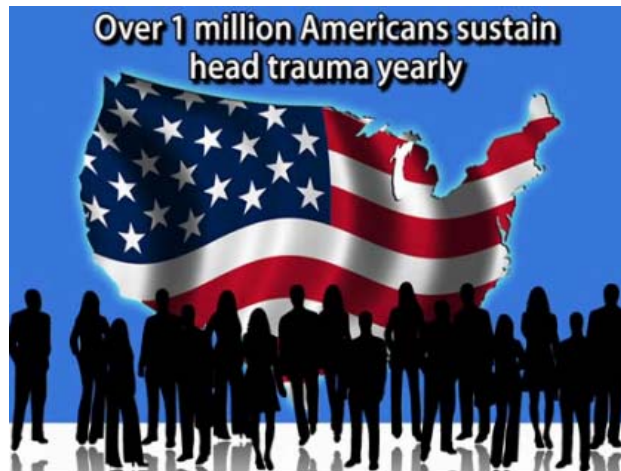


Epilepsy can be a delayed consequence of head trauma. In fact, about 5% of all cases of epilepsy are due to this.

Head trauma is very common in today's world. In addition to trauma from vehicle crashes and sporting accidents, head injury is becoming the signature injury of modern warfare. Over 1 million Americans sustain head trauma each year, but fortunately only a minority of these are severe. So how often does civilian head trauma lead to epilepsy? It generally depends upon how severe the head trauma is. Mild head trauma, with loss of consciousness for less than 30 minutes, is associated with barely increased risk of developing epilepsy compared to the general population.



Severe head trauma can be defined as either loss of consciousness or amnesia for greater than a day or internal bleeding in or around the brain. Severe head trauma leads to epilepsy in about 15% of adults and about 30% of children. Injuries with actual penetration of the brain, like a bullet wound, are even more likely to cause epilepsy, about to 25 to 50% of the time.

Studies have looked at whether treatment with seizure medicines immediately after trauma, before a seizure occurs, prevents epilepsy, the condition of spontaneously recurrent seizures. Unfortunately, it does not. Medication simply suppresses seizures while the patient takes them. If a person does have a seizure post injury, a clinician will place it in one of two categories: early seizures, in the first week after an accident, or late seizures occurring more than a week after trauma. Only late seizures are considered to be epilepsy. Early seizures are a risk factor for later epilepsy, but most of the time they pass uneventfully. An early seizure may not require treatment, but a seizure or two occurring later would be treated by many doctors with the usual anti-seizure medications.

Posttraumatic seizures may not appear for as long as 20 years after an accident. Laboratory studies suggest that this may be due to the long-term repair process after head injury. This repair process happens as new connections and circuits are formed in the brain over a period of years. While this aids recovery of strength, speech and memory, it may also form hyper-excitable circuits that are prone to seizures.



Head trauma can cause many problems in addition to seizures. People often develop migraine headaches, memory and concentration problems, dizziness, mood swings and various other symptoms known as the concussion syndrome. Even after seemingly minor trauma, these symptoms can persist for months. With more severe head trauma, neurological symptoms sometimes can be permanent.

In conclusion, head trauma is common and usually mild, but severe head trauma can lead to epilepsy. There is a great need for a long-term medication that will prevent the development of epilepsy after trauma and other types of head injury, and research is currently being conducted to find one.