Degenerative Brain Diseases in the NFL

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Abstract

The degenerative brain diseases can be related to contact sports in the way of how they can develop after big hits to the head. There are many types of degenerative diseases but the most common ones are the most present on football and hockey injuries. A lot of research’s have shown what these two sports can do and how a big number of former players have had issues after playing for years. This research was made with the purpose of having a better understanding of the diseases and what are the roles this injuries play in athletes life.

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Degenerative Brain Diseases in the NFL

It’s really exciting to watch a football or a hockey game, it’s full of unusual human talent, big plays and in the case of these two, big hits. It’s well known that the aggressiveness of football or the toughness of hockey are the responsible for many body injuries each year. The sad part about contact sports, are the chronic diseases that come because of playing them. Each sport deals with all kind of injuries, but their biggest concern comes when the head is injured. There are multiple diseases suffered in the head, but the most commons are the contusions and the concussions which this last one is known as NFL’s #1 enemy.

First of all, what is a degenerative disease? “is the result of a continuous process based on degenerative cell changes, affecting tissues or organs, which will increasingly deteriorate over time” so degenerative brain diseases are brain injuries often caused by physical trauma. Trauma can damage the brain, the neurons and its nerves. This damage affects the brain ability to communicate with the body and most of the time it’s permanent.

**The most common brain injuries include:**

* Concussions
* Chronic traumatic encephalopathy (**CTE**)
* Contusions, also known as bruising of brain tissue
* Blood Clots
* Hematomas
* Strokes

These diseases can have multiple symptoms which include vomit, nausea, trouble while speaking, numbness, memory loss and in some cases, paralysis. This symptoms are the first ones, but after a while, you can suffer irregular breathing, high blood pressure and a low heart rate. The severity of the brain damage can be classified as mild, which is usually temporary causing only a few of the symptoms and with no permanent damage most of the times. The most common symptoms for mild brain injuries are the headaches, confusion, nausea and memory problems. The next level is moderate, where the symptoms can last longer and they can be more intense, causing severe discomfort while speaking, nausea, migraines and temporal paralysis. In both cases the patients make a good recovery, however, even mild injuries can cause persistent problems after one year. The highest level of injury is known as severe, which takes the injuries to the next level causing life—changing and debilitating problems. The problems suffered from these injuries cause behavioral, physical and cognitive disabilities. Not only this, but also affecting the personality, the way they handle relationships and the ability to lead an independent life. Even when having successful rehabilitations, the affected person is likely to have challenging futures.

How do these injuries relate to contact sports?

Especially in football, there are big hits every play in every side of the ball, and helmets are not protective enough to avoid brain injuries, even in these days with all the new technology applied to the helmets including airbags type of system are not removing the injuries, In fact, each of the last 6 season, there have been more than 200 reported concussions. In 2014, there were 206 brain injuries reported as concussions, in 2015, there were 275, a very concerning 33.5% of increase even after creating more rules to protect the players. In 2016, there was a decrease of 11.3% but is just in line with the average of the last 5 years. These numbers talk by themselves and show how such a dangerous sport is struggling with the protection of its athletes. The league is adding ATC’s (Athletic Trainer, Certified) all of them unaffiliated to the teams with the purpose of making more conservative calls on the players and not allowing them in after an injury is suffered. However, almost 70% of the times a player is called for examination, is cleared to return to the field after the medical examination. This examination is known as the concussion protocol and each player goes through. It starts when the doctors see a significant hit to the head, that’s when they remove the player immediately from the field, after this, the unaffiliated neurotrauma consultant (UNC) reviews the video of the play and then performs a focused neurological examination. If there is a suspicion on concussion, the player is escorted to the locker room. If the player is diagnosed with a concussion, there is no way he can come back to the game. If the player passes the exam, he will be monitored for symptoms throughout the game. The “Observable symptoms” used are: loss of consciousness, slow to get up following a hit to the head, balance problems, disorientation, clutching the head and visible facial injury. When the spotters see these signs, it’s when the protocol begins. One of the things the NFL Player Association is trying to do, is to let the players rest at least one day before taking the airplane back home. One example it was given to evaluate this, was Tight End Jordan Reed from the Washington Redskins, that after suffering a concussion on a big collision, just three hours later he took a seven-hour flight, and what the NFLPA is appealing is that in flights, most of the bodies have slightly reduced oxygen levels, inevitable dehydration and disorienting time—zone change. There was study made to NHL players which showed how the players who took airplanes after concussions may take longer time to get ok.

The NFL has made 42 rule changes since 2002 only to protect the players and also deploys 29 medical professionals on the sidelines of the field in every game. Most of the cautions the NFL is taking is because a recent research proved that 87 out of 91 ex NFL players tested positive for brain disease linked to head trauma. The former player was linked to Chronic Traumatic Encephalopathy (CTE). Another research showed that 131 out of 165 former football players including high school, college and professional level had evidence of CTE, so to be more clear, 79% of former players had a degenerative brain disease. Many former players have given their testimony about how they gave up their bodies for football, one example is former Chicago Bears Quarterback, who said that if he knew what would have happened to him because of football, he would have never played. The former Super Bowl champion has been diagnosed with early onset dementia and struggles with memory loss, as well as having severe headaches, depression, spinal cord and severe neck problems. Another player well known by the San Diego community, is former Chargers linebacker Junior Seau, who after playing 19 seasons in the NFL, battled with depression issues until he committed suicide. Just like these two players, there are hundreds more with similar stories. Football is an exciting game to watch but not that much to play.

To finalize, there are many proofs that playing contact sports is very dangerous to the entire body but especially to the brain. I used to play football and after having a significant blow to the head, I never felt the same way about playing. I’m glad I decided to quit football after two seasons. After conducting this research I will never see the game the same way than before. Professional athletes get millions of dollars but they give up their health for it. The NFL and all professional leagues should keep investing money on finding ways to make the game safer each year, however, there will always be dangers on contact sports.

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