

How Common Is Brain Injury? Surely It Hasn't Happened to Me!

Head injuries are very common and about 20% to 30% of Americans have experienced one or more.



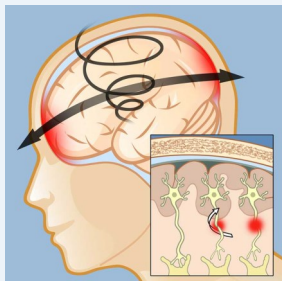
Most people are surprised to learn that a relatively low level of force is able to cause minimal brain dysfunction and

that every mild insult succeeds the first one having a cumulative effect on a brain's response to life's demands. Slightly slower processing and reactions times are the first effects of a mild injury, **even without a loss of consciousness.**

Mild Traumatic Brain Injury (MTBI) and Post-Concussion Syndrome (PCS), are conditions where an individual suffers a blow to the head and subsequently develops symptoms (cognitive / emotional / behavioral).

The "dings" that occur in sports, the confusion following the blow to the head that made us see stars, the "mild" rear-ending that made your glasses fall off, all have varying degrees of consequence on the physical structure of the brain and/or its function.

Over time, the effect of these incidents becomes cumulative until that seemingly inconsequential event that becomes the tipping point as it is followed by symptoms that interfere with memory, sleep, mood, pain, and the ability to get along with people.



How Does the Brain Get Hurt?

A concussion results from "the rapid acceleration or deceleration" of the brain within the skull. The force behind the brain's change in velocity is often from direct contact to the head, but can also come from indirect forces like whip-lash which may result from a car accident or from being blindsided by another player on the field.



The brain, having all of the momentum of its forward motion added to the sudden impact momentum, ends up being bounced around onto the bony cage of the skull. Knocking about within the skull cage bruises the vulnerable areas of the brain. Diffuse damage to these areas causes attention deficits, slow thought processing, and diminished bilateral integration.

Following a concussion or head injury, emergency room physicians commonly order CAT scans or MRI's to rule out serious injuries. Unfortunately, these scans usually don't reveal mild to moderate damage because they are examining only the structure of the brain and not how the brain is functioning.



Neurofeedback

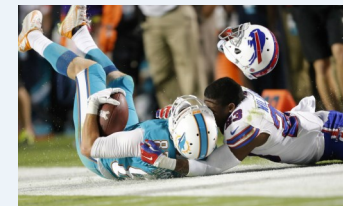
While neurofeedback isn't a cure-all that can patch up brains and let them take a continued beating, it can help with the often significant cognitive and emotional symptoms that can arise with concussion.

It supports the brain re-establish its connections, calm over-activation, slowly reactivate impacted areas, and regain or exceed its former performance. The most common symptoms we work with are attention, short term memory, anxiety, negative mood, irritability, headaches, reading

difficulties, and sleep problems. It is best implemented as part of a comprehensive rest and recovery program *along with your physician's treatment.*

Neurofeedback training is non-invasive. It monitors your brainwaves and alerts your central nervous system when it is not functioning smoothly. It assists the brain in breaking out of inefficient patterns and guides it in building resilience, improving the central nervous system's ability to bounce back from a negative incident.

No one should have to learn to cope with symptoms when they have the possibility of reducing or eliminating them through neurofeedback training.



Studies

- A 2013 study, by scientists at Imperial College London, found that the force of an average header was like a punch from an amateur boxer.
- A 2003 study of 60 soccer players in Florida aged 18 to 29 found that those who headed the ball the most showed impairment on neuropsychological testing.
- A 2007 study of 10 college soccer players observed "decreased gray-matter density and volume" in parts of the brain.
- A 2014 study notes that, regardless of the type and brand of protective football equipment, incidence of concussion remains the same - suggesting that it is the nature of on-field play that remains at issue.
- Although the total number of injuries declined over a 10-year period, a 2014 report highlighted a 70% increase in traumatic brain injuries on the basketball court.
- Some reports have shown that head injuries in baseball may comprise up to 18.5% of all competitive sports-related head injuries.