NZRL CONCUSSION/HEAD INJURY POLICY

Applicable Date:	August 2023
Owner:	CEO/HR
Review Date:	Two yearly

Purpose and Scope

The aim of the policy is to provide information on concussions to all those involved in rugby league in New Zealand.

- *Concussions MUST be taken seriously.*
- *All people involved in the game of rugby league should be able to RECOGNISE what a concussion is.*
- *Any player with a concussion must be REMOVED immediately from training or the match activity and MUST NOT return.*
- *All concussions should be medically assessed.*
- *Players with a concussion MUST NOT be left alone and MUST NOT drive a vehicle.*
- *All suspected concussions MUST be recorded and reported via the serious injury report form in Sporty. Please contact your district administrator for further information should you require it.*

THE MINIMUM TOTAL STAND-DOWN PERIOD FOR A PLAYER WHO HAS SUFFERED FROM A CONCUSSION IS 21 DAYS.

NO PLAYERS ARE TO RETURN BEFORE THE MINIMUM STAND-DOWN PERIOD.

ONCE A PLAYER RECEIVES A THIRD CONCUSSION WITHIN ONE SEASON, THEY MUST SIT OUT THE REMAINDER OF THE YEAR AND CANNOT RETURN TO PLAY.

Introduction

It has been estimated that 35,000 head injuries occur in New Zealand every year. Of these, 21% (7,350) occur through sport related activities such as rugby league. The potential for concussions/head injuries to occur in rugby league is fully recognised. As a result of this recognition, due consideration should be undertaken by all who partake, administer or manage rugby league activities in both the training and match environments. The potential for serious and prolonged injuries occurring from concussions emphasis the need for comprehensive medical assessment and follow up of the player until the concussion has fully resolved.

There has long been a perception that a concussion occurs only when there is a loss of consciousness. This perception is incorrect as concussions can occur without loss of consciousness and range in severity from brief periods of confusion through to a significant loss of consciousness. Returning to train / play before the complete resolution of a concussion

exposes the player to recurrent concussions and this may occur with ever decreasing forces. As well, evidence has identified that people with repeat concussions may experience a decline in their general health and quality of life up to 10 years following injury.

What is a Concussion?

A concussion is a mild Traumatic brain Injury (mTBI). Several common features incorporating clinical, biomechanical and pathological injury may be utilized in defining the nature of a concussion. A concussion is a brain injury defined as a "*complex pathophysiological process affecting the brain, induced by traumatic biomechanical forces"*. More simply, a concussion is a brain injury that can occur in any sport, particularly where there is full body contact. Concussion is caused by the impact of a force (a blow) to a part of the body not necessarily to the head directly. Therefore, whenever a sports person has an injury to the head and becomes confused or acts abnormally or they lose consciousness, even for a few seconds, they have been concussed. Associated with the injury to the head is typically a period of amnesia (memory loss).

Concussed athletes are often described as "stunned", "dazed", "star struck", and 'had their bell rung "or" having to shake out the cobwebs". The cause of this amnesia is typically a sudden violent movement of the head due to a collision or a direct or indirect impact, resulting in an acceleration or deceleration of the brain within the skull. The result is damage to the brain. This is almost always slight and recovery from a single injury is the rule. However, in the period healing (usually 2 to 3 weeks), the brain is sensitive and another injury may occasionally result in a serious or even fatal reaction.

In the long term, the damage from further concussions may cumulate enough to impair performance. After the impact, there is usually a period of unresponsiveness or confusion, and amnesia. The memory loss usually spans the time from just before the injury occurred to the moment of injury itself, and a period of time following the injury (post-traumatic amnesia) which may be permanent. The memory loss can extend to include previous days or weeks (retrograde amnesia).

REMEMBER: Serious and sometimes fatal results can follow an injury what at first seems trivial. Approximately 3% of patients, who have had concussion, will have bleeding inside the skull or into the brain (intracranial haemorrhage). The key signs of a haemorrhage include worsening headache, increasing confusion and continued vomiting. If there is any presence of these symptoms the player **MUST** be transferred for further medical care immediately.

Signs and Symptoms of a Concussion

When assessing an injured player on the sports field, it is important that a quick and accurate assessment is made. The ACC Sideline Concussion Check card is a useful tool to assist in the assessment of concussion and provides advice on treatment for this injury. It is the size of a credit card, so fits in your pocket for quick reference. It also has an insert detailing the procedures that should be followed in the two days following a suspected trauma to the brain or concussion. The inserts are also available in Māori, Samoan and Tongan.

If there is any doubt, use the questions in the sideline concussion check of the following questions based on Maddock's questions can be useful:

1. What ground are we at?
2. What team are we playing today?
3. Who is your opponent at present?
4. What quarter/half is it?
5. How far into the quarter/half is it?
6. Which side scored last?
7. Which team did we play last week?
8. Did we win last week?
9. Count pre-determined numbers

Failure to successfully and accurately answer any of the above questions in conjunction with **ANY** signs or symptoms of an acute concussion (see below) indicates that the player has been concussed and must stop playing and be removed from the field. The player should be accompanied from the field and taken to a doctor or the local emergency department for assessment as soon as possible.

It is recommended that the player should then see appropriate medical professional for their opinion as to the best future management. If the player is obviously unconscious, then the first priority is to evaluate and protect the airway and cervical spine, and to then remove the player from the field. The player must be watched closely and carefully monitored until consciousness returns. Convulsions may sometimes occur.

Signs and Symptoms of a Concussion

Concussion presents with a range of signs and/or symptoms. This may or **may not** include loss of consciousness. It is important to remember that not every sign and symptom will be present with every concussion and some may have a delayed onset.

Physical signs (what you may see)

- Loss of consciousness or delayed responsiveness.
- Lying on the ground not moving or slow to get up.
- Loss of balance / co-ordination.
- Disorientation / confusion.
- Visible injury to the face or head (especially in combination with any other signs).
- Seizure or convulsion.
- Vomiting

Clinical signs (what they may feel)

- Blurred vision.
- Neck pain.
- Headache or "pressure" in head.
- Nausea or vomiting.
- Balance problems or dizziness.
- Double or blurry vision.
- Sensitivity to light.
- Sensitivity to noise.

- Concentration or memory problems.
- Feeling sluggish, hazy, foggy or groggy.
- Confusion.
- Does not “feel right.”

Only those personnel trained to carry out a sideline concussion assessment should conduct these. This result of this assessment should accompany the injured player to the Emergency Department / Sports Physician / Players Health professional wherever possible.

Management of a Concussed Player

The most important steps in the early identification of a concussion is to recognise a possible injury and remove the player from the game / activity. Use the Pocket Concussion Recognition Tool (see Figure 1) to help you identify concussions.

If a player has a suspected concussion at training or during match activities then:

- The player **MUST** be immediately removed from the activity and **MUST NOT** return.
- The player **MUST NOT** be left alone.
- The player **MUST NOT** drive a vehicle
- The player **MUST** always be in the care of a responsible adult, who is informed of the player’s suspected concussion
- The player should be medically assessed as soon as possible.

Each concussion should be managed individually, as it is impossible to predict the clinical course of a particular concussion from a group of signs and symptoms. The onset of symptoms may occur over hours or days later. The majority (80-90%) of concussions progressively resolve over 10 - 21 days without complications. This represents the most common form of concussion seen in sports activities. These concussions can be appropriately managed by primary care medical practitioners. The cornerstone of the management of a simple concussion is rest until **ALL** symptoms resolve and then undertake a graduated return to play protocol.

Pocket CONCUSSION RECOGNITION TOOL™

To help identify concussion in children, youth and adults

RECOGNIZE & REMOVE

Concussion should be suspected if one or more of the following visible clues, signs, symptoms or errors in memory questions are present.

1. Visible clues of suspected concussion

Any one or more of the following visual clues can indicate a possible concussion:

Loss of consciousness or responsiveness
Lying motionless on ground/Slow to get up
Unsteady on feet / Balance problems or falling over/Incoordination
Grabbing/Clutching of head
Dazed, blank or vacant look
Confused/Not aware of plays or events

2. Signs and symptoms of suspected concussion

Presence of any one or more of the following signs & symptoms may suggest a concussion:

- Loss of consciousness
- Seizure or convulsion
- Balance problems
- Nausea or vomiting
- Drowsiness
- More emotional
- Irritability
- Sadness
- Fatigue or low energy
- Nervous or anxious
- “Don’t feel right”
- Difficulty remembering
- Headache
- Dizziness
- Confusion
- Feeling slowed down
- “Pressure in head”
- Blurred vision
- Sensitivity to light
- Amnesia
- Feeling like “in a fog”
- Neck Pain
- Sensitivity to noise
- Difficulty concentrating

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3. Memory function

Failure to answer any of these questions correctly may suggest a concussion.

“What venue are we at today?”
“Which half is it now?”
“Who scored last in this game?”
“What team did you play last week/game?”
“Did your team win the last game?”

Any athlete with a suspected concussion should be IMMEDIATELY REMOVED FROM PLAY, and should not be returned to activity until they are assessed medically. Athletes with a suspected concussion should not be left alone and should not drive a motor vehicle.

It is recommended that, in all cases of suspected concussion, the player is referred to a medical professional for diagnosis and guidance as well as return to play decisions, even if the symptoms resolve.

RED FLAGS

If ANY of the following are reported then the player should be safely and immediately removed from the field. If no qualified medical professional is available, consider transporting by ambulance for urgent medical assessment:

- Athlete complains of neck pain
- Increasing confusion or irritability
- Repeated vomiting
- Seizure or convulsion
- Weakness or tingling/burning in arms or legs
- Deteriorating conscious state
- Severe or increasing headache
- Unusual behaviour change
- Double vision

Remember:

- In all cases, the basic principles of first aid (danger, response, airway, breathing, circulation) should be followed.
- Do not attempt to move the player (other than required for airway support) unless trained to so do
- Do not remove helmet (if present) unless trained to do so.

from McCrory et. al, Consensus Statement on Concussion in Sport. Br J Sports Med 47 (5), 2013

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Figure 1: Concussion Recognition Tool (CRT)

Some concussions result in persistent symptoms occurring (including those symptoms that reoccur when participating in sporting activity). These types of concussions may result from players who have had consecutive concussions over time, or where the player is repeatedly concussed with less and less impact force. Formal neuropsychological investigations should be considered for concussions with ongoing symptoms.

Management of the unconscious player

If the player is obviously unconscious, the first priority is to evaluate and protect the airway and the cervical spine. The player must be watched closely and carefully monitored until consciousness returns. Should breathing stop, appropriate resuscitation is necessary, following the "Airways, Breathing, Circulation" guidelines. Always remember the possibility of an associated spinal (neck) injury, and if the player must be moved, do so carefully and appropriately. **DO NOT MOVE THE PLAYER FROM THE FIELD WHILE THEY ARE UNCONSCIOUS**. This should be left to appropriate medical or ambulance personnel. When the player has regained consciousness and their breathing is regular and unobstructed, the player should be carried from the field and allowed to recover fully. Such incidents require immediate review by a doctor. The player should then see appropriate medical professionals for their opinion on the best future management.

Post-Concussion Syndrome

It is quite common following concussion, for players to continue to experience problems after their apparent recovery from the initial injury. Should this continue to occur after 28 days then this is collectively referred to as post-concussion syndrome. Coach, parents, family members and team members should look for the following:

Signs and symptoms:

- Sleep disturbance;
- Difficulty in concentrating;
- Difficulty in applying themselves to tasks;
- Lack of attention span;
- Irritability, intolerance in general and to noises in particular;
- Dizziness on turning of the head;
- Recurrent headaches;
- Frustration doing tasks;
- Any symptoms provided by activities such as sprints or sit-ups;
- Anxiety and/or depression

If any of these symptoms are present, then it is **mandatory that the player is assessed by a qualified neurologist, neurosurgeon or sports medicine physician before they recommence any sporting activity**. The player is potentially prone to develop more symptoms if they continue in the sport, or to be concussed again, and they may also need special assistance to aid their recovery and return not only to sport but to their normal life.

Second Impact Syndrome

If a player receives a second injury to the head before the injury has completely recovered, the chances of the player suffering brain swelling, heavy bleeding and increased pressure within the head dramatically increase that can result in permanent brain damage or death. Children and adolescents are at an increased risk of this occurring and extra precaution is advised.

Recovery Period

Perhaps the most contentious issue surrounding head injury is the decision regarding the length of time a player should stay away from participating in any sporting activity. No simple way exists to determine the seriousness of a concussion or whether a player has fully recovered. The main reason for the mandatory stand-down times for a player following concussion is related to reaction times. In the period following a concussion, the player's reaction times and decision-making abilities are likely to be less than optimal and the player is at an increased risk of further accident and injury, especially to the head. The risk of second impact syndrome is increased

Despite the fact that a player may seem to be physically fit and outwardly unaffected, coaches and administrators must be aware of this and support the decision to stand a player down.

It is well-documented that repeated episodes of concussion produce lasting effects and after a number of concussions, a player may suffer permanent changes in character and ability. A player who has had a number of concussions should, therefore, consider whether they should withdraw from all contact sport.

Graduated Return To Play

The majority of concussions will recover spontaneously over several days. It is important though that the first few days after a concussion has occurred that complete physical AND cognitive rest is required. The player should avoid all activities that require concentration or attention. This includes watching television, DVD's, computers, using the cell phone, reading or driving. Failure to do this may exacerbate the symptoms resulting in a delay in the recovery of the player from the concussion.

GRADUATED RETURN TO EDUCATION/WORK & SPORT SUMMARY	
STAGE 1	Relative Rest for 24–48 hours • Minimize screen time • Gentle exercise
STAGE 2	Gradually introduce daily activities • Activities away from school/work (introduce TV, increase reading, games etc.) • Exercise –light physical activity (e.g. short walks)
STAGE 3	Increase tolerance for mental & exercise activities • Increase study/work-related activities with rest periods • Increase intensity of exercise
STAGE 4	Return to study/work and sport training • Part-time return to education/work • Start training activities without risk of head impact
STAGE 5	Return to normal work/education and full training • Full work/education • If symptom-free at rest for 14 days consider full training
STAGE 6	**Return to sports competition (NOT before day 21) as long as symptom free at rest for 14 days and during the pre -competition training of Stage 5**

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Child and Adolescent Players

The management and return-to-play procedures identified in this policy can be applied to players as young as 10 years old. Below that age, the symptoms of concussion are reported differently from adults necessitating a full medical clearance **BEFORE** undertaking the return to play protocol.

CONCUSSION

IT'S EVERYBODY'S RESPONSIBILITY TO RECOGNISE AND REMOVE

IF IN DOUBT – SIT THEM OUT

Approver – NZRL Board

Signed: Greg Peters
Position: CEO
Date: 23 August 2023