CONCUSSIONS

* A concussion is a traumatic brain injury that affects your brain function. Effects are usually temporary but can include headaches and problems with concentration, memory, balance and coordination.
* Concussions are usually caused by a blow to the head. Violently shaking the head and upper body also can cause concussions.
* Concussions are particularly common if you play a contact sport, such as football. Most people usually recover fully after a concussion.

### Symptoms

The signs and symptoms of a concussion can be subtle and may not show up immediately. Symptoms can last for days, weeks or even longer.

Signs and symptoms of a concussion may include:

* Headache or a feeling of pressure in the head
* Temporary loss of consciousness
* Confusion or feeling as if in a fog
* Amnesia surrounding the traumatic event
* Dizziness or "seeing stars"
* Ringing in the ears
* Nausea
* Vomiting
* Slurred speech
* Delayed response to questions
* Appearing dazed
* Fatigue

You may have some symptoms of concussions immediately. Others may be delayed for hours or days after injury, such as:

* Concentration and memory complaints
* Irritability and other personality changes
* Sensitivity to light and noise
* Sleep disturbances
* Psychological adjustment problems and depression
* Disorders of taste and smell

**Seek emergency care for an adult or child who experiences a head injury and symptoms such as:**

* Repeated vomiting
* A loss of consciousness lasting longer than 30 seconds
* A headache that gets worse over time
* Changes in his or her behavior, such as irritability
* Changes in physical coordination, such as stumbling or clumsiness
* Confusion or disorientation, such as difficulty recognizing people or places
* Slurred speech or other changes in speech

#### Athletes

Never return to play or vigorous activity while signs or symptoms of a concussion are present.

An athlete with a suspected concussion should not return to play until he or she has been medically evaluated by a health care professional trained in evaluating and managing concussions.

### Causes

* Your brain has the consistency of gelatin. It's cushioned from everyday jolts and bumps by cerebrospinal fluid inside your skull.
* A violent blow to your head and neck or upper body can cause your brain to slide back and forth forcefully against the inner walls of your skull.
* Sudden acceleration or deceleration of the head, caused by events such as a car crash or being violently shaken, also can cause brain injury.
* These injuries affect brain function, usually for a brief period, resulting in signs and symptoms of concussion.
* This type of brain injury may lead to bleeding in or around your brain, causing symptoms such as prolonged drowsiness and confusion. These symptoms may develop immediately or later.
* Such bleeding in your brain can be fatal. That's why anyone who experiences a brain injury needs monitoring in the hours afterward and emergency care if symptoms worsen.

**Diagnosis**

Your doctor will evaluate your signs and symptoms, review your medical history, and conduct a neurological examination. Signs and symptoms of a concussion may not appear until hours or days after the injury.

Tests your doctor may perform or recommend include: Neurological examination

After your doctor asks detailed questions about your injury, he or she may perform a neurological examination. This evaluation includes checking your:

* Vision
* Hearing
* Strength and sensation
* Balance
* Coordination
* Reflexes

### Cognitive testing

Your doctor may conduct several tests to evaluate your thinking (cognitive) skills during a neurological examination. Testing may evaluate several factors, including your:

* Memory
* Concentration
* Ability to recall information

### Prevention

Some tips that may help you to prevent or minimize your risk of head injury include:

* **Wearing protective gear during sports and other recreational activities.** Make sure the equipment fits properly, is well-maintained and worn correctly. Follow the rules of the game and practice good sportsmanship.
* **Buckling your seat belt.** Wearing a seat belt may prevent serious injury, including head injury, during a traffic accident.
* **Making your home safe.** Keep your home well-lit and your floors free of anything that might cause you to trip and fall. Falls around the home are a leading cause of head injury.
* **Protecting your children.** To help lessen the risk of head injuries to your children, block off stairways and install window guards.
* **Exercising regularly.** Exercise regularly to strengthen your leg muscles and improve your balance.
* **Educating others about concussions.** Educating coaches, athletes, parents and others about concussions can help spread awareness. Coaches and parents can also help encourage good sportsmanship.