

## What Is Mild Traumatic Brain Injury?

Mild traumatic brain injury (MTBI), commonly referred to as a concussion, occurs when the head is struck with, or is subject to, significant force. Most frequently this occurs in motor vehicle accidents, falls, or sports related injuries. A patient does not necessarily need to have lost consciousness to sustain a MTBI. Usually, patients with MTBI will have normal imaging studies of the brain (CAT scan, MRI).

Patients will generally demonstrate signs and symptoms consistent with MTBI immediately after the injury, though symptoms may appear minutes later. For 85-90% of patients, these symptoms will resolve within a few weeks to months.

Signs and symptoms associated with MTBI include headaches, dizziness, nausea/vomiting, disorientation (unaware of place, date, time), slow to follow commands, fatigue, irritability, anxiety, difficulty sleeping (insomnia), poor concentration, decreased memory (repeatedly asking the same question), incoherent speech, coordination problems (stumbling, tripping, etc), light/noise sensitivity, and poor emotional control.

## Problems Associated With MTBI

A small percentage of patients (<5%) will develop seizures as a result of their head injury. Patients who have seizures within one week after the initial MTBI are at risk for further seizures in their lifetimes.

Patients with MTBI are at risk for delayed bleeding within the brain. As stated above, most patients with MTBI have no evidence for bleeding within the brain on initial imaging studies. Bleeding may start or worsen after the initial study. Delayed bleeding is usually associated with a decline in neurologic function. If delayed bleeding is suspected, repeat imaging studies are indicated.

## Treatment of MTBI

Besides rest, time, and guarding against repeated injury, there is no specific treatment for MTBI. Strenuous physical activities should be avoided until symptoms resolve. Symptoms such as headache and nausea can be treated with medicines. It is preferred that narcotic pain medicines be avoided if possible as they make people sleepy, and can make complete neurologic evaluation difficult.

## What To Watch For After Discharge

Patients should have a reliable caregiver at the time of discharge to monitor for neurologic decline. The following warning signs necessitate emergency medical care: an inability to awaken the patient, new onset severe or worsening headaches, worsening confusion, worsening balance, seizure activity, vision changes, persistent vomiting, fevers, a new stiff neck, an inability to control bowel or bladder function, or new onset weakness or numbness of any body part.