Fracture Treatment Poses Coding Challenge: Multiple Treatment Options Require Special Attention

by Mark R. Hutchinson, MD, and Mary H. Stanfill, RHIA, CCS, CCS-P

There are 206 bones in the human body and each is susceptible to fracture. The choices in fracture management are complex and based on a number of issues including fracture type, fracture pattern, specific bone, age of fracture, age of patient, associated injuries, and physician preference. Coding and reporting fracture treatment is complicated by the many options for medical and surgical treatment. This article presents some clinical aspects of fracture treatment and its related coding and reporting challenges.

Establishing the Diagnosis

Management of all fractures begins with a thorough history, physical examination, and assessment of the site to rule out associated injuries and imaging studies to confirm and clarify the diagnosis. The gold standard of imaging studies is radiography. Two views are required, but additional angles or views may assist with diagnosing specific bones or joints.

Bone scans are helpful in diagnosing subtle stress fractures or bone pathology, which may not be evident on initial screening radiographs. Tomography and computerized tomography can focus on thin sections of the bone to further clarify fracture patterns. Magnetic resonance imaging can capture images of bone edema related to stress fractures or other bone pathology but is particularly effective in clarifying associated soft tissue injuries.

Understanding bone anatomy and the descriptive terms for various fracture types is critical for accurate diagnosis coding. ICD-9-CM classifies traumatic fractures according to which bone is involved (tibia, fibula, or both), the specific part of the bone (upper, lower, or shaft), and the type of fracture (open or closed). Coders may see terms such as greenstick, comminuted, spiral, or simple fracture and must recognize that these are all closed fractures for the purpose of ICD-9-CM diagnosis code assignment. Also, in many instances, it may be necessary to review x-ray results to identify the fracture site for more specificity in diagnosis code assignment.[1]

Fracture Treatment

Once a diagnosis is established, the most appropriate treatment plan is determined. A fracture may require reduction. This is because a fracture may be displaced or out of alignment. When it is, the bone must be restored to its anatomic position. A "reduction" is simply the realignment of the fracture fragments back to an anatomic position.

Throughout the musculoskeletal section of Current Procedural Terminology (CPT), the term "manipulation" is synonymous with reduction. A closed reduction involves realigning the bone using application of manual force. Occasionally a reduction cannot be accomplished by closed means and a surgical incision is required to move soft tissues or bony fragments out of the way.

Many of the fracture treatment codes in CPT are distinguished by whether manipulation or reduction is performed. In some instances, a coder may find it incongruous to assign a global fracture treatment code for what appears to be an evaluation and management type of service. Regardless, a nondisplaced fracture treated without manipulation should be reported with the appropriate fracture treatment code.[2] For example:

> Fracture of the big toe treated with "buddy tape" is coded 28490, Closed treatment of fracture, great toe, phalanx, or phalanges, without manipulation. If closed manipulation had been required to align the bones for healing, CPT code 28495 would be applicable.

Once the fracture is reduced, it is immobilized to maintain the correct alignment. The cornerstone of fracture management has long been immobilization. This can be accomplished with nonsurgical methods, such as casting or surgical methods, such as internal and external fixation.

Immobilization: Casting

Casts can be created in a variety of lengths and designs for the specific bone injured. Casting materials can include plaster or fiberglass. More recently, numerous prefabricated cast braces made of plastic or other materials have been used for the same purpose. These devices are durable, reusable, and allow inspection of the skin and the opportunity for the patient to temporarily remove them for range of motion or washing. Cast braces can also be designed with joint hinges to reduce the risk of stiffness and muscle atrophy associated with strict immobilization.

It can be difficult to determine when it is appropriate to separately report a cast application. CPT guidelines state that casting performed as part of the restorative treatment is included in the CPT code for the treatment. However, for example, casts applied to provide stabilization before a treatment plan is established or to make the patient comfortable during the diagnostic process are reported separately.

The coding professional may often find it necessary to seek clarification from the physician about whether an initial cast application was applied for restorative treatment verses stabilization or patient comfort. Following is an example of such a circumstance:

> An emergency department (ED) patient is diagnosed with a nondisplaced fracture. A plaster cast is applied in the ED to protect the fractured bone, and the patient is referred to the orthopedic clinic for definitive treatment. The patient is seen in the orthopedic clinic two days later. The cast is removed in the clinic. The orthopod then evaluates the fracture and establishes a treatment plan. A fiberglass cast is applied and a follow-up appointment is made. The ED physician would report the application of the cast while the orthopedist would report closed treatment of the fracture without manipulation. The orthopedist would not separately report the cast application at this initial clinic visit, as it is included in the fracture treatment.

Immobilization: Fixation

Surgical techniques for treating fractures primarily use internal and external devices that provide structural support and maintain alignment of the fractured bone. The choice of device is based on the specific fracture and bone involved, the fracture location, the amount of comminution, associated injuries, the need for early mobilization, and physician preference. Internal fixation can be performed with wires or pins, screws, both screws and plates, intramedullary rodding, or nails.

Pins and screws can hold the fracture together but are a less rigid construct and require additional immobilization with casts or braces. Metallic plates with holes in them can be attached directly to bones with a series of screws, which usually creates a rigid construct that can allow early range of motion. Another rigid fixation that can be used in long bones, such as the humerus, femur, or tibia, is an intramedullary nail or rod. These nails are metallic rods that go down the middle of the shaft of the bone. Most have additional holes at the top and bottom, which allow them to be more rigidly secured to the bone with screws.

External fixation is especially valuable for unstable fractures in lots of pieces or for open fractures in which wound care is important. An external fixator is a device that consists of pins that are screwed into the bone through small incisions in the skin and are then connected to each other by an external construction of bars and linkages. In the past few years, some trauma surgeons have begun to use a minimal incision plate osteosynthesis in which the surgeon uses a long plate beneath the skin as a sort of internal/external fixator.

Throughout the musculoskeletal section of CPT, fracture care is differentiated as closed or open treatment. For accurate procedure code assignment, it is important that coders do not confuse the type of fracture with the type of fracture treatment. It is common to have a closed fracture treated by an open procedure. CPT guidelines define closed treatment and open treatment for the purpose of procedure code assignment.

Closed treatment means that the fracture site is not surgically exposed and directly visualized. The definition of open treatment was revised in CPT 2003 to include when the fracture bone is either surgically opened and the bone ends visualized or when

the fractured bone is opened remotely from the fracture site in order to insert an intramedullary nail across the fracture site. With this revision, the definition of open treatment is no longer limited to procedures in which the fracture site itself is directly visualized. For example:

> An ED patient is diagnosed with a closed tibial shaft fracture. The patient is taken to surgery by the orthopedist on call. Following reduction, an intramedullary rod is inserted via an incision at the proximal end of the tibia. The rod is secured with interlocking screws in the distal end. This treatment is reported with CPT code 27759, Treatment of tibial shaft fracture, with or without fibular fracture, by intramedullary implant, with or without interlocking screws and/or cerclage.

Fracture healing and return to function may vary from bone to bone and person to person. Some individuals require supplemental treatment to promote healing, such as electromagnetic or ultrasonic bone stimulation or even bone grafting. Most fractures accomplish early healing with callous by six to eight weeks. Remodeling to normal strength and appearance can take as long as a year. The final phase of fracture management is rehabilitation, including flexibility and motor strengthening.

Fortunately, with appropriate management, intervention, and rehabilitation, most of the 206 bones that can be fractured have the potential for a positive outcome and return of function. With careful review of CPT guidelines and close attention to the type of fracture treatment rendered, the coding professional can accurately code and report services related to fracture management.

Notes

1. American Hospital Association. *Coding Clinic for ICD-9-CM* 16, no. 1 (1999): 5.

2. American Medical Assocation. *CPT Assistant* 11, no. 12 (2001): 7.

Mark Hutchinson *(mhutch@uic.edu) is associate professor of orthopedics and sports medicine, department of orthopedics, at the University of Illinois at Chicago.* ***Mary Stanfill*** *(mary.stanfill@ahima.org) is a coding practice manager at AHIMA.*

Article citation:
Hutchinson,Mark, and Mary Stanfill. "Fracture Treatment Poses Coding Challenge: Multiple Treatment Options Require Special Attention." *Journal of AHIMA* 74, no.4 (April 2003): 64-67.