



## Concussion Management Frequently Asked Questions

### **What is a concussion?**

A concussion can be simply defined as a disruption in neurological functioning following a significant impact to the head or elsewhere on the body. This causes a biochemical imbalance within brain cells as well as decreased blood flow and temporary energy deficits within the brain. Following a suspected concussion, a player should be immediately removed from play, assessed and placed on complete rest for the first 3 days in order to recover from the energy deficit. Studies have shown that any activity, both mental and physical, in the immediate days following concussion can delay the process of recovery.

### **What is Post-Concussion Syndrome?**

Eighty-five to 90% of all concussion injuries become asymptomatic within 7-10 days, however, for a yet unknown reason, the other 10-15% of injuries go on to have longer lasting symptoms. If you are having symptoms beyond 3 to 4 weeks, this is known as “post-concussion syndrome”. Very little is known about what causes post-concussion syndrome, it is currently believed to be due to continued blood flow abnormalities in the brain, continued energy deficits in the brain, psychosomatic, vestibular/ocular (integration between visual and balance systems) and/or potential dysfunction in the muscles and joints of your neck that occurred as a result of the impact.

Risks for prolonged recovery and post-concussion syndrome:

- History of concussions
- Multiple injuries in close time-proximity
- Pre-existing depression or anxiety
- Family or life stressors
- Younger children and adolescents are known to take longer to recover
- Misinformation regarding concussions
- Improper management – not allowing proper recovery

## When is it safe for me to go back to school or sport?

### Return-to-Learn

Return-to-learn is a relatively new concept that deals with the reintegration of student athletes back into mental activity and learning following a concussion. Concussions can have a significant short-term impact on a student's memory and concentration abilities, leading to a drop in school performance and grades. Our trained clinicians offer a stepwise reintegration back into the school environment through modifications and communication with teaching and school administrative staff. Our program offers rehabilitation programs for students that are having difficulty with certain aspects of brain function.

### Return-to-Play

Following a concussion, return-to-play is a stepwise process, which gradually introduces the athlete back into their specific sporting environment. This process gradually reintroduces varying degrees of physical and sport specific activity, while assessing recovery of abnormal brain blood flow and/or vestibular function. For high-risk and contact sport athletes this stepwise approach is capped off with a final physical test, designed by the Chicago Blackhawks medical staff. In addition to re-testing all pre-injury cognitive and physical measures (if a comprehensive baseline is available), this test assesses an individual's level of recovery and ability to return to full game play.

## What is baseline testing?

The biggest concern surrounding concussions comes from the energy deficit that occurs in the brain following injury. When the brain is in this low energy state, it has been well established that the brain is extremely vulnerable to additional trauma, where even smaller impacts can lead to another concussion; and these second concussions can cause severe brain injuries with potentially permanent or fatal outcomes.

The problem is that symptoms (meaning how someone feels) do not coincide with brain recovery. The only way to know when the brain has fully recovered and out of this "vulnerable period" is to compare current brain function to when the individual was healthy; this is what is known as a "baseline test".

A baseline test is a battery of tests that measures every area of brain function that could potentially become affected following a concussion (you need more than computer tests!!). The reason that the test is termed a "baseline" is because it is done BEFORE the athlete gets injured. In order to know when an athlete has fully recovered, we first have to know where they were when they were healthy. Without having this information, there is no way to truly know when an athlete has fully recovered and is safe to return to their sport.

Baseline testing is the most important thing to get done prior to beginning your sports season on a yearly basis.

Complete Concussion Management Inc. has developed a research-based rehabilitation program, designed to help patients recover from their long-standing concussion symptoms. We have also developed a network of various healthcare practitioners and specialists with various areas of expertise so that we can guide you in the proper direction.

