



# WOUNDED WARRIOR REGIMENT

UNITED STATES MARINE CORPS

## TRAUMATIC BRAIN INJURY

### How to recognize Traumatic Brain Injury

TBI symptoms fall into three categories: physical, mental and behavioral/emotional.

- **Physical symptoms:** Headache, dizziness, balance disorder, nausea, fatigue, sleep disturbance, blurred vision, light sensitivity, hearing loss, noise sensitivity, seizures, transient neurological abnormalities, numbness and tingling.
- **Mental:** Difficulties with attention, concentration, memory, processing speed, judgment, executive control.
- **Behavioral/emotional:** Depression, anxiety, agitation, irritability, impulsivity, aggression.

**TRAUMATIC BRAIN INJURY (TBI)**, more commonly known as a concussion, has become one of the signature injuries of the Operation Enduring Freedom (OEF)/Operation Iraqi Freedom (OIF) conflict.

#### What is Traumatic Brain Injury?

Traumatic Brain Injury (TBI) is a traumatically induced structural injury and/or physiological disruption of brain function as a result of an external force. The source of this injury is often exposure to a concussive blast (i.e. IEDs, RPGs, land mines, mortar and artillery detonations). However, TBI can also stem from a traumatic event to the head in the way of a fall, motor vehicle accident, firearm, or training injury.

#### Are there different degrees of TBI?

TBI prognosis varies based on the individual and the brain injury. It's reassuring to note, most patients will recover completely within days to weeks after the injury, however, a few may experience residual symptoms lasting months or even years.

Those suffering from TBI can be grouped into four levels of severity.

**Mild:** A confused or disoriented state lasting 24 hours or less; loss of consciousness for up to 30 minutes; and memory loss lasting less than 24 hours. Approximately 85 to 90 percent of combat exposed troops who sustain a mild TBI experience a complete resolution of symptoms within the first several days to weeks after the incident. An important note to consider, all service members diagnosed with a Mild TBI injury are encouraged to follow up with their provider between 4 and 6 weeks to ensure full symptom resolution.

**Moderate:** A confused or disoriented state that lasts more than 24 hours; loss of consciousness for more than 30 minutes but less than 24 hours; and memory loss lasting for more than 24 hours, but less than seven days.

**Severe:** A confused or disoriented state that lasts more than 24 hours; loss of consciousness for more than 24 hours; and memory loss for seven days or more. A moderate or severe TBI injury, if left untreated, may worsen and result in permanent disability, or even death.

**Penetrating or open head injury:** The outer layer of the brain is penetrated by a foreign object.



# TBI Screening and Identification

Medical evaluations are now mandatory following operational events such as exposure to blasts. A standardized TBI evaluation includes the Military Acute Concussion Evaluation tool (MACE), to identify service members at high risk for possible TBI. The MACE is a tool that can be used for any acute concussion and is ideally administered within 72 hours of injury.

During deployment this screening takes place anytime a service member is evacuated from theater to Landstuhl Regional Medical Center for battle or non-battle injuries and illnesses. Additionally, all service members returning from deployment must undergo the post-deployment health assessment, which identifies those who were exposed to an injury event, lost consciousness, had or still have concussive symptoms. Three to six months later, service members

complete a follow-up post-deployment health reassessment.

Any service member entering a Veterans Affairs medical center for clinical care undergoes TBI screening identical to the initial post-deployment health assessment. If a service member indicates through these self-reporting screening procedures they may have experienced a TBI, a primary care provider conducts a confirmation evaluation, documentation is made in the patient's electronic medical record and treatment is started for those with persistent symptoms.

Treating TBI may not always involve providers in just one medical specialty. Rather, addressing TBI should be viewed as an interdisciplinary effort including neurology, neurosurgery, psychiatry, neuropsychology, medicine and rehabilitation.

For assistance or to receive additional information contact the WWR TBI Coordinator at 703-784-3764 or the Center of Excellence for Medical Multimedia  
Traumatic Brain Injury Website  
[www.traumaticbraininjuryatoz.org/](http://www.traumaticbraininjuryatoz.org/)

## THE WOUNDED WARRIOR REGIMENT

The Wounded Warrior Regiment (WWR) stood up in April 2007 and immediately began to assume responsibilities for non-medical Wounded Warrior care. **The mission of the WWR is to provide and facilitate assistance to Wounded, Ill and Injured (WII) Marines, Sailors attached to or in direct support of Marine units, and their family members, throughout the phases of recovery.** The Regimental Headquarters element, located in Quantico, Va., coordinates the operations of two Wounded Warrior Battalions located at Camp Pendleton, Calif., and Camp Lejeune, N.C. The Regimental Headquarters provides unity of command and unity of effort through a single Commander who provides guidance, direction, and oversight to the Marine Corps WII non-medical care process and ensures continuous improvements to care management and the seamless transition of recovering Marines.



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