Coding Open Fractures in ICD-10-CM

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Fractures are a common medical malady, and coders encounter them often. But the differences between coding fractures in ICD-9-CM and ICD-10-CM are vast.

Upon implementation of ICD-10-CM the code system currently in place for fractures within ICD-9-CM will cease to exist, and a new, more detailed ICD-10-CM system will take its place. Below are four coding scenarios involving fractures that depict the best code selection for each medical situation, and how coding differs between ICD-9-CM and ICD-10-CM.

ICD-10-CM Fracture Primer

The ICD-10-CM index references fractures under two main terms:

- Fracture, pathological
- Fracture, traumatic

If a fracture has not been indicated as open or closed, the ICD-10-CM Official Coding Guidelines inform the coder to code for a closed fracture. If there is no documentation as to whether it is displaced, the appropriate code choice would be the displaced fracture.

Some of the information that may be found in fracture codes includes:

- Type of fracture
- Specific anatomical site
- Whether the fracture is displaced
- Laterality
- Routine versus delayed healing
- Nonunions and malunions

Laterality and identification of type of encounter (initial, subsequent, sequela) are a significant component of the code expansion as well.

Definitions of Gustilo Type Fractures

Gustilo type	Definition	Example fracture patterns
I	Open fracture, clean wound, wound <1 cm in length	Simple transverse or short oblique fractures
II	Open fracture, wound >1 cm in length without extensive soft tissue damage, flaps, avulsions	Simple transverse or short oblique fractures

III	Open fracture with extensive soft tissue laceration, damage, or loss, or an open segmental fracture; this type also includes open fractures caused by farm injuries, fractures requiring vascular repair, or fractures that have been open for eight hours prior to treatment	High energy fracture pattern with significant involvement of surrounding tissues
IIIA	Type III fracture with adequate periosteal coverage of the fracture bone despite the extensive soft-tissue laceration or damage	Gunshot injuries or segmental fractures
IIIB	Type III fracture with extensive soft tissue loss and periosteal stripping and bone damage. Usually associated with massive contamination. Will often need further soft tissue coverage procedure (i.e., free or rotational flap)	Above patterns but usually very contaminated
IIIC	Type III fracture associated with an arterial injury requiring repair, irrespective of degree of soft tissue injury	Above patterns but with vascular injury needing repair

Coding Scenario #1

Humerus Shaft Fracture

A 54-year-old female visited her healthcare provider for a follow-up visit related to her left open traumatic humerus shaft fracture. The fracture was surgically corrected two weeks ago.

ICD-9-CM code:

- V54.11, Aftercare for healing traumatic fracture of upper arm

ICD-10-CM code:

- S42.302D, Unspecified fracture of shaft of humerus, left arm, subsequent encounter for fracture with routine healing

In this coding scenario, the fracture is in the healing phase. The coder uses an aftercare V-code as the principal diagnosis for ICD-9-CM. In ICD-10-CM, coding aftercare of fractures will be accomplished by assigning the acute fracture code with the seventh character "D," which is the seventh character that refers to a subsequent encounter with routine healing. It is not appropriate to assign the aftercare Z codes for traumatic fractures.

When coding a traumatic fracture, ICD-10-CM provides a seventh character to further specify the encounter for the fracture treatment. The seventh characters are expanded for fracture coding, and include:

- A-Initial encounter for closed fracture
- B-Initial encounter for open fracture
- D-Subsequent encounter for fracture with routine healing
- G-Subsequent encounter for fracture with delayed healing
- K-Subsequent encounter for fracture with nonunion
- P-Subsequent encounter for fracture with malunion
- S-Sequela

Seventh characters for "initial encounter" (A, B) are used while the patient is receiving active treatment for the injury, such as surgical treatment, emergency department encounters, and evaluation and treatment by a new physician.

The seventh characters for "subsequent encounter" (D, G, K, P) are used for encounters after the patient has received active treatment for the injury and is receiving routine care during the healing or recovery phase. Examples include removal of external or internal fixation device, cast change or removal, medication adjustment, other aftercare, and follow-up visits following injury treatment.

The seventh character for sequela (S) is used for complications or conditions that arise as a direct result of an injury, such as scar formation after a burn. When using extension S, it is necessary to use both the injury code that precipitated the sequela and the code for the sequela itself. The S is added only to the injury code, not the sequela code. The specific type of sequel, for example, "scar," is sequenced first followed by the injury code.

Also, some fracture categories have additional seventh characters to indicate the specific type of open fracture being treated. These seventh characters are based on the Gustilo open fracture classification system:

- B-Initial encounter for open fracture type I or II
- C-Initial encounter for open fracture type IIIA, IIIB, or IIIC
- E-Subsequent encounter for open fracture type I or II with routine healing
- F-Subsequent encounter for open fracture type IIIA, IIIB, or IIIC with routine healing
- H-Subsequent encounter for open fracture type I or II with delayed healing
- J-Subsequent encounter for open fracture type IIIA, IIIB, or IIIC with delayed healing
- M-Subsequent encounter for open fracture type I or II with nonunion
- N-Subsequent encounter for open fracture type IIIA, IIIB, or IIIC with nonunion
- Q-Subsequent encounter for open fracture type I or II with malunion
- R-Subsequent encounter for open fracture type IIIA, IIIB, or IIIC with malunion

At the beginning of categories S52 (fracture of forearm), S72 (fracture of femur), and S82 (fracture of lower leg, including ankle), the coder will find both of the above seventh character lists combined in alphabetical order.

The seventh character "B" has two meanings in these categories. It is used for an initial encounter for an open fracture type I or II, and it is the character that is used for an initial encounter for an open fracture that does not have the type documented. See Table 1 for the definitions of each Gustilo type and some common fracture pattern examples.

Coding Scenario #2

Fracture of Tibia and Fibula Shafts

A patient presented to the emergency room for severe right lower leg pain with an open leg wound following a fall from a ladder. The physician documented that the patient had an open transverse fracture of the shafts of the tibia and fibula.

ICD-9-CM code:

- 823.32, Open fracture of shaft, fibula with tibia

ICD-10-CM codes:

- S82.221B, Displaced transverse fracture of shaft of right tibia, initial encounter for open fracture NOS
- S82.421B, Displaced transverse fracture of shaft of right fibula, initial encounter for open fracture NOS

In this coding scenario, two bones were fractured. In ICD-10-CM, the coder must use two separate codes to identify both fractures-the bones are not listed together as they have been in ICD-9-CM. The code is a combination code found under the index of fracture, fibula with tibia, open for ICD-9-CM.

Coding Scenario #3

Type III Segmental Fracture of Left Femoral Shaft

A 25-year-old female was treated for a left femur fracture that occurred during a fall from a cliff. It took paramedics and the cliff rescue team 10 hours to rescue and transport her to the local emergency room. The physician documented her injury as a type III segmental fracture of the left femoral shaft.

ICD-9-CM code:

- 821.11, Fracture of femur, shaft, open

ICD-10-CM code:

- S72.362C, Other fracture of shaft of left femur, initial encounter for open fracture, type IIIA, IIIB, or IIIC

In this scenario, the physician has listed the type of fracture, the laterality, and the site, which allows the coder to determine the more specific code in ICD-10-CM with the seventh character "C," indicating the initial encounter of the type IIIA open fracture. In contrast, ICD-9-CM gives the coder only one code choice for the open fracture of the femoral shaft.

Coding Scenario #4

Traumatic Type II Spiral Shaft Fracture

A patient was found to have nonunion of his traumatic type II spiral shaft fracture of the right ulna. He was referred for additional radiologic studies.

ICD-9-CM code:

- 733.82, Nonunion of fracture

ICD-10-CM code:

- S52.241M, Displaced spiral fracture of shaft of ulna, right arm, subsequent encounter for open fracture type I or II, nonunion

In this scenario, the physician documented a type II nonunion of the right shaft of the ulna. In ICD-10-CM, the coder utilizes the seventh character "M" to describe the nonunion of the type II fracture. When the type of fracture is documented, the coder utilizes the additional seventh characters related to the Gustilo classification system. Once again, the coder has only one choice in ICD-9-CM-nonunion of fracture.

ICD-10-CM Adds Fracture Specificity

Fracture codes include much more specificity for laterality, site, and encounters in ICD-10-CM, and the coder will have many more code choices.

Paying attention to the updated guidelines, any Includes and Excludes1/Excludes2 notes, and the seventh characters will assist coders in choosing the most appropriate code for the documentation provided.

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