



TBI

COL Tony Carter
Office of the DASD, FHP&R



AFEB Recommendations

- March 06: AFEB meets on TBI
- August 06: AFEB letter to HA; recommendations
 - Improve personal protective equipment
 - Standard methods of acute on-the-field concussion/TBI assessment
 - Effective disposition assessment
 - Efficient/effective documentation of acute injury assessment
 - Systematic follow-up assessment and medical management
- Education of service members and their families, unit commanders and fellow service members, individuals in a position to encounter and care for soldiers at risk for a TBI during or later military service
- Continue some form of post-deployment screening
 - Helps ensure that those who remain impaired or are suffering persistent TBI-related health problems are identified for follow-up care
- Additional TBI research, particularly as it relates to blast associated events
 - Majority of concussion-related information and guidelines relate to impact events, particularly sports related
 - Uncertainty as to how well these guidelines apply to blast related concussion



Responses

- Improve personal protective equipment
 - Blast Injury DoDD
 - JTAPIC
- Standard methods of acute on-the-field concussion/TBI assessment
 - JTTS CPG on in-theater management of Mild TBI August 06
 - Includes Military Acute Concussion Assessment
- Efficient/effective documentation of acute injury assessment
 - Work in progress
- Effective disposition assessment
 - Work in progress
- Systematic follow-up assessment and medical management
 - Work in progress
- Education of service members and their families, unit commanders and fellow service members, individuals in a position to encounter and care for soldiers at risk for TBI during or after military service
 - Work in progress
 - Army ALARACT and USMC equivalent 2006
 - DoD/VA education panel: DVBIC lead



Response

- Continue some form of post-deployment screening
 - Helps ensure that those who remain impaired or are suffering persistent TBI-related health problems are identified for follow-up care
 - Subject of much discussion
 - Mandated by HA March 2007: PDHA, PDHRA, PHA, June 2007 start
- Additional TBI research, particularly as it relates to blast associated events
 - Majority of concussion-related information and guidelines relate to impact events, particularly sports related
 - Uncertainty as to how well these guidelines apply to blast related concussion
 - Work in progress



Additional actions

- September 2006: Navy hosts TBI summit
- November 2006: DVBIC hosts mTBI assessment/field treatment conference: validates JTTS CPG and MACE
- January 2007: TSG (Army) charters TBI workgroup: report due May 2007
- VA announces veteran screening for TBI
- March 2007: HA mandates TBI screen and comprehensive DoD TBI program: JEC agrees VA and DoD screen should be the same
- March/April 2007: DoD SG/M&RA/DASD level meetings re: comprehensive DoD TBI program (Embrey, ADM Arthur)
- May 2007: DoD/VA meeting on comprehensive plan for TBI (ADM Arthur)
 - Definition
 - Testing and evaluation
 - Treatment
 - Disability and long term care
 - Education and training
 - Research (1) blast physics and monitoring
 - Research (2) clinical and other
 - (strategic communication)
- Expectation: actionable plan for DoD/VA management of service members with TBI



Additional Actions

- May 2007: HA cell for management of TBI/PTSD programs/policy (not approved)
- May 2007: comprehensive plan-in-progress approved, implementation begun
- May 2007: spend plan for supplemental funds, TBI/PTSD
- June 2007: DoD/VA conference with civilian experts and advocacy groups
- Various groups: Rand, IOM etc provide input



THE ASSISTANT SECRETARY OF DEFENSE

1200 DEFENSE PENTAGON
WASHINGTON, DC 20301-1200

MAR 23 2007

HEALTH AFFAIRS

MEMORANDUM FOR ASSISTANT SECRETARY OF THE ARMY (M&RA)
ASSISTANT SECRETARY OF THE NAVY (M&RA)
ASSISTANT SECRETARY OF THE AIR FORCE (M&RA)
SURGEON GENERAL OF THE ARMY
SURGEON GENERAL OF THE NAVY
SURGEON GENERAL OF THE AIR FORCE

SUBJECT: Consolidation of Traumatic Brain Injury Initiatives in the Department of Defense

Traumatic Brain Injury (TBI), whether mild, moderate, or severe, is a significant health concern for the Department. In my March 8 memo on TBI, I announced a comprehensive Department of Defense (DoD) program to identify, treat, document, and follow up those who have suffered a TBI while either deployed or in garrison. We must establish methods to properly identify causative factors, mitigate the effects of these factors, detect the clinical and sub-clinical signs and symptoms of TBI, shape our restorative treatment strategy, and design research that will clarify clinical case definitions and advance therapeutic methods.

To assure a common Department wide approach and understanding of this program, it is important that our actions are coordinated and coherent, and that our responses to the Congress, the media, and to senior administration officials are consistent. To effect this coordinated effort, the Deputy Assistant Secretary of Defense for Force Health Protection and Readiness, Ms. Ellen P. Embrey, is designated to lead this overall effort from a policy standpoint and to work with you and your staffs to shape the programs, protocols, and guidelines that make up this comprehensive program. In that context, the DoD's medical research command, the United States Army Medical Research and Materiel Command, will coordinate all DoD-wide research related to TBI, and the Defense and Veterans Brain Injury Center (DVBIC) is designated as the single office of responsibility for the consolidation of all TBI related incidence and prevalence information collected by all Services.

Additionally, I have asked Vice Admiral Donald Arthur, the Surgeon General of the Navy, until his departure, to serve as the primary medical spokesperson for the Department on issues pertaining to TBI. In this role, he will represent the Department in responding to questions, interviews, etc., on TBI, and be the focal point for the Department in responding to questions on the Department's progress in implementing the comprehensive program. Other personnel with expertise in TBI may be used to respond

to queries, conduct media interviews, etc , but this should be done in coordination with the public affairs officer for my office, Admiral Arthur and Ms. Embrey

Finally, I am requesting that Ms Embrey and Admiral Arthur convene a meeting involving additionally the Surgeons General of the Army and Air Force, and all relevant DoD principals involved in TBI research, screening, and treatment to plan the specifics of a coordinated Department effort The results of this planning effort, and any additional planning sessions, should be submitted to my office not later than 45 days from today

Please work with Ms Embrey and Admiral Arthur as we work together to improve our capabilities in dealing with this important health risk


William Winkenwerder, Jr , MD

cc
USD (Personnel and Readiness)
PDUSD (Personnel and Readiness)
ASD (Legislative Affairs)
ASD (Public Affairs)
PDASD (Public Affairs)
USAMRMC
Defense and Veterans Brain Injury Center

Section 1: During your deployment did you experience any of the following events? Check all that apply:

- Blast or Explosion (IED, RPG, Land Mine, Grenade, etc)**
- Vehicular accident/crash (any vehicle, including aircraft)**
- Fragment wound or bullet wound above the shoulders**
- Fall**

(in addition to clicking on one or more of the above if true)

- No, none of the above (Negative Screen) (end of screening)**
- Yes, one or more of the above (This answer will result in the next section opening)**

Section 2: Did you have any of these symptoms IMMEDIATELY afterwards? Check all that apply

- Losing consciousness/"knocked out"**
- Being dazed, confused, or "seeing stars"**
- Not remembering the injury**

(in addition to clicking on one or more of the above if true)

- No, none of the above (Negative Screen) (end of screening)**
- Yes, one or more of the above (This answer will result in the next section opening.)**

Section 3: Did any of the following problems begin or get worse afterwards?

- Memory Problems or Lapses**
- Balance Problems or Dizziness**
- Sensitivity to Bright Light**
- Irritability**
- Headaches**

(in addition to clicking on one or more of the above if true)

- No, none of the above (Negative Screen) (end of screening)**
- Yes, one or more of the above (this answer will result in the next section opening.)**

Section 4: Are you CURRENTLY having any of the symptoms from section 3?

- Memory Problems or Lapses**
- Balance Problems or Dizziness**
- Sensitivity to Bright Light**
- Irritability**
- Headaches**
- No. This is a negative screen**
- Yes, one or more of the above. This is a positive screen.**

DoD/VA TRAUMATIC BRAIN INJURY CONCENSUS CONFERENCE
TBI DEFINITION, CLASSIFICATION, AND TAXONOMY WORKING GROUP
MAY 2007

Traumatic Brain Injury 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 event¹:

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

External forces include: 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, a foreign body penetrating the brain, forces generated from events such as a blast or explosion, or other force yet to be defined.

The above criteria define the event of a traumatic brain injury. Sequelae of traumatic brain injury may resolve quickly, within minutes to hours after the neurological event, or they may persist longer. 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., 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 medical, neurological, or psychological causes except in cases of an exacerbation of a pre-existing condition. These generally fall into one or more of the three following categories:

1. Physical: for example, headache, nausea, vomiting, dizziness, blurred vision, sleep disturbance, weakness, paresis/plegia, sensory loss, spasticity, aphasia, dysphagia, apraxia, balance disorders, disorders of coordination, seizure disorder.
2. Cognitive: for example, attention, concentration, memory, speed of processing, new learning, planning, reasoning, judgment, executive control, self-awareness, language, abstract thinking.
3. Behavioral: for example, depression, anxiety, agitation, irritability, impulsivity, aggression.

¹ Evidence is still required to determine if an episode of altered brain function at the time of the trauma is required for a diagnosis of traumatic brain injury due to exposure to an explosion or blast. For example, cognitive, physical, or behavioral manifestations that cannot be better explained by another process may be causally related to the blast event, even when there is no identifiable evidence of structural brain injury on imaging studies or altered brain function immediately following the explosion.

Injury Severity (Acute): Injury severity is determined at the time of the injury, but this severity level while having some prognostic value does not necessarily reflect the patient's ability to function. It is recognized that serial assessments of the patient's cognitive, emotional, behavioral and social functioning is required.

- The patient is classified as mild/moderate/severe if he or she 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 of severity is assigned.
- If it is not clinically possible to determine the brain injury level of severity of because of medical complications (e.g. medically induced coma), other severity markers are required to make a determination of the severity of the brain injury.

Mild	Moderate	Severe
Normal structural imaging	Normal <u>or</u> abnormal structural imaging	Normal <u>or</u> abnormal structural imaging
LOC = 0-30 min	LOC >30 min and < 24 hours	LOC > 24 hrs
AOC = a moment up to 24 hrs	AOC >24 hours and <7 days	AOC > 7 days
PTA = 0-1 day	PTA >1 and <7 days	PTA > 7 days

AOC – Alteration of Consciousness/Mental State

LOC – Loss of Consciousness

PTA – Post Traumatic Amnesia

It is recognized that the cognitive symptoms associated with post traumatic stress disorder (PTSD) may overlap with symptoms of mild traumatic brain injury. Differential diagnosis of brain injury and PTSD is required for accurate diagnosis and treatment.

With the above definition, this working group will now focus its efforts on developing diagnostic criteria for TBI by proposing a symptom classification system. This classification system will reflect taxonomy for capturing the continuum of traumatic brain injuries and the complex relationship with traumatic stress disorders.

Very Respectfully Submitted,

M. Mouratidis, Psy.D.

Chair, DoD/VA TBI Definition and Taxonomy Working Group