

# Return to Play Decisions in Concussion

Sports Medicine Symposium  
February 2020



**Dr Greg Harris**  
**Sport & Exercise Physician**



# Scenario #1

- First game of the season, up by 6 goals
- Back pocket player, clash of heads
- Transient LOC, dazed, dizzy, unsteady
- Does she go back on?



# Scenario #2

- Preliminary Final, 3rd Q, 7 points down
- CHF, hit in marking contest
- Transient LOC, dazed, dizzy, unsteady
- Does he go back on?





# Recognise and Remove



# Symptoms of concussion

- Stunned, dazed, confused
- Headache, nausea, vomiting
- Dizziness, blurred vision, ringing ears
- Loss of memory - before or after event
- Fatigue
- Unsteady gait, irritability, decreased reaction time

# What is concussion?

- “....a complex pathophysiological process affecting the brain, induced by traumatic biomechanical forces.”
- “...a transient change in mental state caused by a blow to the head, face, neck or elsewhere on the body.”
- “Concussion refers to a disturbance in brain function that results from trauma to the brain.”

# What is concussion?

Transient impairment of brain function

No structural injury

Follows a typical pattern of recovery

# But is it concussion?

Transient impairment of brain function

- Don't know how it will develop

No structural injury

- Can't tell without scans

Follows a typical pattern of recovery

- Won't know until recovered

# Actually, it's a head injury

- You can't tell what will happen

**IF IN DOUBT, SIT THEM OUT**



# Who needs an ambulance?

- Possible spinal, eye, ear injury or fracture
- Abnormal neurology
- Lost consciousness > 5 mins
- Post-traumatic seizure
- Worsening symptoms
- >1 episode per session



**Athlete with suspected concussion**

- On-field signs of concussion:**
- Loss of consciousness
  - Lying motionless, slow to get up
  - Seizure
  - Confusion, disorientation
  - Memory impairment
  - 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

Things to look out for at the time of injury

**Immediate and permanent removal from sport**  
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
  - Visual or hearing disturbance

**NO**

Refer to medical practitioner as soon as practical

**YES**

**Immediate referral to emergency department**

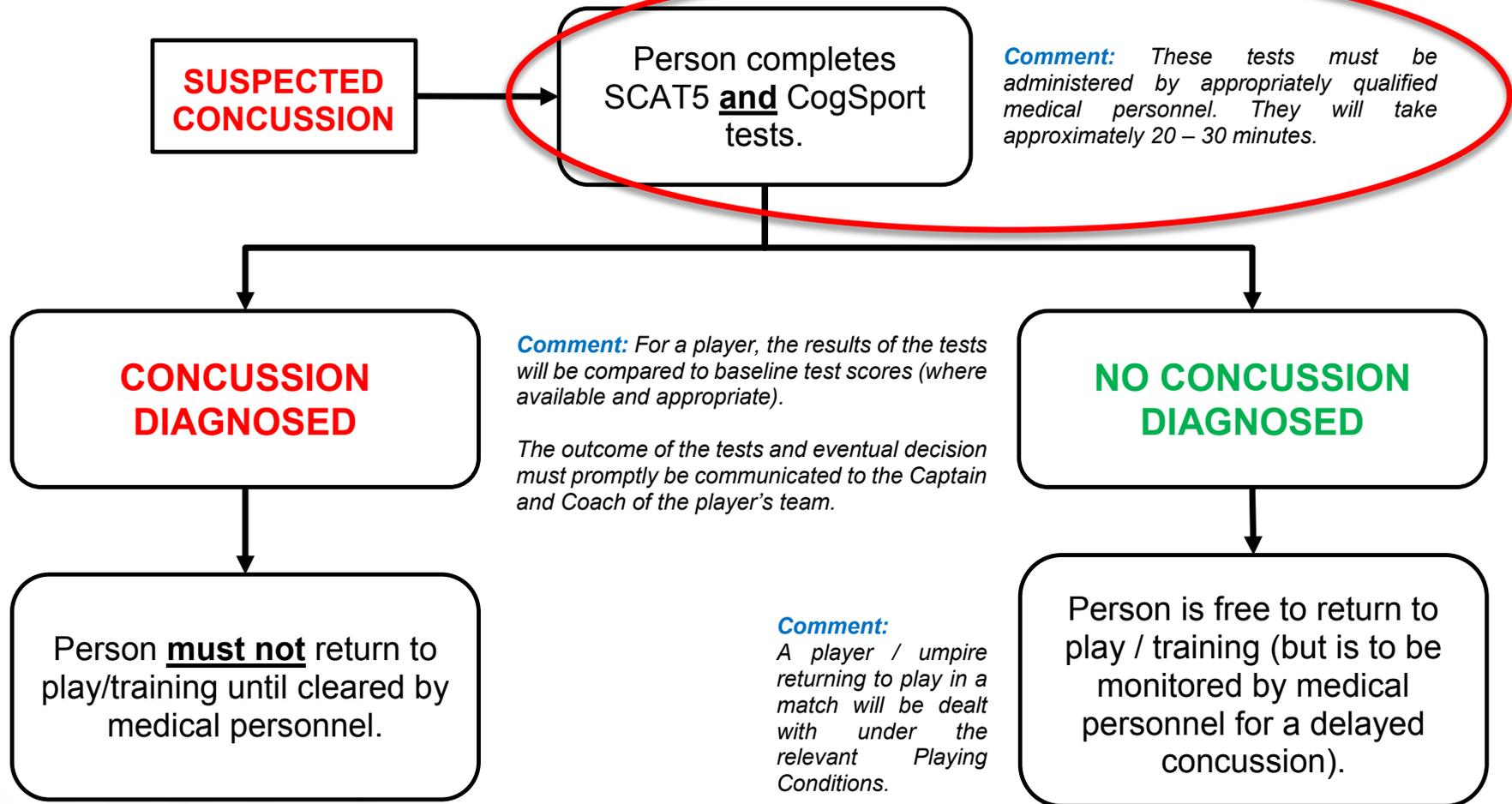
# Call for help

If you're worried, or just not sure....





## 2. DIAGNOSIS: AFTER A SUSPECTED CONCUSSION



# Concussion Testing by Doctor

Person completes SCAT5 and CogSport tests.

***Comment:** These tests must be administered by appropriately qualified medical personnel. They will take approximately 20 – 30 minutes.*

- SCAT5: free                      CogSport: costly
- Testing is just a part of medical assessment

# Time is your friend

- Concussion evolves over 15-20 minutes
- You need to see what happens
- e.g. AFL concussion subs policy
- Watch and reassess



# Three Quarter time....

- Still down by 5
- Player says he feels fine
- What do you do?



# Functional Testing

- Running
  - Skills
  - Decision-making
  - Keep watching....is he normal?
- 
- Still needs post head injury care:
    - Supervision that night, no alcohol, review next day





## 2. DIAGNOSIS: AFTER A SUSPECTED CONCUSSION

**SUSPECTED  
CONCUSSION**

Person completes  
SCAT5 and CogSport  
tests.

*Comment:* These tests must be administered by appropriately qualified medical personnel. They will take approximately 20 – 30 minutes.

**CONCUSSION  
DIAGNOSED**

*Comment:* For a player, the results of the tests will be compared to baseline test scores (where available and appropriate).

The outcome of the tests and eventual decision must promptly be communicated to the Captain and Coach of the player's team.

Person **must not** return to play/training until cleared by medical personnel.

*Comment:*

A player / umpire returning to play in a match will be dealt with under the relevant Playing Conditions.

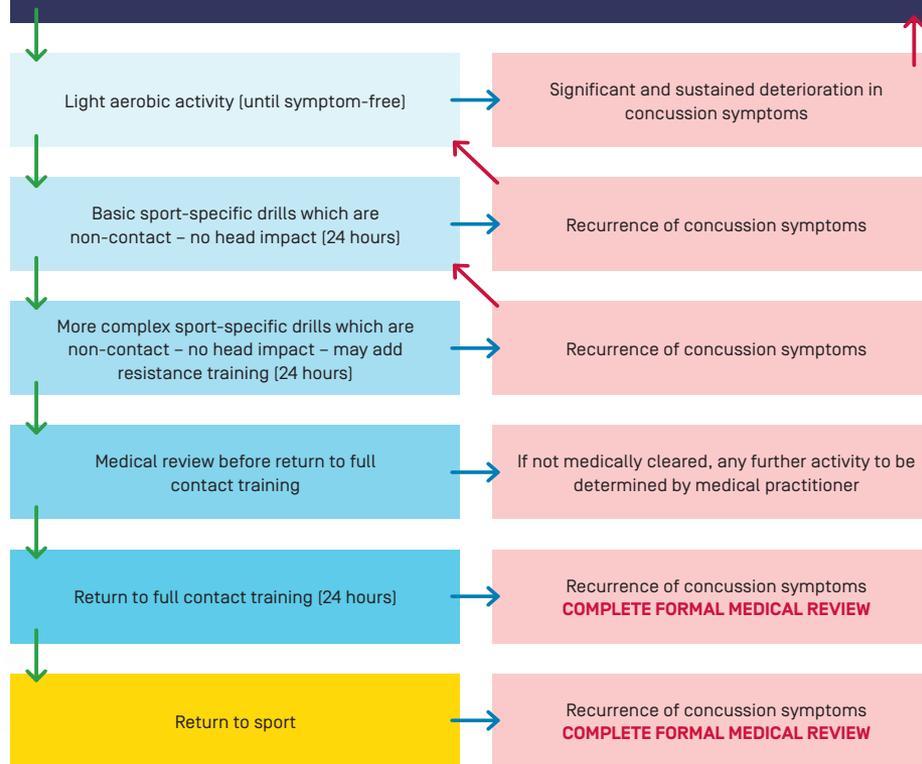
**NO CONCUSSION  
DIAGNOSED**

Person is free to return to play / training (but is to be monitored by medical personnel for a delayed concussion).

## Diagnosis of concussion

No return to sport

Deliberate physical and cognitive rest (24–48 hours)

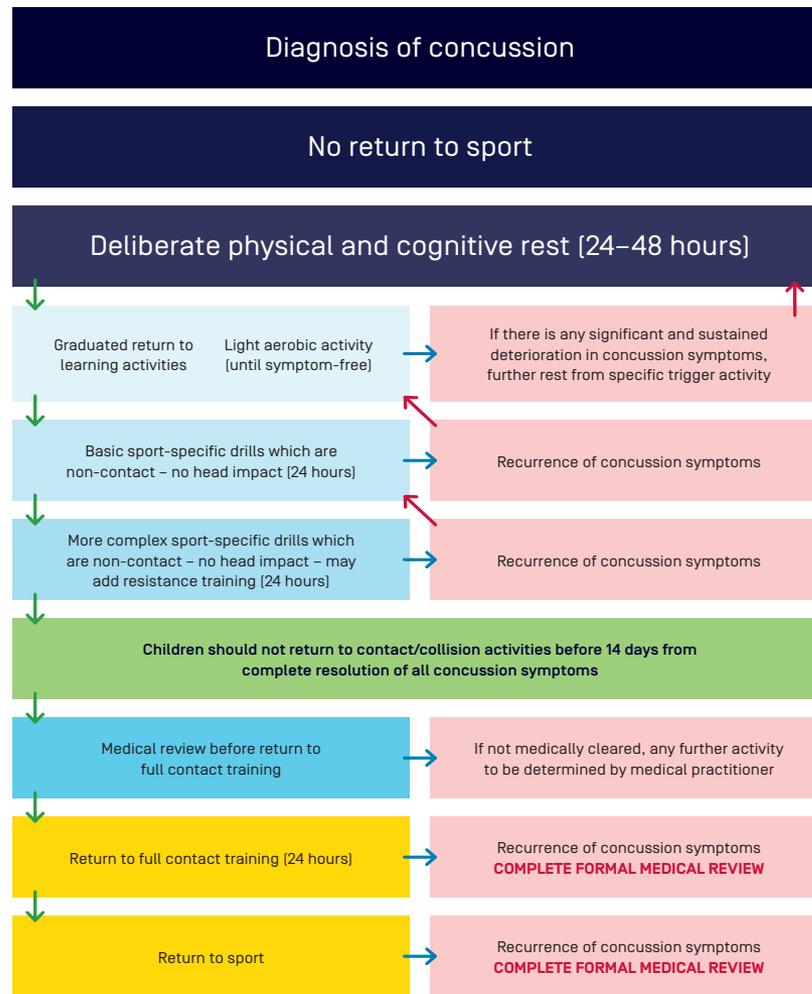


# Recovery from concussion

- Stepwise recovery
- Must pass each step
- At least 1 day per step  
= a week for simple concussions



# Recovery Guidelines: Under 18



# Ready to Play?

- Progressed through all the steps
- Trained fully, no symptoms
- At least a week
- Should have medical clearance

# Mandatory exclusion?

Rugby and boxing: 2 weeks

For: Clear decision making

Against: Might be too long, or too short

Not a substitute for a medical assessment



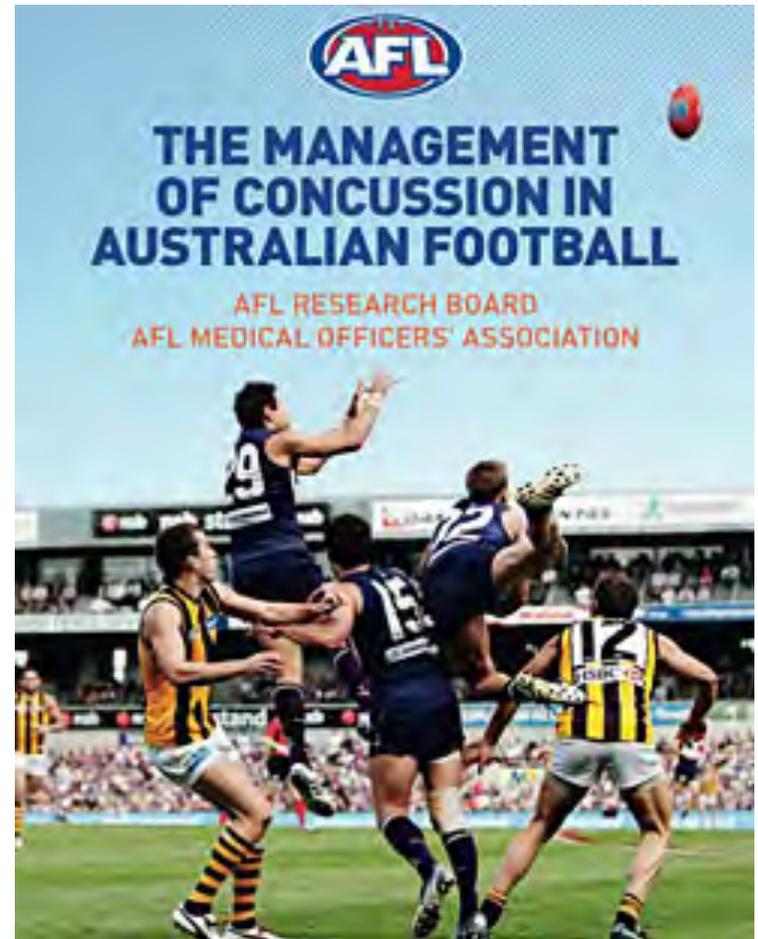
# Summary

1. Recognise and Remove
2. If in doubt, sit them out
3. Concussion evolves over 15-20 minutes
4. Post head injury care, even if “OK”
5. If concussed, needs a structured recovery
6. Should have a medical review

# References

## AFL Concussion Guidelines

- Free online via web



# References

## 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

© 2013 Concussion in Sport Group

### 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 do so
- 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

© 2013 Concussion in Sport Group

# References

## Position Statement on Concussion in Sport

[https://www.concussioninsport.gov.au/home#position\\_statement](https://www.concussioninsport.gov.au/home#position_statement)



**CONCUSSION IN SPORT AUSTRALIA**  
POSITION STATEMENT

# Thank you

Sports Medicine Symposium  
February 2020



**BallaratOSM**

**109 Webster St Lake Wendouree**



  
**Ballarat**  
Sports Medicine