Code Proposals for the Departments of Defense and Veterans Affairs

ICD-9-CM Coordination and Maintenance Committee

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DoD/VA Common Definition

A traumatically induced structural injury and/or physiological disruption of brain function as a result of an external force that is indicated by new onset or worsening of at least one of the following clinical signs, *immediately following* the event:

- Any period of loss of or a decreased level of consciousness;
- Any loss of memory for events immediately before or after the injury;
- Any alteration in mental state at the time of the injury (confusion, disorientation, slowed thinking, etc.);
- Neurological deficits (weakness, loss of balance, change in vision, praxis, paresis/plegia, sensory loss, aphasia, etc.) that may or may not be transient;
- Intracranial lesion

Overview of TBI

- Insult to the brain caused by an external physical force.
- At a minimum, TBI produces a diminished or altered state of consciousness.
- TBI may result in a diverse, idiosyncratic constellation of cognitive, neurological, physical, sensory, and psychosocial symptoms.

Overview of TBI

- Not all individuals exposed to an external force will sustain a TBI.

- The severity of TBI may range from “mild,” i.e., a brief change in mental status or consciousness, to “severe,” i.e., an extended period of unconsciousness or amnesia after the injury. Distribution of TBI Severity: 80% mild, 10% moderate, 10% severe

- No standard classification of TBI. Severity is based on loss of consciousness (LOC), alteration of consciousness (AOC), post-traumatic amnesia (PTA), or Glasgow Coma Scale (GCS).

Common Symptoms of TBI

- Dizziness
- Loss of Balance
- Poor coordination
- Headaches
- Nausea
- Visual disturbance
- Light sensitivity
- Hearing difficulty
- Noise sensitivity
- Body/extremity numbness
- Altered taste or smell
- Appetite change
- Poor concentration
- Forgetfulness
- Difficulty making decisions
- Slowed thinking
- Fatigue
- Insomnia
- Feeling anxious
- Feeling depressed
- Easily irritated
- Poor frustration tolerance

Cognitive Symptoms

- **Cognition deficits**: problems in thinking, reasoning, problem solving, information processing, and memory. The most common cognitive impairment among severely head-injured patients is memory loss.

- Higher-level, **executive function deficits**: problems in planning, organizing, abstract reasoning, problem solving, and making judgments. Deficits have significant impact on quality of life and return to pre-injury work activities.

- Patients with moderate to severe TBI have more problems with cognitive deficits than patients with mild TBI.

- History of several mild TBI (e.g. repeated blast exposures) may have an additive effect, causing cognitive deficits equal to more severe degrees of injury.

Emotional/Behavioral Symptoms

- Psychiatric problems associated with TBI include depression, apathy, anxiety, irritability, anger, paranoia, confusion, frustration, agitation, sleep problems, or mood swings.

- Problem behaviors may include aggression and violence, impulsivity, acting out, noncompliance, social inappropriateness, emotional outbursts, childish behavior, impaired self-control, impaired self-awareness, inability to take responsibility or accept criticism, or alcohol or drug abuse/addiction.

- Some patients' personality problems may be so severe that they are diagnosed with personality disorders.

- Symptoms associated with PTSD may overlap with symptoms of mild TBI. Differential diagnosis of brain injury and PTSD is required for accurate diagnosis and treatment.

Current Inadequacies

- No actual TBI codes exist, and brain injuries are described as:
  - Intracranial injuries due to skull fracture (800-801, 803-804)
  - Intracranial injuries due to specified non-fracture causes (851-853), or unspecified non-fracture causes (854)
  - Concussion (850)
- Imprecise organization and terminology of intracranial injuries.
  - All intracranial injuries (with or without skull fracture) are TBI, but “TBI” is never used; ICD-9-CM uses terms “intracranial injury” or “concussion”.
  - Concussion is currently defined and differentiated by loss of consciousness.
    - Mild TBI is synonymous with concussion.
    - More severe forms of TBI are inappropriately labeled as concussion.
    - Moderate and severe TBI are neither classifiable as concussion nor post-concussional syndrome (310.2).
  - Severity stratification is different for concussion (850-series) than for other intracranial injuries (800-801, 803-804, 851-854 series).
- In modern terminology, concussion is synonymous with mild TBI. Concussion is a colloquial term; TBI is the preferred term.

Current Inadequacies

- Acute symptoms are not associated with TBI for each episode of care, making it difficult to associate symptoms with TBI, identify symptom patterns or unusual symptom clusters, or track costs of TBI care.

Example: Acute dizziness due to TBI is coded as 780.4. This code does not point to TBI, and could be related to other non-TBI conditions. Presence of TBI injury code and TBI symptom code in the health record (e.g. in the same year) does not establish causality.

Current Inadequacies

- Cognitive and memory symptoms lack specificity and are coded as mental health problems rather than neurological disorders or symptoms of brain injury.
- Emotional/behavioral symptoms lack specificity and are coded as mental disorders even when no mental health diagnosis has been made.
- Cognitive, emotional, and behavioral problems can result from many disorders affecting same areas of brain involved with specific mental disorders.
  - ICD-9-CM and DSM-IV refer to such conditions as "organic“ mental disorders.

Background for Proposal

- Congressional concern that service members and veterans with neurological brain injuries were labeled with mental disorder diagnoses that may misrepresent their symptoms, potentially misdirect treatment, and may cause undue stigma.
- Departments of Defense (DoD) and Veterans Affairs (VA) tasked with responsibility of improving TBI coding, specifically the use of mental health codes for TBI symptoms of cognitive and memory disorders.
  - National Defense Authorization Act of 2008 (PL 110-181)
  - Consolidated Appropriations Act of 2008 (PL 110-161)

Summary of Proposed Changes

- Revise headings in the 800-series to clarify organization of intracranial injuries and TBI throughout.
- Revise the 850-series “concussion” codes.
- Add new code for acute manifestations of TBI.
- Add new codes for personal history of TBI and combat and operational stress reaction (COSR).
- Add more specific codes for cognitive symptoms of TBI; e.g., deficits of attention or concentration, memory, executive function.
- Add more specific codes for other symptoms of TBI including emotional / behavioral symptoms of unspecified diagnostic significance; e.g., irritability, impulsivity or disinhibition, emotional lability, anxiety or depressive symptoms.

Benefits of Proposed Changes

- Recognizes TBI as clinically-accepted term in ICD-9-CM.
- Clarifies elegant organization of intracranial injuries with or without skull fracture that is not obvious with current headings.
- Redefines the 850-series “concussion” codes as mild, moderate, and severe TBI, differentiated by loss of consciousness.
- Associates acute symptoms with TBI.
- Improves diagnostic classification of TBI, identification of symptom clusters and unusual symptom patterns, tracking and reporting, and research, with more accuracy than is possible with existing diagnostic codes.
- Improves specificity of cognitive, emotional, and behavioral symptoms.
- Improves classification of TBI and operationalizes the Common TBI Definition within existing structure of ICD-9-CM.

Thanks for Listening

Coding Scenarios—Case #1

25 y.o. service member suffers TBI from blast (IED) while serving in Iraq.

- Clinical presentation: mild TBI with acute sleep disorders, memory problems, post-traumatic headaches, and dizziness.
- Codes:

850.11	TBI with brief loss of consciousness
349.3	Acute TBI symptom
327.01	Sleep disorder
349.42	Memory deficit
339.21	Acute post-traumatic headache
780.4	Dizziness

Coding Scenarios—Case #2

25 y.o. service member suffers TBI from blast (IED) while serving in Iraq.

- Clinical presentation: mild TBI with acute symptoms of irritability and emotional lability.*
- Codes:

850.11	TBI with brief loss of consciousness
349.3	Acute TBI symptom
349.51	Irritability
349.53	Emotional lability

**Note: Diagnostic significance is determined by appropriate evaluation.*

Coding Scenarios—Case #3

25 y.o. service member suffers TBI from blast (IED) while serving in Iraq

- Clinical presentation: mild TBI with persistent memory impairment and dizziness
- Codes: 349.42, 780.4 and 907.0

Coding Scenarios—Case #4

25 y.o. service member suffers brain injury (stroke) secondary to surgery for leg fracture

- Clinical presentation: acute memory problems post-stroke.
- Codes: 780.93 memory loss
  - Not coded as TBI
  - Not coded as cerebrovascular disease (430-437)

Coding Scenarios—Case #5

25 y.o. service member suffers brain injury (stroke) secondary to surgery for leg fracture

- Clinical presentation: persistent cognitive deficit post-stroke.
- Codes: 331.83 (cognitive impairment) and 905.4 Late effect of lower extremity fracture.
  - Not coded as TBI late effect
  - Not coded as late effect of cerebrovascular disease