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Education Module for Health Record Practice

Module 5c (1) - Coding Exercises 1-6 (ICD9)

EXERCISE 1

Underline the "lead term" in each diagnostic statement:

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

Code:

1. Osteoporosis _____
2. Gonorrhea _____
3. Retinal detachment _____
4. Acute bronchitis _____

5. Dementia _____
6. Cholesterol deposit in retina _____
7. Lipping of vertebra _____
8. Cyst in the lung _____
9. Allergic asthma _____

2. USE OF CODING CONVENTIONS

Abbreviations, Symbols and Marks

As discussed previously, certain abbreviations, symbols, and marks are used to direct and assist the coder, these are called coding conventions, and are discussed again in more detail:

a) NEC

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

- (i) that a term is being classified to a residual or unspecified category;
- (ii) that a term is ill-defined, as a warning that specified forms of the conditions are classified elsewhere.

b) NOS

NOS stands for "not otherwise specified" and therefore is used to indicate the unspecified form of the disease.

c) The Colon (:)

Words followed by a colon are not complete terms. The coder must search the list of modifiers and be able to complete the term with one of these modifiers before choosing that code.

For example:

320.9 Meningitis due to unspecified bacterium

Meningitis:

- bacterial NOS
- purulent NOS
- pyogenic NOS
- suppurative NOS

d) Round Brackets (.....)

Round brackets are used in a special way to enclose words which may be present or absent in a diagnostic statement, without affecting the code number. For example:

Code 570 acute and subacute necrosis of liver

Necrosis of liver (acute), (subacute), (diffuse), (massive)

Applying the round bracket rule, diffuse necrosis of liver is coded to 570 and so is acute necrosis of liver.

Round brackets may also be used:

- (i) to enclose code numbers in a section title; for example Chronic Obstructive Pulmonary Disease and Allied conditions (490-496).
- (ii) to enclose code numbers for terms in exclusion notes; for example code 494 Bronchiectasis Excludes: tuberculous bronchiectasis (current disease) (011.5).

This last example illustrates both the special use of round brackets, (current disease); and the role of enclosing code numbers, (011.5).

e) Square Brackets [.....]

Square brackets are used to enclose synonyms, alternative wordings or explanatory phrases. Thus square brackets are used in the role usually adopted by round brackets in everyday text. For an example see code 965.0 in Volume I.

f) Spelling

In Volume 2, the American form of spelling is used with cross references given where the alphabetical arrangement is affected by the American spelling. In Volume 1, a mixture of English and American spelling is used.

g) Cross-References

Instructions to "see" and "see also" must be followed meticulously to avoid error. See beginning of Volume 2 for a detailed explanation of these terms.

Code the following exercise to become more familiar with these coding conventions.

EXERCISE 2

Code the following diseases:

1. Tonsillitis _____
2. Hemoptysis _____
3. Esophagitis _____
4. Mitral stenosis with aortic valve disease _____
5. Milk drinker's syndrome _____
6. Tay-Sachs disease _____
7. Extrinsic asthma due to detergent _____
8. Open-angle glaucoma, congenital _____
9. Cor pulmonale _____
10. Essential hypertension _____
11. Bronchial asthma _____
12. Deviated nasal septum _____
13. Congestive cardiac failure _____
14. German measles _____
15. Miscarriage _____
16. Left bundle branch block _____
17. Orthopnea _____
18. Plasma cell mastitis _____
19. Rheumatoid inflammation of heart _____

3. CODING USING DAGGERS AND ASTERISKS

As mentioned previously, some diagnostic statements contain two pieces of information,

- . the aetiology or underlying cause; and
- . the manifestation of the disease in a particular organ or system.

That is, the + (dagger) symbol indicates the aetiology and the * (asterisk) indicates the manifestation.

For example: in the statement tuberculous meningitis, tuberculous is the aetiologic statement and meningitis is the manifestation.

Tuberculous	Meningitis
013.0+	320.4*
(code from Infectious & Parasitic Diseases)	(code from Diseases of Nervous System)

When you locate the index entries both dagger and asterisk codes are given (dagger first) under both tuberculosis and meningitis.

The International Classification of Diseases has traditionally coded according to the underlying cause and the 9th Revision is the first time the dagger/asterisk system has been available. It is up to each national statistical collection official to decide if dagger or asterisk codes are to be used.

a) When does the dagger/asterisk system apply?

- (i) When the manifestation represents a medical care problem in its own right (that is, not just a symptom); and
- (ii) the manifestation is treated by a specialty different from the one which would treat the underlying cause; and
- (iii) the information is contained in the one diagnostic phrase.

For example:

Diabetic	Cataract
250.4+	366.4*
Treated by physician	Treated by ophthalmologist (Internist)

- (iv) or, when the manifestation category is subdivided according to cause. For example, Glaucoma in Axenfeld's anomaly 743.4+ 365.4*

b) When does this not apply?

- (i) When two aspects of the diagnosis are not usually combined in the one diagnostic phrase; and
- (ii) when the classification of the manifestation is not dependent on its cause. For example, anaemia as a consequence of another disease.
- (iii) where the manifestation is an intrinsic part of the basic disease. For example, gonococcal urethritis. Urethritis is an intrinsic part of the disease, so the code is simply 098.0 gonorrhoea.
- (iv) diseases which ICD has always classified according to the manifestation. For example, anemia due to enzyme defect has always been coded to the manifestation, the anemia.

The dagger and asterisk codes are usually both given in the alphabetical index at the dagger end and at the asterisk end.

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

For example:

Locate Menetriere's disease in Volume 2 and the codes 535.2+ 261* are given. When these two codes are checked in Volume 1 neither the + or * appear. This example is rare but reinforces the lesson taught in the earlier units that if the Tabular List is used alone, the coder will make errors.

Using the rules for daggers and asterisks, code the following exercise.

EXERCISE 3

1. Meningococcal meningitis _____
2. Arthropathy associated with ulcerative colitis _____
3. Dendritic keratitis _____
4. Mumps meningitis _____
5. Syphilitic interstitial keratitis _____
6. Waterhouse Friderichsen syndrome _____
7. Salmonella osteomyelitis _____
8. Gonococcal arthritis _____
9. Streptococcal meningitis _____
10. Tuberculous arthritis of hip _____
11. Arthritis associated with paratyphoid B fever _____
12. Subacute sclerosing panencephalitis _____
13. Anthrax pneumonia _____
14. Diplococcal meningitis _____
15. Esophageal varices in alcoholic cirrhosis of the liver _____
16. Cardiac glycogenosis _____
17. Syphilitic aortic stenosis _____
18. Poliomyelitis _____
19. Epidemic vertigo _____
20. Salmonella bacterial meningoencephalitis _____

4. OPTIONAL FIFTH DIGITS and CODING INFECTIOUS, ENDOCRINE, AND BLOOD DISORDERS

a) Optional Fifth Digits

Another feature of the ICD9 is the use of optional fifth digits. These are provided for certain codes so that a different aspect of the disease can be indicated by the fifth digit. While fourth digits are essential (if provided) the use of a fifth digit is decided by each hospital appropriate for their needs. There are five places where fifth digits occur:

- Method of Diagnosis for Tuberculoses. Codes 010-018.

This list appears in Volume 1 preceding code 010. Examine the list carefully and familiarise yourself with its content. Pulmonary tuberculosis diagnosed by sputum microscopy would be coded 011.9.2 (this could also be displayed as 011.92).

- Adult or Juvenile Onset for Diabetes. Code 250.

Three fifth digit choices are provided for code 250. Adult onset diabetes would be coded 250.0.0 (or 250.00)

- Method of Delivery for Obstetric Cases.

This list appears in Volume 1 with Obstetric codes. The content of these fifth digits does appear to be valuable information; for example forceps or cesarean deliveries. You might guess that these digits would be widely used, however all of the information contained in these decimals can be coded using the International Classification of Procedures in Medicine (even a normal spontaneous delivery). In fact the procedure codes are more detailed; therefore many hospitals use the procedure codes in preference to these fifth digits. If the fifth digits were used, delivery in a completely normal case would be coded 650.9.0 (.9 being used as a filler to complete the fourth digit so that the fifth could be added).

- Anatomical Site for Musculoskeletal and Connective Tissue Conditions.

These digits appear at the beginning of Musculoskeletal codes. At first glance, these digits also appear to offer a very valuable coding opportunity. However, care must be exercised because with certain codes some decimals are unnecessary. For example:

Hammer toe 735.4. The only appropriate fifth digit is .7 and yet 735.4.7 appears over-coded. In other cases, the fifth digit does make a significant contribution.

For example: Effusion of knee joint 719.0.6

- Place of Occurrence for Certain Accidents. Codes E850-869 and E880-928.

You will note that the World Health Organization directed these decimals to apply to particular sections of the E codes.

For example:

The code for fall from bed at home is E884.2.0. (Note the alphabetical index for locating E codes in Section II of Volume 2, not Section I which you have used elsewhere in this Unit).

While the use of fifth digits is a matter for each hospital to decide, it is essential that once the decision is made it be consistently applied by the coders. Coders may not use fifth digits for some records and not others. There are no reminders throughout the code book that fifth digits exist.

b) Chapter 1: Infectious and Parasitic Diseases

The purpose of this chapter is to bring together the "communicable" or "transmittible" diseases.

Infections of a particular body organ are coded to the chapter for that body system. For example:

Pneumonia (Chapter VIII Diseases of the Respiratory System)

Cystitis (Chapter X Diseases of the Genitourinary System)

Tonsillitis (Chapter VIII Diseases of the Respiratory System)

Codes 009.1 and 009.3, will not be used in countries where any term listed in 009.1 and 009.3 can be assumed to be of noninfectious origin, these terms should be classified to code 558.

c) Chapter III: Endocrine Nutritional and Metabolic Diseases and Immunity Disorders

Excluded from this chapter are the endocrine and metabolic disturbances specific to the fetus and newborn.

d) Chapter IV: Diseases of Blood and Blood-forming Organs

Anemia complicating pregnancy or the puerperium is excluded from this chapter.

Complete the following exercise dealing with coding with fifth digits and coding infectious & parasitic diseases; endocrine, nutritional & metabolic diseases & immunity disorders; and diseases of blood & blood-forming organs.

EXERCISE 4

1. Colitis _____
2. Tuberculous pneumonia
(Tubercle bacilli found in sputum by microscopy) _____
3. Murray Valley encephalitis _____
4. Bacterial infection _____
5. Malaria _____
6. Acute Gastroenteritis _____
7. Diarrhoea (infectious) _____
8. Typhoid Fever _____
9. Serum hepatitis _____
10. Pulmonary actinomycosis _____
11. Cushing's syndrome _____
12. Malnutrition _____
13. Obesity _____
14. Adult onset diabetes _____
15. Diabetic nephropathy
(patient a 53 year old male diabetic since childhood) _____
16. Electrolyte imbalance _____
17. Iatrogenic hypothyroidism _____
18. Cystic fibrosis _____
19. Late effects of rickets _____
20. Iron deficiency anemia _____
21. Mesenteric adenitis _____
22. Allergic eosinophilia _____
23. Capillary fragility _____
24. Hemophilia _____

5. NEOPLASMS - CHAPTER II

This chapter is devoted to codes for neoplasms (new growths) and includes all neoplasms regardless of whether they are benign or malignant.

Volume 1 contains some special notes regarding neoplasms. The first note describes the layout of the chapter into sections according to the nature of the growth. The major sections are:

- Malignant neoplasms
- Benign neoplasms
- Carcinoma in situ
- Neoplasms of uncertain behaviour
- Neoplasms of unspecified nature

a) Procedure for coding neoplasms

A special section is provided in Volume 2 to enable quick reference to this chapter. This special listing begins under the heading "Neoplasm, neoplastic". Specific sites are listed in alphabetical order with codes listed under five columns corresponding to the five major sections of the chapter. To code benign neoplasm of the bladder, locate bladder in the neoplasms table and choose the code from the benign column 223.3. Check this code in Volume 1.

This neoplasm table is only useful if the coder knows which column to consult. Where the necessary information regarding the nature of the neoplasm is not given the coder must take two steps to locate the code in Volume 2.

For example - Adenocarcinoma of the rectum:

Step 1

Locate adenocarcinoma in Volume 2. The coder is directed to "see also Neoplasm, malignant". An extensive, but not exhaustive, list of varieties of adenocarcinoma is given and this list should be checked as specific sites are sometimes listed and this would save the coder the next step.

Step 2

Consult the list of neoplasms, locate the site, rectum (page 362) and choose the code from the malignant column as instructed in Step 1. Adenocarcinoma of the rectum is 154.1. (Remember to check this code in Volume 1, as usual).

b) Morphology Codes

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

- Alphabetical Index for M Codes

M codes are placed in round brackets beside the name of the neoplasm; for example, Adenocarcinoma (M8140/3). The appropriate M code is given for each variety of adenocarcinoma in the list.

- Functionally Active Neoplasms

Neoplasms which are functionally active duplicate the function of the parent cell from which they were derived. A special note in Volume 1 indicates that where a neoplasm is functionally active, an additional code is required to indicate the functional activity. For example, Adenoma of pancreas with hyperinsulinism is coded 211.6 M8140/0 and 251.1.

- Overlapping Neoplasms

Note 4 refers to a single neoplasm which overlaps two or more categories or subcategories. The note does not refer to multiple sites or metastases. Three cases are distinguished:

- (i) if point of origin known code that,
- (ii) if point of origin not known
 - neoplasm overlaps two or more subcategories within a three digit category code to .8
 - neoplasm overlaps two or more three digit categories code to 149.8, 159.8, 165.8 or 195 according to the site.

- # and Symbols

Two special symbols are used in the alphabetic index of neoplasms for certain sites. The notes 3 and 4 in Volume 2 give an explanation of their meaning. It is not necessary for a coder to learn these meanings as the note can be consulted whenever necessary.

Metastases

Malignant neoplasms spread in the human body to new sites by blood stream or the lymphatic system. The original site of the cancer is called the primary and the site to which the neoplasm has spread is called a secondary. The word metastases is also used to describe the secondary site. In the statement Ewing's sarcoma of right femur with metastases to liver and inguinal lymph nodes, the primary site is the femur and the secondary sites are the liver and lymph nodes. Metastatic carcinoma of the liver from the breast, indicates that the primary site is the breast, and the secondary site is the liver. Metastases is a noun and indicates a secondary site, [for example, metastases of the spine]. However, the adjective metastatic can be used in an ambiguous way, [for example, in the statement, metastatic carcinoma of the lung]. It is not clear if the neoplasm is a primary site which has metastasized to an unstated secondary site or a secondary site for an unstated primary.

Secondary neoplasms are indexed in a separate list under the heading secondary neoplasm. The M code given at the head of this list M8000/6 is a non specific M code

which will only be used if the histological type of the primary is not known. The secondary must match the histological type of its primary or it would be a new primary site. Therefore, it is quite permissible for the coder to choose the same M code as was used for the primary changing the /3 to /6. For example, Primary carcinoma of liver with metastases to the spleen requires four codes:

155.0 M8010/3 (primary)
198.8 M8010/6 (secondary)

Now code the following exercise relating to Neoplasms.

EXERCISE 5

1. Acute erythroleukemia _____
2. Oat cell carcinoma, left lower lobe of lung _____
3. Astrocytoma, frontal lobe of the brain _____
4. Lipoma, thoracic wall _____
5. Chronic myeloid leukemia _____
6. Malignant hydatidiform mole _____
7. Bowen's disease of face _____
8. Nevus, neck _____
9. Insulinoma _____
10. Rodent ulcer of cheek _____
11. Paget's disease of nipple _____
12. Papilloma of bladder _____
13. Lymphosarcoma of stomach _____
14. Malignant melanoma, calf _____
15. Osteoma of the tibia _____
16. ACTH producing adenoma of the pituitary _____
17. Carcinomatosis peritonei _____

18. Brain tumor _____
19. Metastatic carcinoma of the liver from the breast _____
20. Secondary cancer of the rectum _____
21. Undifferentiated small cell carcinoma of the right ovary with metastases to the scapular and axillary lymph nodes _____
22. Angiosarcoma of the spleen _____
23. Carcinoma of pyloric canal with extension to duodenum _____
24. Carcinoma involving pyloric canal and duodenum _____
25. Undifferentiated squamous cell carcinoma involving the soft palate and the posterior wall of the oropharynx. Metastases to the cervical lymph nodes _____
26. Undifferentiated oat cell carcinoma originating in the main bronchus and extending to involve the right middle lobe and visceral pleura. Metastatic carcinoma in the left femur _____
27. Giant cell glioblastoma involving the frontal and temporal lobe of the brain _____
28. Transitional cell carcinoma involving the bladder, ureter and kidney _____

6. LATE EFFECT CODES AND CODING MENTAL DISORDERS, DISEASES OF THE NERVOUS SYSTEM and CIRCULATORY DISORDERS

a) Late Effect Codes

Certain codes in ICD9 are designed to indicate the late effect of a disease. For example, the patient may have had poliomyelitis many years ago and now has paralysed legs. Code 138, Late effects of acute poliomyelitis, would be used in addition to the code for the paralysis to indicate that poliomyelitis was the cause of the paralysis.

Late effect codes are used to indicate the cause of the late effect condition which is itself classified elsewhere. The late effect conditions include conditions which are stated as late effects or sequelae or which are present one year or more after the acute disease. The use of late effect codes is described in the note accompanying the code. [For example, see codes 137, 138 and 139].

b) Chapter V - Mental Disorders

Chapter V of ICD9 is different because it incorporates a glossary within the chapter. There is a note that explains the purpose of the glossary. It is important that the glossary descriptions are not used by the coder to locate or dispute a diagnosis made by the psychiatrist. The glossary is provided as an international frame of reference for psychiatrists. There are no special difficulties in using this chapter except for code 316. This code is used as well as the code for the resultant physical condition. [For example, psychogenic asthma code 316 and 493.9].

c) Chapter VI - Diseases of the Nervous System and Sense Organs

Code 326 in this chapter is a late effect code used to indicate intracranial abscess or pyogenic infection as the cause of long term effects. There is a special note with codes 342 and 344 which says that these codes are not to be used for primary coding unless the condition is not specified further. Primary coding occurs when only one code is used, for example, in a statistical collection. The cause of the hemiplegia or other paralytic syndrome should be coded, (e.g. cerebrovascular accident). The hemiplegia can then be coded in addition to the cause.

The WHO has provided a table of specific categories of loss of vision to standardise the definition of blindness, and low vision.

d) Diseases of the Circulatory System

A standard set of fourth-digit subdivisions has been provided for codes 401-405. The only problem in using these fourth digits is that the codes 401- 405 are printed over the page and many coders forget to use these fourth digits.

The section of this chapter which covers Ischemic Heart Disease is codes 410-414. You will find an inclusion note for this section which says that hypertension is included but an additional code for hypertension can be used, if desired. A similar note can be found for the section Cerebrovascular Disease (codes 430-438). Many hospitals find it useful to have a standard rule to code the

hypertension (or not) which is consistently applied for all coders. Coding the hypertension separately will make the hypertension cases easier to locate for research.

Code 438 is a late effect code to indicate cerebrovascular disease (stroke) as the cause of other late effects, (e.g. hemiplegia which would be coded to 342 in addition to the 438).

Try coding the next exercise.

EXERCISE 6

1. Excessive smoking _____
2. Korsakov's psychosis _____
3. Acute alcohol intoxication _____
4. Severe mental retardation _____
5. Drug withdrawal syndrome _____
6. Schizophrenia, childhood type _____
7. Hyperventilation syndrome _____
8. Heller's syndrome _____
9. Developmental dyslexia _____
10. Arteriosclerotic dementia _____
11. Hyperkinetic conduct disorder _____
12. Developmental disorder _____
13. Dementia in epilepsy _____
14. Anxiety state _____
15. Acquired hydrocephalus _____
16. Pick's disease of brain _____
17. Meningitis _____
18. Anoxic brain damage _____
19. Herpes simplex of external ear _____
20. Blindness, one eye _____
21. Charcot-Marie-Tooth disease _____
22. Infantile hemiplegia _____
23. Presenile cataracts _____
24. Secondary Parkinsonism _____
25. Acute secretory otitis media _____

26. Aortic stenosis _____
27. Mitral regurgitation _____
28. Secondary hypertension _____
29. Pulmonary embolism _____
30. Cor pulmonale _____
31. Alcoholic cardiomyopathy _____
32. Arteriosclerotic cardiovascular disease _____
33. Cerebral aneurysm _____
34. Myocardial ischemia _____
35. Myocardial disease _____
36. Subdural hemorrhage _____
37. Cerebral infarction _____
38. Malignant nephrosclerosis _____
39. Psychogenic ulcerative colitis _____

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