

INTRODUCTION

Concussion is a well recognised injury that may affect athletes involved in collision and contact sports. It is important that players, parents, coaches and other officials are aware of this condition. They should be on the lookout for symptoms and signs that could indicate concussion and be practiced in the way it should be managed.

Fortunately concussion is not nearly as common in hockey as it is in other sports, in particular football codes. Nevertheless, cases have occurred and undoubtedly will continue due to the nature of the sport. When they do occur, cases need to be recognised and the player must be appropriately looked after.

This policy provides guidance on concussion for all those involved in hockey in Western Australia and has been prepared specifically for the hockey community. Please note this is NOT a medical document.

IMPORTANT FACTS

- The wellbeing of the player is paramount importance.
- Concussion is a form of brain injury.
- All concussions should be considered serious.
- Concussion results in a brain function disturbance.
- Follow the Six 'R' management plan – found on page 2.

CONCUSSION IN CHILDREN

Children and adolescents should be treated differently to adults, as they;

- are more prone to concussion;
- take longer time to recover
- have more significant memory and mental processing problems
- are at greater risk of rare and dangerous neurological complications, caused by a single or second impact

Children and adolescents should therefore be treated more conservatively than adults. Concussion usually follows a head collision. Concussion can also occur with a collision not involving the head. Factors to consider;

- Symptoms usually develop quickly, often within 1-2 hours. Sometimes there is a delay, 24-48 hours after a collision.
- Most concussions occur without the player being 'knocked out' i.e. losing consciousness. However, if a player is 'knocked out' they will be concussed.
- Players with suspected or recognised concussion must immediately be removed from the field.
- A player suspected of concussion cannot return to play or training on the same day.
- Only a medical doctor can certify a player fit to return and not concussed, in suspected cases.
- Concussion that is not recognised or ignored can prove fatal.

- Most concussions recover with physical and mental rest.

THE SIX 'R' MANAGEMENT PLAN

The management of concussion involves sequentially 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 player has any of the following signs, symptoms or fails to answer any of the memory questions after a head or body collision.

Signs to look for in Player	Symptoms shown or reported by Player	Memory Questions
Loss of consciousness Dazed, blank or vacant look Slow to get up Unsteady on feet /balance problems Confused / Not aware of plays or events Grabbing / clutching of head Seizure (fits) More emotional /irritable	Headache Dizziness Mental clouding, confusion, feeling slowed down Visual problems Nausea or vomiting Fatigue Drowsiness / feeling like in a fog Difficulty concentrating Pressure in head feeling Sensitivity to light or noise	What venue are we at today? What is the score? Which half is it now? Who scored last in this game? What team did you play last week? Did your team win the last game?

REMOVE

- Please be aware that any player with a suspected or recognised concussion must be removed from the field/turf immediately.
- The player must not take further part in any training or games (including other sports) on this day.
- Any player with a head injury may also have a neck injury.

RECOGNISE AND REMOVE

- **IF IN DOUBT, SIT THEM OUT**

REFER

- All players with suspected or recognised concussion must be referred to a medical doctor or emergency department as soon as possible.
- This referral must happen even if symptoms or signs have disappeared.
- Ideally, the medical doctor who reviews the player should have experience in the diagnosis and management of sports concussion.
- The player must at all times:
 - be in the care of a responsible adult
 - not consume alcohol
 - not drive a motor vehicle

If any of the following warning signs of head injury appear, the player must be taken to the closest hospital Emergency Department immediately or a responsible adult must call an ambulance (call triple zero 000).

Perth Metropolitan Medical Facilities **Refer to Geraldton Medical Facilities**

Public Hospitals		
Royal Perth Hospital Wellington Street Perth	Phone – 08 9224 2244	Accident & Emergency – 24hrs
Private Hospitals		
St John of God Hospital 100 Murdoch Drive Murdoch	Phone – 08 9366 1802	Accident & Emergency – 24hrs
X-Ray Services – SKG Radiology		
St John of God Murdoch SKG Radiology 100 Murdoch Drive Murdoch	Phone – 08 9366 1700	8am – 5pm Mon – Fri 9am – 5pm Sat 10am – 11am Sun
SKG Radiology Wesley Arcade 93 William Street Perth	Phone – 08 9486 1700	9am – 5pm Mon – Fri
SKG Radiology 30 Ord Street West Perth	Phone – 08 9322 4966	8am – 5pm Mon – Fri

Dentist		
David Simmonds 150 Douglas Avenue South Perth	Phone – 08 9367 7288 After Hours – 08 9293 1599	8am – 5pm Mon, Tues, Thurs 8am – 1pm Wed, Fri
Doctors Surgery		
Perth Medical Centre Shop 713 Hay St Mall Perth Drs Westhoff, Downing, Rogers	Phone – 08 9481 4342	8-5.30pm Mon – Fri 10-2pm Sat
Southern Clinic 148 Douglas Avenue (corner Canning Highway) South Perth	Phone – 08 9367 6211	8am – 7pm Mon –Thurs 8am – 6pm Fri 8am – 12pm Sat 9am – 12pm Sun & Public Holidays
After Hours Doctors Surgery (no appointment necessary – no bulk billing)		
Mercy Hospital Thirlmere Street Mount Lawley	Phone – 08 9370 9222	7pm – 10pm Mon – Fri 2pm – 10pm Sat & Sun
St John of God Murdoch 100 Murdoch Drive Murdoch	Phone – 08 9366 1500	7pm – 10pm Mon – Fri 1pm – 10pm Sat & Sun
St John of God Subiaco Cambridge Street Subiaco	Phone – 08 9382 9606	7pm – 10pm Mon – Fri 1pm – 10pm Sat 9am – 10pm Sun
Chemist/Pharmacy		
Night Owl Chemist 143 Canning Highway South Perth	Phone – 08 9474 1958	7am-10pm 7 days

Warning signs to look for;

- 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

REST

- **REST IS THE CORNERSTONE OF CONCUSSION MANAGEMENT.**
- **THE PLAYER 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.
- Limit any physical exercise to short periods of low level activities.
- 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 player rest completely?

- Players 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. pain killers 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 player to player 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 player then returns to activities of normal daily living (school, study or work).
- The player must not perform any exercise or any organised sport.
- If any symptoms re-occur during recovery, the player may need more complete rest time.
- If symptoms re-occur they should be reviewed by their medical doctor.

RETURN

1. Exercise can only start after a player has returned to activities of normal daily living without signs or symptoms of concussion and does not require medication for their symptoms.
2. 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 play program (GRTP)** as per the following;

GRTP 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 for 10-15 minutes, stationary cycling 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	Hockey specific exercise	Individual skills and drills without contact No weights training	If no symptoms, start Stage 4 after minimum of 24 hours. If symptoms occur, rest 24 hours & repeat Stage 2, then progress
4	Hockey specific non-contact training	More complex training drills e.g. passing drills May start progressive (low level) weights training	If no symptoms, medical certificate required before Stage 5. If symptoms occur, rest 24 hours & repeat Stage 3, then progress
5	Hockey practice	Full training following medical clearance certificate being handed to the club or school sport master	Player, coach, parent to report any symptoms to medical doctor. If symptoms occur, then medical doctor to review
6	Hockey game	Full game	Monitor for recurring symptoms or signs

Return to exercise (GRTP Stage 1 – 4)

1. Stage 1 is the complete rest and recovery period.
2. A player should be cleared by a medical doctor to commence light exercise (Stage 2).
3. A player can only proceed to the next stage of the GRTP 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.

4. If there is a recurrence of symptoms at any time during the GRTP the player must:
 - i) rest for a minimum of 24 hours until all symptoms and signs have settled
 - ii) return to the previous stage at which they had no symptoms
 - iii) recommence the progression of the GRTP.
5. If a player has a recurrence of severe symptoms (e.g. requiring them to miss school, study or work) or repeatedly (more than once) during the GRTP, or if the recurrent symptoms are prolonged (more than 24 hours), the player should be reviewed by their medical doctor.

Return to contact training (GRTP Stage 5)

1. The player must have a medical certificate from a medical doctor to start full training (Stage 5).
2. This certificate must be given to the club or school sport master.
3. Players 18 years and under cannot return to full training (Stage 5) or playing for at least 2 weeks (14 days) after all symptoms and signs have disappeared.
4. This restriction to return to contact training and playing applies to all players aged 18 years and under including those playing adult hockey.

Return to play (GRTP Stage 6)

A player should only return to play when they have fully recovered from concussion. This means the player must:

- i) not have any signs or symptoms of concussion at rest or in normal daily activities (school, study or work).
- ii) have successfully completed the GRTP without any symptoms or signs of concussion (during or after full training).

Multiple and more complex concussions

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

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

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