Community Rugby League Policy and Guidelines for the Management of Concussion.

TYPE OF POLICY	Participation
EFFECTIVE DATE	1 November 2023
POLICY OWNER	Australian Rugby League Commission
POLICY CONTACT	General Manager of Game Development, Education and Training

A. REASON FOR POLICY

This policy and guidelines have been developed based on the Consensus Statement produced from the 6th International Conference on Concussion in Sport and considers the Australian Institute of Sport Concussion and Brain Health and Position Statement 2023 to ensure that First Responders, Medical Practitioners, Coaches and Parents have an awareness of how to appropriately manage concussion in Rugby League.

B. POLICY STATEMENT

These guidelines provide First Responders and Medical Practitioners an awareness in recognising the signs and symptoms of concussion, the appropriate management of a suspected concussion and the return to learn (RTL) and return to sport (RTS) strategies once a concussion has been diagnosed.

C. SCOPE

This policy is applicable to District, Division, Group or Leagues that participate in all formats of Rugby League under the Community On-field Policy.

D. DEFINTIONS

COMMUNITY LEVEL	All Rugby League competitions not defined as Pathways or Elite Level by the NRL or relevant State Leagues
FIRST RESPONDER	Person responsible for administering first aid and/or offer advice to an injured or ill player during a match.
SPORTS RELATED CONCUSSION (SRC)	Sport-related concussion 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.

Community Rugby League Policy and Guidelines for the Management of Concussion.

ADULT	Any player who is 19 years of age or older.
CHILD OR ADOLESCENT	Any player who is 18 years of age or younger.

1.0. INTRODUCTION

This policy and guidelines are based on the Consensus Statement produced following the 6th International Conference on Concussion in Sport held in Amsterdam in October 2022. The guidelines in this policy should be followed at all times and any decision regarding return to play after concussive injuries should only be made by a doctor, ideally one with experience in dealing with such injuries.

2.0. BACKGROUND

When considering the management of concussion, the welfare of the player - both in the short and long term - must always remain paramount.

Since 2001, there have been six international conferences addressing the key issues in the understanding and management of concussion. After each meeting, a summary has been published to improve the safety and health of athletes who suffer concussive injuries during participation in sport. The most recently published conference was held in Amsterdam in October 2022. The summary from the Amsterdam meeting provides consensus guidelines for current best practice management of concussion. The NRL's current guidelines for the management of concussion are based on the Amsterdam conference Consensus Statement and considers the Australian Institute of Sport's Concussion and Brain Health Position Statement 2023.

3.0. SUMMARY

The most important element in the management of concussion must always be the welfare of the player. All players with concussion, or suspected of having a concussion, should seek urgent medical assessment.

Sport-related concussion 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. Symptoms and signs may present immediately, or evolve over minutes or hours, and commonly resolve within days, but may be prolonged (Patricios et. al. 2023).

Complications can occur if a player continues playing before they have fully recovered from a concussion. Therefore, a player who is suspected of having a concussion must be taken out of the game or training session immediately. A player who has suffered a suspected concussion or exhibits

the symptoms of concussion should not return to play in the same game or training session or any game/training session until medically cleared by a doctor, even if they appear to have recovered.

The management of head injuries may be difficult for non-medical personnel. It may be unclear whether you are dealing with a concussion, or there is a more severe structural head injury, especially in the early phases of an injury. Concussion is considered a medical condition and therefore can only be assessed, diagnosed, and managed by an appropriately qualified doctor.

- In the period following a concussion, a player should not be allowed to return to play or train until they have had a formal medical clearance using the NRL Head Injury/Concussion Medical Clearance form by a doctor. N.B. this is the only form in Rugby League that will be accepted as medical clearance to return to play.
- A RTS (Return to Sport) Strategy (Table 1) should be followed to manage the return to training and/or play following a diagnosed concussion. Children and adolescents generally take longer to recover from a concussion and additional time (there is limited research determining how much additional time is required, however it is recommended a minimum of at least double the time period required for adults) should be allowed in developing a RTS Strategy for a child or adolescent.
- For children and adolescents, an RTL (Return to Learn) Strategy may be required. If symptom exacerbation occurs during cognitive activity or screentime, difficulties with reading or other aspects of learning are reported, clinicians should consider the implementation of an RTL Strategy. RTL and RTS Strategies can be completed in parallel, however student athletes should complete full Return to Learn before unrestricted Return to Sport.
- Unrestricted Return to Sport can only occur once a player has been cleared using the NRL Head Injury/Concussion Medical Clearance Form.
- A child or adolescent is defined as a person aged 18 years and younger, an adult is defined as a person who has attained the age of 19 years and above.
- Player's suspected of having a concussion must not be allowed to drive, operate machinery, drink alcohol, take anti-inflammatory medication (including aspirin and Ibuprofen), or use strong painkillers, such as those containing codeine, or sleeping tablets until they have been medically cleared to do so by a doctor.
- The best available evidence shows that recommending strict rest until the complete resolution of concussion-related symptoms is not beneficial following a Sport Related Concussion (SRC). Relative (not strict) rest, which includes activities of daily living and reduced screen time, is indicated immediately and for up to the first 2 days after injury. Individuals can return to light-intensity physical activity (PA), such as walking that does not more than mildly exacerbate symptoms, during the initial 24–48 hours following a concussion.

4.0. WHAT IS CONCUSSION?

Sport-related concussion 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 (Patricios et. al. 2023).

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 (Patricios et. al. 2023).

Symptoms include but are not limited to headache, blurred vision, dizziness, nausea, poor balance, fatigue and feeling "not quite right". A concussed player may also exhibit confusion, memory loss and reduced ability to think clearly and process information. Loss of consciousness is not common and occurs in less than 10% of cases of concussion. **A player does not have to lose consciousness to have concussion.**

It remains unclear whether concussion involves microscopic structural changes or whether it is limited to physiological changes. The changes that occur are currently believed to be temporary and usually recover spontaneously if managed correctly. The recovery period and process vary from person to person and injury to injury.

5.0. WHAT ARE THE POTENTIAL COMPLICATIONS FOLLOWING CONCUSSION?

The complications which can possibly occur following a concussion include:

- Increased risk of other musculoskeletal injury (possibly due to an increase in reaction time) or repeated concussion (with the second injury often much more severe than the first);
- Prolonged symptoms;
- Symptoms of depression, anxiety and other psychological problems;
- Severe brain swelling (especially in young players); and
- Potential long-term cognitive deficits and a deterioration in brain health, however this is not currently definitively proven but currently the topic of continued research.

Complications are not common, however, the risk of complications from a concussion are increased by allowing the player to return to play or unrestricted training before they have completed the RTS Strategy as outlined below. It is therefore essential to recognise a suspected concussion, remove the player from the game or training, confirm the diagnosis with a doctor, and keep the player out of training and competition until the player has been cleared by a medical professional using the NRL Head Injury/Concussion Medical Clearance Form.

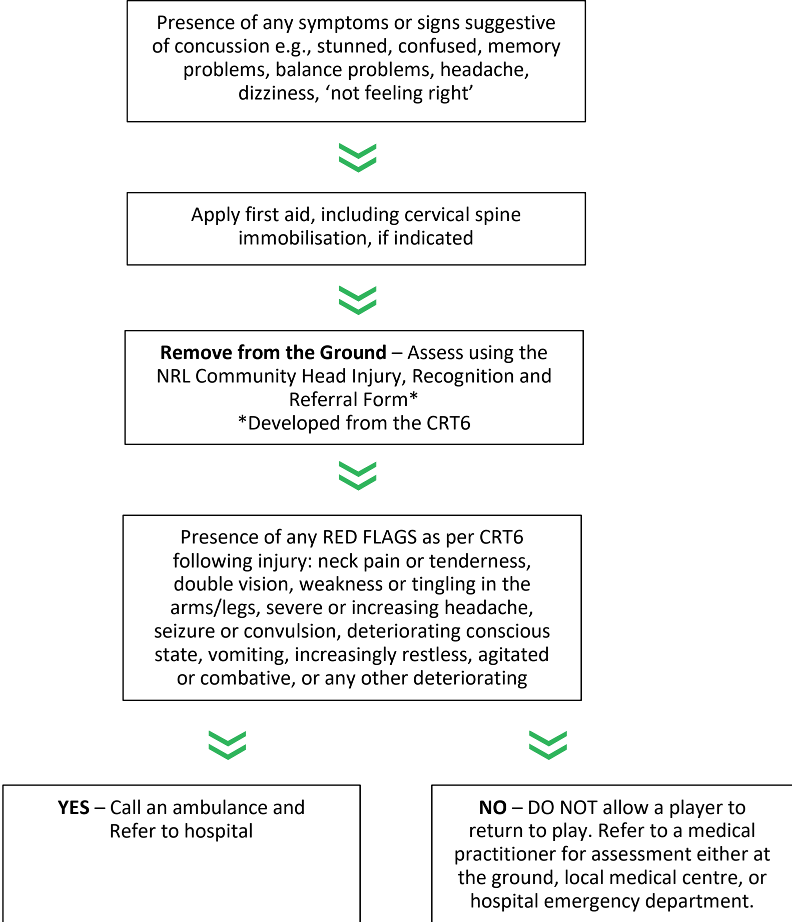
6.0. CHILDREN AND ADOLESCENTS

A child or adolescence is defined as a person aged 18 years and younger, an adult is defined as a person who has attained the age of 19 years and above.

The same principles regarding recognition, detection, management and return to sport apply to children and adolescents, however, it is widely accepted that children and adolescents with concussion should be managed **more conservatively**. This includes longer initial rest and slower return to train and play programs, usually twice as long as the recommended for adults.

Community Rugby League Policy and Guidelines for the Management of Concussion.

7.0. STEPS IN THE MANAGEMENT OF CONCUSSION



NOTE: For any player with a loss of consciousness, basic first aid principles should be applied i.e., **D**anger, **R**esponse, **S**end for help, **A**irway, **B**reathing, **C**PR, and **D**efibrillation (**DRSABCD**).

Care must always be taken with the player's neck, as it may have also been injured in the collision. An ambulance should be called, and the player(s) transported to hospital for assessment and management.

8.0. GAME DAY MANAGEMENT

The most important steps in the early management of a suspected concussion include:

A. Recognising the injury;
B. Removing the player from the game or training; and
C. Referring the player to a medical practitioner (doctor) for assessment.

A. Recognising the injury – (suspecting concussion)
(i) Visible clues - when to suspect concussion:

- Loss of consciousness or non-responsive
- Lying on the ground - not moving, or slow to stand
- Unsteady on feet / balance problems / poor coordination
- Grabbing / clutching at head
- Dazed, blank or vacant look
- Confused / not aware of plays or events

(ii) Loss of consciousness, confusion and disturbance of memory are classical features of concussion, but it is important to remember that they are not present in every case.

(iii) There are several non-specific symptoms that may be present, and which should raise the suspicion of concussion: headache, blurred vision, balance problems, nausea, dizziness, feeling "dazed" or "lightheaded", "don't feel right", drowsiness, fatigue and difficulty concentrating.

(iv) Head Injury Recognition & Referral Form (HIRRF)* is required to record the signs and symptoms of a suspected concussion. Tools such as the pocket Concussion Recognition Tool 6 (CRT6) (link below) can be used to assist in the identification of a suspected concussion.

HIRRF - https://www.playrugbyleague.com/concussion
CRT6 - https://bjsm.bmj.com/content/bjsports/57/11/692.full.pdf

*The online HIRRF housed in the NRL's MySideline platform MUST be used.

** Note: The SCAT6 and Child SCAT6 are additional tools available for appropriately qualified medical practitioners (doctors) only.

B. Removing the player from the activity including training, warm-up or game.
(i) Initial management of a head injury or suspected concussion must always follow first aid rules, including airway, breathing, CPR and spinal immobilisation. (ii) **Any player who is removed from the Activity with a suspected concussion must be referred to a doctor for assessment with their Head Injury Recognition & Referral Form as soon as possible (preferably the same day).**

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(iii) A player who has suffered a suspected concussion or exhibits the symptoms of concussion should not return to play in the same game or training (or any game or training) until medically cleared to play by a doctor even if they appear to have recovered.
The assessor should not be swayed by the opinion of the player, coaching staff, parents, or anyone else suggesting premature return to play. Concussion is an evolving condition and symptoms, and signs can vary over minutes to hours and days. The incident must be recorded in the online HIRRF through the MySideline platform.

C. Referring the player to a medical practitioner for assessment.
(i) The management of a head injury is difficult for non-medical personnel. Following an injury, it is often unclear if you are dealing with a concussion or with a more severe underlying structural head injury.

(ii) **ALL players with a suspected concussion should seek medical assessment by a medical practitioner (doctor) as soon as possible even if the signs and symptoms resolve. If any Red Flags are present (refer to the HIRRF or CRT6) or if you have any other concerns the individual should be sent urgently to an Emergency Department (ED), preferably by ambulance. An urgent General Practitioner (GP) assessment is acceptable if an ED is not practically possible for concerns other than the CRT6 Red Flags.**

(iii) It is recommended that Clubs and First Responders prepare a pre-game checklist of the appropriate services that may be required to manage a significant head injury or suspected concussion, including:

- local doctors or medical centres;
- local Hospital Emergency Departments; and
- ambulance services (000).

Management of an unconscious player

1. First Aid principles of DRSABCD should be used. It is extremely important to treat all unconscious players as though they also have a neck injury (Spinal Immobilisation).
2. An unconscious player should only be moved (onto a stretcher) by qualified health professionals, trained in spinal immobilisation techniques in accordance with the NRL Neck Injury and Cervical Collar Policy. If no qualified person is present, **do not move the player** - wait for the ambulance and paramedics.
3. Urgent hospital referral is necessary if there is concern regarding the risk of a serious or structural head or neck injury --- **call 000**.
4. Any player with ANY of the following 10 RED FLAGS as outlined in the Concussion Recognition Tool 6 (CRT6) in the context of a possible head injury should be referred to a hospital urgently, via Ambulance ---**call 000**:
   - Loss of consciousness

- Seizures / fits or convulsions
- Severe or increasing headache
- Double vision
- Vomiting
- Deterioration of conscious state after being injured, e.g. increased drowsiness
- Report of neck pain / tenderness
- Burning, numbness, tingling or weakness in arms/legs. (potential spinal cord symptoms)
- Visible deformity of the skull
- Increasingly restless, agitated, or combative

5. The NRL online Head Injury Recognition & Referral Form must be used.

If, at any time, there is any doubt, the player should be immediately referred to hospital.

9.0. PLAYER HONESTY

Player honesty is important when questioning about symptoms. Remember that playing or training with symptoms of concussion can increase the risk of injury, result in concussion complications and prolonged symptoms, result in reduced performance, increase the risk of other injuries (musculoskeletal) and could potentially be catastrophic. Each case of concussion is unique, so management should be individualised by the treating doctor.

10.0. RETURN TO SPORT TIMEFRAMES

Any player who is diagnosed with a concussion cannot return within the timeframes outlined below:

- **Adults (19 years and over):** Eleven (11) days. The earliest a player can be made available for team selection is on the 11th day after sustaining a concussion and only after all symptoms have resolved and the player has been cleared to play by a medical professional.

- **Children and Adolescents (18 years and younger):** Nineteen (19) days. The earliest a player can be made available for team selection is on the 19th day after sustaining a concussion and only after all symptoms have resolved and the player has been cleared to play by a medical professional.

All players must complete a 6 stage RTS program prior to returning to contact training or competition games. Children and adolescents must also return to learn/school symptom free.

While players cannot return within these timeframes, the duration of exclusion from contact training and play is based on an individual's recovery and RTS Strategy as managed by a medical practitioner (doctor).

· A player who has sustained a concussion MUST NOT be allowed to return to contact training or competition games before obtaining the appropriate medical clearance using the NRL Head Injury/Concussion Medical Clearance form completed by the treating doctor.
· Return to work, learning and school should take precedence over return to sport.
· In cases of uncertainty about the player's recovery, always adopt a more conservative approach, "if in doubt sit them out".

11.0. RETURN TO SPORT

- Players should not attempt to return to play until they have returned to work or school/learning without resolution of their symptoms.
- Return to training or sport should be gradual.
- Rehabilitation after a concussion should be supervised by a medical practitioner and should follow the stepwise symptom limited progression as outlined in Table 1 below.
- Initially, relative rest for the first 24 to 48 hours – including mental and physical rest (recovery). Children and adolescents should be treated more conservatively, so a minimum initial 48 hour rest is recommended.
- Reduced screen time use in the first 48 hours after injury is warranted.
- A 6 stage Return to Sport (RTS) Strategy should look like the following in Table 1 below. Players may begin Step 1 (symptom limited activity) of the Return to Sport Strategy after an initial rest period of 24 hours for adults and 48 hours for children and adolescents.
- Relative rest which includes activities of daily living and reduced screen time is indicated immediately and for up to the first 2 days after injury.
- Players can return to light intensity physical activity such as walking that does not more than mildly exacerbate symptoms during the initial 24-48 hours following a concussion.

For adults, each stage in the RTS Strategy should be a minimum of 24 hours' duration, meaning a period of 7 to 8 days is the minimum time frame that an adult could potentially be cleared to return to unrestricted training. This does not mean return to play, as an adult cannot RTS until the 11th day after sustaining a concussion.

For children and adolescents, each stage in the RTS Strategy should be a minimum of 48 hours' duration, meaning a period of 14 to 16 days is the minimum time frame that a child or adolescent could potentially be cleared to return to unrestricted training. This does not mean return to play, as a child or adolescent cannot RTS until the 19th day after sustaining a concussion.

Longer return to sport timeframes are recommended in community sport settings. Contact training should only be attempted after the completion of Step 4 of the RTS strategy and only after a final

doctors' assessment and clearance using NRL Community Head Injury/Concussion Medical Clearance Form.

A typical Return to Sport Strategy is outlined in Table 1 below.

Table 1 Return to Sport (RTS) Strategy – each step typically takes a minimum of 24 hours for adults and 48 hours for children and adolescents

Step	Exercise Strategy	Activity at each step	Goal
1	Symptom-limited activity	Daily activities that do not exacerbate symptoms (eg, walking)	Gradual reintroduction or work/school
2	Aerobic exercise **2A – Light** (up to approx. 55% maxHR) **then** **2B – Moderate** (up to approx. 70% maxHR	Stationary cycling or walking at slow to medium pace. May start light resistance training that does not result in more than mild and grief exacerbation* of concussion symptoms	Increase heart rate
3	Individual sport-specific exercise Note: If sport-specific training involves any risk of inadvertent head impact, medical clearance should occur prior to Step 3	Sport-specific training away from the team environment (eg, running, change of direction, and/or individual training drills away from the team environment). No activities at risk of head impact.	Add movement, change of direction
Steps 4-6 should begin after the resolution of any symptoms, abnormalities in cognitive function and any other clinical finding related to the current concussion, including with and after physical exertion.			
4	Non-contact training drills	Exercise to high intensity including more challenging training drills (eg, passing drills, multiplayer training) can integrate into a team environment.	Resume usual intensity of exercise, coordination and increased thinking.
NRL Head Injury/Concussion Clearance Form MUST be completed prior to progressing to Step 5			
5	Full contact practice	Participate in normal training activities	Restore confidence and assess functional skills by coaching staff
6	Return to sport	Normal game play	
*Mild and brief exacerbation of symptoms (ie, an increase of no more than 2 points on a 0-10 point scale for less than an hour when compared to baseline value reported prior to physical activity). Athletes may begin Step 1 (ie, symptom-limited activity) within 24 hours of injury, with progression through each subsequent step typically taking a minimum of 24 hours. If more than mild exacerbation of symptoms (ie, more than 2 points on a 0–10 scale) occurs during Steps 1–3, the athlete should stop and attempt to exercise the next day. Athletes experiencing concussion-related symptoms during Steps 4–6 should return to Step 3 to establish full resolution of symptoms with exertion before engaging in at-risk activities. Written determination of readiness to RTS should be provided by an HCP before unrestricted RTS as directed by local laws and/or sporting regulations. HCP, healthcare professional; maxHR, predicted maximal heart rate according to age (ie, 220-age).			

12.0. RETURN TO LEARN

Concussion in children and adolescents can cause problems with memory and processing of information, which interferes with their ability to learn in the classroom. In this instance a RTL Strategy may be required. If symptom exacerbation occurs during cognitive activity or screentime, difficulties with reading or other aspects of learning are reported, clinicians should consider the implementation of the RTL Strategy at the time of diagnosis and during the recovery process. When the RTL Strategy is implemented, it can begin following an initial period of relative rest with an incremental increase in cognitive load as per Table 2. While the RTL and RTS Strategies can occur in parallel, full RTL should be completed prior to unrestricted RTS.

Table 2 Return to Learn (RTL) Strategy

Step	Mental activity	Activity at each step	Goal
1	Daily activities that do not result in more that mild exacerbation* of symptoms related to the current concussion	Typical activities during the day (eg, reading) while minimising screen time. Start with 5–15 min at a time and increase gradually	Gradual return to typical activities
2	School activities	Homework, reading or other cognitive activities outside of the classroom.	Increase tolerance to cognitive work
3	Return to school part time	Gradual introduction of schoolwork. May need to start with a partial school day or with greater access to rest breaks during the day.	Increase academic activities
4	Return to school full time	Gradually progress in school activities until a full day can be tolerated without more than mild* symptom exacerbation.	Return to full academic activities and catch up on missed work

Following an initial period of relative rest (48 hours following an injury at Step 1), athletes can begin a gradual and incremental increase in their cognitive load. Progression through the strategy for students should be slowed when there is more than a mild and brief symptom exacerbation.

*Mild and brief exacerbation of symptoms is defined as an increase of no more than 2 points on a 0–10 point scale (with 0 representing no symptoms and 10 the worst symptoms imaginable) for less than an hour when compared with the baseline value reported prior to cognitive activity.

13.0. MULTIPLE AND CONCERNING CONCUSSIONS

When a player:

(i). Has sustained two (2) diagnosed concussions within the one (1) season (including preseason training and games), has persistent concussion symptoms (>28 days) or an unusual presentation; or

(ii). Over time (not just within the one (1) season):

- Is developing concussion symptoms with less force; or
- Is experiencing progressively increasing length of concussion symptoms; or
- Has an increasing symptom load (a greater number of concussion symptoms); or
- Has a decreasing time period between concussive / possible concussive events; or
- Has significant mental health issues (e.g., anxiety, depression) potentially related to head injuries, then,

The NRL requires that the player be formally sent for assessment with a specialist (Neurologist, Neurosurgeon or Sport and Exercise Physician) who has a recognised interest in sport related concussion management as part of a multi-disciplinary team approach. The assessment should also include formal neuropsychological testing if recommended by the Concussion Specialist providing the opinion. This should occur to ensure the player has fully recovered from their concussions, to assess the risks of further concussions and to determine whether the player is currently fit to participate in training and/or matches. A copy of the Concussion specialist's opinion should also be made available to the appropriate governing body on request.

14.0. RETIREMENT

Decisions regarding retirement or discontinuation from contact or collision sports are complex and multifaceted and should involve clinicians with expertise in traumatic brain injury and sport and preferably a multidisciplinary team. The decision-making process should include a comprehensive clinical evaluation that considers important patient-, injury-, sport-specific and other sociocultural factors.

The discussion should provide athletes with the scientific evidence and uncertainties of their condition balanced against the benefits of participation in sport. It should incorporate the athlete's preferences and risk tolerance as well as psychological readiness to make an informed decision. The discussion should be carefully documented and should use language that is appropriate for the health literacy of the individual to reduce the risk that the information is misinterpreted. For children and adolescents, the parent/guardian should be involved in the discussion. HCPs should make the athlete aware of the role(s) they are playing in the athlete's care, stating clearly if they have any potential or actual conflicts of interest. The shared decision-making process should be individualised and incorporate a comprehensive clinical evaluation that may involve a multidisciplinary team and considers patient-, injury-, sport-specific and other sociocultural factors. These principles also apply to all of those involved in the coaching and management of the athlete. In the child or adolescent

athlete, additional concerns are a successful return to school and to maintain healthy levels of physical activity. This often requires a multidisciplinary process that includes the child/adolescent, parent/caregivers, health care professionals, school leadership and teachers in the discussions. Given the positive benefits of exercise on health, care must be taken to avoid restricting all physical activity. All athletes who ultimately retire from contact or collision sports should be encouraged to continue non-contact or low-contact physical activity and have the health benefits of exercise explained.

In any case where a player has been diagnosed as having suffered a significant head injury, traumatic brain injury or concussive injury, the player will remain unavailable for selection in the MySideline platform and must not participate in any match or engage in training in any form until such time as a properly qualified medical opinion is obtained by the appropriate governing body which supports the conclusion that the Player has fully recovered from the effects of the injury.

Note: the NRL's elite levels of the game have their own policies regarding the management of head injuries and concussion. These policies may vary from some of the principles of the Concussion and Brain Health Position Statement 2023 and these Guidelines when there is appropriately qualified, experienced medical staff overseeing the care and wellbeing of professional rugby league players with advanced care pathways.

References:

Patricios J.S., Schneider K.J., Dvorak J. et al. Consensus statement on concussion in sport: the 6th International Conference on Concussion in Sport Amsterdam, October 2022. *Br J Sports Med.* 2023;57:695-711

Australian Institute of Sport. *Concussion and Brain Health Position Statement 2023.* February 2023.

****Disclaimer:****

The National Rugby League (NRL) reserves the right to update its policies and procedures to align with best practices and evolving regulations. It is the responsibility of all participants, including players, coaches, officials, and stakeholders, to ensure they are familiar with the most current version of the NRL policy. The NRL will make reasonable efforts to communicate any policy changes, but it remains the duty of participants to stay informed about the latest updates.

Last Updated: 1st November 2023