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1. INTRODUCTION

The purpose of this document is to provide guidance on concussion to those involved in rowing in Western Australia.

This summary is prepared specifically for the rowing public and is not a medical document.

Rowers, parents, coaches and officials need to act in the best interest of rower safety and welfare by taking responsibility for the recognition, removal and referral of rowers to a medical doctor and then ensuring concussion is appropriately managed as per these guidelines.

2. CONCUSSION FACTS

- A concussion is a brain injury.
- All concussions are serious.
- Concussion causes a disturbance of brain function.
- Children and adolescents are more susceptible to concussion, take longer to recover, have more significant memory and mental processing issues and are more susceptible to rare and dangerous neurological complications, including death caused by a single or second impact.
- Children and adolescents should therefore be treated more conservatively than adults.
- Concussion usually follows a head impact but can occur with an impact to other parts of the body.
- Symptoms can come on at any time, but usually within 24-48 hours after an impact.
- Concussion can occur without the rower being “knocked out” i.e. losing consciousness.
- If a rower is “knocked out”, they have a concussion.
- All rowers with suspected or recognised concussion must be removed from the boat or activity immediately.
- Return to play or training on the same day is not permitted for any suspected or recognised concussion.
- Concussion that is not recognised or ignored can prove fatal.
- Most concussions recover with physical and mental rest.

3. MANAGEMENT PLAN

The management of concussion involves the following steps. Each step must be followed and completed before moving to the next step:

- RECOGNISE
- REMOVE
- REFER
- REST
- RECOVER
- RETURN

Recognise

Concussion must be **suspected** or **recognised** if a rower has **any** of the following signs, symptoms or fails to answer any of the memory questions after a head or body collision.

Signs (what you may see)	Symptoms (rower may report)	Memory (questions to ask)
<ul style="list-style-type: none">• Dazed, blank or vacant look• Lying motionless / Slow to get up• Unsteady on feet / Balance problems or falling over / Incoordination• Loss of consciousness or unresponsive• Confused / Lack of awareness or events• Grabbing / Clutching of head• Seizure (fits)• More emotional / Irritable than normal for that person	<ul style="list-style-type: none">• Headache• Dizziness• Mental clouding, confusion, or feeling lethargic• Visual problems• Nausea or vomiting• Fatigue• Drowsiness / Feeling “in a fog” / Difficulty concentrating• “Pressure in head”• Sensitivity to light or noise	<ul style="list-style-type: none">• “What venue are we at today?”• “Which race are you in now?”• “What day is it?”• “How did you get to this venue today?”• “What position did you come in your last race?”

Remove

- Any rower with a suspected or recognised concussion must be removed from the boat or activity immediately.
- The rower must not take further part in any rowing training or racing (or any other sport of vigorous activity) on this day.
- **Any rower with a head injury may also have a neck injury. If a neck injury is suspected, the rower must only be removed by experienced health care providers with spinal care training.**

RECOGNISE AND REMOVE

IF IN DOUBT, SIT THEM OUT

Refer

- All rowers with suspected or recognised concussion **must** be referred to a **medical doctor** or **emergency department** as soon as possible. If at a sanctioned Rowing WA regatta with medical support, then the medical personnel must be informed immediately.
- This referral must happen even if symptoms or signs have disappeared.
- Ideally, the medical doctor who reviews the rower should have experience in the diagnosis and management of sports concussion.
- The rower **must at all times**:
 - ✓ Be in the care of a responsible adult.
 - ✓ Must not consume alcohol.
 - ✓ Must not drive a motor vehicle.

If any of the following **warning signs (“red flags”)** of head injury appear, the rower **must** be taken to the closest emergency department immediately or a responsible adult must call an ambulance (000):

- ✓ Severe neck pain
- ✓ Deteriorating consciousness
- ✓ Increasing confusion or irritability
- ✓ Worsening headache
- ✓ Vomiting more than once
- ✓ Unusual or uncharacteristic behaviour
- ✓ Seizure (fitting)
- ✓ Double vision
- ✓ Weakness or tingling or burning in arms or legs

If any rower is diagnosed as having concussion, the following stepwise process must be followed:

Rest

**REST IS THE CORNERSTONE OF CONCUSSION MANAGEMENT
THE ROWER SHOULD REST COMPLETELY UNTIL ALL SYMPTOMS AND SIGNS OF CONCUSSION HAVE
DISAPPEARED**

What does complete rest mean?

- Resting quietly at home until symptoms and signs are settled.
- It may mean missing a day or two from school, study or work.
- The body needs to rest; limit any physical exercise to short periods of low level activities eg walking around the house.
- The brain needs to rest; limit any tasks that require prolonged or focused memory and/or concentration.
- Avoid excessive TV, use of mobile devices, electronic games, computers and phones as these can aggravate symptoms.
- How long should the rower rest completely?
- Rowers must rest until all their signs and symptoms have disappeared **AND** they have stopped all medication required for treatment for their concussion symptoms (e.g. painkillers for headaches).
- The minimum complete rest period is **24 hours for adults**.
- **Children and adolescents** need a **longer complete** rest period.
- The required period of complete rest varies from rower to rower so a medical doctor will specify the minimum time of complete rest for each case.

Recover

- Once symptoms and signs are settled and medications are stopped, the rower then returns to **activities of normal daily living** (school, study or work).
- They **must not** perform any exercise during school (recess, breaks) or any organised sport during or after school.
- If any **symptoms re-occur** during recovery, the rower may need more complete rest time.
- If symptoms re-occur, they should be **reviewed** by their medical doctor.

Return

- Exercise **can only** start after a rower has returned to **activities of normal daily living** without signs or symptoms of concussion and does **not require medication** for their symptoms.
- The best way to return to sport is to follow a gradual re-introduction of exercise in a stepwise progression known as a graduated return to row programme (**GRRP**) as per the following:

Stage	Exercise Mode	Example of Exercise Activity	Progression
1	Rest	Complete rest of the brain and body	Medical doctor decides on amount of time needed.
2	Light cardiovascular exercise	Light jogging, swimming or erg rowing for 10-15 minutes at low to moderate intensity. No weights training	If no symptoms, start Stage 3 after minimum of 24 hours. If symptoms occur, rest 24 hours & repeat Stage 2.
3	Rowing specific exercise	Up to 60 minutes ergo training at up to 75% max Light weights training can commence	If no symptoms, start Stage 4 after minimum of 24 hours. If symptoms occur, rest 24 hours & repeat Stage 2, then progress
4	Modified rowing training	More complex training drills including weight training and moderate on-water rowing up to 60 minutes	If no symptoms, medical certificate required before Stage 5. If symptoms occur, rest 24 hours & repeat Stage 3, then progress
5	Full Rowing training	Full practice following medical clearance certificate being handed to the club or school coach	Rower, coach, parent to report any symptoms to medical doctor. If symptoms occur, then medical doctor to review
6	Rowing competition	Full racing conditions including ability to race multiple events on same day	Monitor for recurring symptoms or signs

4. GRADUATED RETURN TO ROW PROGRAMME (GRRP)

Return to exercise (GRRP Stage 1 – 4)

- Stage 1 is the complete rest and recovery period.
- A rower should be **cleared** by a medical doctor to commence light exercise (Stage 2).
- A rower can only proceed to the next stage of the GRRP if they have no signs or symptoms of concussion at the time of exercise, later that day (after exercise) and on waking the following day.
- The **minimum** time between stages is **24 hours**, although children and adolescents may require a longer period of time between stages.

If there is a recurrence of symptoms at any time during the GRRP the rower must:

- ✓ Rest for a minimum of 24 hours until all symptoms and signs have settled.
- ✓ Return to the previous stage at which they had no symptoms.
- ✓ Recommence the progression of the GRRP.
- ✓ If a rower has a recurrence of severe symptoms (e.g. requiring them to miss school, study or work) or repeatedly (more than once) during the GRRP, or if the recurrent symptoms are prolonged (more than 24 hours), the rower should be reviewed by their medical doctor.

Return to full training (GRRP Stage 5)

- The rower **must** have a medical **certificate** from a medical doctor to start full training(Stage 5).
- This certificate must be given to the **club** or **school coach**.
- Rowers 18 years and under **cannot** return to **full** training (Stage 5) or competing for at least **1 weeks (7 days)** after all symptoms and signs have disappeared.

This restriction to return to full training and competition applies to all rowers aged 18 years and under including those competing in non-school/junior competition.

Return to competition (GRRP Stage 6)

A rower should only return to competition when they have fully recovered from concussion. This means the rower **must**;

- Not have any signs or symptoms of concussion at rest or in normal daily activities(school, study or work).
- Have followed the recommendation for the mandatory rest from contact training.
- Have successfully completed the GRRP without any symptoms or signs of concussion(during or after light, modified and full training).

Multiple and more complex concussions

This guidance applies **only to rowers** who have suffered their **first** concussion in a **12 month period**. The guidance **does not** apply to rowers with potentially more complex injuries. The following rowers **must** see a medical doctor experienced in sports concussion management:

- ✓ ≥ 2 concussions in 12 months.
- ✓ Multiple concussions over their sporting career.
- ✓ Concussions occurring with less collision force.
- ✓ Concussion symptoms lasting longer than expected i.e. a few days.

5. CONCUSSION GUIDANCE SUMMARY

Recognise and Remove

Any rower suspected or recognised with concussion **must** be removed from training and playing and **not** return to rowing, other sport or physical activity on the same day.

Refer

Any rower suspected or recognised with concussion **must** see a medical doctor as soon as possible.

Rest

Rowers diagnosed with concussion **must** rest completely until all signs and symptoms of concussion have disappeared.

6. VERSION CONTROL

VERSION	DATE	AUTHOR	COMMENTS
1.1	13/03/2022	D. Tackenberg	Draft to be sent to Rowing Australia for input
1.2	02/05/2022	D. Tackenberg	RWA Board Approved with minor changes