













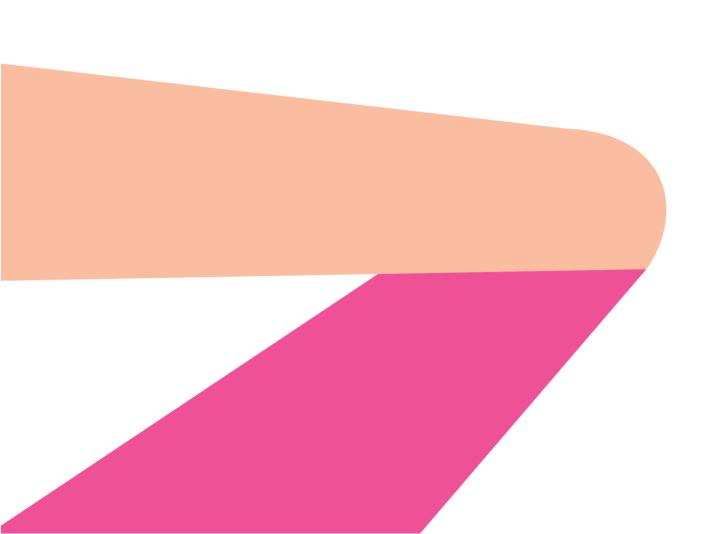






Netball Australia GUIDELINES FOR THE MANAGEMENT OF SPORTS RELATED CONCUSSION IN NETBALL

NA PATHWAYS, YOUTH AND COMMUNITY NETBALL 5 APRIL 2024



In the spirit of Reconciliation, Netball Australia acknowledges Aboriginal and Torres Strait Islander peoples as the Traditional Custodians of this ancient unceded land where we live, work and play netball on.

We honour the continuing cultures, languages, and heritage of Aboriginal and Torres Strait Islander peoples whose cultural, spiritual, and ancestral connections to the lands, sky, and waters has endured since time immemorial.

We pay our respects to Elders past and present, and we acknowledge and value the significant and continuing contributions Aboriginal and Torres Strait Islander peoples make within our community.

Netball Australia is committed to Reconciliation. We acknowledge the need to reflect on our shared history in order to build a vision for a reconciled and prosperous future for all within our sport. One built on mutual respect, equity, authentic collaboration, and genuine truth-telling.

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A: PURPOSE

The purpose of these Guidelines is to:

- 1. Provide Healthcare Practitioners (HCP), coaches, managers, primary carers, umpires, bench and other officials, teachers, players and parents/guardians with best practice guidance for the recognition and management of Sport-Related Concussion (*SRC*).
- 2. To safeguard and protect the short and long-term health and safety of netball players from the potential risks of SRC and repeat head impacts.

It is important to recognise that umpires and coaches, while participating in netball activities, may also sustain a concussion and that, while these Guidelines apply to athletes, they are not intended to be limited in scope, and an umpire or coach should also follow these Guidelines in this event.

B: BACKGROUND

Netball Australia (*NA*) recognises that Sport-related Concussion (*SRC*, also referred to as concussion in these Guidelines) is a significant public health issue and that safeguarding the short and long-term health and wellbeing of netballers at all levels of competition is important.

These Guidelines adhere to the evidence and recommendations from the 6th International Conference on Concussion in Sport as they relate to netball.¹ They take into account the Australian Institute of Sport, Sports Medicine Australia, the Australian Physiotherapy Association and the Australasian College of Sport and Exercise Physicians 'Concussion and Brain Health Position Statement' (the AIS Position Statement) and the 'Australian Concussion Guidelines for Youth and Community Sport' (the AIS Guidelines for Youth & Community Sport), released in February 2024.

The AIS Guidelines for Youth & Community Sport are intended to:

'provide information on how to recognise concussion and manage concussion from the time of injury through to a safe return to education, work and playing sport.'²

For NA Pathway programs, youth and community netball, these Netball Australia Guidelines for the Management of Sports-related Concussion in Netball - NA Pathways, Youth & Community Netball (the *NA Youth & Community Guidelines*) apply, aligning with the AIS Guidelines for Youth & Community Sport.

Accordingly, under these NA Youth & Community Guidelines, the earliest that a player can return to play after a concussion is **on the 21st day after the day on which the concussion was sustained,** provided that the player has safely progressed through each phase of the return-to-play program.

In line with the AIS Position Statement, a separate Policy for the Management of SRC – National Programs and Suncorp Super Netball (*NA Policy for National Programs and SSN*) applies to Athletes participating in Origin Australian Diamonds programs and the Suncorp Super Netball (SSN), in particular Athletes contracted to an SSN Team (including Training Partners) and/or NA. This Policy recognises that Athletes participating in the Origin Australian Diamonds and SSN have the benefit of Advanced Care Settings³ to closely monitor the Athlete's recovery and progression through a return to play protocol, that generally do not exist to the same degree in all other competitions. For the avoidance of doubt, in the event that a contracted SSN Athlete sustains a concussion outside of the Origin Australian Diamonds or SSN environment, the NA Policy for National Programs and SSN will continue to apply where the Athlete has access to the Advanced Care Settings.

Please see the NA Policy for National Programs and SSN for further information.

³ As defined by the AIS Position Statement, see page 35.















¹ Patricios JS, Schneider KJ, Dvorak J, et al. Br J Sports Med 2023;57:695–711 697.

² AIS guidelines for Youth & Community Sport, p 3.

C. OTHER RELATED POLICIES AND DOCUMENTS

The following NA policies and documents also apply to the application of this Policy:

a) NA Policy for the Management of SRC - National Programs and Suncorp Super Netball.

D. SCOPE

These Guidelines apply to all netball programs and competitions conducted under the auspices of Netball Australia, the SSN Clubs and Member Organisations, other than the Origin Australian Diamonds and Suncorp Super Netball.

Accordingly, these Guidelines apply to:

- a) SN Reserves, including pre-season matches and training programs;
- b) ANC, including pre-season matches and training programs;
- c) NNC, including pre-season matches and training programs;
- d) competition or tournament played by a MO team, SSN Club team or invitational representative Australian team against a touring international team in Australia that is sanctioned and/or controlled by NA;
- e) each of the State League/Premier League (or equivalent and their successor competitions) of each of the Member Organisations,

and any other regional, association and club netball competitions affiliated with a Member Organisation. For the avoidance of doubt, in the event that a contracted SSN Athlete sustains a concussion outside of the Origin Australian Diamonds or SSN environment, the NA Policy for National Programs and SSN will continue to apply where the Athlete has access to the Advanced Care Settings.

1. What is Sport Related Concussion?

Concussion is an injury to the brain caused by impact to the head or the body where force is transmitted to the head.

More severe injuries may result in structural injury, but most often the acute clinical signs and symptoms reflect a disturbance in brain function and, as such, no abnormality is seen on standard neuroimaging studies such as Computerised Tomography (CT) or Magnetic Resonance Imaging (MRI).

SRC results in a range of reported symptoms and observable signs that may or may not involve loss of consciousness.

Symptoms and signs of SRC may present immediately, or evolve over minutes or hours, and commonly resolve within days, but may be prolonged in some individuals. Any player suspected of sustaining a concussion must be monitored for worsening effects and be assessed by a medical practitioner as soon as possible after injury.

2. What are the Potential Complications of Concussion

Concussion is an injury to the brain caused by impact to the head or the body where the potential complications associated with sustaining a concussion include:

- 1. Increased risk of further concussion or other injuries on return to play;
- 2. Persisting symptoms (> than 4 weeks);













- 3. Severe brain swelling which may be a rare complication of head trauma in younger player. One of the risk factors is thought to be a second concussion before the player has fully recovered from the previous concussion;
- 4. Symptoms of mood disturbance such as depression or anxiety; and
- 5. Long-term effects on brain health.

These potential complications are thought to be increased if a player returns to sport prior to fully recovering from their concussion.

3. Concussion Management

All concussions require a cautious and conservative approach and any player suspected of sustaining a concussion should be removed from play and further assessed.

All members of the support team including primary carer, coaches, managers, parents/guardians, have a role in recognising and managing concussion.

The most important components of initial management are:

- Recognising a suspected concussion;
- Removing the player from play; and
- Referring the player to a medical practitioner for assessment.

Concussion should be expected when there is a possible mechanism of injury that is directly observed or report or the player shows visual signs or reports symptoms of concussion.

Primary carers (including parents/guardians) should adopt first aid principles in the management of any player with a suspected concussion - including first aid principles for protection of the cervical spine.

Primary carers (including parents/guardians) should monitor for any serious injuries or signs (such as neck pain, increased confusion, agitation or irritability, repeated vomiting, seizure, weakness or tingling/burning in the arms or legs, reduced level of consciousness, severe or increasing headache, or unusual behaviour) and if observed, seek urgent medical attention.

<u>Non-medical assessment tool:</u> The Concussion Recognition Tool 6 (*CRT6*) is recommended to help *non-HCP practitioners* recognise the symptoms and signs of concussion. The 20 symptoms listed in the CRT6 are:

Headache Sensitivity to light Nervous or anxious 'Pressure in head' Sensitivity to noise Neck pain Balance problems Fatigue or low energy Difficulty concentrating 'Don't feel right' Difficulty remembering Nausea or vomiting **Drowsiness** More emotional Feeling slowed down Dizziness More irritable Feeling 'like in a fog'

Blurred vision Sadness

The diagnosis of concussion should be based on a clinical history and examination and testing of a range of domains including mechanism of injury, symptoms and signs, cognitive functioning and neurology, including balance assessment by a HCP.

It is important to note that a brief sideline assessment is not designed to replace a comprehensive medical assessment and therefore, any individual with suspected concussion should be reviewed by a HCP at the earliest opportunity and should commence a graded return to sport and learning activities.

Any player who has suffered a concussion or a suspected concussion must not be allowed to return to play in the same match or training session.













Medical Assessment Tools:

ADULTS (INCLUDING ADOLESCENTS AGED 13 - 18 YEARS): SCAT6 is the internationally recommended concussion assessment tool for HCP and covers the above-mentioned assessments. The SCAT6 should not be used in isolation to diagnose, but as part a multimodal clinical assessment.

CHILDREN AGED 5 TO 12 YEARS: Child SCAT6 has been developed for use by HCP in children aged 5 to 12 years old to accommodate for physical, cognitive and language development.

For all ability netball players, the SCAT6 and other guidelines should include modifications for use with athletes with disability. Currently, internationally recognised concussion assessment tools specific to para-athlete populations do not exist and clinicians have highly variable methods for recognition and management of concussions. HCPs should be referred to the AIS Position Statement for further guidance.

A link to these tools is in Useful Link/Resources section below.

Concussion is a condition that evolves. Players suspected of, or diagnosed with, concussion require close monitoring and repeated assessment. They should not be left alone in the first 3 hours after injury. If symptoms worsen after injury, turgent medical attention should be sought.

The AIS Concussion Referral & Return Form provides important information to a HCP following the suspected concussion of a player, including details of the return to sport protocols, and the requirements for clearance for return to contact activities.

Figure 1 of the AIS Guidelines for Youth & Community Sport (below) supports non-HCP (i.e. parents, coaches, teachers, other players, support staff) at sporting events where there is a suspicion of concussion. For further information, see the AIS Guidelines for Youth & Community Sport.

For SN Reserves, Australian Netball Championships and National Netball Championships, the Game Day Management Protocols apply (see Appendices 1 – 2 of these Guidelines).















NON-HEALTHCARE PRACTITIONER ON FIELD CONCUSSION RECOGNITION DECISION TREE





Athlete with suspected concussion

On field signs of concussion:

- Loss of consciousness
- Lying motionless, slow to get up
- Seizure and tonic posturing
- Confusion, disorientation
- Memory impairment

ON FIELD

SIDELINE

- Balance disturbance/motor incoordination
- Nausea or vomiting

- Headache or 'pressure in the head'
- Visual or hearing disturbance
- Dazed, blank/vacant stare
- Behaviour or emotional changes, not themselves
- Falling unprotected to the playing surface
- Facial injury

*refer to CRT6

Immediate removal from sport with no return on that day Take normal first aid precautions including neck protection

RED FLAGS

- Neck pain
- Increasing confusion, agitation or irritability
- Repeated vomiting
- Seizure or convulsion
- Weakness or tingling/burning in the arms or legs
- Deteriorating conscious state
- Severe or increasing headache
- Unusual behavioural change
- Loss of vision or double vision
- Visible deformity of the skull
- Loss of consciousness

*refer to CRT6

NO

Immediate referral to emergency department

YES

ATHLETES SHOULD NOT:

Be left alone initially (at least for 3hrs). Worsening symptoms should lead to immediate medical attention

Refer to healthcare practitioner

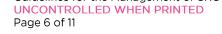
as soon as practical

- Be sent home by themselves. They need to be with a responsible adult
- Drink alcohol, use recreational drugs or drugs not prescribed by their healthcare practitioner
- Drive a motor vehicle until cleared to do so by a healthcare practitioner

























4. Graded Return to Play Framework

The important stages for a graded return to play following concussion, include:

- 1. A brief period of relative rest for 24-48 hours;
- 2. A period of recovery;
- 3. A graded loading program (with medical clearance required before full contact training); and
- 4. Unrestricted return to play.

The AIS Guidelines for Youth and Community Sport provide information on the graded return to sport for community and youth, including:

- 1. Commencement of light aerobic activity after an initial period of relative rest
- 2. Checkpoints throughout progression to return to play.
- 3. Gradual reintroduction of learning and work activities. Cognitive stimulation (use of screens, reading, learning activities) should be gradually introduced after 48 hours.
- 4. At least 14 days symptom free (at rest) before return to contact/collision training. The temporary exacerbation of mild symptoms with exercise is acceptable, as long as the symptoms quickly resolve at the completion of exercise, and as long as the exercise-related symptoms have completely resolved before resumption of contact training. This is 14 days from when the athlete becomes symptom free and not 14 days from the time of concussion.
- 5. A minimum period of 21 days until the resumption of competitive contact/collision sport (including 14 days symptom free).
- 6. Consideration of all symptom domains (physical, cognitive, emotional, fatigue, sleep) throughout the recovery process.
- 7. Return to learn and work activities should take priority over return to sport.
- 8. Return to full contact training and competition to be permitted by a HCP.

Children and adolescents take longer to recover from concussion than adults. A more conservative approach should be taken with those aged under 19 years of age.

Figure 3 of the AIS Guidelines for Youth & Community Sport (below) provides a graded return to sport framework for community and youth sport. Examples of return to sport timeframes are also detailed in the AIS Guidelines for Youth & Community Sport.

Any player with a history of multiple concussions may be at risk of experiencing prolonged symptoms before return to sport. The AIS Guidelines for Youth & Community Sport provide specific advice for those players who suffer from multiple concussions within a short period of time as these players should be managed more conservatively and be assessed by a clinical management team with specific training and expertise in concussion.















Each stage, highlighted in orange or green below, should be at least 24 hours and symptoms should return to baseline prior to commencing the next activity or stage.



Incident Day = 0

Recognise, remove from play, rest for 24-48 hours. No contact. Avoid training environment temporarily.

Diagnosis of concussion

Resumption of activities of daily living

[Mild temporary symptoms are acceptable]

Light aerobic exercise

Start graded return to school or work [Consider modifying days/hours or environment, e.g. working from home, social exposures with school recess or lunch]

Healthcare practitioner review recommended at day 3-4 to include SCOAT6

Stationary sport-specific skills with minimal head movements

[e.g. partner passing drills from front on only]

Moderate walk or stationary bike

[moderate = breathing heavily, but able to maintain a short conversation]

Introduction of sport-specific skills involving head movements

[e.g. partner passing drills with directional changes, rotations or whilst walking or jogging]

Do any activities bring on or exacerbate symptoms? Y N

Can athlete complete 1-minute of sport-specific skills with head movement without ANY symptoms? Y N

Add resistance training

Increase cardiovascular activities up to 80% HRmax Initiate sport-specific training drills

Increase sport-specific training drills, up to 90% HRmax

Return to full capacity of school or work

Up to 90% HRmax
Up to 90% of full training
[NO CONTACT OR HIGH-RISK ACTIVITY]

CHECKPOINT

When symptom-free for at least 14 days

Have you remained concussion symptom-free? Y N Is skill-level below what is expected? N Y

Do you get symptoms during or after activity? N Y

Do you simply "not feel right"? N Y

Healthcare practitioner review for clearance to return to contact and high risk activities

Return to full contact training

Return to competition simulation

Return to competition

Not before day 21 post concussion AND must have remained symptom free for at least 14 days

Some high-performance athletes may have access to appropriately trained Healthcare Practitioners experienced in multi system concussion rehabilitation. These athletes may be cleared earlier if their sports concussion protocol allows. Refer to the graded return to sport framework for advanced care settings. Note, athletes aged under 19 years should NOT have access to earlier clearance available in advanced care settings.

* Please note that athletes cannot go directly from non-contact activities to return to competition. That is, they must complete some full contact training, to the satisfaction of the health care practitioner, before returning to competitive contact.

Persistent symptoms or deterioration of symptoms at any stage REFER TO CLINICAL MANAGEMENT TEAM FOR REVIEW





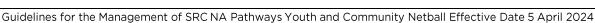












UNCONTROLLED WHEN PRINTED

NO CONTACT OR HIGH-RISK ACTIVITIES

5. Useful links, resources and References

General Resources

Concussion in Australian Sport | Concussion in Australian Sport (concussioninsport.gov.au)

Patricios JS, Schneider KJ, Dvorak J, et al. Br J Sports Med 2023;57:695–711. Consensus statement on concussion in sport: the 6th International Conference on Concussion in Sport-Amsterdam, October 2022 (bmj.com)

Concussion Assessment Tools

Concussion Recognition Tool 6 (CRT6) (For use by non-healthcare practitioners) The Concussion Recognition Tool 6 (CRT6) (bmj.com)

Pocket Recognition Tool 267.full.pdf (bmj.com)

SCAT6 Adult - Sport Concussion Assessment Tool (For use by healthcare practitioners) Sport Concussion Assessment Tool 6 (SCAT6) | British Journal of Sports Medicine (bmj.com)

SCOAT6 Adult- Sport Concussion Assessment Tool (For use by healthcare practitioners) Sport Concussion Office Assessment Tool 6 (SCOAT6) | British Journal of Sports Medicine (bmj.com)

SCAT6 Child- Sport Concussion Assessment Tool (For use by healthcare practitioners) Child SCAT6 | British Journal of Sports Medicine (bmi.com)

Forms

AIS Concussion Referral & Return Form

Courses

Sport-Related Concussion Short Course - Connectivity

Other resources

Davis GA, Purcell LK. The evaluation and management of acute concussion differs in young children. Br J Sports Med 2014;48:98-101.

Echemendia RJ, Burma JS, Bruce JM et al. Acute evaluation of sport-related concussion and implications for the Sport Concussion Assessment Tool (SCAT6) for adults, adolescent and children: a systematic review. Br J Sports Med 2023;57:722-735.

Makdissi M, Davis G, Jordan B, Patricios J, Purcell L, Putukian M. Revisiting the modifiers: how should the evaluation and management of acute concussions differ in specific groups? Br J Sports Med 2013;47:314-20.

6. Policy Review

This Guideline will be reviewed annually or as directed by the NA CMO.

END

















VERSION HISTORY

Reference Number:	MED002
Guideline:	Guidelines for the Management of SRC Concussion in
	Netball NA Pathways, Youth and Community Netball
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	Concussion Guidelines NNC and ANC









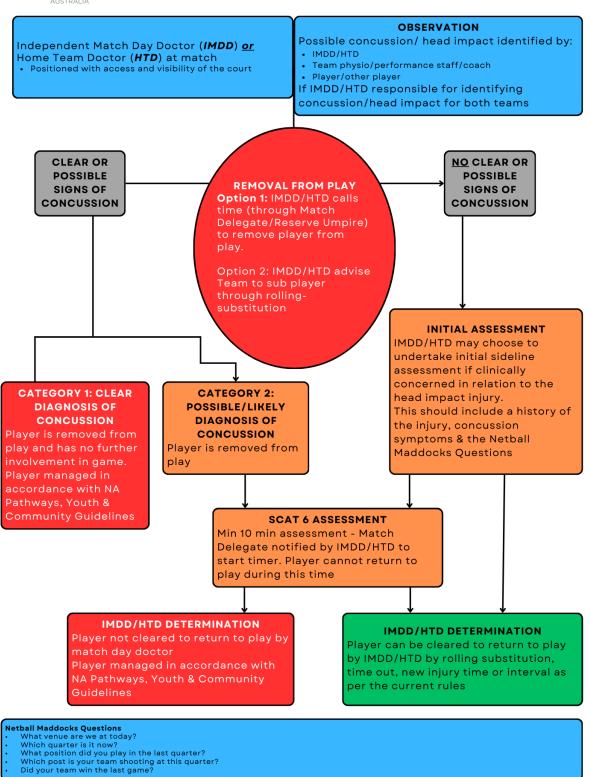




Appendix 1: SN Reserves Game Day Management Protocol



2024 SN Reserves Game Day Management Protocol





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Appendix 2: ANC and NNC Game Day Management Protocol



2024 ANC and NNC Game Day Management **Protocol**

NA Event Doctor (**ED**)

- Coverage of tournament, and must be notified of any head impacts by TP
- Team Physiotherapist (**TP**)
- Positioned with access and visibility of the court,

OBSERVATION

Possible concussion/ head impact identified by:

- Team physio/performance staff/coach
- Player/other player

SIGNS OF CONCUSSION, WHETHER THERE ARE CLEAR/POSSIBLE SIGNS OR NO CLEAR OR POSSIBLE SIGNS OF CONCUSSION

Primary carers should be conservative with head impact injuries

REMOVAL FROM PLAY

Option 1: TP calls time (through Match Delegate/Reserve Umpire) to remove player from

Option 2: TP advise Coach to sub player through rolling-substitution.

CATEGORY 1: CLEAR DIAGNOSIS OF CONCUSSION

Player is removed from play and has no further involvement in game. Player managed in accordance with NA Pathways, Youth & Community Guidelines

CATEGORY 2: POSSIBLE/LIKELY **DIAGNOSIS OF** CONCUSSION

Player is removed from

TP INITIAL ASSESSMENT

TP seek initial sideline assessment if clinically concerned in relation to the head impact injury. This should include a history of the injury, concussion symptoms & the Netball Maddocks Questions. TP should refer to ED any cases requiring further clinical assessment

SCAT 6 ASSESSMENT

Min 10 min assessment by ED. Player cannot return to play during this time

ED DETERMINATION

Player not cleared to return to play by ED. Player managed in accordance with NA Pathways, Youth & Community Guidelines

ED DETERMINATION

Player can be cleared to return to play by ED, by rolling substitution, time out, new injury time or interval as per the current rules

Netball Maddocks Ouestions

- iball Maddocks Questions
 What venue are we at today?
 Which quarter is it now?
 What position did you play in the last quarter?
 Which post is your team shooting at this quarter?
 Did your team win the last game?

















