



About Concussions

A traumatic brain injury (TBI) is caused by a bump, blow or jolt to the head that disrupts the normal function of the brain. Concussions cause the brain to bounce back and forth inside the skull.¹

- Not all blows or jolts to the head result in a TBI.
- The severity of a TBI may range from a mild TBI (mTBI), a brief change in mental status or consciousness, to a severe TBI, an extended period of unconsciousness or memory loss after the injury.
- Most TBIs that occur each year are mild (mTBI), commonly called concussions.

Concussion symptoms include chronic headaches, depression, problems with thinking and memory, vision and balance issues, and sleep disorders.²

- Symptoms can persist for days to months or even years.
- Nearly half (48.3%) of patients reported experiencing at least one post-concussion symptom at one year post-injury.³
- In general, recovery may be slower among older adults, young children and teens.
- Those who have had a concussion are at risk of having another one.
- Some people find that it takes longer to recover if they have a subsequent concussion.

Concussions are an epidemic.

- According to the U.S. Centers for Disease Control and Prevention, almost three million patients with suspected brain injury visit the emergency room every year in the U.S.
- Other studies indicate an even bigger problem with estimates of five million patients visiting emergency departments (ED) every year to be evaluated for a head injury. Approximately one-half are diagnosed with a TBI and as many as 95% of those with suspected TBI have mild TBI.⁴
- There are an estimated 1.6 to 3 million sports- and recreation-related concussions annually.⁵
- Concussions in sports have increased awareness of TBI and have driven increased interest in better protective gear. However, many concussion injuries in sports are caused by rapid acceleration-deceleration. Helmets will not protect from this type of injury.
- An estimated 15 to 20 million concussion sufferers do not seek medical help and go undiagnosed.⁶

¹ https://www.cdc.gov/headsup/basics/concussion_what.html

² <https://www.mayoclinic.org/diseases-conditions/concussion/symptoms-causes/syc-20355594>

³ <https://concussionfoundation.org/uk/programs/team-up-speak-up>

⁴ Korley FK, Kelen GD, Jones CM, et al. Emergency department evaluation of traumatic brain injury in the United States, 2009–2010. *J Head Trauma Rehabil.* 2016;31(6):379–87. [[PMc free article](#)] [[PubMed](#)] [[Google Scholar](#)]

⁵ Wojtys, Edward M., MD. Concussion Dilemma. *Sports Health.* 2016 Jan; 8(1): 17–18.

⁶ <https://concussionfoundation.org/uk/programs/team-up-speak-up>

- Playing through injuries has long been part of the culture of competitive sports.⁷
- Falls continue to be the number one cause of concussions, accounting for almost half of ER visits.⁸ Even if sports become safer, millions will continue to suffer concussions from athletics, falls, motor vehicle accidents, military blast, domestic violence and other activities and events.
- Estimated in 2009 US dollars, the total lifetime healthcare costs of non-hospitalized TBI was approximately \$160 billion.⁹
- Rest is still the standard of care and there are no FDA approved treatments available.

Concussions among professional and amateur athletes are in the news, but non-athletes are also at risk.

- Discussions about concussion protocols are widespread in professional football, soccer and hockey.
- By some estimates a concussion is sustained every 20 seconds in the U.S.
- Senior citizens are especially at risk for concussions. Nearly four in five traumatic brain injuries (TBI) in adults aged 65+ were caused by falls.¹⁰
- In 2014, there were approximately 812,000 TBI-related ED visits among children.¹¹
- More than 413,000 service members were diagnosed with a traumatic brain injury between 2000 and Q3 of 2019.¹²
- Research over the past 20 years has increasingly linked concussions to neurodegenerative conditions, including dementia, Alzheimer's disease and CTE.

Progress is being made to help concussion sufferers.

- Despite significant advances in many areas of medicine, treatment for concussions is still primitive and focused on the symptoms and not the cure.
- Recent advancements in molecular biology and an increased understanding of brain science are encouraging researchers to explore possibilities of a treatment.
- Presently a handful of companies is attempting development of medicines to treat symptoms and the underlying damage of concussions.

⁷ Wojtys, Edward M., MD. Concussion Dilemma. *Sports Health*. 2016 Jan; 8(1): 17–18.

⁸ https://www.cdc.gov/traumaticbraininjury/get_the_facts.html

⁹ Coronado et. al, *J Head Trauma Rehabilitation*. May-June 2015: 30(3) 185-197. Costs reflect lifetime healthcare costs for patients with non-hospitalized TBI. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6207196/>

¹⁰ https://www.cdc.gov/traumaticbraininjury/get_the_facts.html

¹¹ https://www.cdc.gov/traumaticbraininjury/get_the_facts.html

¹² https://dvbic.dcoe.mil/sites/default/files/tbi-numbers/DVBIC_WorldwideTotal_2000-2019_Q3.pdf