

Concussions

Concussion awareness and player safety have improved in the past four to five years with some sports adopting new rules in an attempt to reduce the amount of head injuries. This increased awareness is largely due to national organizations publishing position statements on the identification and treatment of concussions in youth and adult sports. Educating parents and athletes in this subject is vital for ensuring a continued high level of safety on the field/court and helping parents to make the most educated decision when allowing their child to participate in a contact sport.



Headache and dizziness are the two most common symptoms, with other possible symptoms including: difficulty focusing, lack of energy, nausea, vomiting and feeling “out of it”. Changes in mood such as increased sadness, anger or anxiety can also be present following a concussion. It is important for family members to monitor the athlete for abnormal behavior. Loss of consciousness does not need to occur to be ruled a concussion. Approximately 10% of athletes report losing consciousness with a concussion¹. There is no difference noted between males and females with respect to reported complaints although it has been shown that females report higher

rates of concussions. The greatest risk factor for sustaining a concussion is a prior history of brain injury. **Athletes with a past history of concussion are two to five times more likely to develop another concussion².** The role of the athletic trainer is crucial in the moments following a concussion; it is essential to remove the athlete from play as soon as a concussion is suspected. Following a concussion, the brain is in a more vulnerable state and sustaining further hits could lead to permanent brain damage or possibly death. To prevent or reduce the possibility of an athlete suffering a severe brain injury, all states have passed concussion laws. In South Carolina, any athlete with a suspected concussion must be removed, appropriately evaluated, and may return to play after being cleared by a physician and passing a function progression program.

Rest is recommended immediately following a concussion. This includes limiting physical activity as well as activities such as watching TV, playing video games, using a computer and even texting. In some cases physicians may limit academic workload to reduce stress on the brain. Upon seeing a physician trained in concussion assessment and management, post injury balance and cognitive testing will be performed and compared to pre-season test scores. An exercise progression will begin once the athlete is symptom-free at rest. Each day the athlete will progress to the next stage, performing more intense exercise and advancing to the next phase if he/she remains symptom free. Several different techniques can be used during the concussion functional progression program. These techniques will challenge the deficits associated with concussions that occur with balance, memory, cognition, and eye tracking. Having the athlete remember a specific phrase or group of words prior to exercising and requiring that he recall that phrase after treatment helps to test memory

return. A useful tool for focusing on balance is the proprioception machine; a rotating platform the athlete must balance on. The athlete initially starts at a slow speed then progresses as deficits are minimized. Heart rate is increased during various exercises as well to simulate game/practice conditions. The return to play decision is based on physician, physical therapist, and athletic trainer communication in relaying the athlete's results during cognitive testing and the functional progression program.

As new evidence emerges regarding concussions, McLeod Sports Medicine will continue to evolve the standards of care to provide athletes with the highest quality medical treatment. Educating the athlete and athlete's family along with full disclosure from the athlete regarding symptoms are of utmost importance. As long as contact sports exist the risk of suffering a concussion will exist but with the use of new technologies, knowledge and a team approach we can manage these injuries to keep athlete safe.

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References

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