

Test Your Knowledge

Q: Do you have to lose consciousness in order to suffer from a concussion?

A: No, patients can be diagnosed with a concussion without losing consciousness from their injury. Some patients may not even be aware they have a concussion because of this.¹

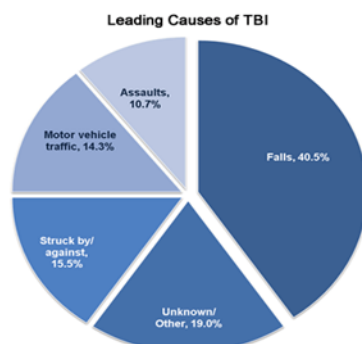
Q: How long do concussion symptoms usually last?

A: Symptoms normally disappear within ten days but can last months to more than a year, depending on the severity of the concussion.¹

A **concussion** is defined as a type of traumatic brain injury (TBI) in which the brain suddenly moves back and forth causing a disruption in function.² Concussions are typically caused by trauma to the head, but can also be caused by violent shaking of the head or even upper body.¹ Concussions can affect numerous aspects of a person's normal functioning including memory, reflexes, judgment, balance, muscle coordination, and speech.³ If a concussion is suspected, a physician should be immediately consulted.

KNOW THE FACTS

- There are an estimated total of 1.6-3.8 million concussions annually.⁴
- The actual number could exceed 3.8 million per year because some patients do not seek medical attention if they are unaware they have a concussion.
- The annual incidence of sports-related concussions is 300,000 in the United States.⁵
- Other causes of concussions/TBIs that are non-sports related include, in descending order: falls, being struck by/against an object, traffic/motor-vehicle crashes, and assault.⁶



Common Causes of Concussion/TBI⁶

Concussion Fast Facts



Diagram depicting mechanism of a concussion.⁷

WHO IS MOST AFFECTED BY CONCUSSIONS?

- Athletes who participate in contact sports are at an elevated risk for suffering a concussion.
- Athletes in contact sports may have as high as a 19% likelihood of sustaining a concussion each season of play.⁵
- There are more than 62,000 concussions sustained by high school athletes each year.³
- The elderly (higher fall risk)
- Drivers

CONCUSSION SYMPTOMS¹

- Headache/feeling of pressure in the head
- Dizziness
- Ringing in the ears
- Disrupted vision
- Nausea/vomiting
- Amnesia
- Temporary loss of consciousness
- Slurred speech
- Fatigue
- Confusion

ThinkFirst about...

... protecting yourself and others from concussions! There are many negative health outcomes associated with a concussion, especially multiple concussions over an extended period of time. Simple precautions can be taken to minimize the risk of sustaining a concussion or traumatic brain injury.

Concussion Fast Facts!

Test Your Knowledge

Q: What is the best way to recover from a concussion?

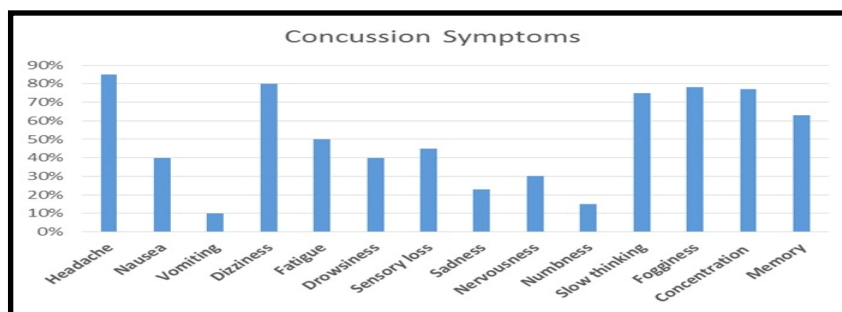
A: Physical and mental rest is the best ways to recover from a concussion. The best way to do this is to avoid strenuous physical exertion and to limit activities that require prolonged periods of mental concentration until symptoms cease.¹ Athletes should not return to normal participation until all symptoms disappear and they are cleared by a physician.

PREVENTION TIPS³

- Wear certified helmets and other protective equipment when participating in athletics.
- Follow sports rules to avoid head contact and trauma
- Always buckle your seatbelt in a vehicle and drive responsibly to avoid collisions.
- Avoid violence
- Never return to athletics after a concussion until all symptoms disappear and you have been cleared by a physician.
- Create and execute an up-to-date concussion protocol (see Brain 101: <http://brain101.orcasinc.com/>).

SECOND IMPACT SYNDROME (SIS)

- A second concussion shortly following an initial concussion that has not healed does not need to be strong in order to cause permanent disability or possibly death.³
- Consequences of the potential second concussion include cerebral swelling, brain herniation, and death.⁸
- In cases that are not fatal, long-term effects similar to a severe traumatic brain injury are usually present.⁸
- SIS is preventable by avoiding strenuous activity while recovering from a concussion.



Percentage of concussion patients experiencing various concussion symptoms.⁹

ThinkFirst
National Injury Prevention Foundation

The ThinkFirst Foundation is a 501c3 nonprofit organization dedicated to preventing brain, spinal cord and other traumatic injuries through education, research and advocacy. For educational handouts, products and a chapter directory for school presentations go to:

www.thinkfirst.org

Sources

- ¹Mayo Clinic Staff, Mayo Clinic. Diseases and Conditions: Concussion [Online]. April 2, 2014. Available from URL: <http://www.mayoclinic.org/diseases-conditions/concussion/basics/definition/con-20019272> Cited Feb. 22, 2016.
- ²Centers for Disease Control and Prevention (CDC). Heads Up: What is a Concussion [Online]. Feb. 16, 2015. Available from URL: http://www.cdc.gov/headsup/basics/concussion_what.html Cited Apr. 27, 2016.
- ³American Association of Neurological Surgeons (AANS). Conditions and Treatments: Concussion [Online]. Jan. 2016. Available from URL: <http://www.aans.org/patient%20information/conditions%20and%20treatments/concussion.aspx> Cited Feb. 22, 2016.
- ⁴Cantu, R. C., Daneshvar, D. H., McKee, A., & Nowinski, C. J. The Epidemiology of Sport-Related Concussion. *Clin Sports Med.*, 30 (1), 1-17. 2009. Available from URL: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2987636/#R7> Cited Feb. 24, 2016.
- ⁵University of Pittsburgh Neurological Surgery. Brain and Spine Injuries: Concussions [Online]. Jan. 2016. Available from URL: <http://www.neurosurgery.pitt.edu/centers-excellence/brain-and-spine-injury/concussions> Cited Feb. 22, 2016.
- ⁶Centers for Disease Control and Prevention (CDC). TBI: Get the Facts [Online]. Jan. 22, 2016. Available from URL: http://www.cdc.gov/traumaticbraininjury/get_the_facts.html Cited Apr. 27, 2016.
- ⁷MedicineNet.com. Concussions & Brain Injuries Symptoms and Tests [Online]. Sep. 23, 2013. Available from URL: http://www.medicinenet.com/concussions_brain_injuries_pictures_slideshow/article.htm Cited Apr. 27, 2016.
- ⁸Bey, Tareg, MD, Ostick, Brian, MD. (2009). Second Impact Syndrome. *West J Emerg Med.* 10(1):6-10. Feb. 2009. Available from URL: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2672291/> Cited Feb. 26, 2016.
- ⁹CognitiveFX. Concussion Information, Concussion (Mild Traumatic Brain Injury) [Online]. Available from URL: <http://www.cognitivefxusa.com/concussion-information> Cited Feb. 26, 2016.