

OWIA Concussion Policy

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1. BACKGROUND

There is increasing awareness of concussion in the sporting world, and a growing appreciation of the importance of early recognition, prompt management and appropriate rehabilitation to ensure safe return to normal life and sport, while minimising the risk of complications such as recurrent injury, prolonged recovery and long-term neurological sequelae.

This policy provides guidance to healthcare practitioners and other staff involved in the management of elite winter sport athletes who are supported by the Olympic Winter Institute of Australia (OWIA).

2. DEFINITIONS

ACS means Advanced Care Setting

ADLs means Activities of Daily Living

AHPRA means the Australian Health Practitioner Regulation Agency

CTE means Chronic Traumatic Encephalopathy

GRTS means Graded or Graduated Return to Sport

HCP means appropriately trained Healthcare Professional

HIA means Head Injury Assessment

ICC means Independent Concussion Consultation

NIN means National Institute Network

OWIA means the Olympic Winter Institute of Australia

RTL means Return to Learn

RTS means Return to Sport

SCP means Standard Care Pathway

SRC means Sport-Related Concussion

3. POLICY OBJECTIVE

The aim of this policy is to provide guidelines for OWIA personnel (including permanent and temporary employees, as well as contractors) in assessing and managing athletes who have sustained a Sport-Related Concussion (SRC).

Our common goal is to achieve a successful return to normal daily life, study and sport, with full recovery and readiness for competition. This policy places a high priority on athlete safety and minimisation of short-term risk, as well as long-term health consequences.

The policy provides guidelines to support medical, physiotherapy, psychology, nutrition, strength and conditioning and coaching staff at potentially remote international training camps and competitions. Our protocol is consistent with the principles outlined in the following documents.

- Consensus statement on concussion in sport – the 6th international conference of the Concussion In Sport Group (CISG) held in Amsterdam, October 2022
- FIS Concussion Policy, 2017
- AIS Australian Concussion Guidelines for Youth & Community Sport
- 2024 AIS Concussion & Brain Health Position Statement, with notable exception for elite athletes in an Advanced Care Setting (ACS)
- World Rugby Head Injury Assessment (HIA) Protocol (2024), for elite athletes in an ACS.

This policy will continue to be regularly updated in accordance with new research and consensus statements, as well as internal review of the policy's effectiveness. Please check the OWIA website for the latest version of the policy and its appendices. A printed copy of this policy, the HIA Protocol Workflow ([Appendix C](#)) and the Concussion Management Pathways flowchart ([Appendix D](#)) are included in each OWIA medical kit.

4. WHO THE POLICY APPLIES TO

This policy applies to all OWIA and Snow Australia-contracted athletes, as well as National Institute Network (NIN) scholarship holders whose medical care is contracted to the OWIA. This policy also involves coaches and team support personnel (employees and contractors, including medical personnel, physiotherapists, strength and conditioning coaches, exercise scientists, sport psychologists, dietitians) and other persons selected to an OWIA team.

Youth (under 19) and community (non-contracted/non-scholarship) snow-based athletes should refer to the Snow Australia Concussion Policy, which is endorsed by the OWIA, and aligns closely with the AIS Australian Concussion Guidelines for Youth & Community Sport, and the 2024 AIS Concussion & Brain Health Position Statement.

This policy is available to the public but has been written with the assumption that the reader is a health care professional (HCP), i.e., an AHPRA (or equivalent) registered health care practitioner with appropriate training and experience in concussion assessment and management.

5. POLICY PRINCIPLES

- Concussion must be taken seriously to safeguard the short and long-term welfare of athletes.
- Athletes with concussion must be removed from training and/or competition and may not resume on the same day.
- Athletes suspected of concussion must be thoroughly assessed and monitored by an appropriately trained healthcare professional (HCP).
- Athletes with concussion must progress through an individualised rehabilitation, including a Graded Return to Sport (GRTS) program.
- Athletes must receive medical clearance before returning to sport.

6. WHAT IS A SPORT-RELATED CONCUSSION?

The following conceptual definition is taken from the 6th CISG Consensus Statement:

Sport related concussion (SRC) is a traumatic brain injury caused by a direct blow to the head, neck or body resulting in an impulsive force being transmitted to the brain that occurs in sports and exercise-related activities. This initiates a



neurotransmitter and metabolic cascade, with possible axonal injury, blood flow change and inflammation affecting the brain. Symptoms and signs may present immediately, or evolve over minutes or hours, and commonly resolve within days, but may be prolonged.

No abnormality is seen on standard structural neuroimaging studies (computed tomography or magnetic resonance imaging T1- and T2- weighted images), but in the research setting, abnormalities may be present on functional, blood flow or metabolic imaging studies. Sport-related concussion results in a range of clinical symptoms and signs that may or may not involve loss of consciousness. The clinical symptoms and signs of concussion cannot be explained solely by (but may occur concomitantly with) drug, alcohol, or medication use, other injuries (such as cervical injuries, peripheral vestibular dysfunction) or other comorbidities (such as psychological factors or coexisting medical conditions).

In summary, a SRC, which will also be referred to as a concussion in this policy, represents a transient, functional disturbance of the brain following a forceful rotational and/or linear acceleration of the head. Symptoms may appear immediately, on the same day, or with a delay of 2-3 days.

Clinical features of concussion, which can affect multiple domains:

Clinical Domain	Symptoms	Signs
Somatic	Headache, sensitivity to light or sound	Aversion to bright light or noise
Cognitive	Feeling slowed down, or in a fog	Amnesia, perseveration, slowed reaction time
Emotional	Sadness, anger	Emotional lability, tearfulness, aggression
Neurological	Visual disturbance, incoordination	Neurological signs
Balance	Balance impairment	Groggy, unsteady gait
Conscious state	Sleepiness, drowsiness	LOC or reduced responsiveness

Policy definition of concussion:

Under this policy, concussion is defined as:

- HIA1 Criteria 1 signs ((immediate diagnosis of concussion → removal from the field of play)
- Positive HIA2 (early diagnosis of concussion, on Day 0)
- Positive HIA3 (delayed diagnosis of concussion, on Day 2)
- Clinical suspicion at any time.

7. PREVENTION / RISK REDUCTION

It is not possible to eliminate all risk of injury, including concussion, from sport. However, there are some modifiable safety and training considerations which may have a positive impact on reducing the risk of concussion. Refer to [Appendix A - Prevention / Risk Reduction](#) for suggested strategies in Winter Sports.

8. BASELINE TESTING

Each athlete is required to undergo annual baseline pre-season testing. Baseline testing assists with diagnosis of concussion and assessment of recovery, as well as providing historical information that is critical for concussion management decisions. The components of baseline testing are outlined in [Appendix B - Baseline Testing](#).

9. CONCUSSION DIAGNOSIS

Diagnosis can be challenging due to the variability of concussion presentations. Therefore, assessment must be multimodal across multiple time points.

The Head Injury Assessment (HIA) Protocol consists of a five point-in-time process to assess for acute and delayed concussion presentations, as well as confirming recovery from concussion. Each component of the HIA Protocol has a relevant form to be



completed by an appropriate HCP. Some athletes may be eligible to participate in training and/or competition whilst they progress through the HIA Protocol, subject to specific criteria which includes no confirmation or suspicion of concussion.

The diagnosis of concussion is a clinical decision using the information available and clinical judgement may overrule objective data. As soon as concussion has been diagnosed, the athlete must be removed from training and competition.

[Appendix C - HIA Workflow](#) outlines the clinical decision-making process to assist with concussion diagnosis in Winter Sports.

10. CONCUSSION MANAGEMENT

There are two concussion management pathways available under this policy, as illustrated in [Appendix D - OWIA Concussion Management Pathways – Flowchart](#).

STANDARD CARE PATHWAY (SCP)

- This applies to all athletes under 19 years of age, as well as athletes of all ages who do not qualify for the Advanced Care Setting (ACS).
- A minimum 14 days symptom-free and 21 days post-injury is required before returning to sport (consistent with the Australian Concussion Guidelines for Youth and Community Sport).

ADVANCED CARE SETTING (ACS) PATHWAY

- This applies only to athletes who meet the following inclusion criteria:
 - > 19 years of age
 - Baseline assessment completed within the last 12 months (i.e., current)
 - Daily access to a HCP experienced in concussion management throughout the duration of the GRTS program
 - Access (within a defined timeframe) to high-quality specialist medical services with concussion management expertise, such as sport & exercise medicine, neurology, neurosurgery, imaging, rehabilitation, etc.
- There are two streams within the ACS based on risk stratification
 - A. A minimum 12-day return to sport (RTS) in cases of:
 - Concussion history (with Independent Concussion Consultation (ICC) prior to RTS ([see Appendix H](#)))
 - Criteria 1 signs.
 - Abnormal HIA3
 - B. A minimum 7-day RTS in cases of:
 - No concussion history
 - Criteria 2 signs
 - Normal HIA3
 - Normal Cognigram (at the time of HIA3)
 - And uncomplicated GRTS (i.e., no setbacks)

These athletes retain the option of a 12-day RTS, or a 7 – 11-day RTS with ICC for clearance ([see Appendix H](#))

10.1 CONCUSSION MODIFIERS

There are several modifying factors which may necessitate slower progression of the GRTS process. Many of these are addressed in the OWIA Concussion Management Pathways flowchart, including age, Criteria 1 presentation, concussion history, rate of early recovery and level of health care support available.

The presence of multiple concussion modifiers may have a cumulative influence on the management timeline. More information can be found in [Appendix E: Concussion Modifiers](#).



10.2 RELATIVE REST

A brief period of relative rest is recommended in the acute phase following a concussion. Symptom exacerbation is used to guide cognitive and physical activity levels for the first 24 – 48 hours.

Individuals should resume activities of daily living (ADLs) and can commence light-intensity physical activity which avoids the risk of contact, collision or fall, such as walking, during the first 24–48 hours.

Minimising screen time during the first 48 hours is also recommended and has been associated with a shorter duration of symptoms.

Strict rest beyond the acute phase is not recommended.

10.3 PHYSIOTHERAPY INTERVENTION

For post-concussion management, the physiotherapist is responsible for providing oversight and leading an athlete through a graded return to sport (GRTS) program in conjunction with the Chief Medical Officer. In more complex presentations, the physiotherapist can help to identify and manage vestibular and oculomotor impairments.

A physiotherapist may also assist with identifying and treating concurrent injuries, such as injury to the cervical spine, which may contribute to prolongation of symptoms.

10.4 NUTRITION CONSIDERATIONS

Attention should be paid to sleep hygiene, nutrition and hydration in the period post-concussion. Consultation with the athlete's sports dietitian will help ensure the athlete has strategies to maintain adequate nutrition and hydration, especially in the context of poor appetite, nausea or headache. Additionally, the sports dietitian will provide guidance around specific food-based anti-inflammatory support.

Refer to [Appendix F - Specific Nutrition Interventions for Concussion Management](#) for more information.

10.5 TRAVEL CONSIDERATIONS

Long-haul travel is defined as greater than 4 hours change in time zone and can exacerbate concussion signs and symptoms prior to full recovery from a concussion.

There are various scenarios that necessitate careful consideration in relation to travel. Discussion with the athlete's care team is recommended.

11. REHABILITATION

The key principles of concussion management involve:

1. a brief period of post-injury cognitive and physical rest, referred to as relative rest, followed by
2. a gradual increase in ADLs and cognitive activity, followed by
3. a progressive return to sport, starting with non-contact physical activity and medical clearance prior to higher risk, contact or collision type activities.

The rehabilitation process should be tailored to suit the individual needs of the athlete to ensure optimal recovery. The rehabilitation process will look different for each athlete and requires collaborative input from all members of the athlete's Performance Support Service team.

In some cases, more targeted rehabilitation may also be required. See Section 10.3 Physiotherapy Intervention.

11.1 RETURN TO LEARN (RTL) / STUDY

In some instances, an athlete may require a RTL strategy which includes an incremental increase in cognitive load in conjunction with a graduated exposure to the 'classroom' or learning environment. Additional support from the athlete's school or university may be needed, such as postponing exams, facilitating breaks, etc.

Potential indicators that an athlete will require a RTL program includes symptom exacerbation during screen time or cognitive activity, such as reading or other activities requiring concentration and memory.

Progression through a RTL strategy is symptom-limited (accepting no more than a mild and brief exacerbation of current concussion symptoms) and should be individualised based on tolerance and symptom exacerbation duration.

RTL and RTS strategies can occur concurrently, however full RTL must be completed before resuming unrestricted RTS.

For athletes who do not participate in formal schooling or study, cognitive stimulation, such as using screens, reading, participating in independent learning activities, etc should be encouraged and gradually introduced after 48 hours.

11.2 RETURN TO SPORT

Graduated Return to Sport (GRTS) Framework:

Returning to sport following concussion involves a graduated process. Following an initial period of relative rest (GRTS Stage 0), an athlete will work through a program which increases their cardiovascular demands (GRTS Stages 1 & 2), resume typical resistance training and complete sport-specific functional movements which increase intracranial pressure and challenge the athlete's coordination, balance, cognitive function, visual and vestibular systems (GRTS Stage 3). An athlete will then work through a progressive reloading of their typical on-snow/ice training where they progress from low risk (GRTS Stage 4) to moderate risk (GRTS Stage 5) to high risk (GRTS Stage 6) scenarios. GRTS Stage 6 represents unrestricted training and competition.

The GRTS Framework stages are numbered to align with the framework outlined in the 6th CISG Consensus Statement. However, there are often several steps within each stage. The rate of progression is determined by the individual's symptoms & tolerance, as well as clinical judgement. After each new progression, the athlete should be monitored for symptom exacerbation for 24 hours before progressing further in the GRTS.

The exact return to sport timeframe will vary for each athlete and the GRTS Framework should be individualised to meet the needs of the athlete.

Refer to [Appendix G: Considerations for a GRTS Program](#) for more detailed information regarding the design of GRTS Programs.

Medical Clearance:

Return to snow / ice (GRTS Stage 4) is strictly a medical decision and requires demonstration of tolerance to GRTS Stages 1 – 3. The athlete will have resumed normal dryland training and sport-specific functional activities with low risk of head impact. A medical review is required to provide clearance to progress to GRTS Stage 4.

HIA4 is to be completed after rehabilitation and prior to return to competition. It marks closure of the concussion episode and is used to identify features of a significant concussion history which may influence the management pathway in future episodes.

Independent Concussion Consultant (ICC):

The OWIA offers the support of international experts to support RTS decision-making in 2 specific challenging circumstances:

- Athletes who have a concussion history (as defined in [Appendix B](#))
- Athletes in the Advanced Care Setting (ACS) who are eligible to return to sport in < 12 days.



The ICC process is instituted following full recovery and rehabilitation. It provides an independent expert opinion to support medical decision-making and bolster athlete confidence in the safety and rigour of RTS decisions in these potentially contentious situations. [Appendix H: Independent Concussion Consultant \(ICC\)](#) outlines the process in more detail.

12. DELAYED RECOVERY & PERSISTING SYMPTOMS

Most cases of concussion are uncomplicated, with 70-80% of individuals recovering within expected timeframes. Up to 30% of concussion cases are more complex with prolonged symptoms and recovery.

Complex cases where symptoms or clinical features persist for more than 4 weeks, will be referred to an appropriate independent clinician with expertise in concussion, for review and management assistance. Such experts may include neurological rehabilitation physiotherapists, neurologists or neuropsychologists. External referral may also occur earlier in cases of poor progress, high and/or complex symptom load, presence of multiple concussion modifiers, concerning concussion history, or other factors.

13. CONCUSSION & LONG-TERM BRAIN HEALTH

This updated OWIA Concussion Policy has been driven in part by increasing concern about chronic traumatic encephalopathy (CTE) and second impact syndrome, conditions which represent catastrophic acute and chronic outcomes. It is worth noting that no clear causal link has been established between sport-related concussion and CTE (ref: Concussion in Sport Australia Position Statement).

An approach emphasising holistic brain health is warranted, particularly in view of research demonstrating that cognitive reserve influences outcomes in cases of neurodegenerative pathology. Athlete education and support fostering brain-healthy lifestyles, including post-retirement, could improve long term outcomes.

14. EDUCATION

The OWIA recognises the importance of providing up to date concussion education to athletes, coaches and performance support staff.

Athletes – need to have a good understanding of concussion so they can recognise symptoms and appreciate the importance of reporting these symptoms.

Coaches & performance support staff– must be able to recognise signs and symptoms of a possible concussion to facilitate removal from sport.

Anyone who falls under the jurisdiction of this policy needs to ensure they understand the HIA Protocol and the immediate management response following concussion, with a broad understanding of the rehabilitation process, including return to Learn/Study (RTL) and return to sport (RTS) via the GRTS Framework, with final clearance for return to sport being a strictly medical decision.

The OWIA undertakes to provide appropriate educational resources for athletes, support staff and healthcare professionals to facilitate understanding, appreciation and compliance with this policy.

15. SANCTIONS

Failure to abide by this OWIA Concussion Policy, including failure to disclose possible symptoms of concussion to OWIA medical/physiotherapy staff, may expose an athlete to danger, unnecessary risk of injury on return to sport and/or increased risk of short and long-term health consequences.

It is most important that all athletes and support personnel understand, respect and support the implementation of this policy. If you have any questions or concerns about any aspect of this policy, please make them known so they can be addressed satisfactorily. This may involve further explanation and education regarding the rationale for this policy, modification of the policy or monitoring for future re-evaluation.



Failure to comply with the OWIA Concussion Management Policy may expose an athlete and their support personnel to disciplinary action and sanctions as determined by the OWIA Board.

16. CHANGES TO THIS POLICY

The OWIA reserves the right to vary or replace this Policy at any time and will do so as new research and future consensus statements on concussion are published. Appendices associated with this Policy may be updated more frequently when Policy changes are not required.

Changes are effective upon posting on the OWIA website. It is the responsibility of all athletes and personnel to remain informed on any variances to this Policy. It is recommended to visit the OWIA website to view the current OWIA Concussion Policy

17. DOCUMENT HISTORY

Version	Adopted by OWIA	Content reviewed / purpose
1	16/12/2015	Creation and adoption of Concussion Policy
2	30/06/2017	SCAT5 update
3	19/11/2018	Addition of Cognigram platform
4	13/08/2025	SCAT6 & consensus statement update

18. APPENDICES

- A) [Prevention / Risk Reduction](#)
- B) [Baseline Testing](#)
- C) [HIA Protocol Workflow](#)
- D) [OWIA Concussion Management Pathways – Flowchart](#)
- E) [Concussion Modifiers](#)
- F) [Specific Nutrition Interventions for Concussion Management](#)
- G) [Considerations for a GRTS Program](#)
- H) [Independent Concussion Consultant \(ICC\) Protocol](#)
- I) [Appendix H2 - ICC Application & Report Form](#)

19. REFERENCES / USEFUL RESOURCES

Patricios et al., (2023). Consensus Statement on Concussion in sport: the 6th International Conference on Concussion in Sport– Amsterdam, October 2022. *British Journal of Sports Medicine*, 57(11), pp.695–711

Concussion and Brain Health Position Statement 2024. An initiative of the Australian Institute of Sport, Sports Medicine Australia, Australian Physiotherapy Association and Australasian College of Sport and Exercise Physicians.

Weiler et al., (2021). Concussion in para sport: the first position statement of the Concussion in Para Sport (CIPS) Group. *British Journal of Sports Medicine*, 55(21), pp. 1187-1195

Australian Concussion Guidelines for Youth and Community Sport. A collaboration between the Australian Institute of Sport, Australasian College of Sport and Exercise Physicians, Sports Medicine Australia and Australian Physiotherapy Association (2024).

World Rugby Head Injury Assessment (HIA) Protocol 2024. <https://www.world.rugby/the-game/player-welfare/medical/concussion/hia-protocol>

FIS Concussion Guidelines 2017
www.concussioninsport.gov.au