

# A silent epidemic: Minor traumatic brain injury

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In the United States, approximately 1.4 million people suffer a traumatic brain injury (TBI) each year. Of those injuries, three out of four are minor TBI (mTBI)—a head injury that causes a temporary change in mental status including confusion, an altered level of consciousness, or perceptual or behavioral impairments.

According to a literature review appearing in the October 2013 issue of the *Journal of the American Academy of Orthopaedic Surgeons (JAAOS)*, falls and motor vehicle accidents are responsible for most cases of mTBI and also are a common cause of bone and joint injuries.

"Musculoskeletal injuries are often seen concurrently with some studies estimating that 50 percent of [patients](#) with orthopaedic injuries also sustain a mTBI," says lead study author Richard L. Uhl, MD, an [orthopaedic surgeon](#) at Albany Medical Center in Albany, N.Y.

Approximately 80 percent of patients who sustain a mTBI can be safely discharged from the emergency department and will fully recover and return to their baseline mental status. However, mTBI often goes undiagnosed initially because symptoms do not appear until the patient resumes everyday life. Advanced imaging of the head such as CT scans is often of little use as the majority of patients with a mTBI will initially have a normal examination.

## A Silent Epidemic: mTBI by the Numbers

The Centers for Disease Control and Prevention and the National Center

for Injury Prevention and Control declared mTBI a major public health issue and a silent epidemic.

Patients with multisystem trauma and mTBI are almost twice as likely as those with multisystem trauma alone to have persistent cognitive impairment and to report symptoms of depression, anxiety, and posttraumatic stress disorder.

Patients with mTBI and lower extremity injuries are three times more likely to experience cognitive and behavioral difficulties at one year post-injury than those who sustain only lower extremity trauma.

When symptoms last for more than three months, a patient is said to have post-concussion syndrome (PCS), a disorder that can be associated with substantial financial, social, and emotional challenges.

Males from newborn to 4 years old are among the population most prone to suffering mTBI and have the highest rate of TBI-related [emergency department](#) visits.

Males are more likely than females in all age groups to sustain mTBI.

Symptoms such as headache, fatigue, dizziness, anxiety, impaired cognition, and memory deficits may affect up to 58 percent of patients one month after injury. An estimated 15 to 25 percent of those who suffer mTBI may have residual symptoms that sometimes lead to compromised function that can last for a year or more after the injury.

According to study co-author and orthopaedic surgeon Andrew J. Rosenbaum, MD, after an mTBI, patients must be counseled on their vulnerability to second-impact syndrome—sustaining a second concussion before symptoms of the initial concussion have healed, causing greater [injury](#). "Second-impact syndrome can have devastating

consequences, including rapid-onset swelling of the brain; worsening function of the brain, spinal cord, muscles or nerves; and instability of normal body functions."

The study suggests orthopaedic surgeons can play a crucial role in diagnosing mTBI because, in addition to providing long-term care for the traumatic [musculoskeletal injuries](#), they can ensure that patients are appropriately referred to those with expertise in managing mTBI.

Provided by American Academy of Orthopaedic Surgeons

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