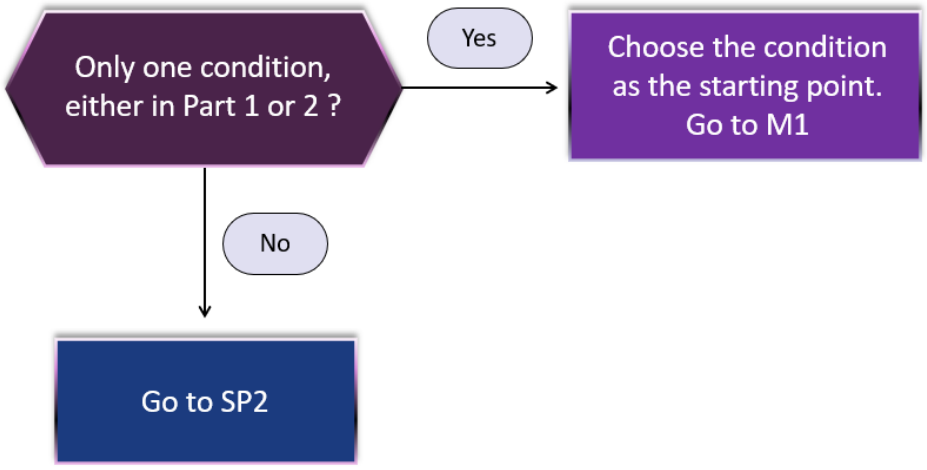


*Figure 28-21 - Step SP1 – Summary **

**"Adapted from the International Classification of Diseases Eleventh Revision (ICD-11), Geneva: World Health Organization; 2022."

28.3.4 Step SP2 – Only one line used in Part 1 of the MCCD

- If the certifier has used only one line in Part 1, but entered two or more conditions on this line, then the first-mentioned condition is the tentative starting point. Next, go to step SP6.
- Also, if there is only one condition reported in Part 1, but if one or more conditions are in Part 2, then the single condition in Part 1 is the tentative starting point. Next, go to step SP6.
- If the certifier has used more than one line in Part 1, go to Step SP3.

Example 1

Part 1	a) Myocardial infarction and diabetes mellitus
	b)
	c)
	d)
Part 2	

Figure 28-22 - Step SP2 example

- Select myocardial infarction, the first entered condition in Part 1
- Next, go to SP6 and check for further modifications

Example 2

Identify the tentative starting point.

Part 1	a) Myocardial infarction
	b)
	c)
	d)
Part 2	Diabetes mellitus

- Myocardial infarction is the tentative starting point
- Next, go to Step SP6

28.3.4.1 Step SP2 – Summary

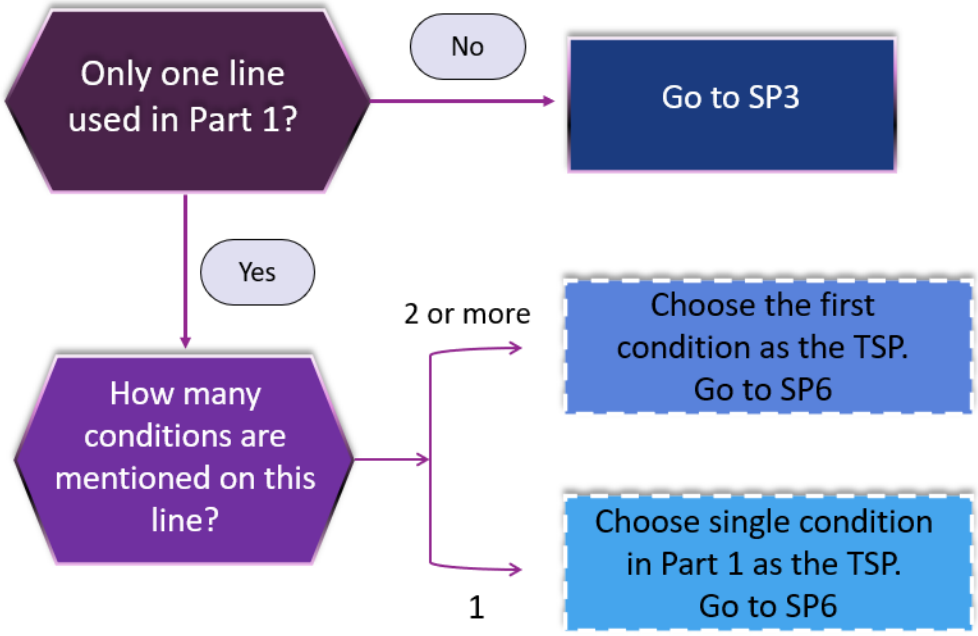


*Figure 28-23 - Step SP2 – Summary**

*"Adapted from the International Classification of Diseases Eleventh Revision (ICD-11), Geneva: World Health Organization; 2022."

EXERCISE 2

Select the tentative starting point.

Part 1	a) Pernicious anaemia and gangrene of foot
	b)
	c)
	d)
Part 2	Atherosclerosis

Figure 28-24 - Step SP2 - Exercise 1

Answer:

- If the certifier has used more than one line in Part 1, SP2 cannot be applied
- Then go to Step SP3

28.3.5 Step SP3 – More than one line used in Part 1, first cause on the lowest line explains all entries above

- If there are conditions reported on more than one line in Part 1, check whether all the conditions reported on the line(s) above the lowest used line in Part 1 can be caused by the first condition on the lowest used line.
- If all conditions on the line(s) above the lowest used line in Part 1 can be caused by the first condition on the lowest used line, then this condition is the tentative starting point. Next, go to Step SP6.
- If all conditions on the line(s) above the lowest used line in Part 1 cannot be caused by the first condition on the lowest used line, seek clarification from the certifying doctor. If clarification is not possible, and no further information is available, go to Step SP4.

Interpretation of Step SP3

- SP3 is accepted using the following criteria, in order:
  - More than one line is used.
  - The first entered condition in the lowest used line can give rise to **all the conditions** entered above.

- At Step SP3, it is not necessary to assess the causal relationships between conditions reported on the lines above the lowest used line.

- It is sufficient that each one of the conditions on the lines above the lowest used line can be due to the condition reported first on the lowest used line.

Causal relationships

To assess causal relationships, refer to:

- Section 2.16.2 *Causal relationship and sequence*
- Section 2.19.1 *Special instructions on accepted and rejected sequences* (Steps SP3 and SP4)

Example 1

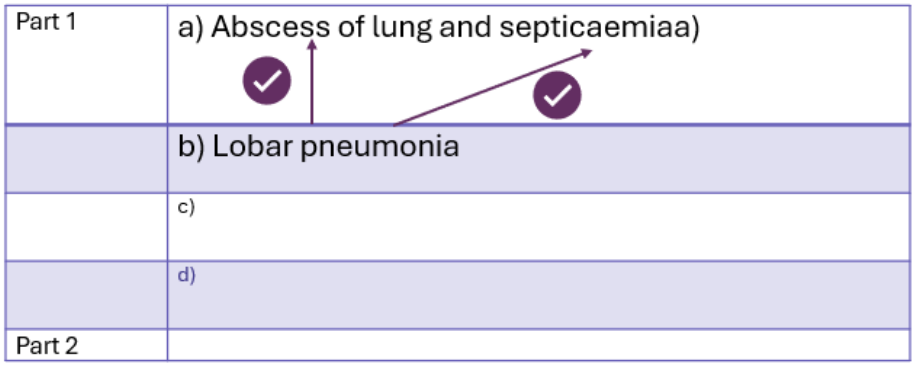


Figure 28-25 - Step SP3 example

- SP1 not possible (more than one condition)
- SP2 not possible (more than one line)
- Lung abscess and septicaemia could both have been the result of the lobar pneumonia
- Lobar pneumonia is recorded on the lowest used line of the certificate
- Therefore, select lobar pneumonia as the tentative starting point – SP3

Example 2

Part 1	a) Bronchopneumonia
	b) Hemiplegia
	c) Cerebral infarction
	d)
Part 2	

- SP1 is not possible (more than one condition)
- SP2 is not possible either (more than one line)
- Cerebral infarction, the condition entered on the lowest use line of part 1, can cause both hemiplegia and bronchopneumonia
- Select Cerebral infarction SP3

28.3.5.1 Step SP3 – Summary

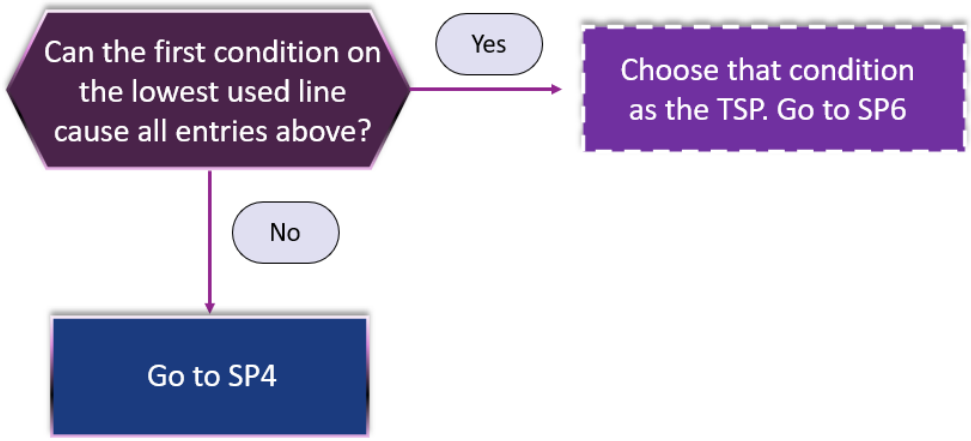


*Figure 28-26 - Step SP3 – Summary**

*"Adapted from the International Classification of Diseases Eleventh Revision (ICD-11), Geneva: World Health Organization; 2022."

EXERCISE 3

Select the tentative starting point.

Part 1	a) Liver metastases and pulmonary oedema	
	b) Bronchopneumonia	
	c) Stomach cancer	
	d)	
Part 2		

Figure 28-27 - Step SP3 - Exercise 3

Answer

EXERCISE 4

Select the tentative starting point.

Part 1	a) Liver metastases	2 months
	b) Bronchopneumonia	4 days
	c) Stomach cancer and cerebral infarction	6 months
	d)	
Part 2		

Figure 28-28 - Step SP3 - Exercise 3

Answer (Exercise 4):

28.3.6 Step SP4 – First cause on lowest used line does not explain all entries above, but a sequence ends with the terminal condition

- If the first condition on the lowest used line cannot cause all entries above, then Step SP3 is not applicable.
- If there is only one sequence ending with the terminal condition, find the starting point of this sequence. This is the new tentative starting point. Next, go to Step SP6.
- If there are two or more sequences of conditions or events ending with the terminal condition, identify the first-mentioned sequence and find the starting point of this first-mentioned sequence. Next, go to Step SP6.
- If there is no sequence ending with the terminal condition, go to Step SP5.

Example 1

Part 1	a) Liver metastases
	b) Bronchopneumonia and stomach cancer
	c)
	d)
Part 2	

Figure 28-29 - Step SP4 example

- Can you apply SP3 here?

- No. Liver metastases cannot be due to bronchopneumonia, the first-entered condition in the lowest-used line.
- Stomach cancer can cause liver metastases, and it is the starting point of the sequence ending with the terminal condition (first-entered condition or the direct cause of death).
- According to SP4, stomach cancer is the tentative starting point.

Example 2

Part 1	a) Oesophageal varices and congestive heart failure
	b) Chronic rheumatic heart disease and cirrhosis of liver
	c)
	d)
Part 2	

Figure 28-30 - Step SP4 example 2

- **Can you apply SP3 here?**
- No.
- Why?
- The first entered condition in the lowest used line cannot cause the terminal condition.
- The originating cause of the sequence terminating in the condition first entered on the certificate is cirrhosis of the liver.

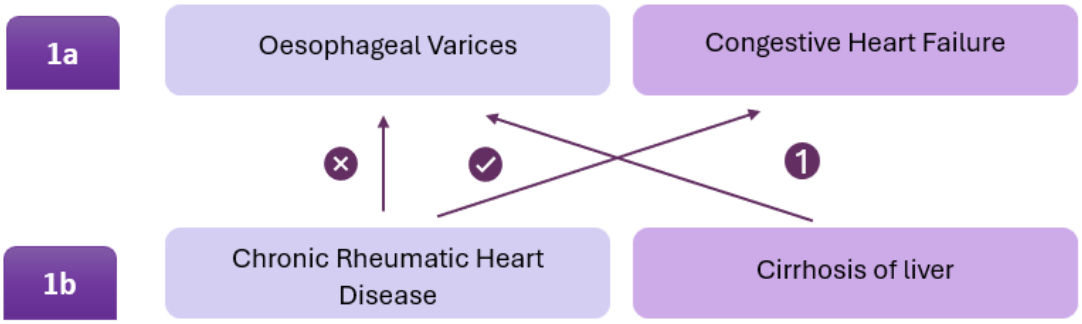


Figure 28-31 - Step SP4 example 2

28.3.6.1 Step SP4 – Summary

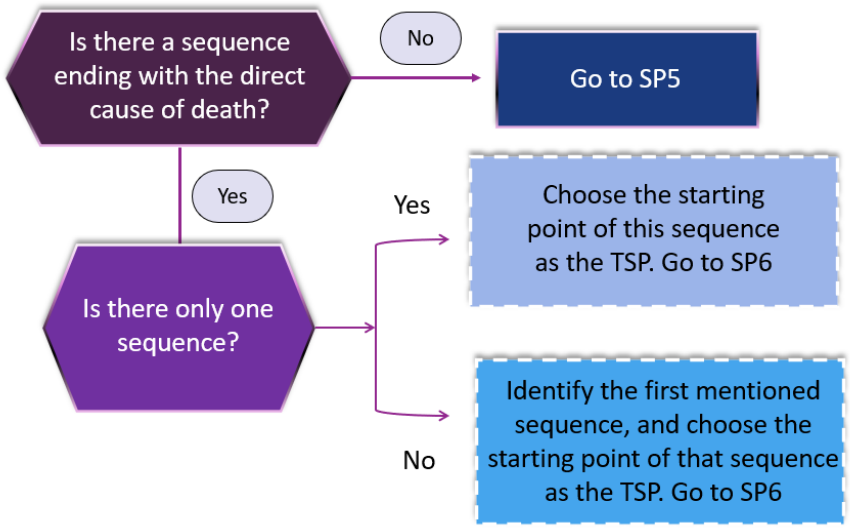


*Figure 28-32 - Step SP4 – Summary**

*"Adapted from the International Classification of Diseases Eleventh Revision (ICD-11), Geneva: World Health Organization; 2022."

EXERCISE 5

Select the tentative starting point.

Part 1	a) Acute myocardial infarction	
	b) Atherosclerotic heart disease	
	c) Influenza	
	d)	
Part 2		

Figure 28-33 - Step SP4 - Exercise 1

Answer

28.3.7 Step SP5 – No sequence in Part 1

If there is no sequence ending with the terminal condition, then the terminal condition is also the tentative starting point. Next, go to step SP6.

Example

Part 1	a) Liver metastases	
	b) Cerebral infarction	
	c) Atherosclerosis	
	d)	
Part 2		

There is no sequence ending in the terminal condition liver metastases.

Therefore, liver metastases is selected by SP5.

28.3.7.1 Step SP5 – Summary

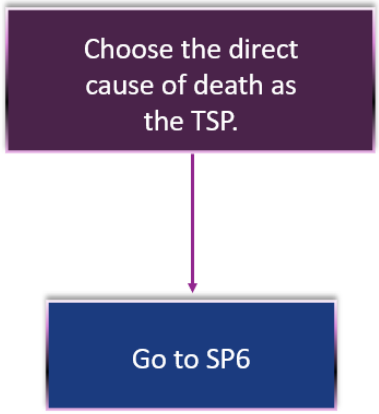


*Figure 28-34 - Step SP5 - Summary**

*"Adapted from the International Classification of Diseases Eleventh Revision (ICD-11), Geneva: World Health Organization; 2022."

EXERCISE 6

Select the tentative starting point.

Part 1	a) Pernicious anaemia and gangrene of foot	
	b) Atherosclerosis	
	c)	
	d)	
Part 2		

Figure 28-35 - Step SP5 - Exercise 1

Answer

EXERCISE 7

Select the tentative starting point.

Part 1	a) Gangrene of foot and Pernicious anaemia	
	b) Atherosclerosis	
	c)	
	d)	
Part 2		

Figure 28-36 - Step SP5 - Exercise 2

Answer

28.3.8 Step SP6 – Obvious cause

If the condition selected by the Steps SP1–SP5 is obviously caused by another reported condition, whether in Part 1 or Part 2, select this primary condition.

Check whether the selected tentative starting point in Steps SP1 to SP5 was obviously caused by another condition on the MCCD. If the tentative starting point is in Part 1, then this other condition must be either on the same line, further down in Part 1, or in Part 2. If the tentative starting point is in Part 2, this other condition must also be in Part 2.

If the tentative starting point is in Part 1, look for an obvious cause of the tentative starting point first on the same line in Part 1, next on lower lines in Part 1, and finally in Part 2.

Do not look for obvious causes on lines above the tentative starting point.

Next, check whether there is another condition mentioned on the same line or further down on the MCCD as the new tentative starting point identified that obviously caused this new tentative starting point. Continue looking for a new tentative starting point until a starting point that is not obviously caused by a condition reported on the same line or further down on the MCCD is found. Then go to Step SP7.

Furthermore, if the MCCD does not mention a condition that obviously caused the tentative starting point selected in Steps SP1 to SP5, proceed to Step SP7.

Section 2.19.2 of the ICD-11 Reference Guide lists conditions that should be considered an obvious cause of conditions selected as tentative starting point in Steps SP1 to SP5.

Example 1

Part 1	a) Sepsis
	b) Peritonitis
	c)
	d)
Part 2	Appendicitis with rupture

Figure 28-37 - Step SP6 example

- Peritonitis can cause sepsis
- Peritonitis is selected by SP3
- But appendicitis with rupture can obviously cause peritonitis
- Appendicitis with rupture is the new starting point by SP6

Example 2

Part 1	a) Bronchopneumonia
	b)
	c)
	d)
Part 2	Secondary anaemia, Chronic lymphatic leukaemia

- Select bronchopneumonia by SP2
- However, bronchopneumonia can be considered a direct sequels of chronic lymphatic leukaemia
- Therefore, select chronic lymphatic leukaemia by SP6

Example 3:

Part 1	a) Kaposi's sarcoma
	b)
	c)
	d)
Part 2	HIV

- Select HIV resulting in Kaposi's sarcoma
- Kaposi's sarcoma, selected by SP2, is a direct consequence of HIV
- Conditions that are considered to have an "obvious" causal relationship are specified in *Section 2.19.2 Special instructions on obvious cause* (Step SP6)

28.3.8.1 Step SP6 – Summary 1

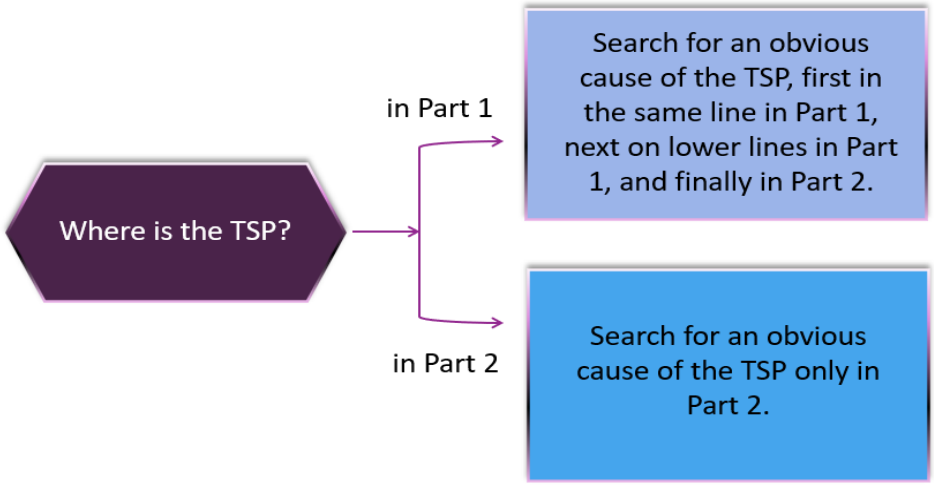


*Figure 28-38 - Step SP6 – Summary 1**

*"Adapted from the International Classification of Diseases Eleventh Revision (ICD-11), Geneva: World Health Organization; 2022."

28.3.8.2 Step SP6 – Summary 2

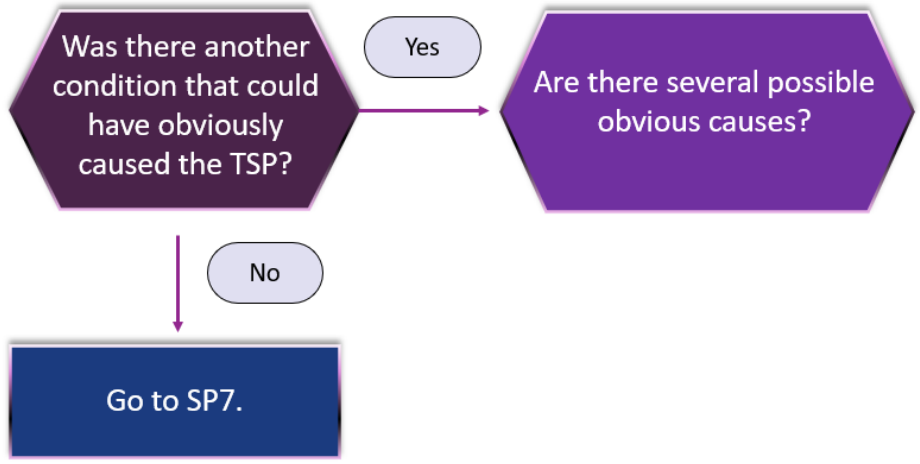


*Figure 28-39 - Step SP6 - Summary 2**

*"Adapted from the International Classification of Diseases Eleventh Revision (ICD-11), Geneva: World Health Organization; 2022."

28.3.8.3 Step SP6 – Summary 3

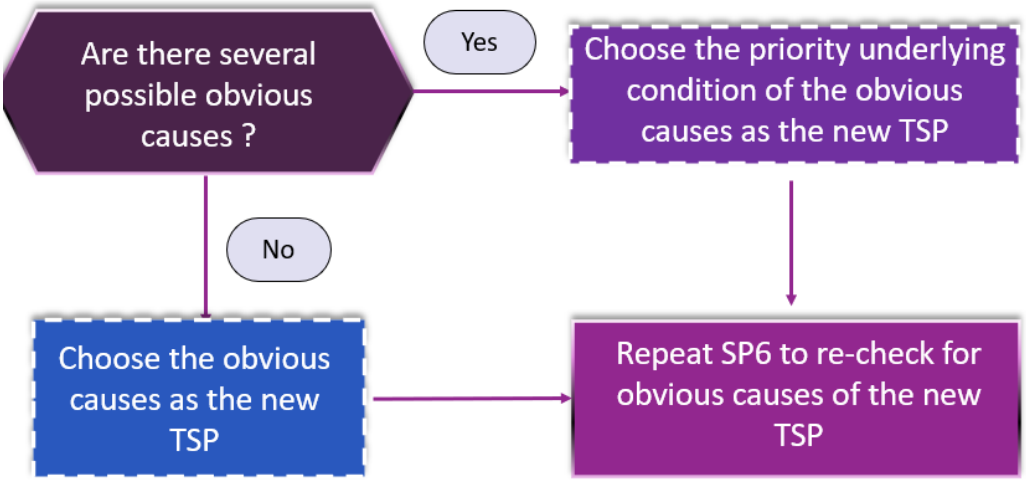


*Figure 28-40 - Step SP6 – Summary 3**

*"Adapted from the International Classification of Diseases Eleventh Revision (ICD-11), Geneva: World Health Organization; 2022."

EXERCISE 8

Select the underlying cause of death.

Part 1	a) Sepsis	
	b) Peritonitis	
	c)	
	d)	
Part 2	Mesenteric embolism, Ruptured appendicitis	

Figure 28-41 - Step SP6 - Exercise 1

Answer

28.3.9 Step SP7 – Ill-defined conditions

Check whether the tentative starting point is listed in the list of ill-defined conditions (Annex 3.14.6) of the Reference Guide. If listed, the tentative starting point is considered ill-defined. If so:

- Check whether there are other conditions reported on the MCCD. Check whether they are all ill-defined. If all other conditions are ill-defined, go to Step M1.
- Check if there is at least one condition that is not ill-defined, then disregard the ill-defined condition(s). Go to Step SP1 and select another starting point as if the ill-defined condition(s) had not been mentioned on the MCCD.
- If the tentative starting point is not ill-defined, go to Step SP8.

Note that the following are not considered ill-defined:

- Septic shock
- Sudden infant death syndrome

Example:

Part 1	a) Respiratory failure
	b)
	c)
	d)
Part 2	Mesenteric embolism

Figure 28-42 - Step SP7 example

- Respiratory failure is the tentative starting point according to Step SP2.
- However, respiratory failure is ill-defined.
- There is a condition in the certificate that is NOT ill-defined (mesenteric embolism).
- Disregard respiratory failure and restart the selection.

- Mesenteric embolism is the new starting point according to Step SP1.

28.3.9.1 Step SP7 – Summary 1

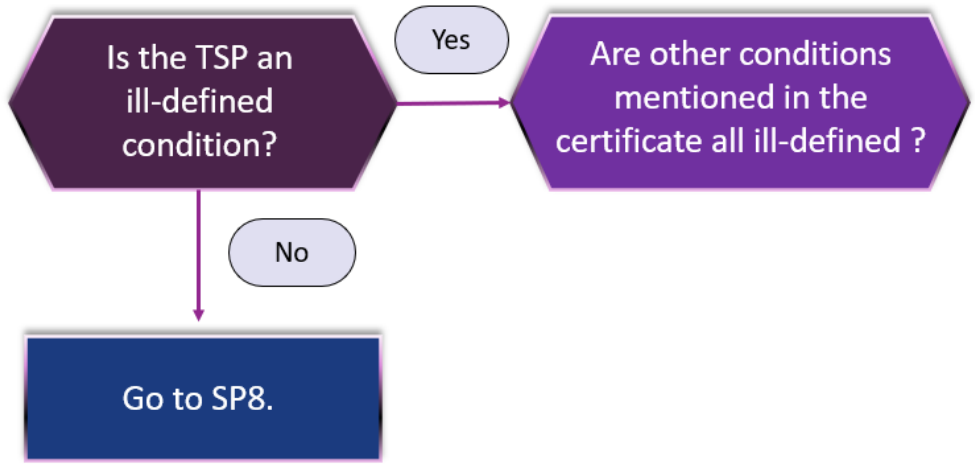


*Figure 28-43 - Step SP7 - Summary 1**

*"Adapted from the International Classification of Diseases Eleventh Revision (ICD-11), Geneva: World Health Organization; 2022."

28.3.9.2 Step SP7 – Summary 2

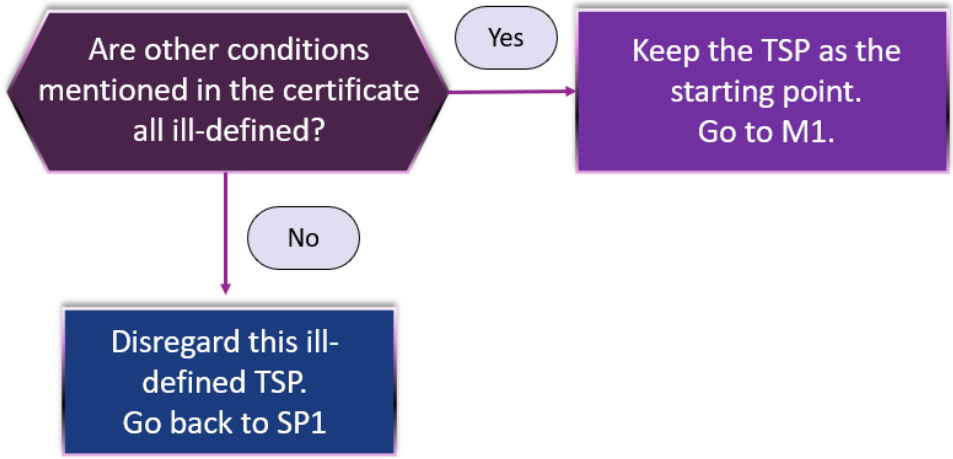


*Figure 28-44 - Step SP7 - Summary 2**

*"Adapted from the International Classification of Diseases Eleventh Revision (ICD-11), Geneva: World Health Organization; 2022."

28.3.10 Step SP8 – Conditions Unlikely to Cause Death

If the tentative starting point selected in Steps SP1 to SP7 is listed in *Annex 3.14.10 List of conditions unlikely to cause death*, and:

- If all other conditions reported on the certificate are also unlikely to cause death or are ill-defined, then keep this condition as the starting point. Next, go to Step M1.

- If there are other conditions reported that are NOT ill-defined or unlikely to cause death, first check whether the death was caused by a reaction to treatment of the condition that you selected as the tentative starting point.
    - If it was, then select the "reaction to treatment" as the starting point. Next, go to Step M1.
    - If the death was NOT caused by a reaction to treatment of the condition, check whether the condition was the cause of another condition that is not on the *List of conditions unlikely to cause death* and that is not ill-defined. If it was, then the condition unlikely to cause death is still the tentative starting point. Next, go to Step M1.
- If the above does not apply, and there is at least one condition that is not "unlikely to cause death" and not "ill-defined," then disregard the condition unlikely to cause death. Go to SP1 and select another starting point, as if the condition unlikely to cause death had not been mentioned on the certificate.

If the tentative starting point is not listed in the table of *List of conditions unlikely to cause death*, keep that condition as the starting point and go to Step M1.

28.3.10.1 List of Conditions Unlikely to Cause Death

Use this table in Step SP8 *Conditions in this table are unlikely to cause death*.

Unlikely to cause death

Figure 28-45 - List of conditions unlikely to cause death

Example:

Part 1	**a) Hearing loss**
	b)
	c)
	d)
Part 2	Ischaemic heart disease

Figure 28-46 - Step SP8 example

- Hearing loss is selected by SP2
- Hearing loss is listed in section 3.*14.10 List of conditions unlikely to cause death; disregard hearing loss*
- Restart with SP1
- Select ischaemic heart disease as the new starting point

28.3.10.2 Step SP8 – Summary 1

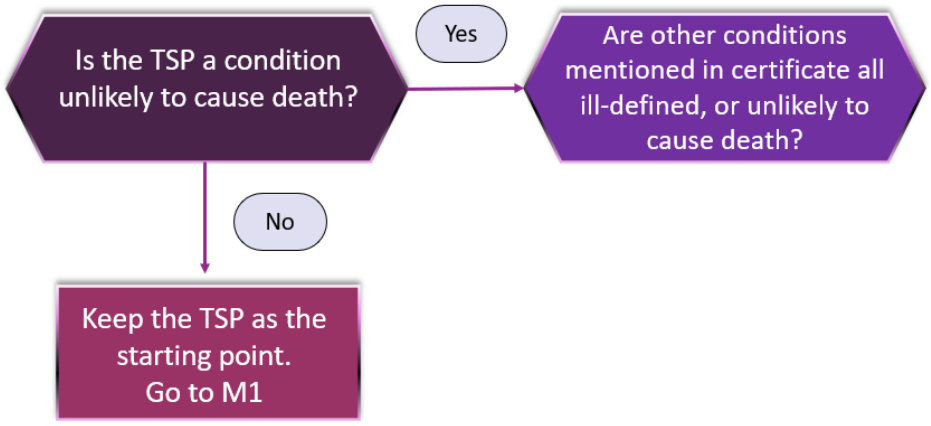


*Figure 28-47 - Step SP8 - Summary 1**

28.3.10.3 Step SP8 – Summary 2

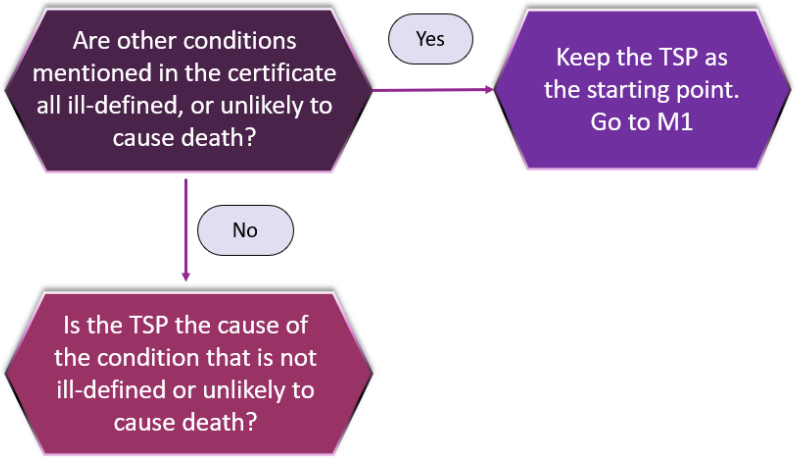


*Figure 28-48 - Step SP8 - Summary 2**

28.3.10.4 Step SP8 – Summary 3

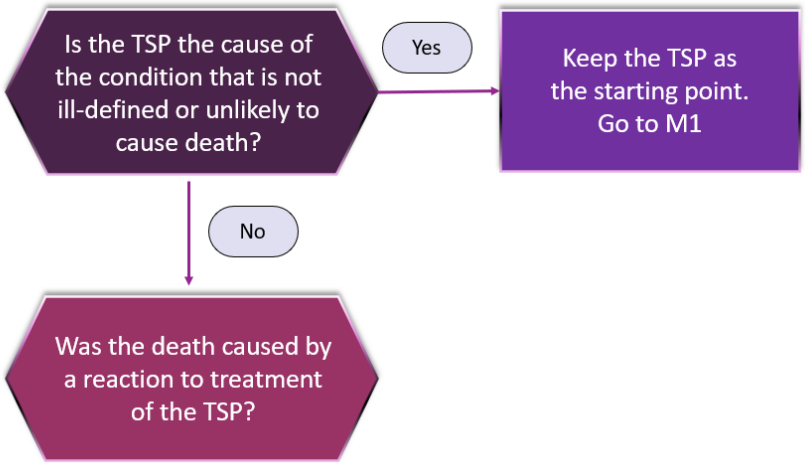


*Figure 28-49 - Step SP8 - Summary 3**

*"Adapted from the International Classification of Diseases Eleventh Revision (ICD-11), Geneva: World Health Organization; 2022."

28.3.10.5 Step SP8 – Summary 4

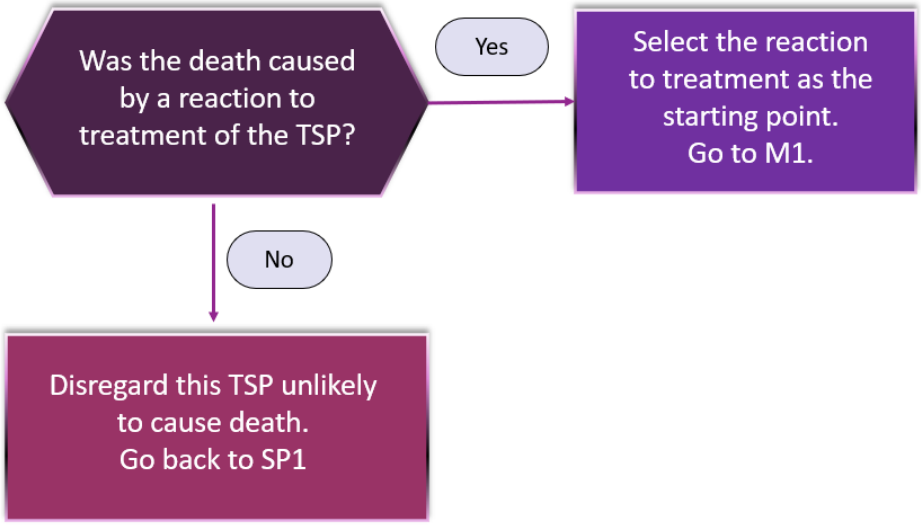


*Figure 28-50 - Step SP8 - Summary 4**

*"Adapted from the International Classification of Diseases Eleventh Revision (ICD-11), Geneva: World Health Organization; 2022."

28.3.10.6 Step SP8 – Summary 5

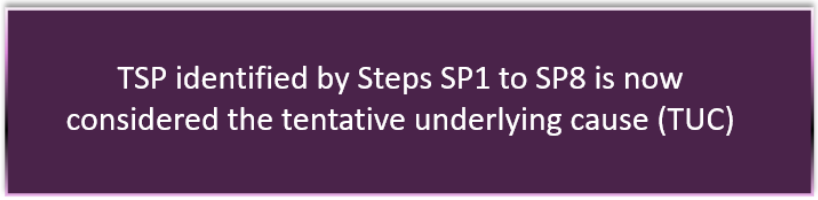


*Figure 28-51 - Step SP8 - Summary 5**

*"Adapted from the International Classification of Diseases Eleventh Revision (ICD-11), Geneva: World Health Organization; 2022."

EXERCISE 9

Select the tentative starting point.

Part 1	a) Dental caries	
	b)	
	c)	
	d)	
Part 2	Diabetes	

Figure 28-52 - Step SP8 - Exercise 1

Answer

EXERCISE 10

Select the tentative starting point.

Part 1	a) Intraoperative haemorrhage	
	b) Tonsillectomy	
	c) Hypertrophy of tonsils	
	d)	
Part 2	Diabetes	

Figure 28-53 - Step SP8 - Exercise 2

Answer

EXERCISE 11

Select the tentative starting point.

Part 1	a) Septicaemia	
	b) Impetigo	
	c)	
	d)	
Part 2	Diabetes	

Figure 28-54 - Step SP8 - Exercise 3

Answer

EXERCISE 12

Select the tentative starting point.

Part 1	a) Ingrown toenail and acute renal failure	
	b)	
	c)	
	d)	
Part 2	Diabetes	

Figure 28-55 - Step SP8 - Exercise 4

Answer

28.3.11 Modifications of the Starting Point (Steps M1 to M4)

The starting point you identified using Steps SP1 to SP8 is now considered the tentative underlying cause. There may be special coding instructions on this tentative underlying cause, or other reasons to modify the tentative underlying cause. Check whether the tentative underlying cause should be modified by applying the modification rules described in Steps M1 to M3 (Modification Rule 1 to Modification Rule 3). Each step contains one modification rule. At each step, there is a description of the modification rule itself and what to do next.

28.3.12 Step M1 Special Instructions

If the tentative underlying cause (TUC) selected in Steps SP1 to SP8 is subject to a special instruction listed in the Reference Guide, assign a new tentative underlying cause according to the instruction.

Next, reapply Step M1 to the new tentative underlying cause. Repeat this process until you have found a tentative underlying cause that is not affected by any further special coding instruction. Next, go to Step M2.

If the tentative underlying cause does not fall under the instructions in Section 2.19.3, go to step M2.

If more than one instruction in Section 2.19.3 applies to the tentative underlying cause, select the instruction related to the priority underlying condition (see Section 2.16.7).

Note that there are two types of combination: **with mention of** and **when reported as a cause of**. Refer to Section 2.19.3 of the Reference Guide for details.

How do you read the Reference Guide instructions?

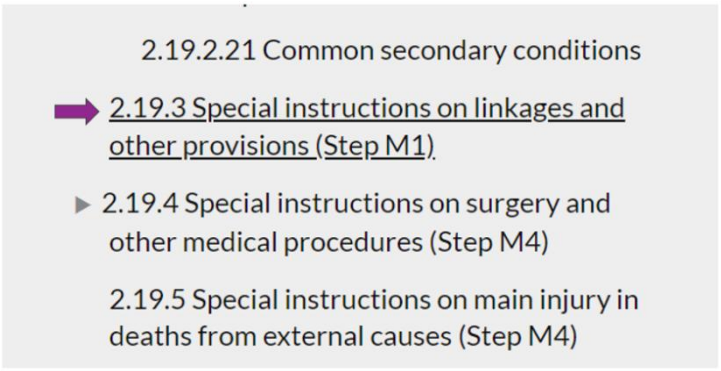


Figure 28-56 - How to read the reference guide instructions

- Use the list in this section in Step M1.
- The tentative underlying cause is listed in the left-hand column.
- If the conditions specified in the right-hand column apply, then use the code in bold as the new tentative underlying cause.

There are two types of combinations:

- **When reported as the cause of** means that the other condition must appear in a correct causal relationship or be otherwise indicated as being due to the tentative underlying cause.
- **With mention of** means that the other condition may appear anywhere on the certificate.

Example 1

Chapter 01 Certain infectious or parasitic diseases

TUC is:	when reported as the cause of:	code to:
Chapter 1 'Certain infectious or parasitic diseases'	2A00-2A0Z Neoplasms of brain or central nervous system	2A00-2A0Z

Figure 28-57 – Example - 'when reported as the cause of'

Example 2

TUC is:	with mention of:	code to:
1C1C.2 Meningococcaemia	1C1C.0 Meningococcal meningitis 1C1C.1 Waterhouse-Friderichsen syndrome	1C1C.0 Meningococcal meningitis 1C1C.1 Waterhouse-Friderichsen syndrome

Figure 28-58 - Example - 'with mention of'

28.3.12.1 when reported as the cause of

Example 3

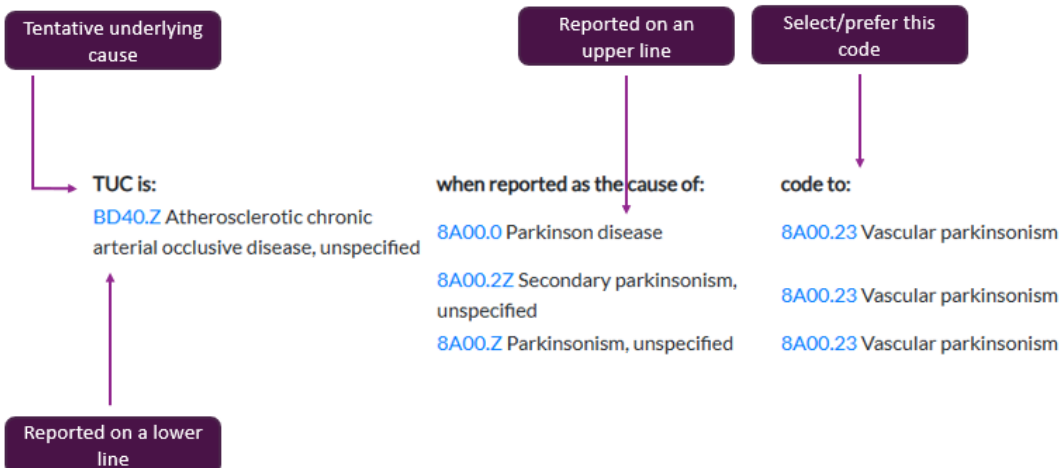


Figure 28-59 - Example - 'when reported as the cause of'- How to read?

28.3.12.2 with mention of

Example 4

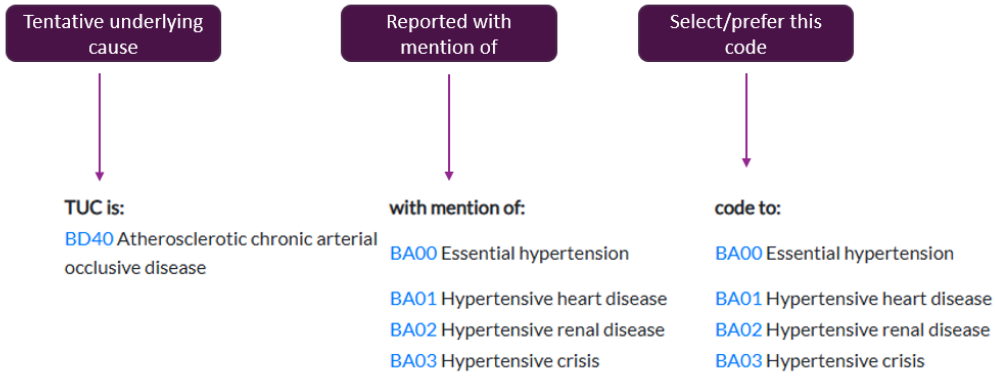


Figure 28-60 – Example -'with mention of' - How to read?

Sometimes, the classification itself indicates a code for combining the tentative underlying cause with another cause mentioned on the certificate. Use the combination code unless an instruction on mortality coding in Section 2.19.3 indicates otherwise.

Example 1

Part 1	a) Myocardial infarction
	b) Ischaemic heart disease
	c)
	d)
Part 2	

Figure 28-61 - Step M1 example

- Ischaemic heart disease is the tentative starting point according to Step SP3.

- There is a special instruction on ischaemic heart disease reported with myocardial infarction, and, according to this instruction, under Rule M1, myocardial infarction is the new tentative underlying cause.

Example 2

Part 1	a) Ischaemic heart disease
	b) Atherosclerosis
	c)
	d)
Part 2	Cerebral infarction

- Atherosclerosis is the tentative starting point according to Step SP3.
- Rule M1: There is a special instruction on “atherosclerosis reported with ischaemic heart disease,” and another on “atherosclerosis reported with cerebral infarction.”
- Ischaemic heart disease is the priority underlying condition, so apply the instruction on “atherosclerosis reported with ischaemic heart disease” and select ischaemic heart disease as the new tentative underlying cause.

Example 3

Part 1	a) Cerebrovascular infarction
	b) Atherosclerosis
	c) Hypertension
	d)
Part 2	Myocardial infarction

- Hypertension is the tentative starting point according to Step SP3.
- Rule M1: There are special instructions on “hypertension reported with cerebrovascular infarction” and with myocardial infarction.
- Cerebrovascular infarction is the priority underlying condition, so apply the instruction on “hypertension reported with cerebrovascular infarction” and select cerebrovascular infarction as the new tentative underlying cause.

EXERCISE 13

Select the underlying cause.

Part 1	a) Ischaemic heart disease
	b) Atherosclerosis
	c)
	d)
Part 2	Myocardial infarction

Answer

EXERCISE 14

Select the underlying cause.

Part 1	a) Atherosclerosis
	b)
	c)
	d)
Part 2	Dementia

Answer

28.3.13 Step M2 Specificity

- If the tentative underlying cause describes a condition in general terms, and a term providing more precise information about the site or nature of this condition is reported on the certificate, assign this more specific term as the new tentative underlying cause.
- Next, reapply Step M2 to the new tentative underlying cause. Repeat until you find a tentative underlying cause that cannot be specified further.
- If there is no term that further specifies the tentative underlying cause, go to Step M3.
- The more specific description must refer to the same condition as the tentative underlying cause. Do not disregard a generalised condition such as atherosclerosis because a more specific but unrelated condition is reported on the certificate (see also Example 2).
- If multiple other expressions provide more precise information on the tentative underlying cause, select the priority underlying condition (see Section 2.16.7 of the Reference Guide).

Example 1

Part 1	a) Meningitis
	b) Tuberculosis
	c)
	d)
Part 2	

Figure 28-62 - Step M2 example

- Tuberculosis is the tentative starting point according to Step SP3.
- Tuberculosis is not modified, and it is the tentative underlying cause.

Example 2

Part 1	a) Cerebrovascular accident
	b) Atherosclerosis
	c)
	d)
Part 2	Arterial embolism to the brain stem

- Atherosclerosis is the tentative starting point according to Step SP3.
- Special instruction on "atherosclerosis reported with cerebrovascular accident"; select cerebrovascular accident as the new tentative underlying cause – M1.
- The type of cerebrovascular accident is described more precisely in Part 2 as an arterial embolism to the brain stem – M2.

EXERCISE 15

Select the underlying cause of death.

Part 1	a) Pericarditis	
	b) Uraemia	
	c)	
	d)	
Part 2		

Figure 28-63 - Step M2 - Exercise 1

Answer

28.3.14 Step M3 – Recheck Steps SP6, M1 & M2

If, at this point, the tentative underlying cause is not the same as the starting point you selected in Steps SP1 to SP8, then go back to Step SP6. Repeat the procedures described in Steps SP6, M1 and M2.

If the tentative underlying cause is the same as the starting point selected in Steps SP1 to SP8, proceed to Step M4.

Do not go back to Step SP6 if the cause selected in Step M1 or M2 is correctly reported as due to another condition, except when this condition is ill-defined.

Also, do not go back to Step SP6 if the tentative underlying cause is a reaction to treatment of a condition unlikely to cause death, as selected in Step SP8.

Example 1

Part 1	a) Sepsis
	b) Arterial Disease, Arterial embolism of the left leg
	c)
	d)
Part 2	Colon Cancer

Figure 28-64 - Step M3 example 1

- Arterial disease is the tentative starting point according to Step SP3
- Arterial embolism of the left leg, the second condition on line 1(b), is a specific type of arterial disease
- Select arterial embolism of left leg – M2
- Reapply Step SP6 because the tentative starting point is not the same as the one selected in Steps SP1 to SP8
- Colon cancer is an obvious cause of arterial embolism – SP6
- Select colon cancer as the underlying cause of death

Example 2

Part 1	a) Sepsis
	b) Arterial Disease, Arterial embolism of the left leg
	c) Atherosclerosis
	d)
Part 2	Colon Cancer

Figure 28-65 - Step M3 example 2

Answer:

- Atherosclerosis is the tentative starting point according to Step SP3
- There is a special instruction on "atherosclerosis reported as the cause of arterial disease," and, according to this instruction, arterial disease is the new starting point according to Step M1.

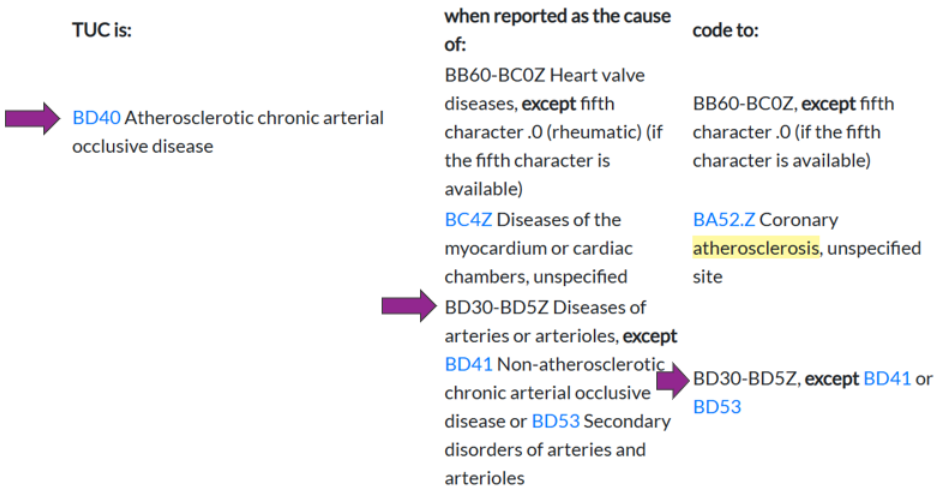


Figure 28-66 - Step M3 example 2

- Arterial embolism of left leg, reported as the second condition on line 1(b), is a more specific description of the type of arterial disease and is selected as the tentative underlying cause in Step M2.
- Do not reapply Step SP6, because arterial embolism of left leg is reported as due to atherosclerosis, and this is a correct causal relationship. No further modifications apply.
- Code "arterial embolism of left leg, embolism and thrombosis of arteries of lower extremities" as the underlying cause of death.

28.3.15 Step M4 – Instructions on medical procedures, main injury, poisoning, and maternal deaths

Finally, apply the following instructions to the tentative underlying cause selected by applying Steps SP1 to SP8 and Steps M1 to M3.

For Step M4, special instructions are listed in the Reference Guide, Section 2.18.4 under four main areas:

- Section 2.19.4 *Special instructions on surgery and other medical procedures*
- Section 2.19.5 *Special instructions on main injury in deaths from external causes*
- Section 2.19.6 *Special instructions on poisoning by drugs, medicaments and biological substances*
- Section 2.19.7 Special instructions on maternal mortality

If the tentative underlying cause is:

- **Surgery, another type of medical procedure, a complication or postprocedural condition**: apply the Reference Guide instructions in Section 2.19.4 *Special instructions on surgery and other medical procedures* (Step M4).
- **In Chapter 22 Injury, poisoning or certain other consequences of external causes:** First code the external cause of the injury or poisoning as the underlying cause of death and add the main injury to the cluster by following the instructions in Section 2.19.5 of reference guide.
    - **In Chapter 23 External causes of morbidity and mortality**: Also add the main injury to the cluster by following instructions in Section 2.19.5 of the Reference Guide.
- **Poisoning**: Use additional code from Section X (Extension codes), if applicable, to identify the specific name of a drug or toxic substance reported. If more than one drug or toxic substance is reported on the certificate, apply instructions in Section 2.19.6 *Special instructions on poisoning by drugs, medications and biological substances* (Step M4), to identify the drug, medicament or substance most likely to have caused the death.
- **Pregnancy, childbirth or puerperium:** If the decedent is a woman and one of these is reported on the certificate, determine whether to code the tentative underlying cause to Chapter 18 (*Pregnancy, Childbirth and the Puerperium)*, according to the instructions in Section 2.19.7 *Special instructions on maternal mortality* (Step M4).

When creating a cluster in Step M4, always place the code for the underlying cause of death at the beginning of the cluster.

If the tentative underlying cause selected by applying Steps SP1 to SP8 and Steps M1 to M3 does not apply to either of the instructions in M4—or if the tentative underlying cause is not further changed after applying M4—the tentative underlying cause you have arrived is the underlying cause of death.

Note: Other restrictions may apply. For example, a cause may be limited to one sex (see also Section 3.14.11 of the Reference Guide) or to a specific age range, or that the cause of death is improbable given the geographical setting. Therefore, always check whether such restrictions apply to the underlying cause you selected.

28.3.15.1 Special instructions on Step M4

The following are the sections of the Reference Guide providing special instructions for Step M4.

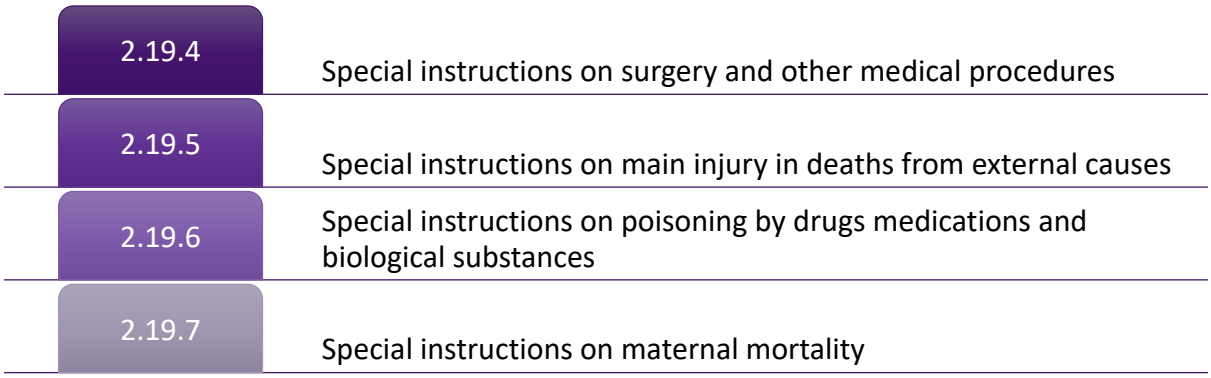


Figure 28-67 - Special Instructions on Step M4 applicable scope

28.3.15.1.1 Special Instructions on Surgery and Other Medical Procedures (ICD-11 Reference Guide section 2.19.4)

Special instructions on surgery and other medical procedures are available in four areas in Section 4.2.9, Volume 2.

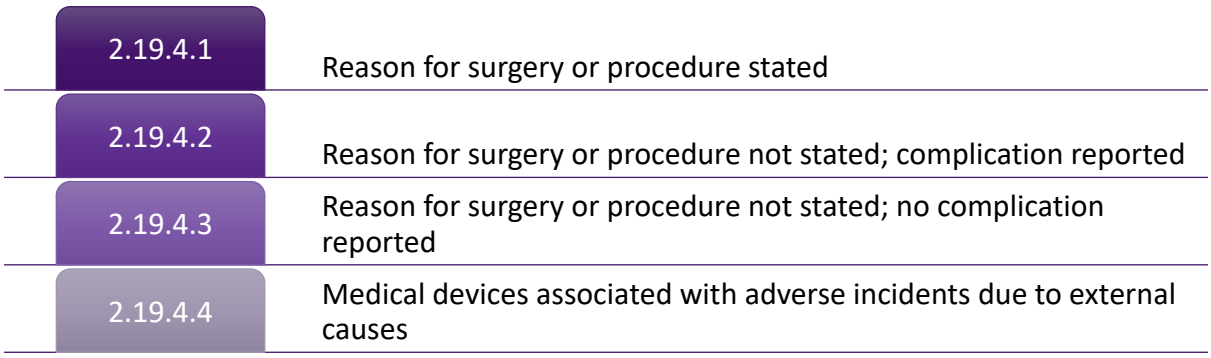


Figure 28-68 - Special Instructions on Surgery and Other Medical Procedures (2.19.4)

Reference Guide section 2.19.4.1. Reasons for surgery or procedure stated

- If the underlying cause you arrived at is surgery or another type of medical procedure, and the certificate states the reason for which the operation or procedure was performed, then select the reason for the operation or procedure as the new tentative underlying cause of death.
- Next, reapply the instructions in Steps SP7 and M1 to M4.

Example

Part 1	a) Postoperative haemorrhage
	b) Caesarean section
	c)
	d)
Part 2	

Figure 28-69 - 2.19.4.1. Reasons for surgery or procedure stated example

- Reason for surgery is prolonged labour.
- The certificate states the reason why the surgery was performed.
- Code the reason for the surgery, prolonged labour, as the underlying cause of death JB03.Z Long labour, unspecified.

Reference Guide section 2.19.4.2 Reasons for surgery or procedure not stated; complication reported

If the reason for the surgery or procedure is not reported and a complication is reported, proceed as follows:

a. If surgery indicates a specific organ or site, use the code for the residual category for the organ or site operated on as the new tentative underlying cause of death.
   - Next, reapply the instructions in Steps SP7 and M1 to M4
   - Residual categories in ICD capture conditions or diseases that do not fit into any other specific category ("Other" and "Unspecified")

Example 1

Figure 28-70 - 2.19.4.2 Reasons for surgery or procedure not stated; complication reported example

- The certificate does not specify the reason for the surgery, but a complication, pulmonary embolism, is reported.
- There is no default code for the term appendectomy.
- The term appendectomy indicates the appendix as the organ operated on.
- Code DB1Z Diseases of the appendix, unspecified as the underlying cause of death.

b. If the above does not apply, then use the appropriate code from:
   - JB0C *Complications of anaesthesia during labour or delivery*
   - JB0D.3 *Other complications of obstetric surgery or procedures*
   - PK80-PK8Z *Surgical or other medical procedures associated with injury or harm in diagnostic or therapeutic use*
   - PL11 *Mode of injury or harm associated with a surgical or other medical procedure*

Example 2

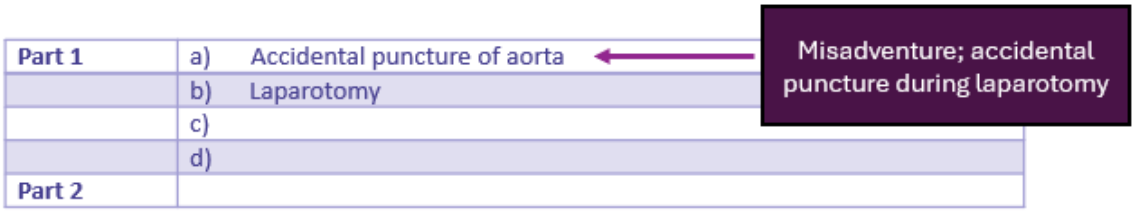


Figure 28-71 - 2.19.4.2 Reasons for surgery or procedure not stated; complication reported example

- The certificate does not specify the reason for the surgery, and the term laparotomy does not indicate a specific organ.
- However, a misadventure is mentioned at the time of the surgery.
- Code the mode of injury, unintentional puncture during laparotomy as the underlying cause of death PL11.0 Cut, puncture or tear, as the mode of injury or harm.
  b. When both PK80-PK8Z and PL11 apply, then code the mode of injury or harm (PL11) first and add the type of surgery or procedure PK80-PK8Z to the cluster.

Reference Guide section 2.19.4.3. Reasons for surgery or procedure not stated; NO complication reported

a. If the type of surgery or procedure indicates a specific organ or site, use the code for the residual category for the organ or site operated on as the new starting point. Next, reapply the instructions in Steps SP7 and M1 to M4.
b. Lastly, if the above does not apply, code to MH14 Other ill-defined and unspecified causes of mortality.

Example

Part 1	a) Laparotomy
	b)
	c)
	d)
Part 2	

Figure 28-72 - 2.19.4.3. Reasons for surgery or procedure not stated; NO complication reported example

- The certificate does not specify why the surgery was performed and the term laparotomy does not indicate a specific organ.
- There is no mention of a complication.
- Code MH14 Other ill-defined and unspecified causes of mortality as the underlying cause of death.

Reference Guide section 2.19.4.4. Medical devices associated with adverse incidents due to external causes

If a death is caused by an incident involving a medical device, but the incident is due to an external cause and not to a breakdown or malfunctioning of the device itself, code the external cause as the underlying cause of death.

If the external cause of the incident is not specifically classified, code to PB6Z Unspecified unintentional cause of morbidity or mortality.

Example

Part 1	a) Inhalation pneumonia
	b) Haemorrhage of the trachea
	c) Fell from bed while attached to the respirator
	d)
Part 2	Respiratory treatment following liver transplant

Figure 28-73 - 2.19.4.4. Medical devices associated with adverse incidents due to external causes example

- There is no mention of breakdown or malfunctioning of the ventilator or the tracheal tube.
- Therefore, code the external cause of the incident.
- Code PL14.E Fall in health care, the accident that caused the haemorrhage as the underlying cause of death, and,
- Additional code, if desired, for XE8PK Bed, bedding or bedding accessories.

EXERCISE 16

Select the underlying cause of death.

Part 1	a) Cardiac and respiratory failure
	b) Stopped administration of inotropic drugs
	c) Accidental removal of subclavian line
	d)
Part 2	Surgery for acute rupture of gallbladder

Answer:

28.3.15.2 Special instructions on the main injury in deaths from external causes (Reference Guide Section 2.19.5)

- If the underlying cause you arrived at by applying the selection and modification rules in Steps SP1 to SP8 and Steps M1 to M3 is an injury, **code the external cause of the injury** as the underlying cause of death (section 2.19.5).

- In addition to the underlying cause from Chapter 23 *External causes of morbidity and mortality*, also code the main injury.

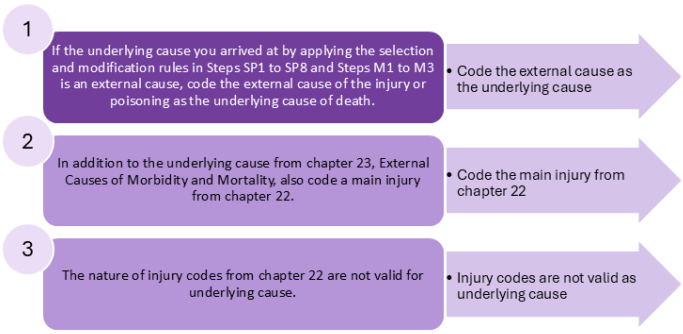


Figure 28 74 - Special instructions on main injury in deaths from external causes (2.19.5)

Deaths due to accidents, violence and other external causes

When coding deaths due to accidents, violence and other external causes, two types of codes are used:

I. **Nature of injury (codes from Chapter 22)**
   - The type of injury or poisoning, e.g., fracture, laceration, burn, open wound, etc.

II. **External cause (codes from Chapter 23)**
   - The circumstances of accident or violence, e.g., fall from a height, being struck by a car, assault with a knife, etc.
   - The external cause code from Chapter 23 is the underlying cause of death.

28.3.15.2.1 The external cause concept

The use of Chapter 23 codes (PA00– PL2Z) permits the classification of environmental events, circumstances and conditions as the cause of injury, poisoning and other adverse effects.

In mortality coding, the external cause will always be the underlying cause for deaths caused by accidents or violence.

28.3.15.2.2 External cause of death

The circumstance of accident or violence is known as the external cause of death. Here are some examples of external causes:

- Motor vehicle accident
- Fall from a height
- Gunshot injury
- Suicide by hanging
- Homicide

In the case of motor vehicle accidents, the circumstances of the accident should be described in as much detail as possible. Here are some examples:

- Pedestrian hit by motor car on trafficway
- Car occupant injured in collision with pick-up truck
- Pedal cyclist injured in collision with a car on a public highway
- Car occupant injured in collision with a tree on a public highway

For transport accidents, code the following:

- Main injury from chapter 22 (N)
- External cause from chapter 23 (P)
- Extension codes (X)
    - Activity
    - Place of occurrence
    - Transport event descriptor
    - Alcohol use in injury
    - Psychoactive drug use in injury

If the underlying cause you arrived at by applying the selection and modification rules in Steps SP1 to SP8 and Steps M1 to M3 is an injury, code the external cause of the injury as the underlying cause of death (see Section 2.19.5).

Code the main injury in addition to the underlying cause from Chapter 23 *External causes of morbidity and mortality*.

28.3.15.2.3 Main injury in deaths from external causes

a. When the injuries reported include superficial and trivial injuries, whether in Part 1 or Part 2, select the main injury as if the superficial or trivial injury had not been reported.

Example 1

Part 1	Contusion of the arm and fracture of the skull
	Fall from scaffolding
Part 2	

Figure 28-74 - Main injury in deaths from external causes example 1

- Code underlying cause to fall from scaffolding. PA61 Unintentional fall from a height of 1 meter or more.
- Use additional code, if desired, for scaffolding XE7RK.
- As the main injury, code fracture of the skull, fracture of skull and facial bones, part unspecified NA02. Z.
- Disregard contusion of the arm as it is in Annex 3.14.10, List of conditions unlikely to cause death.

b. When serious (non-superficial and non-trivial) injuries are reported in both Part 1 and Part 2, select the main injury from Part 1.

- This applies even when the injuries in Part 2 have a higher rank in Annex 3.14.5 of the Reference Guide*, Priority ranking of ICD-11 nature-of-injury codes*, than the injuries listed in Part 1.

Priority ranking of nature-of-injury codes

The priority ranking of the nature of injury codes is produced to standardize and facilitate the coding of the main injury. The list was created with substantial input from the International Collaborative Effort (ICE) on Injury Statistics. The initial list was introduced in 2011 after testing in several countries, and updates were made to correct errors in the initial list.

(1 = Highest priority rank) *

Code	Title	Rank
NA00	[Superficial injury of head]	6
NA01	[Open wound of head]	6
NA02	[Fracture of skull or facial bones]	6
NA02.0	[Fracture of vault of skull]	3
NA02.1	[Fracture of base of skull]	4
NA02.2	[Orbital fracture]	6
NA02.3	[Fracture of nasal bones]	6
NA02.4	[Fracture of maxilla]	6
NA02.5	[Fracture of zygoma]	6
NA02.6	[Enamel-dentin fracture]	6
NA02.7	[Fracture of mandible]	6
NA02.8	[Multiple fractures involving skull or facial bones]	3

*Figure 28-75 – Examples from the Priority ranking of nature-of injury codes **

* "World Health Organization. International Classification of Diseases, 11th Revision (ICD-11). Geneva: World Health Organization; 2022. Available from: https://icd.who.int/en."

Example 2

Part 1	a) Multiple thoracic injuries (NB35)
	b) Car driver collision with bus (PA04)
	c)
	d)
Part 2	Brain injuries (NA07.Z)

Figure 28-76- Main injury in deaths from external causes example 2

- Code to car driver injured in collision with bus as underlying cause of death (PA04)
- As the main injury, code Multiple injuries of the thorax (NB35)
- Unspecified brain injury has a higher rank than multiple injuries of thorax (Annex 3.14.5), but multiple injuries of thorax are mentioned in Part 1 and take precedence over the injuries mentioned in Part 2.

c. When non-trivial injuries are reported only in Part 2, select the main injury from Part 2.

d. When more than one serious injury is reported in the relevant part of the certificate, select the main injury according to Annex 3.14.5, *Priority ranking of ICD-11 nature-of-injury codes*.

- Note that 1 is the highest priority rank and that 6 is the lowest.

Example 3

Part 1	a) Multiple thoracic injuries (NB35) and Brain injuries (NA07.Z)
	b) Car driver collision with the bus (PA04)
	c)
	d)
Part 2	

Figure 28-77 - Main injury in deaths from external causes example 3

- Code to car driver injured in collision with the bus as the underlying cause of death (PA04).
- As the main injury, code brain injury (NA07.Z *Intracranial injury, unspecified*), which has a higher rank on the priority list than NB35 *Multiple injuries of the thorax*.

e. When more than one of the serious injuries reported in the relevant part of the certificate has the same and highest rank, select the first mentioned of these injuries.

- However, prefer a specific injury over an injury from the group ND30–ND37, Injuries involving multiple body regions, with the same priority rank.

Example 4

Part 1	a) Multiple injuries of intrathoracic organs (NB32.7) with rupture of the aorta (NB30.01)
	b) Car driver collision with a bus (PA04)
	c)
	d)
Part 2	

Figure 28-78 - Main injury in deaths from external causes example 4

- Code to car driver injured in collision with a bus as the underlying cause of death (PA04).
- As main injury, code rupture of the aorta (NB30.01 *Traumatic rupture of thoracic aorta*).

- Multiple injuries of the thorax and rupture of the aorta have the same rank (1) on the priority list, but a specific injury takes precedence over an injury from the group injuries involving multiple body regions.

Code	Title	Rank
NB32.5	Injury of thoracic trachea	2
NB32.6	Injury of pleura	4
NB32.7	Multiple injuries of intrathoracic organs	1
NB30	Injury of blood vessels of thorax	-
NB30.0	Injury of thoracic aorta	1
NB30.1	Injury of innominate or subclavian artery	5

*Figure 28-79 - Priority ranking of nature-of-injury codes **

"World Health Organization. International Classification of Diseases, 11th Revision (ICD-11). Geneva: World Health Organization; 2022. Available from: https://icd.who.int/en."

EXERCISE 17

Select the underlying cause of death and main injury.

Part 1	a) Fracture base of the skull, Fracture femur
	b) Pedestrian knocked down by a car
	c)
	d)
Part 2	

Figure 28-80 - Main injury in deaths from external causes - Exercise 1

Answer

28.3.15.3 Special Instructions on poisoning by drugs medicaments and biological substances (ICD-11 Reference Guide Section 2.19.6)

Poisoning by drugs, medicaments, and biological substances could happen due to:

- Accidental causes
- Intentional self-harm
- Undetermined intent or
- Adverse effects during therapeutic use

Below is some information about some drugs used as examples in this module.

Heroin

- Heroin is also known as diacetylmorphine and diamorphine
- Synthesized from the dried latex of the Papaver somniferum plant
- A highly addictive analgesic drug
- Often used illicitly as a narcotic, producing euphoria
- Heroin is a hallucinogen or psychodysleptic
- Hallucinogens are drugs that can potentially change the way people see, hear, taste, smell or feel and affect mood and thought

Diazepam

- Diazepam belongs to a class of drugs known as benzodiazepines
- Used to treat anxiety, alcohol withdrawal and seizures
- It is also used to relieve muscle spasms and to provide sedation before medical procedures
- Diazepam works by calming the brain and nerves

Amitriptyline

- A tricyclic antidepressant primarily used to treat major depressive disorder, a variety of pain syndromes such as neuropathic pain, fibromyalgia, migraine and tension headaches

Amphetamine

- Amphetamine is a central nervous system stimulant used to treat attention deficit hyperactivity disorder, narcolepsy and obesity

Flunitrazepam

- Flunitrazepam is a benzodiazepine
- Used to treat severe insomnia and assist with anaesthesia
- As with other hypnotics, flunitrazepam has been advised to be prescribed only for short-term use or by those with chronic insomnia on an occasional basis

Alcohol

- Alcohol is a psychoactive substance with dependence-producing properties that has been widely used in many cultures for centuries
- The harmful use of alcohol causes a high disease burden and has significant social and economic consequences

For Poisoning caused by drugs, medicaments and biological substances, code the following:

- Main injury from Chapter 22 (N)
- External cause from Chapter 23 (P)
- Extension codes (X)
    - Medication
    - Activity when injured
    - Object or substance-producing injury
    - Place of occurrence

28.3.15.4 Reference Guide Section 2.19.6 Special instructions on poisoning by drugs, medications and biological substances

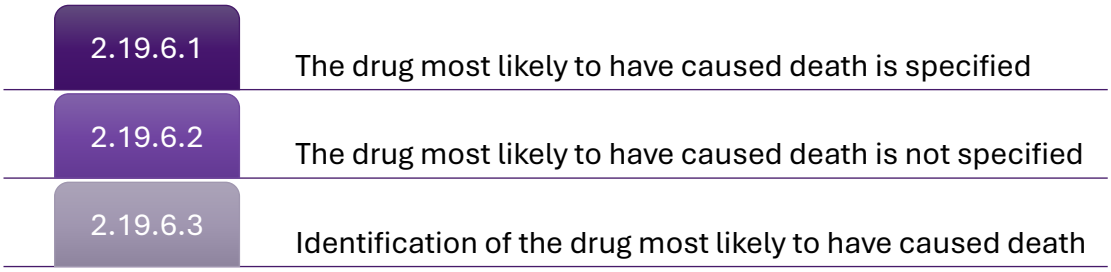


Figure 28-81 - Special Instructions on poisoning by drugs medicaments and biological substances (ICD-11 Reference Guide section 2.19.6)

Reference Guide Section 2.19.6.1. The drug most likely to have caused death is specified

- If one of the substances is specified as the substance most likely to have caused the death, code the external cause code for that substance as the underlying cause of death.
- Use additional code from Chapter X, extension codes if applicable, to identify the specific substance reported and add the main injury from Chapter 22 to the cluster.

Example

Part 1	a) **Accidental heroin overdose**
	b)
	c)
	d)
Part 2	Diazepam and Amitriptyline present

Figure 28-82 - 2.19.6.1. The drug most likely to have caused death is specified example

- Certifier has identified heroin as the most important and is reported in Part 1
- Select accidental poisoning by heroin as the underlying cause

Accidental heroin overdose

Step 1

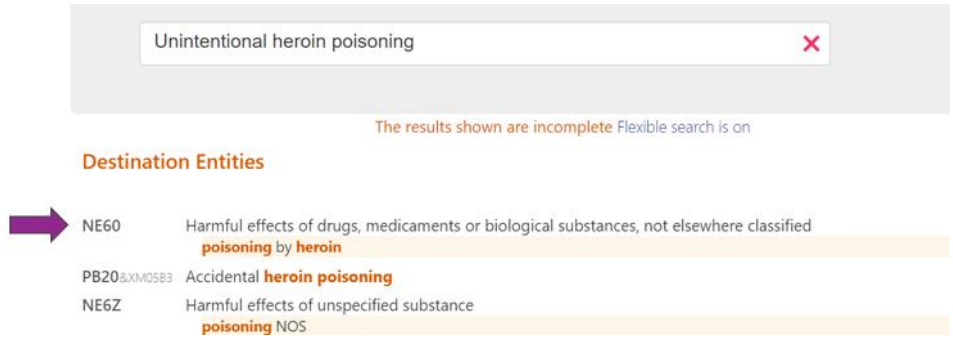


Figure 28-83 - Accidental heroin overdose step 1

Step 2

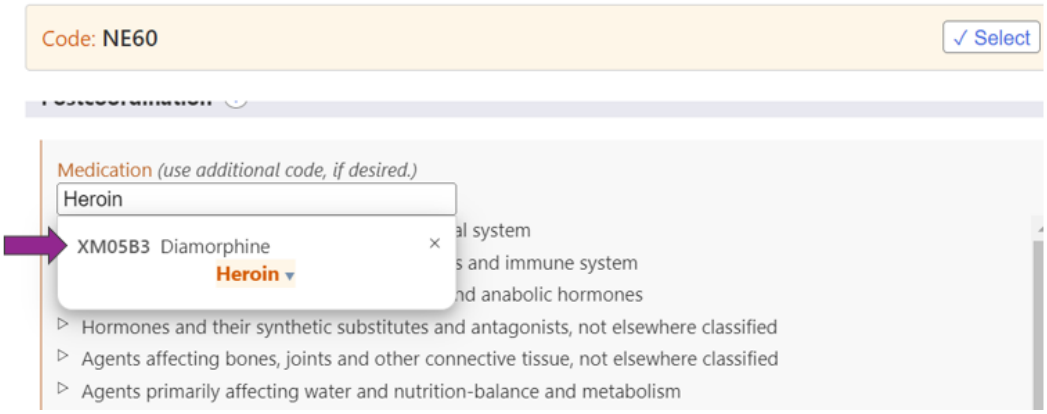


Figure 28-84 - Accidental heroin overdose step 2

Step 3

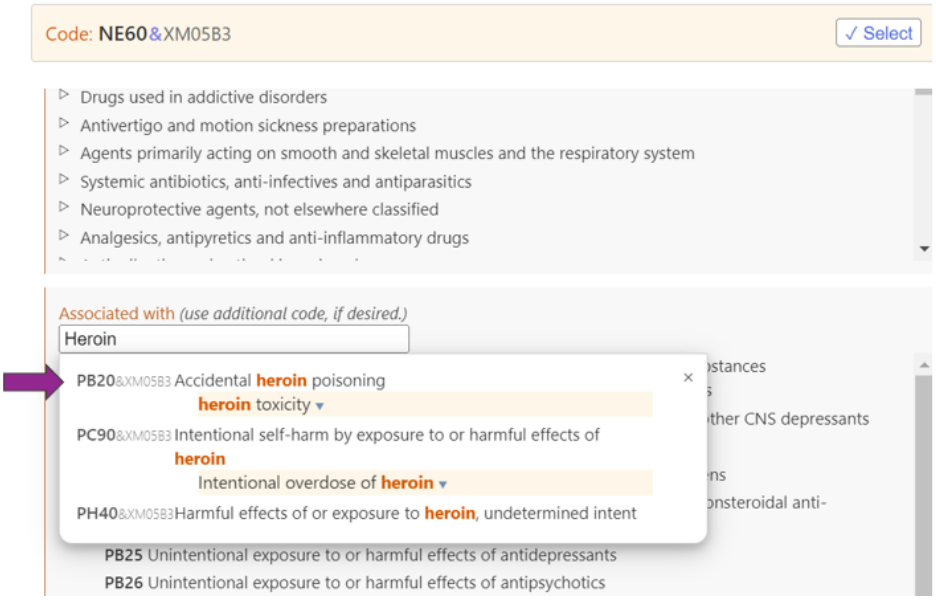


Figure 28-85 - Accidental heroin overdose step 3

Step 4

Figure 28-86 - Accidental heroin overdose step 4

- External cause
  - PB20 Unintentional exposure to or harmful effects of opioids or related analgesics
- Main injury
  - NE60 Harmful effects of drugs, medicaments or biological substances not elsewhere classified, poisoning by heroin
- Substance
  - Use additional code XM05B3 Diamorphine to identify the specific substance reported
  - By placing heroin overdose alone in Part 1 and reporting the other substances as contributing causes of death in Part 2, the certifier has identified heroin as the substance most likely to have caused the death.
- Select PB20 Unintentional exposure to or harmful effects of opioids or related analgesics as the underlying cause.
- Use additional code XM05B3 Diamorphine to identify the specific substance reported.
- Add the main injury from Chapter 22 NE60 Harmful effects of drugs, medicaments or biological substances, not elsewhere classified, NEC to the cluster.
- The cluster is PB20&XM05B3/NE60.

Reference Guide section 2.19.6.2. The drug most likely to have caused death is not specified

- If none of the drugs is specified as the most important substance in bringing about the death, code as follows:
- Combinations of alcohol with a drug; code to the drug.
- For combinations of multiple drugs, code as follows:
  - If the external cause of the multiple drugs reported is the same, select that as the underlying cause of death.

- If the external cause of the multiple drugs reported is different, code PB29 Unintentional exposure to or harmful effects of multiple drugs, medicaments or biological substances as the underlying cause of death.

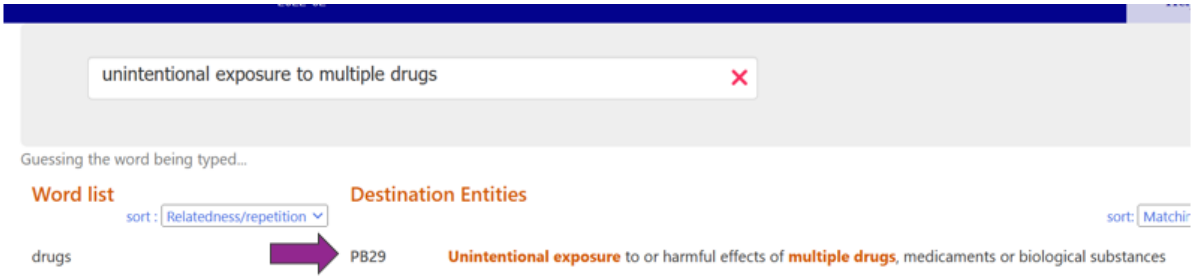


Figure 28-87 - 2.19.6.2. The drug most likely to have caused death is not specified example 1

Example 1

Part 1	a) Toxic levels of alcohol and flunitrazepam
	b)
	c)
	d)
Part 2	Diazepam and amitriptyline present

Figure 28-88 - 2.19.6.2. The drug most likely to have caused death is not specified example 2

- The certifier has identified alcohol and flunitrazepam as the most important substances in bringing about death.
- Poisoning by the combination of alcohol and drug is coded to drug

Toxic levels of flunitrazepam – Injury code

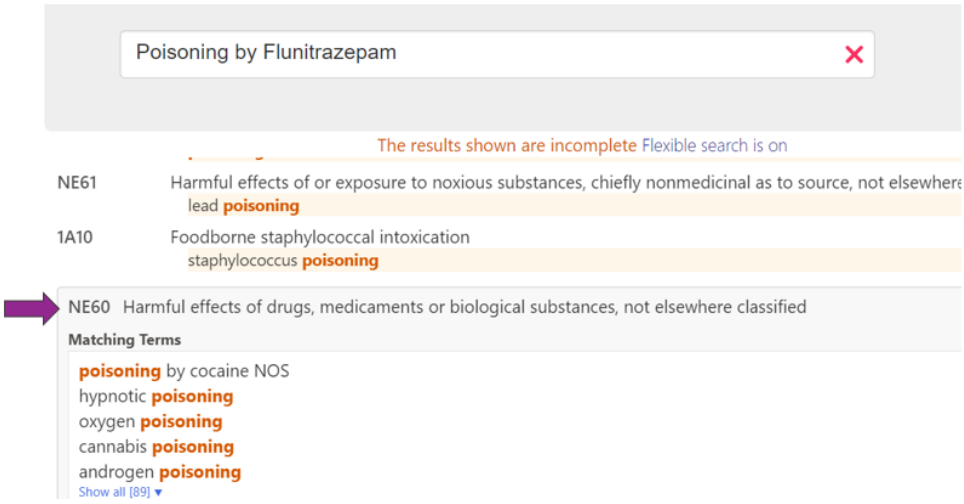


Figure 28-89 - Toxic levels of flunitrazepam - Injury code

Toxic levels of flunitrazepam – Extension code for the drug

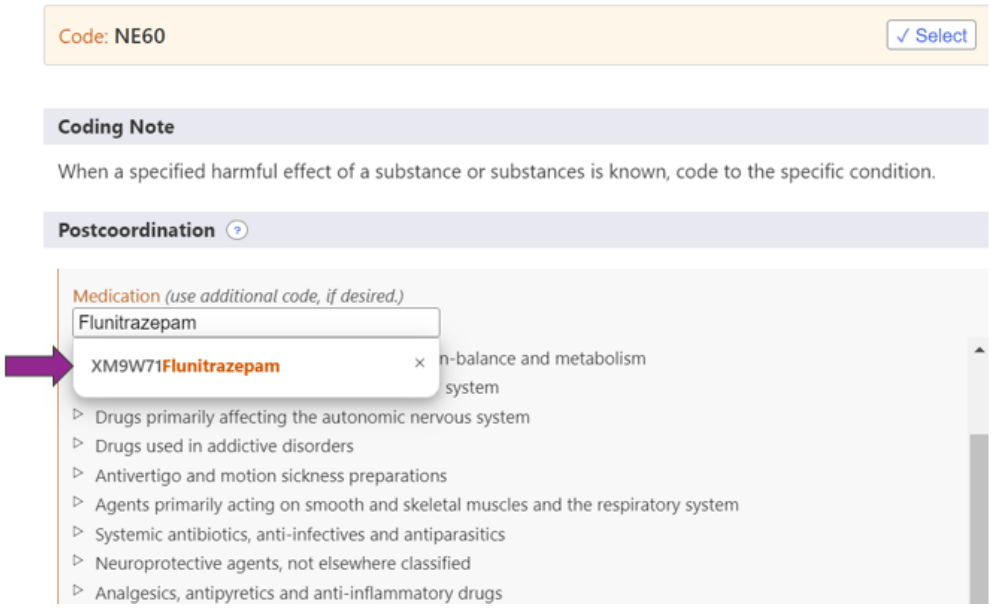


Figure 28-90 - Toxic levels of flunitrazepam - Extension code for the drug

External cause

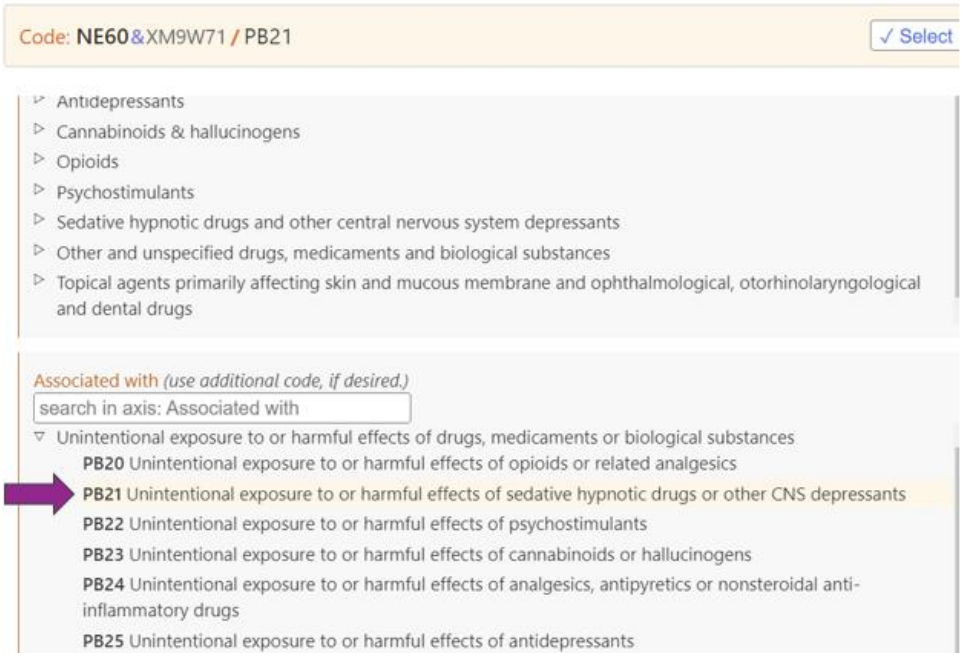


Figure 28-91 - External cause

- Select poisoning by flunitrazepam because combinations of alcohol with a drug are coded to the drug.
- Select *PB21 Unintentional exposure to or harmful effects of sedative-hypnotic drugs or other CNS depressants*.
- Use additional code XM9W71 flunitrazepam to identify the specific substance reported.

- And add *NE60 Harmful effects of drugs, medicaments or biological substances, not elsewhere classified (NEC)*.
- The cluster is **PB21&XM9W71/NE60**.
- Code combinations of multiple drugs as follows:
    - If the external cause of the multiple drugs reported is the same, select that as the underlying cause of death.
    - If the external cause of the multiple drugs reported is not the same, code *PB29 Unintentional exposure to or harmful effects of multiple drugs, medicaments or biological substances* as the underlying cause of death.
- Go to **Section 2.19.6.3** to identify the drug most likely to have caused the death.

Reference Guide section 2.19.6.3. Identification of the drug most likely to have caused death

- Use the priority order in Section 2.19.6.3 of the Reference Guide to identify the substance most likely to have caused the death (1 = highest priority).
- If there is more than one drug in the same priority group, code to the first mentioned.
- Refer to Section 2.19.6.3 to identify the substance most likely to have caused the death.
- Highest priority: 1
- Rank: heroin=1; diazepam=11
- Heroin is the substance most likely to have caused the death - **XM05B3 – diamorphine, heroin**

Example 1

Part 1	a) Toxic levels of cocaine, heroin, diazepam and amitriptyline
	b)
Part 2	

Figure 28-92 - 2.19.6.3. Identification of the drug most likely to have caused death example

- None of the drugs is identified as the substance most likely to have caused the death, and the external cause code is not the same for these substances.
- Cocaine=PB22; heroin= PB20; diazepam= PB21 amitriptyline= PB25
- Code to *PB29 Unintentional exposure to or harmful effects of multiple drugs, medicaments or biological substances* as the underlying cause of death.
- On the priority list above, cocaine is in Group 8, heroin is in Group 1a, diazepam is in Group 11, and amitriptyline is in Group 3.
- Use additional code XM05B3 Diamorphine for the drug identified (PB29 & XM05B3).
- Add codes, if desired, from Chapter X to list other drugs reported.
- Finally, add *NE60 Harmful effects of drugs, medicaments or biological substances not elsewhere classified* to the cluster (PB29&XM05B3/NE60).

EXERCISE 18

Select the underlying cause of death and the main injury.

Part 1	a) Poisoning by amphetamine	
	b)	
	c)	
	d)	
Part 2	Toxic levels of flunitrazepam	

Figure 28-93 - Reference Guide section 2.19.6– Exercise 18

Answer

EXERCISE 19

Select the underlying cause of death and the main injury.

Part 1	a) Poisoning by alcohol	
	b)	
	c)	
	d)	
Part 2	Toxic levels of heroin and flunitrazepam	

Figure 28-94 - Reference Guide section 2.19.6– Exercise 19

Answer

EXERCISE 20

Select the underlying cause of death and the main injury.

Part 1	a) Accidental poisoning by alcohol, heroin and diazepam	
	b)	
	c)	
	d)	
Part 2		

Figure 28-95 - Reference Guide section 2.19.6 - Exercise

Answer

28.3.15.5 Special Instructions on Maternal Mortality (ICD-11 Reference Guide Section 2.19.7)

28.3.15.5.1 Maternal Mortality Definitions

Preventing maternal deaths is important for several reasons. Firstly, every woman has the right to survive pregnancy and childbirth, and preventing maternal deaths is essential for upholding this fundamental human right. Maternal mortality also has a profound impact on families and communities. When a mother dies, her children are more likely to suffer from poor health outcomes and are at higher risk of mortality themselves. Additionally, maternal deaths can have economic implications, as they can lead to a decrease in household income and productivity.

The definition of maternal death is an international definition used by WHO for statistical tabulation. There are no national variations to this definition. The ICD codes in Chapter 18 are used to code maternal deaths.

- **Maternal death**

  A maternal death is the death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and the site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management, but not from **accidental** or **incidental** causes.

  - **Examples of accidental causes of maternal deaths**
    - Pregnant woman hit by a bus
    - Death of a pregnant woman due to an assault
  - **Examples of incidental causes of maternal death**
    - Drug overdose or substance abuse-related conditions
    - Alcohol intoxication
  - **Late maternal death**

  - A late maternal death is the death of a woman from direct or indirect obstetric causes more than 42 days but less than one year after termination of pregnancy.
  - The applicable ICD codes for late maternal deaths are JB61.0 to JB61.Z.

- **Pregnancy-related death**

  A pregnancy-related death is the death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the cause of death.

- **Maternal deaths are divided into two groups**
  - **Direct obstetric death**
  - **Indirect obstetric death**

- **Direct Obstetric death**
  - Direct obstetric deaths are those resulting from obstetric complications of the pregnant state (pregnancy, labour and puerperium), from interventions, omissions, incorrect treatment or from a chain of events resulting from any of the above.
  - Examples may include eclampsia, amniotic fluid embolism, obstructed labour and puerperal sepsis.
  - Direct obstetric deaths are coded to JA00-JB4Z, JB61.0 and JB62.0.
- **Indirect obstetric death**
  - Indirect obstetric deaths are those resulting from previous existing disease or disease that developed during pregnancy, and which was not due to direct obstetric causes, but which was aggravated by the physiologic effects of pregnancy.
  - Examples may include congenital heart disease, malaria, etc.
  - Indirect obstetric deaths are coded to the ICD codes JB61.1 (late maternal deaths), JB62.1 (Sequelae of indirect causes) and JB63-JB64.

28.3.15.5.2 Special Instructions on Maternal Mortality Rules

- The ICD codes in Chapter 18 are used to code maternal deaths.
- Chapter 18 codes range from JA00 to JB6Z.
- If pregnancy, childbirth or puerperium is mentioned anywhere on the certificate, in most cases, the underlying cause is coded to Chapter 18 Pregnancy, childbirth and the puerperium.
- If pregnancy, childbirth or puerperium is reported anywhere on the certificate but it is not clearly stated that pregnancy, childbirth or puerperium contributed to the death, first contact the certifier.
- If the certifier states that the death was a complication of pregnancy, childbirth or puerperium, code the underlying cause to Chapter 18 Pregnancy, childbirth and the puerperium.
- If the certifier states that the death was not a complication of pregnancy, childbirth or puerperium, do not code the underlying cause to Chapter 18.
- If you cannot obtain additional information, but pregnancy, childbirth or puerperium is mentioned in Part 1 or Part 2 of the certificate, code the underlying cause to Chapter 18.

Example 1

Part 1	a) Amniotic fluid embolism
	b)
	c)
	d)
Part 2	

Figure 28-96 - Special Instructions on maternal mortality rules example

The underlying cause, amniotic fluid embolism, is indexed to Chapter 18 JB42.1.

Example 2

Part 1	a) Pulmonary oedema CB01
	b) Mitral regurgitation, Pregnancy JB64.4/BB61.Z
	c)
	d)
Part 2	

Figure 28-97 - Special Instructions on maternal mortality rules example

The underlying cause, mitral regurgitation, is coded to Chapter 18 because pregnancy is mentioned in Part 1.

Code the underlying cause to Diseases of the circulatory system complicating pregnancy, childbirth and the puerperium (JB64.4).

If you practice multiple cause coding, also add the code for Mitral regurgitation (BB61.Z) as an additional code.

Example 3

Part 1	a) Hepatic failure
	b) Dengue haemorrhagic fever 5 days
	c)
	d)
Part 2	40 days post-partum

Figure 28-98 - Special Instructions on maternal mortality rules example

Code the underlying cause to JB63.5 Other viral diseases complicating pregnancy, childbirth or the puerperium.

For greater specificity, also add the code for 1D20 Dengue without warning signs to the cluster.

EXERCISE 21

Select the underlying cause of death and the main injury.

Part 1	a) Haemorrhage	
	b) Cervical cancer	
	c)	
	d)	
Part 2	Treatment delayed because of pregnancy	

Figure 28-99 - Reference Guide section 2.19.7 - Exercise

Answer

The content in this chapter is sourced from the World Health Organization's International Classification of Diseases Eleventh Revision (ICD-11). Please refer to the International Classification of Diseases Eleventh Revision (ICD-11). Geneva: World Health Organization; 2022.

MODULE 29

Overview of Morbidity Coding

MODULE 29

29 OVERVIEW OF MORBIDITY CODING

Morbidity refers to the presence of disease, illness, or health conditions in a population or an individual. It is used to describe the incidence and prevalence of health issues that do not necessarily result in death but impact a person's quality of life and functioning or require medical intervention.

Morbidity data helps track how widespread or common certain conditions are, allowing healthcare providers and public health officials to understand and manage diseases, conditions, or injuries within a population.

29.1 Definition and Purpose of Morbidity Coding

Prior to 1948, the ICD was used exclusively for mortality coding. However, with the 6th revision in 1948, its potential for morbidity coding was recognized, leading to an expansion that allowed for the coding of non-fatal conditions. Since then, there has been a steady increase in the number of categories available for coding non-fatal and other health-related conditions.

In the context of medical coding, morbidity is crucial for documenting the prevalence and incidence of diseases, injuries and health conditions within populations. ICD-11 is used to classify and code these conditions, offering a standardized system for identifying and tracking various non-fatal health issues across healthcare settings, ranging from chronic illnesses to acute conditions and injuries. This coding system helps healthcare providers and organizations consistently document patient conditions, improving data accuracy and comparability worldwide.

The ICD-11 framework for morbidity coding plays a crucial role in capturing non-fatal health conditions, enabling comprehensive monitoring of disease prevalence, injuries and other health-related issues. By providing a standardized system for tracking these conditions, ICD-11 supports informed decision-making in healthcare planning, policy development and resource allocation. The accurate application of ICD-11 morbidity codes not only helps improve patient care but also contributes to a deeper understanding of global health trends, driving more effective public health interventions.

For the purposes of ICD, the term morbidity covers:

- Illness
- Injuries
- Screening
- Preventive care
- Reasons for contact with health services other than illnesses

29.1.1 Purpose

The purpose of morbidity coding is to provide a comprehensive and standardized method for tracking health conditions in populations. Accurate morbidity data is essential for informing public health policies, healthcare planning and resource allocation, as it helps identify patterns of disease and health needs within communities. By capturing data on non-fatal conditions, morbidity coding aids in monitoring healthcare outcomes, evaluating treatment effectiveness and addressing public health challenges, ultimately improving population health and guiding healthcare interventions.

29.1.2 An Episode of Healthcare

A period of inpatient care or a contact or series of contact with a healthcare practitioner in relation to same condition or its immediate consequences.

29.1.3 Contact with Health Services for Reasons other than Illness

Episodes of health care or contact with health services are not necessarily restricted to treatment or investigation of a current illness or injury. Episodes may also occur when someone who is not currently sick receives or requires services. Then, the details of the relevant circumstance should be recorded as the **Main Condition.**

- Monitoring of previously treated condition
- Immunization
- Contraceptive management
- Antenatal and postpartum care
- Examination of healthy persons
- Seeking of health-related advice
- Advice for persons with social problems
- Consultation on behalf of a third party

ICD 11 Chapter 24 Factors influencing health and reasons for contact with health services provides a broad range of categories for coding these circumstances.

Morbidity usually relates to a single episode of health care.

What is an episode of health care?

An episode of health care means:

- A period of inpatient care, or
- A contact or series of contact with a health care practitioner in relation to same condition or its immediate consequences.

EXERCISE 1

- A 75-year-old woman was admitted for cataract extraction (ophthalmology speciality). The procedure was performed, but the patient had a fall a few days following surgery.
- She suffered a fractured hip and remained in the hospital for treatment (orthopaedic speciality).
- How many episodes of care occurred during this admission?

Answer

29.1.4 Sources of Morbidity Data

- Hospital records
- School medical records
- Death certificates
- Armed Services records
- Occupational medical records
- Health surveys
- Outpatient records (ambulatory care)
- Maternal and child health records
- Cancer and chronic disease registry records

29.1.5 Uses of Morbidity Data

- Provides clues to causes of diseases
- Allocation of resources
- Identification of risk populations
- Priorities for disease prevention programs
- Epidemiology
- Clinical research

At the end of an episode of care, the clinician should **record all conditions** which affected the patient during that period.

- **Single condition coding:** In some places, one diagnosis will be singled out for coding.
- **Multi-condition coding**: In other places, all diagnoses will be coded for each episode of care.

29.1.6 Single Condition Coding

- With single-condition coding, there is a need to choose the **main condition** from the set of diagnoses.
- The definition of main condition relates to describing an episode of hospital-based care.
- Record/identify as the main condition the one condition that is determined to be the reason for admission, established at the end of the episode of health care.

29.1.7 Multi-Condition Contributing to the Need for Admission

- Where an episode of health care concerns more than one condition contributing to the need for admission (e.g., congestive heart failure and pneumonia; acute cerebral haemorrhage and hip fracture), the healthcare practitioner should record/identify the main condition to be the one condition that is deemed to be the most clinically significant reason for admission.
- Clinicians and coders will have no trouble choosing a main condition if the patient is treated for only one condition during an episode of care. However, many cases are not that simple.

29.1.8 Other Conditions (OC)

Other conditions are defined as those that coexist or develop during the healthcare episode and affect the patient's management.

What does "affect the management of the patient" mean?

Those that affect the patient in terms of requiring any of the following:

- Clinical evaluation
- Therapeutic treatment
- Diagnostic procedures
- Extended length of hospital stay
- Increased nursing care and/or monitoring

29.1.9 Guidelines for Recording Diagnostic Information for Single-Condition Coding

General

A properly completed record is essential for good patient management. The healthcare practitioner responsible for the patient's treatment should select the main condition as well as the other conditions.

Specificity and detail

Diagnostic statements should be informative as possible.

Example:

Transitional cell carcinoma of trigone of the bladder

Acute appendicitis with perforation

Diabetic cataract, insulin-dependent

Meningococcal pericarditis

Uncertain diagnoses or symptoms

There can be instances where no definite diagnosis is established by the end of the episode of health care. When a diagnosis has been considered but not established, it should not be stated as "possible," "questionable" or "suspected."

If no definite diagnosis has been established by the end of the episode of care, an important symptom, abnormal finding or problem should be recorded.

Multiple conditions

When an episode of care concerns a number of related conditions, the one that is clearly more severe and demanding of resources should be considered as the main condition and the others as other conditions.

Where no condition predominates, a term such as multiple fractures or multiple head injuries should be recorded as the main condition, followed by a list of conditions.

Conditions due to external causes

When a condition such as an injury, poisoning or other effects of external causes is recorded, describe fully both the nature of the condition and the circumstances that gave rise to it.

Examples:

1. "Fracture of neck of the femur caused by fall due to slipping on the greasy pavement."
2. "Cerebral contusion caused when a patient lost control of the car, which hit a tree."
3. "Accidental poisoning–patient drank disinfectant in mistake for a soft drink."

Treatment of sequelae

Where an episode of care is for the treatment or investigation of a residual condition of a disease that is no longer present, the sequela should be fully described, and its origin stated, together with a clear indication that the original disease is no longer present.

Example:
"Deflected nasal septum—fracture of the nose in childhood."

"Infertility due to tubal occlusion from old tuberculosis."

29.2Guidelines for Coding of Main and Other Conditions

The main condition should be selected by a clinician at the end of an episode of care—or, if necessary, by a coder applying the rules of reselection.

Once the main condition is selected, the case may be coded according to routine coding procedures and the policies of the establishment.

Even when single cause coding is employed, all other conditions should be recorded so that the coder is aware of the complete clinical picture.

29.2.1 Coding Suspected Conditions

- If a more specific diagnosis has not been made by the end of the inpatient stay, or if there is truly no codable current illness or injury, codes from **Chapters 21 Symptoms, signs or clinical findings, not elsewhere classified** and **Chapter 24 Factors influencing health status or contact with health services** are permissible.
- If the main condition is still recorded as "suspected," "questionable," etc., the suspected diagnosis should be coded as if established.
- **Example**
    - Main condition: Suspected acute cholecystitis. If there is no further information available to indicate that a definitive diagnosis was reached, code to **DC12.0Z Acute cholecystitis, unspecified** as the main condition.

29.2.2 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 (i.e., precoordinated concept). Such combination categories should be used where appropriate information is recorded.

Example
Kyphoscoliosis with related heart disease

MC= Kyphoscoliotic heart disease BE2Y

29.2.3 Coding of Acute and Chronic Conditions

When the patient is suffering an acute exacerbation of a chronic illness, and no combination category is available:

- Assign the acute aspect of the condition as the preferred main condition, with the chronic aspect of the condition as an optional additional code.
- When an appropriate combination code is provided for both the acute and chronic condition, assign the combination code as the main condition.

Example 1

Acute on chronic appendicitis

MC= acute appendicitis (DB10.0)

OC= chronic appendicitis (DB10.1)

Example 2

Main condition: Acute on chronic cholecystitis

Code **DC12.00 Acute on chronic cholecystitis** as the main condition. This is an example of combination code for both the acute and chronic condition in ICD-11.

29.2.4 Coding of Post-procedural Conditions and Complications

Post-procedural conditions or complications are defined as:

- Conditions caused by acquired absence of an organ
- Any conditions resulting from surgical procedures
- After-effects of radiotherapy or similar treatment

Immediate or acute conditions that occur as a consequence of a procedure may require coding with the three-part quality and safety model.

Example

Postgastrectomy dumping syndrome

MC=Postgastrectomy dumping syndrome (DE11)

29.2.5 Coding of External Causes of Morbidity

- Injuries can be classified by their nature (Chapter 22) and by the external cause that led to injury (Chapter 23).
- Both codes should be used, but the nature-of-injury code is the *preferred main condition* for morbidity coding.

Example 1

Fracture of the skull following fall

MC=Fracture of the skull (NA02.Z)

The external cause code for unintentional fall from unspecified height (PA6Z) is used as an additional code, linked to the fracture code through postcoordination.

Example 2

MC: Fracture of neck of femur caused by fall due to tripping on uneven pavement

MC: Fracture of neck of femur (NC72.2Z)

The external cause code for unintentional fall on the same level or from less than 1 metre (PA60) is used as an additional code linked to the fracture code through postcoordination.

29.2.6 Coding injuries or harm arising from surgical or medical care

Refer to Section 25.8 in this workbook and *Section 2.23.20.1 Overview of code-set in ICD-11 for quality and patient safety* of the ICD-11 Reference Guide.

29.2.7 Coding of adverse events and circumstances in health care that do not cause actual injury or harm

Refer to Section 25.8 in this workbook and *Section 2.23.20.1 Overview of code-set in ICD-11 for quality and patient safety* of the ICD-11 Reference Guide.

29.2.8 Coding a ruled out condition

Many healthcare visits are conducted to assess patients for potential conditions, only to find after further investigation that they do not have the suspected issue. In medical records, these situations are commonly referred to as “ruled out.” Health information systems need to be able to report on these encounters.

ICD-11 includes several codes that describe cases where a suspected condition has been “ruled out.” These codes are found in Chapter 24 under *QA02 Medical observation or evaluation for suspected diseases or conditions, ruled out*. Some of these codes specifically identify the suspected condition, such as:

- Observation for suspected myocardial infarction, ruled out
- Observation for suspected lung cancer ruled out
- Observation for suspected deep venous thrombosis, ruled out

In many other common scenarios, there is no code for a specified suspected condition, in which case, *QA02.Y Medical observation or evaluation for other suspected diseases or conditions, ruled out,* is used. In such cases, postcoordination can be used to specify the suspected condition that was ruled out.

Example

Ruled out myocardial infarction QA02.Y/BA41.Z

29.2.9 Coding of conditions documented as sequela

Where an episode of care is for the treatment or investigation of a residual condition of a disease that is no longer present, the sequela should be fully described, and its origin stated, together with a clear indication that the original disease is no longer present.

"Sequelae" refer to the lingering effects of diseases, disorders, injuries or poisonings that are identified as such, or as late effects of conditions that are arrested, cured, healed, inactive, old or

quiescent, provided there is no evidence of active disease. Conditions classified as sequelae (late effects) are usually categorized using postcoordination based on the specific case.

The ICD-11 code cluster should comprise:

1. A stem code that specifies the particular manifestation (i.e., the nature of the effect).
2. A stem code that indicates the "late effect of."
3. If applicable, a stem code that reflects the earlier condition responsible for the sequelae.

Example

Deflected nasal septum—fracture of nose in childhood

Code cluster: CA0D Defelected nasal septum QC50 Late effect of prior health problem, not elsewhere classified NA02.Y&XA8E16 Fracture of other specified skull or facial bones; Nasal bone

29.3 Rules for reselection when the main condition is incorrectly recorded

29.3.1 Rules for Reselection

- In some instances, the main condition recorded by the clinician may not be consistent with the WHO definition.
- There can be instances where no main condition has been specified.
- WHO has developed a set of rules that can be used to ensure that the main condition selected and coded reflects the condition mainly responsible for the episode of care.
- Coders need to be familiar with these rules and able to apply them.

29.3.2 MB1 Several Conditions Recorded as Main Condition

If several different conditions (that cannot be classified to a single stem code) are recorded as the main condition, and other details on the record point to one of them being the main condition (i.e., one condition determined to be the reason for admission established at the end of the episode of care), select that condition. Otherwise, select the condition first recorded.

If there is the desire to report other discharge diagnosis types (i.e., main resource condition or initial reason for encounter or admission), then the applicable extension code(s) from *Chapter X Extension codes*, should be assigned to indicate the different types of discharge diagnosis types that are reported.

Example 1

- A patient was admitted with complaints of fever, chills, severe headache and stiff neck. Following an investigation, a diagnosis of staphylococcal meningitis was confirmed. While in the hospital, the patient developed pneumonia.
- MC: Staphylococcal meningitis, Pneumonia

Answer

- MC: Staphylococcal meningitis
- OC: Pneumonia

Example 2

A patient who has a history of chronic obstructive pulmonary disease (COPD) was admitted for a biopsy of the prostate. The patient was evaluated for COPD. A biopsy was performed, and the final diagnosis from pathology results was benign prostatic hypertrophy.

Main condition: Chronic obstructive pulmonary disease (COPD). Hypertrophy of the prostate.

Answer:

- MC: Hypertrophy of the prostate
- OC: COPD

Example 3

A patient presents to the hospital at 35 weeks gestation with spontaneous premature rupture of membranes. She does not have any contractions. Examination reveals the baby is in breech presentation; therefore, delivery by caesarean section is recommended. Mother delivers healthy preterm infant by caesarean section.

MC: Premature rupture of membranes. Breech presentation.

Procedure: Delivery by caesarean section

Answer:

- MC: Premature rupture of membranes
- OC(s): Breech presentation, preterm delivery

29.3.3 MB2 Presenting Symptoms of Diagnosed Condition Recorded as Main Condition

If a symptom or sign is recorded as the main condition for a diagnosed condition recorded elsewhere, reselect the diagnosed condition.

Example 1

- MC: Haematuria
- OC: Varicose veins of legs, papilloma of posterior wall of bladder
- Procedure: Diathermy excision of papillomata
- Specialty: Urology
- MC: Papillomata of posterior wall of bladder

Example 2

- MC: (recorded) Coma
- OCs: Ischaemic heart disease; otosclerosis; diabetes mellitus; insulin dependent
- Care: Establishment of the correct dose of insulin
- Speciality: Endocrinology
- Correct MC: Diabetes mellitus, insulin-dependent

EXERCISE 2

What is the correct main condition in the example below?

- MC: Abdominal pain
- OCs: Acute appendicitis
- Procedure: Appendicectomy

Answer

EXERCISE 3

What is the correct main condition in the example below?

- MC: Faecal incontinence
- OC: Angina, Crohn's disease, large intestine
- Procedure: Partial excision, colon

Answer

29.3.4 MB3 - Signs and Symptoms Recorded as Main Condition with Alternative Conditions Recorded as the Cause

Where a symptom or sign is recorded as the main condition, with documentation that it may be due to either one condition or another, select the symptom as the main condition.

Example 1

- MC: Headache due to either stress and tension or acute sinusitis
- OCs: —
- Correct MC: Headache
- ICD-11 Code: [to be assigned]

EXERCISE 4

What is the correct main condition in the example below?

- MC: Nausea and vomiting due to food poisoning or appendicitis
- OCs: —

Answer

The content in this chapter is sourced from the World Health Organization's International Classification of Diseases Eleventh Revision (ICD-11). Please refer to the International Classification of Diseases Eleventh Revision (ICD-11). Geneva: World Health Organization; 2022.

MODULE 30

Comprehensive Framework for ICD-11 Implementation and Support

MODULE 30

30 COMPREHENSIVE FRAMEWORK FOR ICD-11 IMPLEMENTATION AND SUPPORT

The 11th revision of the International Classification of Diseases was approved by the World Health Assembly in 2019. It was made available for use by countries for the reporting of health statistics beginning on 1 January 2022. The World Health Assembly recognized that it would take time for countries to prepare for implementation of ICD-11, estimating that it will take countries five years or more for the testing, personnel training and other activities required before the revision can be implemented.

ICD-11 is comprised of several separate reference classifications, including the ICD-11 Mortality and Morbidity Statistics (ICD-11 MMS, or simply ICD-11) classification, the International Classification of Functioning (ICF) and the International Classification of Health Interventions (ICHI). All three classifications are derived from the Foundation, which is a collection of more than one hundred thousand entities used to describe diseases, disorders, body parts, body functions, reasons for visit, medical procedures and other items relevant to health care.

ICD-11 contains more than 85,000 entities representing chapters, blocks and categories. The blocks and categories are separated into 28 chapters. Blocks are used to group categories together, while each category is assigned a unique alphanumeric code. The ICD-11 also contains an index with more than 120,000 diagnostic terms, including synonyms and phrases, used by physicians to describe diseases or circumstances that can be coded with ICD-11. The Reference Guide describes the components of ICD-11, provides guidance for certification, recording, rules for mortality coding (i.e. causes of death statistics) and morbidity coding (e.g. hospital statistics) and lists for tabulation of statistical data.

30.1 Updates and Revisions

30.1.1 ICD-11 Implementation

The World Health Assembly endorsed the 11th revision of the ICD at the 72nd meeting in 2019. The revision came into effect worldwide at the beginning of 2022 and should be used for reporting health statistics from that date. Implementation of ICD revisions, however, requires careful planning and coordination across a number of groups using or affected by revisions to the ICD. Given the significantly greater complexity of ICD-11 as compared to previous revisions, ICD-11 implementation will necessarily require additional time and coordination across groups than did implementation of previous ICD revisions. Current estimates of the time required for implementation are four years or more, depending on a country's previous experience with the ICD, need to assure continuity with previously reported disease trends and complexity of the country's health care system. WHO reports that more than 100 countries currently are at various stages of the ICD-11 implementation process. Although all countries represented in the World Health Assembly committed to ICD-11 implementation by 2022, there are no sanctions for late implementation.

WHO has developed a variety of material to assist countries with ICD-11 implementation. Chief among these is the WHO ICD-11 Implementation or Transition Guide which provides high-level guidance on the steps and actions to take as part of ICD-11 implementation. Countries can find more detailed guidance on implementation in a companion publication from the Bloomberg

Philanthropies Data for Health Initiative resource library, A Practical Implementation Guide for ICD-11 for Mortality.

30.1.2 ICD-11 Updates

Approved updates to ICD-11 are incorporated in annual releases of ICD-11, including releases issued in 2023 and 2024. The ICD maintenance process permits ICD updates to correct errors, adopt clarifications, and other adjustments to reflect improvements in medical understanding of diseases, their treatment and prevention. WHO produces annual releases of ICD-11 for international use for the coding and statistical production of mortality and morbidity data. All annual releases of ICD-11 are available online free of charge. Users can consult the revision online or may download it for local use. The ICD-11 update schedule provided below details the various types of updates to ICD-11 and the schedule for those updates.

30.1.3 Proposal Process for Changes to ICD-11

WHO has created an open process for the submission of proposed changes to ICD-11, including the ICD-11 Reference Guide. Anyone can propose modifications to the revision on what is known as the WHO-FIC Maintenance Platform. Proposals are evaluated by WHO-FIC committees from both a medical and scientific perspective before any changes to ICD-11 are implemented. The Orange Browser, a part of the maintenance platform contains unreleased, work-in-progress versions of the WHO Family of International Classifications, including ICD-11. Users can browse the maintenance platform to review all current proposals for changes to ICD-11. {Ibrahim, #19}

30.1.4 ICD-11 Update Schedule

ICD-11 updates are implemented at different intervals for different types of updates. Modifications to the four- and five-digit codes (also known as stem codes, or codes that can be used alone and describe a clinical condition or entity), are published every five years. Changes at a more detailed level, including changes to the Reference Guide, can be produced more frequently. Mortality and morbidity rules that have significant impact on statistical output will be updated in long-term cycles of every 10 years.

30.2 Resources and Tools

30.2.1 Electronic Tools

In addition to the ICD-11 Coding Tool and Browser already discussed in the earlier modules, WHO provides a number of electronic tools useful for the planning and implementation of ICD-11. These include the following:

30.2.1.1 ICD FIT

The ICD Field Implementation Tool (ICD FIT) is a web-based application developed to support the implementation of ICD-11 field testing protocols. Users of the tool carry out the basic work of

participating in modules as classification users. Individuals register to join the system, check for assigned modules and complete the required forms.

30.2.1.2 ICD eLearning Tool

WHO has developed an electronic tool to provide instruction on the use of the various ICD-11 tools. The eLearning Tool provides an introduction to ICD-11, the Reference Guide and basic mortality and morbidity coding instructions, as well as an introduction to each ICD-11 chapter, related medical terminology and a short coding exercise.

30.2.1.3 iCAT Authoring Tool

The ICD-11 Collaborative (iCAT) Authoring Tool is a web-based platform enabling global experts to participate in the development of the ICD Foundation, the source of information for all ICD reference classifications.

30.2.1.4 Maintenance Platform

See section above on updates and revisions.

30.2.1.5 ICD API

WHO's Application Programming Interface (ICD API) allows programmatic access to the ICD-11. The ICD API also can facilitate the integration of the various ICD electronic tools into an existing mortality data system, for example adding the Coding Tool to an automated coding system such as Iris.

30.2.1.6 ANACOD3

Users can conduct a thorough analysis of the quality of their mortality and cause of death data using ANACOD3. This online tool can prepare basic and more detailed mortality measures and use a variety of techniques to identify potential problems with reported causes of death. The tool also includes an algorithm for estimation of the completeness of death registration.

30.2.1.7 CoDEdit

Version 2.0 of this tool enables users to perform routine checks on data coded to ICD-11. As mortality data are being compiled for statistical use, CoDEdit can identify basic errors and possible misuse of ICD-11 codes and provide a summary of the dataset.

30.2.1.8 Verbal Autopsy

WHO has developed a structured questionnaire and algorithm for the identification of cause of death for deaths not reported by physicians. The questionnaire is designed to be used by nurses or other non-physician health personnel, collecting information on identifiable signs and symptoms of health conditions in the period leading to death. The verbal autopsy algorithm uses information collected with the questionnaire to identify the likely cause of death. The results are not considered to be equivalent to physician-reported causes of death but to be sufficient for the purposes of basic public health planning.

30.2.2 Resources

In addition to the tools described above, WHO and others have developed extensive documentation to assist with the use of ICD-11, including coding manuals and training materials. These items include the following:

30.2.2.1 ICD-11 Reference Guide

The Reference Guide replaces Volume 2 from earlier revisions of the ICD. The Reference Guide includes detailed information on the rationale for ICD-11, a thorough description of the major revisions to code structure in the 11th revision, and a wealth of coding examples for both mortality and morbidity coding, including underlying and multiple-cause coding.

30.2.2.2 ICD-11 eLearning Tool

Developed by the WHO Education Committee, the eLearning Tool provides an online and interactive, chapter-by-chapter approach to ICD-11 coder training. As mentioned in the Electronic Tools section above, this tool offers a useful introduction to mortality and morbidity coding with ICD-11.

30.2.2.3 ICD Field Implementation Tool (ICD-FIT)

WHO designed the ICD-FIT to determine readiness for ICD-11 implementation in various countries. As mentioned in the Electronic Tools section above, this tool includes modules to enable users to assess their ability to correctly code various conditions and circumstances. The tool includes applications for both users and a coordinator. The coordinator oversees and evaluates use of the ICD-FIT within their country.

30.2.2.4 ICD-11 Training Curriculum

The CDC Foundation has developed a training curriculum that provides guidance on the proper training of mortality and morbidity coders. The curriculum covers all aspects of ICD-11, including the principles of classification, the structure and taxonomy of the classification, rules for the selection of the underlying cause of death, uses of the ICD for morbidity and others.

30.2.2.5 ICD-11 Workbook

Developed by the CDC Foundation, this workbook, part of the “ICD-11 Comprehensive Interactive Training Course” provides coder trainees with a comprehensive description of ICD-11 and detailed instructions on mortality and morbidity coding in an interactive environment. This workbook includes a wide variety of coding examples tailored to each of the ICD-11 chapters. Use of the workbook will assist with the implementation of ICD-11 coder training in a standardized way, helping to ensure coding comparability within and across countries.

30.3 Quality Assurance

30.3.1 Guidelines to Ensure Coding Accuracy and Reliability

Coding centres should establish standards for coder trainees and experienced coders. For trainees, these standards should include a probationary period, during which they maintain an error rate at or

below a threshold set by the coding instructor. Trainees not meeting this level should be required to repeat the coder training course until they meet the required accuracy level. Experienced coders also should maintain an error rate below an established standard; those exceeding this standard should be required to repeat the coder training course. For both trainees and experienced coders, coding errors are determined by the code-recode method.

30.3.2 Maintaining Coding Standards

All coders, regardless of years of experience, should be required to attend refresher ICD training classes. Coders also should be required to complete annual coding exercises consisting of a selection of sample MCCDs covering key ICD coding concepts.

30.4 Training Programs and Support Systems

30.4.1 ICD-11 eLearning Tool

Described above in the Electronic Tools and Resources sections.

30.4.2 ICD Online Training Classes

The CDC Foundation offers monthly classes on various aspects of ICD mortality coding, covering medical terminology, revised procedures for the selection of the underlying cause of death, multiple cause coding and other coding issues. The classes are recorded and available on a dedicated YouTube channel. Participants are encouraged to review the recordings in advance and then attend the monthly class, where the instructor reviews the essential elements of the presentation, presents solutions for a variety of sample cases, and answers questions from participants.

30.4.3 Mortality Forum

An online forum, supported by the international community of coders, is available for discussion of ICD coding topics, assistance in coding difficult-to-code cases, and other assistance. Coders from any country are free to submit coding questions or request guidance on coding topics.

30.4.4 Mortality Reference Group

The Mortality Reference Group (MRG) is an official group within the WHO Family of International Classifications (FIC) Network. Members of the MRG are directors of national WHO Collaborating Centers for the International Classification of Diseases. The goal of the MRG is to improve the international comparability of mortality data. The MRG works with WHO to ensure standardized application of mortality coding rules and guidelines. The MRG also considers updates to the classification and rules and guidelines, identifying issues for final consideration by the WHO Classification and Statistics Advisory Committee.

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