

MODULE 26

*Injury, Poisoning and Certain Other Consequences of External Causes
&
External Causes of Morbidity and Mortality*

Module 26: Injury, Poisoning And Certain Other Consequences Of External Causes (Chapter XIX) & External Causes Of Morbidity And Mortality (Chapter XX)

These two chapters cover injury, poisoning and certain other consequences of external causes and the classification of environmental events and circumstances as the cause of injury, poisoning and other adverse effects.

The external cause concept

- The use of Chapter XX codes permits the classification of environmental events, circumstances and conditions as the cause of injury, poisoning and other adverse effects. The use of Chapter XX codes along with Chapter XIX codes provides additional information of particular concern to industrial medicine, national safety programs and national health agencies. Injury prevention programs are often based on the information coded to this Chapter.
- When multiple coding, a Chapter XX code should **always** be assigned with a Chapter XIX code. That is, a code describing how the injury(s) occurred as well as the injury code(s) will be assigned.

When coding underlying cause of death, the code for the external cause takes priority. Conversely, when coding morbidity records, the main condition will be the nature of the most severe injury.

Important points for Chapter XIX

- Categories range from S00 to T98.
- Of the 199 available categories 195 have been allocated.
- There are 21 blocks.
- Blocks S00-S99, at the three-character level are classified by site of injury, e.g. head, arms. The fourth character level indicates the type of injury that occurred, e.g. fracture, open wound.
- Codes in the range T00-T98 are used to code all other trauma, e.g. burns, complications of surgery, poisonings.
- When multiple coding, all injuries should be coded, avoid the use of 'multiple' type codes. Multiple codes are useful for single condition coding. eg T06.- can be used to code fractures of multiple regions of upper limb(s) in association with lower limb(s).

Important points for Chapter XX

- Four letters of the alphabet - V,W,X.and Y - have been assigned to this chapter, making it the largest in ICD-10.
- Categories range from V01 to Y98.
- Of the 400 available categories 372 have been used.
- 8 major blocks

- The Chapter includes **Place of occurrence codes**, which are fourth character subdivisions used to identify the place where an injury occurred. They are to be used with categories W00 - Y34 (except Y06 and Y07).

- .0 Home
- .1 Residential institution
- .2 School, other institution, public administrative area
- .3 Sports and athletics area
- .4 Street and highway
- .5 Trade and Service area
- .6 Industrial and construction area
- .7 Farm
- .8 Other specified places
- .9 Unspecified place

See pages 1013 - 1017 of Volume 1 for the detailed breakdown of Place of Occurrence codes.

- An **Activity code** is also provided for optional use in a supplementary character position with categories V01-Y34 to indicate the activity the injured person was involved in at the time of the injury. This code should not be confused with, or be used instead of, the place of occurrence code.

- 0 while engaged in sports activity
- 1 while engaged in leisure activity
- 2 while working for income
- 3 while engaged in other types of work
- 4 while resting, sleeping, eating or engaging in other vital activities
- 8 while engaged in other specified activities
- 9 while engaged in unspecified activities

The codes can be found on pages 1018-1019 of Volume 1. Note that if an activity falls into more than one of the categories, select the code that is higher on the list (i.e. the lower number).

- Chapter XX codes can also be assigned with codes from Chapter I-XVII to identify the external cause of a condition, e.g. dermatitis due to solvents.
- Chapter XX codes are never assigned as the main condition code for morbidity coding. For mortality coding the Chapter XX code is the code assigned for the underlying cause of death.
- V01-V79 Motor vehicle transport accidents, are classified at the three character level by the mode of transport of the injured person and at the fourth character level according to the position of the person in the motor vehicle.

Read the notes and definitions on pages 1018-1025 of the Tabular List. These notes refer to the classification of transport accidents and need to be understood before assigning codes from Chapter XX. The table on page 576 of Volume 3 is useful as a guide to finding the correct code for transport accidents.

- X60-X80 Intentional self harm, are incidents determined as being suicide or self-inflicted injuries.

- The Table of Drugs and Chemicals, found at the back of the Alphabetical Index, guides the coder to the correct codes to describe poisonings by drugs and chemicals. To use the Table, first of all look up the name of the drug in the alphabetical list. The first column indicates the nature of injury code from Chapter XIX that is appropriate for the specific drug. Check the Tabular list to confirm this code selection. The other four columns in the Table give the External Cause codes to describe the circumstances of the poisoning e.g. accidental, intentional self-harm, undetermined intent and adverse effect in therapeutic use. Select the appropriate code and confirm it in the Tabular list. Add the Place of Occurrence and/or Activity codes as required.
- Y10-Y34 Event of undetermined intent, includes occurrences where it is not clear whether the person was accidentally injured or the injury was purposely inflicted.
- Terms to be aware of when searching the index for the external cause are ‘exposure’ and ‘contact’ if the person comes in contact with an object or instrument; or is exposed to an element.

Coding exercises for Chapters XIX and XX

1. Multiple lacerations to abdomen, inflicted by a knife during a fight in a bar. The victim was a bar attendant working in the bar at the time.
 2. Cerebral contusion due to fall from bed onto floor, whilst sleeping, at home.
 3. Adverse reaction to anaesthetic given prior to surgical operation
 4. The final diagnosis for this 24-year motor cycle rider who was involved in a collision with a car was a closed fracture mid shaft right femur, compound fracture mid shaft right tibia.
 5. Second degree burn to leg sustained from uncontrolled house fire.
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Sample Hospital Discharge Summaries for Chapter XIX and XX

Summary 1

ADMISSION DATE : 24-4-03

DISCHARGE DATE : 23-5-03

AGE : 24 years

SEX : male

FINAL DIAGNOSIS: trail bike accident

Mr X. had been riding his trail bike on a country track when he lost control and the bike went down a 10 metre embankment. Mr X. sustained an open fracture of the left tibia and fibula and a dislocation of the right ankle.

On admission the patient was taken to theatre where the ankle dislocation was reduced and the fracture site underwent debridement and lavage. A fracture reduction was performed on day five with fixation using two nails. Unfortunately the wound became infected and grew pseudomonas. He was managed on oral antibiotic treatment.

At discharge he was placed in a short leg plaster of Paris. He is for continuing follow up in outpatients.

Dx

ICD-10 Code

Main Condition:

Other Conditions:

Summary 2

ADMISSION DATE : 10-11-02

DISCHARGE DATE : 16-11-02

AGE : 47 years

SEX : male

FINAL DIAGNOSIS:

Mr X. is a sailor who suffered a fractured zygoma and mandible after falling down stairs at work. He was mildly concussed on arrival at hospital. X-rays showed that the fracture to the zygoma was not displaced but the mandibular fracture would require wiring. CT scan of the brain was clear. He was taken to theatre on the day of admission where the mandible was wired.

Three days after surgery Mr X. became drowsy then unresponsive. A second CT scan of the brain identified a subdural haematoma. He was taken back to theatre where a craniotomy was performed to evacuate the haematoma.

He has recovered quite well from his accident. He remains on a liquid diet until the wires are removed from his mandible, which will be in another three weeks. He seems to have had no residual effects from the subdural haematoma.

He is presently continuing management in outpatients and we expect him to make a complete recovery.

Dx

ICD-10 Code

Main Condition:

Other Conditions:

Summary 3

ADMISSION DATE : 10-1-04 DISCHARGE DATE: 22-1-04

AGE : 91 years SEX : female

FINAL DIAGNOSIS: fractured neck of femur, requiring open reduction of fracture

Mrs X. is a charming elderly lady who was admitted with an intertrochanteric fracture of her left neck of femur. She sustained this when she slipped on a wet path in the garden at her home.

The fracture was reduced and internally fixed with a pin and plate.

Post-operatively she progressed slowly but on day 3 she fell out of bed and dislocated her right shoulder and sustained a laceration to her right forearm. She was taken back to theatre where the shoulder dislocation was reduced and her forearm sutured under a light GA. There were no further complications but re-mobilisation was slow.

At discharge she was mobile with the assistance of a walking frame and was discharged home into the care of her daughter.

Dx

ICD-10 Code

Main Condition:

Other Conditions:

Mortality Coding Exercises for Chapter XIX and Chapter XX

Exercise 1

Age

Sex

<p>I Disease or condition directly leading to death*</p> <p><i>Antecedent causes</i> Morbid conditions giving rise to the above cause, stating the underlying condition last</p>	<p>(a)...Shock; haemorrhage..... due to or as a consequence of</p> <p>(b)...Multiple rib fractures, lacerated lungs and spleen due to or as a consequence of</p> <p>(c)...MVA due to or as a consequence of</p> <p>(d).....</p>	<p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p>
<p>II Other significant conditions contributing to the death, but not related to the disease or condition causing it</p>	<p>Driver, of car Vs semi trailer</p>	<p>.....</p> <p>.....</p> <p>.....</p>
<p><i>*This does not mean the mode of dying e.g. heart failure, respiratory failure. It means the disease, injury or complication that caused death.</i></p>		

Selected Underlying Cause of Death:

ICD-10 Code:

Which rule applied:

Explanation:

Exercise 2

Age : 45

Sex : Male

<p>I</p> <p>Disease or condition directly leading to death*</p> <p><i>Antecedent causes</i></p> <p>Morbid conditions giving rise to the above cause, stating the underlying condition last</p>		<p>(a)...Hanging..... due to or as a consequence of</p> <p>(b)..Successful suicide... due to or as a consequence of</p> <p>(c)..... due to or as a consequence of</p> <p>(d).....</p>	<p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p>
<p>II</p> <p>Other significant conditions contributing to the death, but not related to the disease or condition causing it</p>		<p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p>	<p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p>
<p><i>*This does not mean the mode of dying e.g. heart failure, respiratory failure. It means the disease, injury or complication that caused death.</i></p>			

Selected Underlying Cause of Death:

ICD-10 Code:

Which rule applied:

Explanation:

Exercise 3

Age : 34

Sex : Female

<p>I Disease or condition directly leading to death*</p> <p><i>Antecedent causes</i> conditions giving rise to the above cause, stating the underlying condition last</p>	<p>(a)...Subdural haemorrhage due to or as a consequence of</p> <p>(b)..Fracture of base of skull and Morbid orbital floor... due to or as a consequence of</p> <p>(c)...Fall from gangplank of cruise ship onto wharf due to or as a consequence of</p> <p>(d).....</p>	<p>...1 hour...</p> <p>...1 hour.....</p> <p>...1 hour...</p> <p>.....</p>
<p>II Other significant conditions contributing to the death, but not related to the disease or condition causing it</p>	<p>...Acute alcohol intoxication...</p> <p>.....</p> <p>.....</p> <p>.....</p>	<p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p>
<p><i>*This does not mean the mode of dying e.g. heart failure, respiratory failure. It means the disease, injury or complication that caused death.</i></p>		

Selected Underlying Cause of Death:

ICD-10 Code:

Which rule applied:

Explanation:

MODULE 26 - ANSWERS

Chapter XIX Injury, poisoning and certain other consequences of external causes & Chapter XX External causes of morbidity and mortality

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

Look up **laceration** in the Index (Volume 3, page 328).

Laceration (*see also* Wound, open)

As there is no listing under Laceration for abdomen, we need to refer to Wound, open in the Index (Volume 3, page 567).

Wound, open

- multiple

- - abdomen, lower back and pelvis -> **S31.7**

We can now code the external cause of the injury (that is, how the injury occurred). In this case the wounds were 'inflicted by a knife in a fight in a bar'. Look up **fight** in the Index under External Causes of Injury section (Volume 3, page 599).

Fight (hand)(fists)(foot) (*see also* Assault, fight) Y04.-

Y04 does not cover fight with a knife, therefore we need to refer to **Assault, fight** in the External Causes of injury section,(Volume 3, page 582), to find fight with a knife.

Assault

- fight

- - with weapon

- - - cutting or piercing -> **X99.-**

The .- at the end of the code indicates that the coder must assign a fourth digit. At the beginning of the X85-Y09 section there is a note referring the coder to pages 1013-1017 for the fourth character subdivision. These pages list the places of occurrence for injuries - in other words, where they happened. We need to select from this section an appropriate code for bar. We will select .5 Trade and service area.

As well, X99.- is in the range of codes that require an activity code to be selected. Turn to page 1017-1018 of Volume when and determine the correct activity code. We know the victim was a bar attendant at the time of the incident, and we assume he was working at the time of the injury, so the correct activity code is .2. The complete external cause code for this case is **X99.52**.

2. Cerebral contusion due to fall from bed onto floor, whilst sleeping, at home.

Look up **contusion** in the Index (Volume 3, page 116).

Contusion

- cerebral -> **S06.2**

Refer to page 900 of the Tabular List (Volume 1). At the beginning of the S06 rubric is a list of **optional fifth character subdivisions** to indicate if the contusion occurred with or without open intracranial wound. As there is no mention of open intracranial wound in our diagnosis, we would use **0** in the fifth character position. Our code for cerebral contusion would be **S06.20**.

For the external cause of the injury, we look up **fall** in the Index (Volume 3, page 597).

Fall

- bed -> **W06.-**

The **.-** indicates that more digits are required to complete this code. The additional codes are the activity code and the place of occurrence code. Refer to page 1013-1017 for the place of occurrence code first. The correct code would be **.0** for home. Refer to page 1017-1018 for the activity code. The person was sleeping at the time of the accident, so the code to use would be a **4**. Therefore the complete external cause code for this case would be **W06.04**.

3. Adverse reaction to anaesthetic

Look up **Reaction** in the Index (Volume 3, page 472)

Reaction

- anesthesia - *see* Anesthesia, complication

Anesthesia

- complication or reaction NEC (*see also* Complications, anesthesia) -> **T88.5**

Complications

- anesthesia NEC -> **T88.5**

Because we do not know any more information about the nature of the adverse reaction or the type of operation being performed we cannot use a more specific injury code. It is possible to add an external cause code to specify that the patient had an abnormal reaction to an anesthetic agent. Look up the Table of Drugs and Chemicals (volume 3, page 633).

Anesthetic NEC - *see* under adverse effect in therapeutic use -> **Y48.4**.

If you refer to page 1013 for Place of occurrence you will note that a place of occurrence code is not required for this code.

4. The final diagnosis for this 24-year-old motor cycle rider, who was involved in a collision with a car, was a closed fracture mid shaft right femur, compound fracture mid shaft right tibia.

Look up **fracture** in the Index (Volume 3, page 235).

Fracture

-femur

- - shaft(lower third)(middle third)(upper third) -> **S72.3**

Refer to page 932 Tabular List for S72.3. At the beginning of the S72 category is a note providing fifth character subdivisions for use with this category. They are used to indicate whether a fracture is open or closed. We have been told that the fracture is closed, there we would use the **0**. The full code for the fractured femur is **S72.30**.

As the patient has two fractures, we need to code the other fracture as well. Look up **fracture** in the Index (Volume 3, page 238).

Fracture

-tibia(shaft)(with fibula) -> **S82.2**

Refer to page 936 of the Tabular List. At the beginning of the S82 section on page 935 is a note providing a fifth character subdivision for use with this section to indicate whether the fracture is open or closed. The fractured tibia is described as a compound fracture, which is an open fracture, therefore we would use a 1. The complete code for the fractured tibia is **S82.21**.

To find the correct external cause code refer to the transport accident table in Volume 3, page 576. The first column indicates the type of transport the person who was injured was using and the list across the top indicates what they collided with, or how the accident happened. We need to match up the motor cycle rider with the collision with a car. This will give us code V23.-. If we refer to Volume we note that a fourth digit is required to indicate the person's status in the vehicle and whether it was a traffic accident or not. The correct digit to assign is a 4. You will note that no place of occurrence code is required for this code, but an activity code needs to be assigned. Although we can refer to page 1017-1018, we do not know what activity the patient was involved in at the time. Assign 9 for the activity code to complete external cause code, **V23.49**.

5. Second degree burns to leg from an uncontrolled house fire.

Look up **burn** in the Index (Volume 3, page 80).

Burn

- legs - *see* limb, lower

Burn

- limb

- - lower -> **T24.-**

Refer to Volume 1 page 962 for the fourth character, which will be .2 for our case. The correct code for the leg burns is therefore **T24.2**.

To code the external cause, look up **Fire** in the Index (Volume 3, page 599).

Fire (*see also* Exposure fire)

Exposure

- fire

- - uncontrolled

- - - in building or structure -> **X00.-**

Refer to page 1075 of the Tabular list for X00.- which refers the coder to pages 1013-1017 for the appropriate fourth digit to indicate the place of occurrence. We will use .0 to indicate home. Then refer to pages 1017-1018 for the correct activity code. As no indication is given as to the activity the person was involved in at the time of the house fire, the correct fifth digit would be 9. The final correct code is **X00.09**.

Hospital Discharge Summaries

Summary 1:

Main Condition:	S82.21	<i>Fracture of shaft of tibia, open fracture</i>
Other conditions:	S93.0	<i>Dislocation of ankle joint</i>
	V28.09	<i>Motorcycle rider in non collision transport accident, driver injured in non traffic accident, activity not specified</i>
	T81.4	<i>Infection following a procedure, NEC</i>
	B96.5	<i>Pseudomonas as cause of disease classified to other chapters</i>
	Y83.1	<i>Surgical operation with implant of artificial internal device</i>

Summary 2:

Main Condition:	S06.50	<i>Traumatic subdural haematoma, without open intracranial wound</i>
Other Conditions:	S02.60	<i>Fracture of mandible, closed</i>
	S02.40	<i>Fracture of malar and maxillary bones, closed</i>
	W10.92	<i>Fall on and from stairs and steps, place of occurrence unspecified, activity whilst working for income</i>

Summary 3:

Main condition:	S72.10	<i>Pertrochanteric fracture</i>
Other conditions:	W01.09	<i>Fall on same level from slipping, tripping and stumbling</i>
	S43.0	<i>Dislocation of shoulder joint</i>
	S51.9	<i>Open wound of forearm, part unspecified</i>
	W06.24	<i>Fall involving bed, in hospital, while resting or sleeping</i>

Mortality Coding Exercises

Exercise 1:

Underlying cause of death:	V44.59	<i>Car occupant involved in collision with heavy transport vehicle, driver involved in traffic accident, activity unspecified</i>
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Which rule applied: General principle, then rule D Specificity

Exercise 2:

Underlying cause of death:	X70.98	<i>Intentional self-harm by hanging, strangulation and suffocation, place of occurrence unspecified, other specified activity</i>
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Which rule applied: General principle

Exercise 3:

Underlying cause of death:	V93.19	<i>Accident on board watercraft without accident to watercraft, not causing drowning and submersion, place of occurrence residential institution, activity not specified</i>
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Which rule applied: General principle