



## THE ASSISTANT SECRETARY OF DEFENSE

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HEALTH AFFAIRS

APR 06 2015

MEMORANDUM FOR ASSISTANT SECRETARY OF THE ARMY (MANPOWER AND  
RESERVE AFFAIRS)  
ASSISTANT SECRETARY OF THE NAVY (MANPOWER AND  
RESERVE AFFAIRS)  
ASSISTANT SECRETARY OF THE AIR FORCE (MANPOWER  
AND RESERVE AFFAIRS)  
DIRECTOR, JOINT STAFF

SUBJECT: Traumatic Brain Injury: Updated Definition and Reporting

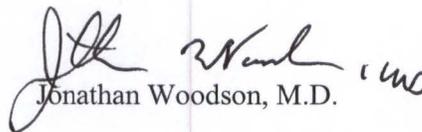
Reference: (a) Traumatic Brain Injury: (Appendix G) from *Military Health System Coding Guidance: Professional Services and Specialty Medical Coding Guidelines* (Version 4.0), dated March 1, 2014

Traumatic Brain Injury (TBI) is a significant health concern for the Department of Defense (DoD) due to its potential for short and long-term effects on the Service member. To mitigate this concern, it will require proper identification, documentation, treatment, and tracking of those Service members who have sustained a TBI. In October 2007, the DoD released a TBI "Definition and Reporting" memorandum to promote a common definition and system of stratification.

This memorandum updates the DoD definition of TBI, severity of brain injury stratification, and method of data collection. A comprehensive civilian and military literature review assured this TBI definition update is consistent with guidelines and definitions published by the Centers for Disease Control and Prevention, the World Health Organization, the National Institutes of Health, leading major professional and collegiate athletic associations, and all major medical societies. The updated definition is also correlated with Appendix G of the Military Health System Coding Guidance.

Effective immediately, the Military Services and the Joint Staff will review their Service and Combatant Command specific doctrine and training to reflect the DoD TBI definition, stratification, and reporting requirements of the attachment to this memorandum.

The point of contact for this action is Ms. Elizabeth Fudge. Ms. Fudge may be reached at (703) 681-8295, or Elizabeth.Fudge@dha.mil.

  
Jonathan Woodson, M.D.

Attachment:  
As stated

cc:  
Surgeon General of the Army  
Surgeon General of the Navy  
Surgeon General of the Air Force

## DEFINITION OF TRAUMATIC BRAIN INJURY

A traumatically induced structural injury 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 alteration in mental status (e.g., confusion, disorientation, slowed thinking, etc.).
- Any loss of memory for events immediately before or after the injury.
- Any period of loss of or a decreased level of consciousness, observed or self-reported.

External forces may include any of the following events: the head being struck by an object, the head striking an object, the brain undergoing an acceleration/deceleration movement without direct external trauma to the head, or forces generated from events such as a blast or explosion, including penetrating injuries.

The above criteria define a TBI. Sequelae of TBI may resolve quickly, within minutes to hours after the neurological event, or they may persist. Some sequelae of TBI may be permanent. Most signs and symptoms will manifest immediately following the event. However, other signs and symptoms may be delayed from days to months (e.g., headaches, subdural hematoma, seizures, hydrocephalus, spasticity, etc.). Signs and symptoms may occur alone or in varying combinations, and may result in a functional impairment. These signs and symptoms are not better explained by pre-existing conditions or other acute medical, neurological, or psychological causes, but may be a case of an exacerbation of a pre-existing condition. The signs and symptoms generally fall into one or more of the following three categories:

- Physical: Headache, nausea, vomiting, dizziness, sleep disturbance, weakness, paresis/plegia, sensory loss including hearing loss, visual loss, loss/alteration of taste or smell, tinnitus, spasticity, aphasia, dysphagia, dysarthria, balance disorders, disorders of coordination, seizure disorder.
- Cognitive: Deficits in attention, concentration, memory, speed of processing, new learning, planning, reasoning, judgment, executive control, self-awareness, language, abstract thinking.
- Behavioral/emotional: Feelings of depression or anxiety, agitation, irritability, impulsivity, aggression.

Note: The signs and symptoms listed above are typical of each category but are not an exhaustive list of all possible signs and symptoms.

## SEVERITY OF BRAIN INJURY STRATIFICATION:

Not all individuals exposed to an external force will sustain a TBI. TBI varies in severity, traditionally described as concussion/mild, moderate, or severe. These categories are based on the presence and duration of the immediate, injury-induced alteration of consciousness; loss of consciousness; or posttraumatic amnesia.

Injury severity (i.e., concussion/mild, moderate, severe) is determined at the time of the injury, but this severity level, while having some prognostic value, does not necessarily reflect the patient's ultimate level of functioning. It is recognized that serial assessments of the patient's cognitive, emotional, behavioral, and social functioning are required. Current anatomic and functional imaging technology is only an adjunct to the diagnosis of TBI.

- TBI is classified as concussion/mild, moderate, or severe if it meets any of the criteria below within a particular severity level. If a patient meets criteria in more than one category of severity, the higher severity level is assigned. The trauma may cause structural damage and intracranial hemorrhage requiring immediate surgical intervention, or may produce subtle, non-structural damage indicated by altered brain function and a normal Computed Tomography (CT) scan.
- If it is not clinically possible to determine the level of severity because of medical interventions (e.g., sedation, pharmacologic paralysis, etc.), other severity markers may be required, such as a CT scan.
- It is emphasized that the majority (more than 80 percent) of those with a concussion, which is the most common type of TBI, will have a full, spontaneous recovery within a few days or weeks. Guidance on concussion evaluation and treatment can be found in the Concussion Management Algorithms located on the Defense and Veterans Brain Injury Center (DVBIC) website ([http://www.dcoe.mil/content/Navigation/Documents/DCoE\\_Concussion\\_Management\\_Algorithm\\_Cards.pdf](http://www.dcoe.mil/content/Navigation/Documents/DCoE_Concussion_Management_Algorithm_Cards.pdf)).

Mild/Concussion	Moderate	Severe
A CT scan is not indicated for most patients with a concussion.*	Normal or abnormal structural imaging	Normal or abnormal structural imaging
LOC = 0–30 minutes**	LOC > 30 minutes and < 24 hours	LOC > 24 hours
AOC = a moment up to 24 hours	AOC > 24 hours. Severity based on other criteria	
PTA = 0–1 day	PTA > 1 and < 7 days	PTA > 7 days

AOC: Alteration of consciousness/mental state

LOC: Loss of consciousness

PTA: Posttraumatic amnesia

\*If obtained, the CT scan is normal.

\*\*It is recognized that there are published ICD-9-CM and ICD-10-CM codes for concussion with LOC  $\geq$ 31 minutes; however, these codes should not be used because LOC > 30 minutes is not classified as a concussion within the DoD.

In addition to a uniform definition for the diagnosis of TBI within the DoD and VA, there is an agreed upon set of ICD-9-CM and/or ICD-10-CM codes that should be used when screening for or treating TBI in the Military Health System. The latest DoD guidance on TBI coding documentation, found in Appendix G to the MHS Coding Guidance, is available at: [http://www.tricare.mil/ocfo/bea/ubu/coding\\_guidelines.cfm](http://www.tricare.mil/ocfo/bea/ubu/coding_guidelines.cfm)

TBI is only one of the causes for post-concussion symptoms. The presence of these symptoms alone is not sufficient for a diagnosis of TBI.

## REPORTING OF TRAUMATIC BRAIN INJURY

DVBIC reports the incidence of TBI in the DoD, as well as various characteristics of the injuries and the care provided to injured Service members, to help understand the nature of TBI in the DoD using data received from the following partners:

- The Armed Forces Health Surveillance Center (AFHSC) provides DVBIC with quarterly counts of TBI diagnosis broken down by Service, severity, and deployment status.
- The Joint Trauma Analysis and Prevention of Injury in Combat program provides DVBIC with partially de-identified records of blast exposures and TBI diagnoses in theater.
- The Air Force Medical Decision Support Services provides quarterly aggregate data of TBI medical encounters to DVBIC.
- The Navy and Marine Corps Public Health Center provides periodic epidemiological support to DVBIC for deployment-related TBI.

In addition, the DVBIC Office of Surveillance performs sub-analysis of data to improve surveillance methods and provide more in-depth analysis by using:

- Military Health System Data Repository
- Armed Forces Health Longitudinal Technology Application electronic medical records
- Defense Manpower Data Center

For special surveillance projects involving personal health information, the Public Health Review Board at the U.S. Army Public Health Command may provide review.