

What is it?

Sport Australia defines concussion as a brain injury caused by a knock to the head or other parts of the body where the head bears the impact of the force. A fall can also result in a concussion. Concussion involves temporary, neurological impairment. The symptoms may evolve over the hours or days following the injury. While a doctor should assess all concussions, most will resolve without the need for specific treatment. Rest, followed by gradual return to activity is the main treatment.

Concussion can lead to long-term health problems, and repeated concussion increases this risk.

How to recognise it

Recognising concussion can be difficult. Delaying treatment can be fatal. There are several possible symptoms and signs, but they can be hard to recognise. You should suspect a concussion when an injury results in a knock to the head or body that transmits a force to the head. A hard knock is not required.

The Sport Concussion Assessment Tool ('SCAT5') can assist with this process.

Signs and symptoms

The signs of concussion vary and may be difficult to detect. For example, individuals may: •

- seem normal apart from appearing vacant, dazed or stunned
- be unable to recall who the opponent is, where they are or what day it is ask about what happened - amnesia is common
- have difficulty concentrating and answering specific questions.



Loss of consciousness, seizure or balance difficulties are clear signs of a significant injury. Urgent medical support is critical in these circumstances. Symptoms of concussion can be very subtle and may present as nothing more than individuals reporting that they do not 'feel right'. Patients often report these symptoms:

- visual disturbance
- feeling 'foggy', lethargic or slow
- having sensitivity to light or noise
- feeling dizzy or nauseous
- headache

For examples of signs and symptoms visit the Concussion in Sport Australia website.

Competition settings

Section 23 of the Professional Boxing and Combat Sports Act 1985 ensures that Rules are made in the interests of contestant safety. The Rules address concussion diagnosis and management for professional boxing and combat sports in Victoria, including:

- Giving the ringside physician the power to stop the contest or provide medical aid to an injured contestant if they believe that:
- A contestant has an impaired ability to defend themselves
- There is a risk of injury to a contestant's health if they continue
- It is in the interests of the safety or welfare of a contestant
- Giving the referee the power to stop a contest or request the ringside physician examine a contestant if:
- A contestant has an impaired ability to defend themselves
- There is a risk of serious injury to a contestant's health if the contest were to continue
- It is in the interests of the safety or welfare of a contestant.
- Giving the referee the power to seek a medical examination if a contestant: is subject to heavy physical force



- · Receives many heavy blows to the head
- Appears to be suffering from signs and symptoms consistent with a concussion.
 - Giving the Board or the trainer of a contestant the power to request the medical practitioner examines the contestant if they suspect a concussion.

Diagnosis of concussion

A medical practitioner should diagnose a concussion. The ringside doctor does this in the combat sport competition setting and their finding is final. Concussion management

Concussed contestants must:

- not drink alcohol while symptoms persist, particularly not after a contest
- get as much rest as possible and avoid demanding activities or those that need a lot of thinking or concentration while symptoms persist
- not return to sparring until granted medical clearance

Immediately attend a hospital emergency department if experiencing the following symptoms:

- repeated vomiting
- increasing and persistent headache
- loss of consciousness
- inability to stay awake during times when usually awake
- confusion
- restlessness
- agitation
- convulsions
- seizures



- difficulty walking
- difficulty balancing
- weakness or numbness
- blurring or difficulty with vision
- slurred speech

See a healthcare professional who has experience in treating brain injuries if symptoms persist for more than 10 days

Observe concussion management guidelines prescribed by a health care professional who has experience in treating brain injuries.

Mental health and concussion

There is a potential link between mental illness and concussion. Contestants with a history of mental illness should discuss this with a doctor. Where there is a history of mental illness, a more cautious assessment and a more conservative management approach should be taken.

There are a number of organizations with information on mental illness and where to go for help.

- Lifeline provides a 24 hour, 365 days per year crisis support and suicide prevention service. It is free and provides immediate support for those in need.
- Headspace is a national youth mental health support service providing mental health assistance to those aged 12-25.
- Beyond Blue is an organization aimed at improving community mental health education and awareness through several programs.

Potential complications from concussion



These include:

- Severe brain swelling.
- Increased risk of further concussions or other musculoskeletal injury
- Prolonged symptoms.
- Psychological problems including symptoms of depression or anxiety
- Long term damage to brain function

There is an increased risk of complications from a concussion if a contestant returns to training or competition before recovering completely. A repeat concussion that occurs before the brain has healed can be dangerous. It may also slow recovery and increase the chance of long-term problems. It is essential to recognise a possible concussion and seek medical assessment and treatment while refraining from training and competition until recovery is complete.

Long-term consequences of concussion

There are a number of potential long-term consequences of concussion, including Chronic Traumatic Encephalopathy (CTE) which is a type of degenerative neurological disease.

The best way to safeguard the immediate and long term health of contestants is to:

- remove contestants suspected of having concussion
- treat each case of concussion carefully
- adopt a conservative approach to return to fight.

Further resources

For further information about developments in concussion in sport policy, as well as evidence-based information about the signs and symptoms of concussion, seeking diagnosis and managing the condition, the following links may be of assistance.



Clearinghouse for Sport hosts a wide range of resources on sport concussions and head trauma from across Australia and the globe. This site aims to assist those working or linked to sport to understand and maintain awareness of relevant policies, guidelines, insights and emerging research in this area.

The Concussion in Sport Australia initiative brings together the most contemporary evidence-based information on concussion for athletes, parents, teachers, coaches and medical practitioners. It provides a valuable and trusted resource for the management of sports-related concussion for all Australians, regardless of the sport, location or level of participation. It is a joint initiative of the Australian Institute of Sport, the Australian Medical Association, the Australasian College of Sport and Exercise Physicians, and Sport Medicine Australia.

For the Concussion in Sport Australia Position Statement visit:

Concussion Sport

For athletes visit:

Concussion Sport

For coaches, trainers and support staff visit:

Concussion Sport

For medical practitioners visit:

Concussion Sport







The Consensus Statement:

Concussion in Combat Sports from the Association of Ringside Physicians an international, non-profit organization dedicated to the health and safety of the combat sports athlete – seeks to establish management and return to sport guidelines that ringside physicians, fighters, referees, trainers, promoters, sanctioning bodies and other healthcare professionals can use in the ringside setting. In accordance with combat sport's link to head contact compared to non-combat sports, the statement outlines a more stringent approach to management and treatment of concussion.

The 'Consensus Statement on Concussion in Sport' was devised to help develop an understanding of sport-related concussion (SRC) using an expert consensus-based approach. The aim of the Consensus Statement is to assist those involved in athlete care to manage concussion safely whether at a recreational, elite or professional level. The authors acknowledge that the science of SRC is evolving and therefore individual management and returnto-play decisions must be made by a medical physician.

An updated statement in line with the 6th International Consensus Conference on Concussion in Sport, 27-28 October 2022 will provide an important opportunity for world experts and researchers in concussion in sport to present new evidence and reach agreement on the definition, management, treatment and return to sport protocols for athletes at the recreational, elite or professional level.

Sports Medicine Australia's Concussion in Sport Policy provides important information about how to recognise and manage concussion in their sport.