

Concussion in sport

Sport-related concussion is a growing health concern in Australia. It affects athletes at all levels of sport, from the part-time recreational athlete to the full-time professional. Concerns about the incidence, and possible health ramifications for athletes, have led to an increased focus on the importance of diagnosing and managing the condition safely and appropriately. This has resulted in recent changes at all levels – from elite to junior regarding the management of concussion and mandating games missed to due the injury.

What is a concussion?

Concussion is a form of traumatic brain injury, which occurs when a force is applied to the head, or anywhere on the body which then transmits the force to the head. This force causes short term neurological impairment and the symptoms may evolve over the hours or days following the injury. The symptoms normally resolve without medical intervention over a period of up to 2 weeks.

Recognising concussion can sometimes be difficult as the symptoms and signs are variable, non-specific and may be subtle. A concussion should be suspected when an injury as a result of a knock to the head or body causing a significant force to the head occurs. A hard knock is not required, concussion can occur from minor knocks. There may be obvious signs of concussion such as loss of consciousness, brief convulsions or difficulty balancing or walking. However, many of the signs of concussion can be more subtle and sometimes not observable until hours or even days after the incident. Some of the more subtle signs of a concussion are a headache, 'don't feel right', 'pressure in the head', difficulty concentrating, neck pain, impaired memory, nausea or vomiting, fatigue or low energy, dizziness or confusion, blurred vision, drowsiness, balance problems, sensitivity to light or noise, changes in emotion, feeling of foginess, nervous or anxious and difficulty sleeping.

Recognising a concussion early can be critical to its correct management and preventing further injury. Various tools have been developed to identify a concussion early such as the [Sport Concussion Assessment Tool \(SCAT5\)](#). This tool was developed by [Concussion in Sport Australia](#) and aims to quickly identify a concussion shortly after it has occurred. It is the preferred concussion assessment tool for many elite contact sports and has on-field/immediate and off-field assessment components.

What happens next?

Any athlete with suspected or confirmed concussion should remain in the company of a responsible adult and not be allowed to drive. They should be advised to avoid alcohol and check medications with their doctor. It is important that they avoid aspirin, non-steroidal anti-inflammatory drugs, sleeping tablets and sedating pain medications.

Once a formal diagnosis of concussion has been made, the first phase of management is physical and cognitive rest. This may include time off school or work and rest from general cognitive activities. After resting for 24–48 hours, the patient can commence a return to light intensity physical activity as long as such activity does not cause a significant and sustained deterioration in symptoms.

Most concussion related symptoms resolve in 10–14 days. The activity phase should then proceed as outlined below with a minimum of 24 hours spent at each level. The activity should only be upgraded if there has been no recurrence of symptoms during that time. If there is a recurrence of symptoms, there should be a step down to the previous level for at least 24 hours or once symptoms have resolved.

The steps in returning to activity are:

1. Low intensity aerobic activity at an intensity that can easily be maintained while having a conversation until symptom-free
2. Basic sport-specific drills which are non-contact and with no head impact
3. More complex sport-specific drills without contact including resistance training
4. Full contact practice after a medical review
5. Normal competitive sporting activity

Post-concussion syndrome

Post-concussion syndrome occurs when concussion symptoms persist for longer than the usual 10-14 days. Symptoms can last for weeks to months, but generally resolve within 3 months. It is uncertain what causes post-concussion syndrome to develop in some persons and not in other with no proof of a correlation between injury severity and an increased likelihood of developing concussion. Some researchers have suggested that this syndrome results from structural damage to the brain or disruption to neurotransmitter systems while others argue that it is related to psychological factors.

Long term implications

There is concern about potential long-term consequences of concussion or an accumulation of sub-concussive head impacts resulting from ongoing participation in contact sports. There is some association between a history of multiple concussions and cognitive deficits later on in life, but currently, there is no reliable evidence clearly linking sport-related concussion with chronic traumatic encephalopathy (CTE – a degenerative brain disease), Alzheimer’s disease or any other condition or disease. That being said, the potential link between concussion and CTE and other conditions is of concern and there is a need for further research into the area.

Concussion management has the perception in the community and media that rest and medical management are keys. However, physiotherapy plays an important role in helping patients recover and assessing their readiness for return to sport.

If you suspect you may have sustained a concussion, have lingering symptoms following a concussion or would like advice on returning to sport after concussion, book in to see a Physiotherapist or Exercise Physiologist at Back in Motion Aspendale Gardens by calling 9580 1985 or [online](#).



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