

CAST CONCUSSION MANAGEMENT PROTOCOL

A concussion is a disturbance in the functioning of the brain following a blow to the head or a transmitted force to the head, which may or may not cause a loss of consciousness. This typically results in the rapid onset of a short-lived impairment of neurologic function that resolves spontaneously and this resolution of the clinical and cognitive symptoms typically follows a sequential course. Athletes suffering from a concussion can display a wide variety of signs and symptoms, some of which can be very subtle.

PRESEASON ASSESSMENT

All athletes will undergo a preseason physical exam, which will include baseline neurocognitive testing with the computer based ImPACT test. ImPACT includes a detailed concussion history, which includes very specific symptom-based questions about previous head injuries, loss of consciousness, cognitive symptoms and time off skiing or training due to concussion.

It is important to identify athletes that are not fully recovered from previous concussion as they are more vulnerable for recurrent injury, persistent post concussive symptoms, cumulative injury and potentially even life threatening injury, with subsequent concussive injury.

ACUTE INJURY MANAGEMENT

A physiotherapist and team physician will be onsite during training and competition. Should a crash or head injury occur, the athlete will be evaluated by the physician and physiotherapist. The physiotherapist with the tech team will evaluate any athlete suspected of having a concussive injury at venues where a team physician is not present, and then bring that athlete to the attention of one of the team physicians.

Any athlete that is felt to have sustained a concussive injury will be withdrawn from that race or training session and undergo a formal medical evaluation. Any athlete complaining of headache, nausea, vision change, ringing in the ears, confusion, or dizziness or displaying poor coordination, poor balance, difficulty answering questions or easy distractibility, should be brought to the attention of the physician and physiotherapist.

It is important that any athlete suspected of suffering a concussive injury not be left alone and monitored for signs and symptoms of deterioration in the immediate post-injury period.

Neuroimaging (CT or MRI) may be indicated.

POST INJURY MANAGEMENT

The cornerstone of concussion management is rest, until the complete resolution of symptoms. This includes both physical and cognitive or mental rest. Athletes should therefore have a quiet environment and avoid exposure to stimulation such as TV and video games. Meditation has been shown to help in recovery.

Athletes should avoid alcohol and medication use after concussion. Some analgesics and anti-inflammatories may be prescribed but it should be recognized that these may mask some of the signs and symptoms of concussion.

RETURN TO SKIING PROTOCOL

The return to skiing progression is begun once the athlete has been off all medications and completely symptom free for a minimum of 24 hours.

We will be using the return to play guidelines from the Summary and Agreement Statement of the Second International Symposium on Concussion in Sport-Prague 2004. This is a step-wise process, each step being separated by a minimum of 24 hours. Progression to the next step only occurs if the athlete is completely asymptomatic at the current level. Any recurrence of concussive symptoms should lead to the athlete dropping back to the previous asymptomatic level

Steps include:

- 1) Complete physical and mental rest until asymptomatic
- 2) Low intensity aerobic exercise (walking, spinning on a stationary bike) but no resistance training
- 3) Higher intensity aerobic exercise
- 4) Easy free skiing and can start light resistance training
- 5) After medical clearance can train gates
- 6) After medical clearance return to full competition

Repeat neurocognitive testing (ImPACT) will be performed once the athlete is completely symptom free after step 4. Progression to step 5 will only follow if the athlete's ImPACT scores have returned to baseline or better.

Athletes with simple concussion typically easily progress through these steps over 7-10 days. Athletes with complex concussion (an injury where athletes suffer persistent symptoms, specific sequelae, or prolonged cognitive impairment, or athletes who have suffered multiple concussions) may require a prolonged period of asymptomatic rest (step 1) as well as more time at each of the subsequent steps in the progression.

The team physician will supervise the progression and give final clearance for return to competition.

CONTACT

Please do not hesitate to contact me with any concerns or questions

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