

MILD TRAUMATIC BRAIN INJURY - CONCUSSION

POCKET GUIDE FOR CLINICIANS
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WHAT IS A MILD TRAUMATIC BRAIN INJURY?

A mild TBI, otherwise known as a concussion, is caused by a blow or jolt to the head that disrupts the function of the brain.

PURPOSE:

Primary care providers in the Department of Veterans Affairs (VA) and in the Department of Defense (DoD) need basic background information on the health effects of mild traumatic brain injury (TBI), commonly known as a concussion. This fact sheet provides information on mild TBI symptoms and diagnosis, as well as guidance to primary care providers seeing patients who may have long-term health effects associated with mild TBI (concussion).

BACKGROUND

- Many members of the U.S. Armed Forces in Iraq and Afghanistan have sustained brain injuries from attacks with weapons such as rocket propelled grenades, improvised explosive devices, and land mines. Others have been involved in motor vehicle crashes or other trauma that resulted in brain injuries.
- In November 2007, the DoD established the Defense Centers of Excellence (DCoE) for Psychological Health and TBI. The DCoE is a collaborative program integrating military prevention, the capacity of injured individuals to successfully cope with stress and catastrophe, family and community outreach and support, clinical care, and research expertise from across the Federal and private sectors. Core components of the DCoE network include:

Defense and Veterans Brain Injury Center (DVBIC)
www.dvbic.org

Center for Deployment Psychology (CDP)
www.deploymentpsych.org

Deployment Health Clinical Center (DHCC)
www.pdhealth.mil

Center for the Study of Traumatic Stress (CSTS)
www.centerforthestudyoftraumaticstress.org

National Center for Telehealth and Technology (T2)
www.t2health.org

National Intrepid Center of Excellence (NICoE)
www.dcoe.health.mil/ComponentCenters/NICoE.aspx

TBI SCREENING:

- The DoD has implemented a screening program for all Service members returning from combat. Reported events that carry a risk of TBI will trigger further evaluation by the screening health care provider and possibly yield a referral to a specialist. This effort will complement the VA screening program started in 2007 and will ensure sharing of this data across the Departments.

TBI is usually categorized based on injury severity:

SEVERITY RATING FOR TBI				
SEVERITY	GCS	AOC	LOC	PTA
Mild	13-15	≤24 hrs	0-30 min	≤24 hrs
Moderate	9-12	>24 hrs	>30 min <24 hrs	>24 hrs <7 days
Severe	3-8	>24 hrs	≥24 hrs	≥7 days

GCS - Glasgow Coma Score
AOC - Alteration of consciousness
LOC - Loss of consciousness
PTA - Post-traumatic amnesia

MILD TBI (CONCUSSION) SYMPTOMS AND DIAGNOSES

- A mild TBI, otherwise known as a concussion, is caused by a blow or jolt to the head that disrupts the function of the brain. Not all blows or jolts to the head cause brain injury. In combat, concussions are usually caused by a bullet fragment, blast, fall, direct impact or motor vehicle crash. Some, but not all, persons with concussion lose consciousness. To be diagnosed with a concussion, an individual must have:
 - > sustained an injury event (i.e., from blast/explosion, fall, motor vehicle crash, fragmentation injury, etc.), and
 - > in the course of sustaining that event, experienced an alteration in mental status, such as having a loss of memory at the time of the injury, losing consciousness at least for a brief period, or even “seeing stars.”
- Mild TBI is difficult to diagnose in civilian practice and can be hard to diagnose after a service member has returned from theater. With concussions that occur during athletics, recovery patterns range from mild enough that a person may be able to go back into the game after a short rest, to being unable to play for the rest of the season.
 - > Complaints after sustaining a mild TBI, often referred to as post-concussion symptoms, include headache, dizziness, nausea/vomiting, trouble concentrating, memory problems, irritability, fatigue, ringing in the ears and sensitivity to noise and light.
 - > In a small percentage of people, symptoms may persist for months or years.

GUIDANCE TO PRIMARY CARE PROVIDERS

- Moderate to severe TBI are medical conditions that **require specialty care** from providers such as neurologists, physiatrists, and rehabilitative therapy services.
- Currently there are neither biomarkers nor objective tests to routinely diagnose concussion. A good, thorough **patient history and physical examination are essential**.
- TBI is often treated in a multidisciplinary fashion through clinical care practice; patient care coordination; provider, patient and family education; and emerging medical technologies that **enhance TBI care**.

- Care strategies are based on the severity of brain injury. More severe brain injuries may require comprehensive, multidisciplinary approaches to care. Physical therapy, occupational therapy and speech language therapy are all examples of the type of services that may need to be included in a **rehabilitative care** program.
- **Clinical care** practice may include treatment of symptoms, rest/recovery strategies, and educational intervention and rehabilitation to optimize function. Providers should emphasize a positive prognosis for mild TBI, as a vast majority of patients will be symptom free within 3-6 months.
- The brain has a remarkable ability to adjust after injury. **Each brain injury and its recovery are different.** Brain injury rehabilitation assists patients in reaching maximum levels of independence.
- Symptoms following concussion may overlap with the clinical presentation of other diagnoses, such as PTSD and depression, as well as co-morbid physical injuries in the context of polytrauma. It is important to **evaluate all associated symptoms** to include physical, cognitive, and emotional sequelae. The strategy relies on a target-symptom approach in the context of an individualized treatment plan, facilitated by the primary care provider.
- When recovering from mild TBI, **tips and advice to the patient** include: getting plenty of sleep; keeping a daily journal of activities, feelings, and symptoms; returning to normal activities gradually; avoiding high-risk activities that could lead to another brain injury; following doctors' directions; not drinking alcoholic beverages; and being patient. Advice should be simple and provided in writing.
 - > For memory problems, advise your patient to get into the habit of writing down important information.
 - > If important items are frequently lost or misplaced, putting those items in the same place each time is helpful. One strategy is to use a personal planner to record where important documents, phone numbers, etc., can be found.

- > If patients are easily distracted or have difficulty concentrating, they should avoid multi-tasking and seek out quiet, non-distracting environments.
- > Patients should be told to take all of their prescribed medication and have a written plan on how to remember what medications to take.
- > Patients should consult with family and their superior officer prior to making important decisions.

VA POLYTRAUMA SYSTEM OF CARE:

VA has an integrated nationwide network of care for Veterans and active duty Service members recovering from TBI and polytrauma (multiple severe injuries).

Additionally, VA designated four regional Traumatic Brain Injury Lead Rehabilitation Centers as Polytrauma Centers:

- Minneapolis Polytrauma Center (VA Midwest Health Care Network) in Minneapolis, MN
- Palo Alto Polytrauma Rehabilitation Center (VA Palo Alto Health Care System) in Palo Alto, CA
- Richmond Polytrauma Rehabilitation Center (VA Mid-Atlantic Health Care Network) in Richmond, VA
- James A. Haley Veterans Hospital Polytrauma Rehabilitation Center (VA Sunshine Healthcare Network) in Tampa, FL

These centers offer unique and highly specialized rehabilitation, bringing experts together to provide innovative, personalized treatment to help the injured Service member or Veteran achieve optimal function and independence within a community.

Patients treated at these facilities may have a serious TBI alone or in combination with amputation, blindness or other visual impairment, complex orthopedic injuries, auditory disorders or mental health concerns.

ADDITIONAL INFORMATION

The Defense and Veterans Brain Injury Center (DVBIC)

www.dvbic.org

Toll-free number for information: 1-800-870-9244

The VA Polytrauma System of Care

www.polytrauma.va.gov/index.asp

Veterans Health Initiative: Traumatic Brain Injury

www.publichealth.va.gov/vethealthinitiative/traumatic_brain_injury.asp

Clinical Practice Guideline: Management of Concussion-mild Traumatic Brain Injury

www.healthquality.va.gov/management_of_concussion_mtbi.asp

DOD/VA CLINICAL PRACTICE GUIDELINES:

VA and DoD have developed Clinical Practice Guidelines for the management of concussion/mild TBI. This resource for providers is designed to provide step-by-step guidance in the assessment and treatment planning process for Service members who have sustained a traumatic brain injury. The current guidelines can be accessed via the Web link listed below.

www.healthquality.va.gov/management_of_concussion_mtbi.asp

