

## The Invisible Injury



### Keep Fit

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As we come to the end of the summer season, we start preparing for fall sports. A student athlete bangs his head hard when he's tackled, and says he feels 'kind of weird' afterwards. He thinks it's just another hit he can shake off — and wants to stay on the field. He stays engaged and after the game, feels much worse. Should he have kept on playing? Definitely not! He may have a concussion, and it was actually dangerous for him to remain in the game.

What should we do when our athletes experience this situation?

Let's start with some of what you need to know about concussions:

**What Is a Concussion and What Causes It?**

The brain is made of soft tissue and is cushioned by spinal fluid. It is encased in the hard, protective skull. When a person gets a head injury, the brain can slosh around inside the skull and even bang against it. This can lead to bruising of the brain, tearing of blood vessels, and injury to the nerves. When this happens, a person can get a concussion — a temporary loss of normal brain function.

Most people with concussions recover just fine with appropriate treatment. But it's important to take proper steps if you suspect a concussion because it can be serious.

Concussions and other brain injuries are fairly common. About every 21 seconds, someone in the United States has a serious brain injury. One of the most common reasons people get concussions is from sports injuries. High-contact sports like football, boxing, and hockey pose a higher risk of head injury, even when wearing protective headgear. In the United States, roughly 300,000 sports-related concussions occur each year.

People can also get concussions from falls, car accidents, bike and blading mishaps, and physical violence, such as fighting. Guys are more likely to get concussions than girls. However, in certain sports, like soccer, girls have a higher potential for concussion.

The Pleasantville Union Free School District decided to take up the challenge of implementing a program to assist in dealing with the complex issue of managing concussions and whether to return to play in the event of a concussion from participating on one of their athletic teams in grades 7 to 12. They are doing this through education and the implementation of a program called ImPACT or Immediate Post-Concussion Assessment and Cognitive Testing.

**What Are Concussions's Signs and Symptoms?** The signs of concussion are not always well recognized. Because of this, students may be at risk for serious injury by returning to a game before they should, getting back on a skateboard, or hitting the slopes thinking nothing's wrong. This is a problem, because if the brain hasn't healed properly from the injury and experiences another blow to the brain (even if it's with less force), it can be serious.

Repeated injury to the brain can lead to swelling and potentially long-term disabilities or death.

Although many think of a concussion as someone passing out, a person can have a concussion and never lose consciousness.

Symptoms of a concussion may include:

- "seeing stars" and feeling dazed, dizzy, or lightheaded
- memory loss, such as trouble remembering things that happened right before and after the injury
- nausea or vomiting
- headaches
- blurred vision and sensitivity to light
- slurred speech or saying things that don't make sense
- difficulty concentrating, thinking, or making decisions
- difficulty with coordination or balance (such as being unable to catch a ball or other easy tasks)
- feeling anxious or irritable for no apparent reason
- feeling overly tired

Different Grades of Concussion

There are two different types of concussion:

- Simple concussions: symptoms improve over 7-10 days.
- Complex concussions: symptoms last longer than 7-10 days. Doctors also consider it a complex concussion if a person loses consciousness (passes out) for more than 1 minute or has seizures after a blow to the head. It's also a complex concussion if someone has had a prior concussion, no matter how long ago.

Regardless of the level of concussion, it's best to take it easy for a few days - meaning no exercise or activities. Never return to a sports practice or game on the day of the injury. Wait for all symptoms to disappear before playing sports again — and this doesn't just mean physical symptoms like headaches or tiredness. In many teens, the physical symptoms get better before the cognitive ones (such as difficulty thinking or making decisions). So it's important to feel 100% before becoming active again.

If You Get a Concussion

Here's what to do:

- If you get a concussion while playing sports, stop playing. Do not return to play even if you feel fine. Let your coach, trainer, teammate, and parent know you've sustained a head injury.
- If you experience a concussion, contact your doctor or go to the emergency room. You must see a concussion or brain injury specialist to determine whether additional tests are needed and when a return to activity is permissible. Ask your doctor who you should see for this. For the first few days, rest both your body and mind: Activities that require concentration and attention (like studying, test taking, or even playing videogames) may make the symptoms worse and delay recovery.
- Should an injured person be allowed to fall asleep? Many mistakenly believe it is important to keep people, especially children, awake after they have been struck on the head. Children are often more emotionally upset than they are physically injured after a minor fall. They will cry and appear distressed, but as the parent rushes them to the hospital, children may begin to calm down. Because they have expended a lot of physical and emotional energy crying, they may want to fall asleep. You do not need to keep the child awake. In many cases it may be helpful to the emergency doctor to be able to awaken the child who is now calmer, rested and behaving normally. This gives the doctor a better assessment

of the severity of the head injury. If, however, a child who was initially normal after a head injury cannot be awakened, or the doctor struggles to awaken the child, a more serious head injury may be indicated and further evaluation by a doctor is recommended.

- After the symptoms of concussion have gone away, gradually go back to being more active. Slowly advance from one step to the next, day by day, ONLY if you remain symptom free. The steps for return to play are:
- No activities until symptoms disappear.
- Once symptoms disappear, you can start light aerobic exercise such as walking or stationary cycling — no resistance training.
- If there's still no sign of symptoms, you can begin sport-specific exercise (such as skating in hockey, running in soccer).
- If you're still symptom free, you can start non-contact training drills (i.e., drills in which there's no chance you will fall, flip, or collide with another player).
- If steps 1-4 go well, see your doctor to get approval to go back to full activity or training. Each step lasts 24 hours, no less.

#### After a Concussion

After a concussion, the brain needs time to heal. It's really important to wait until all symptoms of a concussion have cleared before returning to normal activities. The amount of time someone needs to recover depends on how long the symptoms last. Healthy teens can usually resume their normal activities within a few weeks, but each situation is different. A doctor will monitor the person closely to make sure everything's OK.

Someone who has had a concussion and has not recovered within a few months is said to have post-concussion syndrome. He or she may have the same problems described earlier — such as poor memory, headaches, dizziness, and irritability — but these will last for longer periods of time and may even be permanent.

If someone has continuing problems after a concussion, the doctor may refer him or her to a rehabilitation specialist for additional help.

Along with this, the Pleasantville school district will be utilizing the ImPACT program. The intent of the program is to introduce coaches, parents, and students to a more objective and team-oriented way of managing a concussion injury.

ImPACT (Immediate Post-Concussion Assessment and Cognitive Testing) is a sophisticated research-based computer test designed to help doctors evaluate an athlete's recovery following a concussion. The test takes 25-minutes and helps measure the effects of a sports-related concussion.

For coaches and others working with athletes, unless you know the child, sometimes concussions are tough to recognize. Especially in football where players can become overly tired or dehydrated, it can be difficult to know if the player is dehydrated or has sustained a concussion.

Using a baseline test as a starting point, the ImPACT test uses word discrimination, design memory and color matching to measure memory, reaction time and processing speed to help gauge an athlete's recovery from a concussion. The test is used by over 1,300 high schools as well as the National Football League, the National Hockey League, Major League Baseball and is currently mandatory in Major League Soccer.

It provides an objective measurement of player's cognitive status. When trying to get someone back to play, three things must happen:

- The symptoms have to go away
- They have to stay away when the player fully exerts him/herself
- When using this test, the results have to return to their baseline

The player can meet one and two of these criteria, but if still below their baseline, recovery has not been achieved and the player must not return to play or practice.

The test was designed by Dr. Mark Lovell. Dr. Lovell is a neuropsychologist and director of the University of Pittsburgh Medical Center Sports Medicine Concussion Program. Dr. Lovell has acted as a consultant for both the NFL and the NHL.

The test is valuable for several reasons:

- ImPACT helps educate parents and provides the family physician with an objective tool.
- It encourages students who have been hurt to tell a parent, fellow team mate or coach that they've been hurt – and - when working with seventh- or eighth-grade students, this alone can be a challenge. While a majority of coaches are receptive to ImPACT testing and current management of concussions, the ImPACT program assists with the few that may remain unsure.
- The ImPACT test builds awareness and helps players take their dizziness, headaches or confusion seriously. It gives both the players and their parents that “moment of recognition” that something may be wrong. Without the test, the player may not accept the possibility of a concussion, assuming they're just crabby or have a headache. The test presents objective information that this is a serious issue that needs to be attended to.

This 2009 fall season, Pleasantville will begin implementing the program for its football and soccer programs and then look to making the ImPACT test mandatory for all student athletes going forward. We want to make sure every athlete gets tested, regardless of sport, since the risk of collision or a concussion is always present.

A little more education to end:

#### Preventing Concussions

Some accidents can't be avoided. But you can do a lot to prevent a concussion by taking simple precautions:

- Always use a seat belt.
- Wear a helmet: Helmets can reduce the risk of a concussion by about 85%.
- Follow proper coaching practices and adhere to the rules of the sport/ game.

Remember: It's vital to take good care of yourself after a concussion. If you reinjure your brain during the time it is still healing, it will take even more time to completely heal. Each time a person has a concussion, it does additional damage — and since it's damage no one can see on the outside, there's no way of knowing how serious it may be without testing and possibly medical intervention. If someone has multiple concussions over a period of time, it can affect the person's brain as much as being knocked unconscious for several hours.

Preventing concussions is mostly common sense. The best thing you can do to protect your head is to use it responsibly.