

## Fracture Classification in ICD-10-CM

Fracture coding in ICD-10-CM requires documentation of site, laterality, type of fracture, whether it is displaced or nondisplaced, and the stage of healing (or encounter), which includes open fracture classification. This resource is to assist in the understanding of the classification system utilized in ICD-10-CM for open fractures.

The procedure for evaluation and management of open fractures is basically a set of principles that involve initial management and subsequent surgical interventions. The purpose of any fracture classification system in the clinical setting is to allow communication that infers fracture morphology and treatment parameters.

There are multiple classification systems that exist for fractures, including the Gustilo classification, the Tscherne classification, the Mangled Extremity Severity Scale, the Hanover scale, and the AO fracture scale. For ICD-10-CM, the Gustilo classification is utilized in the 7<sup>th</sup> character extender lists for some fractures. It denotes the energy of the fracture, soft-tissue damage, and the degree of contamination. It is the most widely used system and is generally accepted as the primary classification system for open fractures.

Gustilo open fracture classification classifies into three major categories. Below is a description of each of the grades of fracture.

### Gustilo Classification for Open Fractures

#### Grade I:

- wound less than 1 cm with minimal soft tissue injury;
- wound bed is clean;
- bone injury is simple with minimal comminution;
- with intramedullary nailing, average time to union is 21–28 weeks

#### Grade II:

- wound is greater than 1 cm with moderate soft tissue injury;
- wound bed is moderately contaminated;
- fracture contains moderate comminution;
- with intramedullary nailing, average time to union is 26–28 weeks

#### Grade III:

The following fracture types automatically results in classification as type III:

- segmental fracture with displacement
- fracture with diaphyseal segmental loss;
- fracture with associated vascular injury requiring repair;
- farmyard injuries or highly contaminated wounds;
- high velocity gun shot wound;
- fracture caused by crushing force from fast moving vehicle;

#### Grade IIIA fracture:

- wound less than 10 cm with crushed tissue and contamination;
- soft tissue coverage of bone is usually possible;
- with intramedullary nailing, average time to union is 30–35 weeks;

**Grade IIIB fracture:**

- wound greater than 10 cm with crushed tissue and contamination;
- soft tissue is inadequate and requires regional or free flap;
- with intramedullary nailing, average time to union is 30–35 weeks;

**Grade IIIC fracture:**

- fracture in which there is a major vascular injury requiring repair for limb salvage;
- in some cases it will be necessary to consider BKA following tibial fracture

It is important to educate providers on the use of this scale for the specific documentation necessary in ICD-10-CM. This will ensure that proper code assignment can be made without multiple queries to the provider.

Following is the 7<sup>th</sup> character extender box for category S52, Fracture of the forearm, to exemplify the usage of the Gustilo classification:

The appropriate 7<sup>th</sup> character is to be added to all codes from category S52 (unless otherwise indicated).

- A initial encounter for closed fracture
- B initial encounter for **open fracture type I or II**  
initial encounter for open fracture NOS
- C initial encounter for **open fracture type IIIA, IIIB, or IIIC**
- D subsequent encounter for closed fracture with routine healing
- 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**
- G subsequent encounter for closed fracture with delayed 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**
- K subsequent encounter for closed fracture with nonunion
- 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**
- P subsequent encounter for closed fracture with malunion
- 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**
- S sequela

Make sure to look at each 7<sup>th</sup> character extender box in the fracture section, as not all categories utilize the Gustilo classification because it is not for all bones or all types of fractures (eg, Greenstick fracture or Torus fracture).

**EXAMPLE:**

Patient presents to the ED and Orthopaedics is called for evaluation of a type I open fracture of the shaft of the right radius.

**S52.321B** Displaced transverse fracture of the shaft of the right radius, initial encounter for a type I open fracture.

**EXAMPLE:**

Patient presents for follow-up for a type IIIB oblique displaced fracture of the shaft of the left femur. The fracture is healing well after surgical intervention.

**S72.332F** Displaced oblique fracture of the shaft of the left femur, subsequent encounter for a type IIIC open fracture with routine healing.