

# CONCUSSION MANAGEMENT RECOMMENDATIONS FOR MSHSL ATHLETES

## **Acute injury**

When a player shows any symptoms or signs of a concussion, the following should be applied.

1. The player should not be allowed to return to play in the current game or practice.
2. The player should not be left alone, and regular monitoring for deterioration is essential over the initial few hours after injury.
3. The player should be medically evaluated after the injury.
4. Return to play must follow a medically supervised stepwise process.

A player should never return to play while symptomatic. "When in doubt, sit them out!"

## **Return to play protocol**

As described above, most injuries will be simple concussions, and such injuries recover spontaneously over several days. In these situations, it is expected that an athlete will proceed rapidly through the stepwise return to play strategy.

During this period of recovery in the first few days after an injury, it is important to emphasize to the athlete that physical and cognitive rest is required. Activities that require concentration and attention may exacerbate the symptoms and as a result delay recovery.

The return to play after a concussion follows a stepwise process:

1. No activity, complete rest until all symptoms have resolved. Once asymptomatic, proceed to level 2.
2. Light aerobic exercise such as walking or stationary cycling, no resistance training.
3. Sport specific exercise—for example, skating in hockey, running in soccer; progressive addition of resistance training at steps 3 or 4.
4. Non-contact training drills.
5. Full contact training after medical clearance.
6. Gameplay.

With this stepwise progression, the athlete should continue to proceed to the next level if asymptomatic at the current level. If any post-concussion symptoms occur, the patient should drop back to the previous asymptomatic level and try to progress again after 24 hours.

In cases of complex concussion, the rehabilitation will be more prolonged, and return to play advice will be more circumspect. It is envisaged that complex cases should be managed by doctors with a specific expertise in the management of such injuries.

An additional consideration in return to play is that concussed athletes should not only be symptom-free but also should not be taking any pharmacological agents/drugs that may affect or modify the symptoms of concussion. If antidepressant treatment is started during the management of a complex concussion, the decision to return to play while still receiving such medication must be considered carefully by the clinician concerned (see below).

When there are team physicians experienced in concussion management with access to immediate—that is, sideline—neurocognitive assessment, return to play management is often more rapid, but it must still follow the same basic principles, namely full clinical and cognitive recovery before consideration of return to play.

Neurocognitive testing, utilizing computerized program like CogSport (Concussion Sentinel), Impact, and Headminders, can be a useful adjunct to the management of concussion in high school athletes and are best applied to the management of concussion when there is a baseline test to use for comparison after concussion. Baseline testing should be considered for athletes competing in contact sports, especially football, ice hockey, soccer, wrestling, and basketball. Testing is most cost effectively applied after symptoms have resolved.

For more information please refer to the references listed below and [www.concussionsafety.com](http://www.concussionsafety.com).

#### References:

Johnston KM, et al. Concussion in sport group: Summary and agreement statement 2001. *Physician and Sportsmed* 30(2): 57-63, 2002.

McCrory P, et al. Concussion in sport group: Summary and agreement statement 2004. *Physician and Sportsmed* 33(4): 29-44, 2005.