

Long term effects of concussions in sports



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Concussions in Sports and The complications Concussions may have on a Person

Abstract

This paper is going to discuss concussions in sports and the complications this may have on a person in later portions of life. Concussions can happen at any time or in anyway. Someone can be playing on the swings and falls off the swings and can receive a concussion if they hit their head or be playing a sport and get hit in the head by a ball or player. Concussions can be worse if it happens repeatedly. We will discuss the complications on what can happen if you receive many concussions while playing sports.

We all know playing sports can have its issues either by receiving a serious career ending injury or an injury that can have a lasting effect on a life after sports. But did you know there is a serious injury in sports that can have a big impact on life after sports, the injury I am talking about is Concussions. All Concussions can happen in different types of ways such as getting tackled too many times or getting hit in the head after a tackle. Getting hit in the head in any sport can be painful and can have serious issues. So why is concussions a very big deal, well let's look at it in a simple way. You're playing a sport, let's say football and you're the quarterback and you're playing a game, you get tackled and you get hit in the head. Your head hits the ground. At first you may or may not feel anything, or may not have any symptoms but what happens when you hit your head is that the brain gets knocked around inside the skull like a balloon filled with water being tossed around. When the brain gets knocked around, serious damage can happen to the brain matter or brain tissues. So you may be asking what a concussion is.

Well the definition of a concussion is basically when your brain gets tossed around in the skull and suffers damage to the tissues on the brain. How can you get a concussion, you can get a concussion by a direct blow to the head, neck, face or elsewhere on the body with a force that's being transmitted to the head. The results can be rapid onset of short impairment of the brain or impairment, and can largely have a functional disturbance that's greater than structural injury. So what happens to the brain during a concussion?

Well first the adult brain is a 3 pound organ that floats inside the skull and is surrounded by cerebral spinal fluid which usually acts as a shock absorber almost like a shock absorber in a car. When the brain is moved rapidly inside the skull, the brain bounces off the skull which causes a concussion which has technically happened. Research from McGill University in Montreal found out tha

So to relate this to the statement before this example, I have a friend who received trauma to the head and instead of being taken out of the match that he was participating in to see if he had a concussion he decided to get back into the match. He decided not get treatment until he started feeling the symptoms. This is a prime example of what not do to treat a possible concussion. It is best if you get early recognition of a concussion. But unfortunately this is easier said than done. Unlike muscles or bone injuries, when your brain gets a bump or bruise, you won't feel any pain. And unlike illnesses a concussion may present parents or coaches with a situation they are not prepared to handle. So you won't be able to recognize the magnitude of a concussion. . Age factors have a distinct role in concussion management because when it comes to dealing with sports concussions, a lot of research

demonstrates that high school athletes take longer to recover from a concussion then when compared to a collegiate or professional athlete. But high school athletes also may experience greater or severe symptoms and more neurological disturbances. The research also estimates that 53% of high school athletes have sustained some type of concussion before high school. And 36% of collegiate athletes have a history of multiple concussions. The frontal lobes of a human brain continues to be developing until the age of 25 years old. So it is vital to manage and monitor concussions from an early age to make sure no severe outcomes happen.

Some risk factors that are obtained from a sport related concussion, have been researched and suggests that a person who has had a prior history of concussions are 1-2 times more susceptible to receive a second concussion, a third concussion is 2-4 times more likely to happen from the previous concussion. If that person has received three previous concussions in their life then they are 3-9 times more likely to get a fourth concussion and even a fifth concussion may follow. Certain studies show that females are more likely to get severe concussions than males. Females tend to have more symptoms than men and require more overall time to recover. The reason for these differences are because there are various differences in the brain functions. Also if you have a history of developmental disorders, Mental disorders or psychiatric disorders and have had a history of headaches, migraines these can play a part in a concussions. There are long term consequences of having a concussion. Some of the long term effects of concussions are having development of mild cognitive impairments (MCI's),

chronic traumatic encephalopathy (CTE) and other types of outcomes including having post-concussion syndrome (PCS).

Post-concussion syndrome is a complex disorder that has a variable combination of concussion symptoms, which are like having headaches and dizziness. These can last for weeks and sometimes even months after the injury has occurred. People who have PCS usually have symptoms that occur within the first 7 to 10 days and usually go away within 3 months, but can also last for a year or more.

Some facts:

- CDC estimates 1.6 to 3.8 million concussions happen each year.
- 5-10% of all athletes will have some type of severe concussion in any sport season during their sports career.
- Fewer than 10% of sport concussions involve a loss of consciousness
- Football is the biggest sport with concussions, with males being at risk (75%)
- Soccer is also the most common sport with concussions in females (50%)
- 78% of concussions have occurred during the game(s).
- Headaches (85%) and dizziness (70-80%) are more commonly reported symptoms than other types of symptoms of concussions.
- Estimates of 47% of all athletes have not reported feeling any symptoms after a concussive blow.
- Pro football players will receive an estimated 900 to 1500 blows to the head during the season which result in at least one concussion.

- The impact speed of a professional boxers punch is around 20 mph which could seriously do damage to the brain.
- The impact speed of a football player tackling a stationary player is around 25 mph, which can not only cause damage to the brain but also to the body if hit incorrectly.
- The impact speed of a soccer ball being headed by a player is around 70 mph.

So let's go into each sport to see what the findings on concussions are. The first sport is American football, football is associated with the highest number of traumatic brain injuries in males and has the highest participants than any other sport. Because of the difficulties of determining brain injuries or examining concussions, it is better to compare the injury trends over a long period of time. Catastrophic brain injury has been defined as a head injury that has been caused by direct contact during a competition or sport related activity, these can be fatal, nonfatal permanent or serious nonpermanent injury.

The next sport is baseball/softball, players or participants that play in this sport as of 2008 were 10, 916, 754 high school men and 23, 517 high school women, additionally 616, 947 men competed at college level. Early reports of concussions were hard to diagnose or were under diagnosed by the trainers, coaches and medical professionals. Concussions usually happen if the baseball or softball is hit with a bat and hits a player in the head or if a player is trying to dive, running or sliding to either catch the ball or slide into a base and sometimes while performing these activities they may hit their head on the ground against a player or even sometimes against a wall.

A third sport is basketball now I really haven't heard of many concussions happening in this sport I have heard of a couple incidents where this actually has happened. Participation of basketball participants are approximately 13.8 million in high school along with 11 million in high school and additionally 375,000 men and 328,000 women competed in college basketball.

The way to receive a concussion in this sport is relatively awkward in the way it happens.

I have heard that when players jump to the net and fall sometimes they may slip and hit their head on the court or even sometimes when they are running across the court they may not be able to fully stop and run into or jump into the crowd and may hit their head. Now concussions in this sport is relatively rare. Another sport is cheerleading, the participation in this sport is mostly made of females and is estimated 3.5 million cheerleading participants. Cheerleading is regarded as a sport that usually has concussions and is associated with risk catastrophic head and spine injury. The routines that the cheerleaders do are risky and can cause severe injury. Gymnastic routines are what causes most of these types of injuries such routines are tumbling runs, human pyramids, lifts, catches, and tosses.

Gymnastics is also within the group of cheerleading and has a participation field of more than 100,000 men and 640,000 women who compete in high school and an additional 15,000 and 40,000 women compete in college.

Ice/field hockey also have a high rate of concussions due to pucks hitting a player or being by a player in the boards or on the field, the participation of players are approximately 723,000 men and 752,500 women competed in

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high school and an additional 27, 800 men and 2, 800 women play ice hockey each year. And around 2008 approximately 3000 men and 1. 43 million women competed in high school field hockey with an additional 145, 000 women competed in college.

Soccer is another sport where concussions are most likely to happen.

Participation of this sport is around 7. 2 million men and 5. 2 million women played in high school and an additional 430, 000 men and 322, 000 women competed in college. The way you can get a concussion in this sport is actually in many ways either by heading the ball with you head getting hit in the head by another players head or even getting hit in the head by a goal keeper when the keeper is trying to save the ball. I personally have had a concussion in this sport too. But mine was by my own goal keeper. I was blocking an opposing player and my keeper had the ball when he kicked the ball, the ball actually came at me instead of lifting into the air like it was supposed to, the ball hit me directly in the face. I of course went down and blanked out, I was immediately taken out of the game and when my team arrived to the school my parents were not notified of what happened by the coach but by another parent who happened to be attending the game, I was taken to the doctors the next day when I was told I had a concussion I was told not to participate for a week or so till I recouped. So in conclusion sports related concussions can be dangerous if not reported and treated. Brain injuries can cause after effects to a person even up to a year.

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