

Traumatic Brain Injury Coding in ICD-10-CM

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Traumatic brain injury (TBI) has received considerable attention by the media recently, especially bringing attention to the prevalence of TBI in sports-related activities. According to the Centers for Disease Control and Prevention (CDC), “A TBI is a bump, blow or jolt to the head or a penetrating head injury that disrupts the normal function of the brain.”¹ The CDC also notes that 2.5 million TBIs occurred in 2010 either as an isolated injury or along with other injuries. TBIs can occur in a variety of circumstances including accidental falls, especially for children or the elderly; unintentional blunt trauma, such as sports-related injuries; or during motor vehicle accidents and assaults.

ICD-10-CM captures traumatic brain injuries in category S06 – Intracranial injury. This category provides specific subcategories based upon the type of traumatic injury, including concussion, edema, contusion, laceration, and hemorrhage. The codes are further subdivided by site of the specific injury, including the cerebrum (right and left hemispheres or front of brain), cerebellum (back of brain), and brainstem (middle of brain including midbrain, pons, and medulla). Codes for traumatic hemorrhages also delineate the site, such as epidural, subdural, or subarachnoid.

The sixth character for codes in category S06 specify if loss of consciousness was present or not and the associated length of the loss of consciousness. Time frames are clearly defined into ranges of minutes and hours:

- 30 minutes or less
- 31-59 minutes
- 1 hour to 5 hours and 59 minutes
- 6 hours to 24 hours

For intracranial injuries that have loss of consciousness greater than 24 hours, the sixth character specifies if the patient returned to pre-existing consciousness level or did not return to pre-existing consciousness level but survived. There are also specific codes that describe the intracranial injury with loss of consciousness of any duration resulting in death prior to regaining consciousness or if the death is due to another cause prior to regaining consciousness. There is also a specific code for an intracranial injury with loss of consciousness of unspecified duration.

It will be important for coding professionals to identify the presence of loss of consciousness in the health record documentation. For intracranial injuries not otherwise specified, the classification utilizes the code that indicates loss of consciousness of unspecified duration.

For example, a patient presents to the emergency room with traumatic cerebral edema. The health record provides no documentation as to whether the traumatic cerebral edema resulted in loss of consciousness or not. In absence of additional information, the coding professional would default to code S06.1X9A – Traumatic cerebral edema with loss of consciousness of unspecified duration, initial encounter. There is an inclusion term, Traumatic cerebral edema not otherwise specified, listed under this code.

This category also requires the use of seventh characters to specify the encounter:

- A – Initial encounter
- D – Subsequent encounter
- S – Sequela

The seventh character A, initial encounter, is used when the patient is receiving active treatment such as an emergency department encounter, surgical treatment and evaluation, and treatment by a new physician for the condition. Seventh character D, subsequent encounter, is assigned when the patient has received active treatment and is now receiving routine

care for the condition during the healing or recovery phase. The seventh character S, sequela, is to be used for complications or conditions that arise as a direct result of the condition.

There are several important Includes and Excludes¹/Excludes² instructional notes present in category S06. At the beginning of the category, coding professionals are directed to code any associated open wound of the head (S01.1-) and skull fracture (S02.-). An Excludes1 note indicates not to assign a code from S09.90, head injury not otherwise specified with codes from category S06.

Subcategory S06.0 – Concussion, provides an Excludes1 note that states, “Concussion with other intracranial injuries classified in category S06 – code to specified intracranial injury.” The following scenario illustrates how to apply this Excludes1 guidance.

Table 1: S06 Intracranial Injury Subcategories

Subcategory	Description
S06.0	Concussion
S06.1	Traumatic cerebral edema
S06.2	Diffuse traumatic brain injury
S06.3	Focal traumatic brain injury
S06.30	Unspecified focal traumatic brain injury
S06.31	Contusion and laceration of right cerebrum
S06.32	Contusion and laceration of left cerebrum
S06.33	Contusion and laceration of cerebrum, unspecified
S06.34	Traumatic hemorrhage of right cerebrum
S06.35	Traumatic hemorrhage of left cerebrum
S06.36	Traumatic hemorrhage of cerebrum, unspecified
S06.37	Contusion, laceration and hemorrhage of cerebellum

S06.38	Contusion, laceration and hemorrhage of brainstem
S06.4	Epidural hemorrhage
S06.5	Traumatic subdural hemorrhage
S06.6	Traumatic subarachnoid hemorrhage
S06.8	Other specified intracranial injuries
S06.81	Injury of right internal carotid artery, intracranial portion, NEC
S06.82	Injury of left internal carotid artery, intracranial portion, NEC

Case Scenario: TBI Due to Sports-Related Injury

A 17-year-old male presents to the emergency room following a head injury due to a tackle in a high school football game on the football field. The patient is diagnosed with a concussion with associated cerebral contusion of the right side with loss of consciousness of two minutes.

The appropriate codes for this scenario are:

- S06.311A – Contusion and laceration of right cerebrum with loss of consciousness of 30 minutes or less, initial encounter
- W03.XXA – Other fall on same level due to collision with another person, initial encounter
- Y93.61 – Activity, American tackle football
- Y92.321 – Football field as the place of occurrence of the external cause
- Y99.8 – Other external cause status

Note that a separate code from subcategory S06.0-, Concussion, is not assigned since the code for the specified intracranial injury is applied.

Table 2: Coma Subcategories

Subcategory	Description
R40.20	Unspecified coma
R40.21	Coma scale, eyes open
R40.22	Coma scale, best verbal response

R40.23	Coma scale, best motor response
R40.24	Glasgow coma scale, total score

Glasgow Coma Scale Assesses Severity

The Glasgow Coma Scale is used to assess the severity of a brain injury based upon how the patient responds to certain standard stimuli by opening the eyes, giving a verbal response, and giving a motor response. A low score indicates a poor chance for recovery and a high score indicates a good chance of recovery.

It is appropriate to assign additional codes when documentation of a coma or the scores from the Glasgow Coma Scale are present. A code for any associated intracranial injury (S06) or fracture of the skull (S02) appears under subcategory R40.2, Coma. The ICD-10-CM Official Guidelines for Coding and Reporting (I.C.18.e.) note that coma scale codes are primarily for use by trauma registries but may be used in any setting. Coma scale codes are to be sequenced after the diagnosis codes.

When assigning the coma scale codes, one from each subcategory (R40.21-, R40.22-, R40.23-) is needed to complete the scale. The sixth character specifies the type of response. The seventh character indicates when the scale was recorded and should match for all three codes. If only the total score is documented, then code R40.24-, Glasgow coma scale, total score is assigned.

Coding professionals should be aware of documents in the health record that capture Glasgow Coma Scale data whether it is in the emergency room record, nursing notes, ambulance records, specific template forms, or documentation in a provider note.

Notes

- Centers for Disease Control and Prevention. "Injury Prevention and Control: Traumatic Brain Injury." March 6, 2014. <http://www.cdc.gov/TraumaticBrainInjury/index.html>.
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Reference

National Center for Health Statistics. "ICD-10-CM and Draft ICD-10-CM Official Guidelines for Coding and Reporting 2014." <http://www.cdc.gov/nchs/icd/icd10cm.htm>.

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