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CONCUSSION

The Coaches Perspective and Role

Aims

- Current Landscape of Concussion
- What is Concussion
- Concussion in adults versus Children
- Recognise
- Remove
- Recover
- Return
- What happens when it goes wrong
- Prevention
- Resources available

Introduction

- Concussion must be taken seriously to safeguard the immediate and long term welfare of players
- Especially important for adolescents
- International & Premiership Protocol different to Amateur & Adolescent protocol
- Dependent on medical professional availability

Recognise, Remove, Recover, Return

Concussion – The landscape has changed

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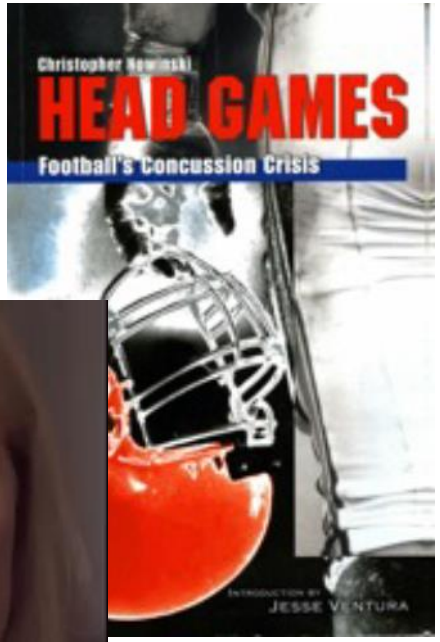


Concussion – The landscape has changed

- Rapidly shifting, new research emerging
- The brain is more vulnerable to further injury during recover from concussion:
  - Further concussion
  - Serious, potentially fatal brain injury
  - Other injury
- There is an association between repetitive concussive/sub-concussive injury and neurological disorders seen in boxing, Pro-American football and military veterans.

Lystedt Law

Zackery Lystedt

Zack's Story

"There is no one tougher than my son. Sometimes players and parents wrongly believe that it shows strength and courage to play injured. Battling pain is glamorized. Zack couldn't swallow or hold his head up. Strength is seeing Zack stand up out of his wheelchair and learning to talk again."

- Victor Lystedt, Zack's Dad.

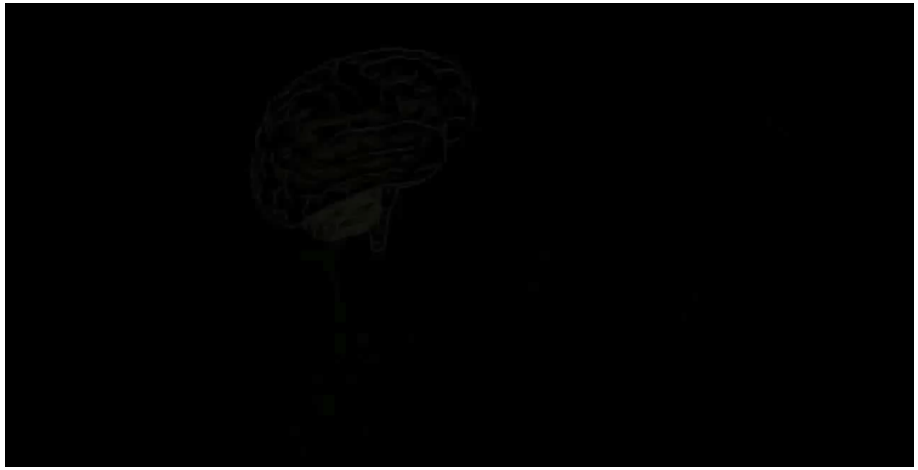
IRB & Zurich Consensus

- IRB aided Zurich Consensus 2008 on Concussion in Sport
  - Updated in 2013 and 2014
- Designed to
  - Ensure effective, safe player management in acute concussion
  - Protect long term health of players, especially the young player
  - Keep up to date with current research

What is Concussion

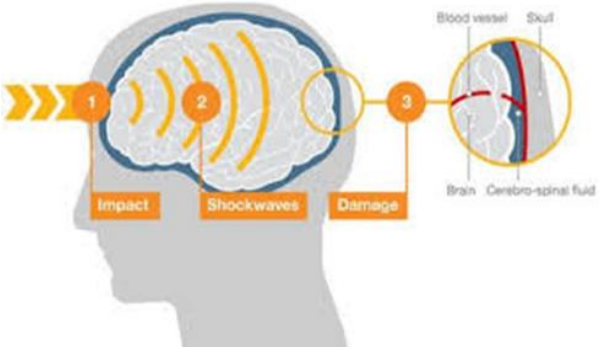
IRB Definition:

"Concussion is a complex process caused by trauma that transmits force to the brain either directly or indirectly and results in temporary impairment of brain function."



What is Concussion

- Functional rather than structural
- Can be sustained **without** Loss of Consciousness
- Can occur from a collision to any part of the body
- Associated with variety of signs & symptoms
  - Can be delayed
  - Widespread variation
  - No single symptom or sign is indicative
- Risk of serious brain injury if repeated head trauma



Concussion and Adults

- ONLY IN ENHANCED CARE SETTING:
  - Pitchside Suspected Concussion Assessment ONLY in premiership, international, European Cup
  - 6 day Graduated Return to Play Program
  - Closely monitored by club's experienced medical staff

- IN ROUTINE CLUB SETTING
  - NO PSCA. If suspected must be removed
  - 19 day Graduated Return to Play Program

Children are not small adults

Concussion & Amateur Adult Rugby

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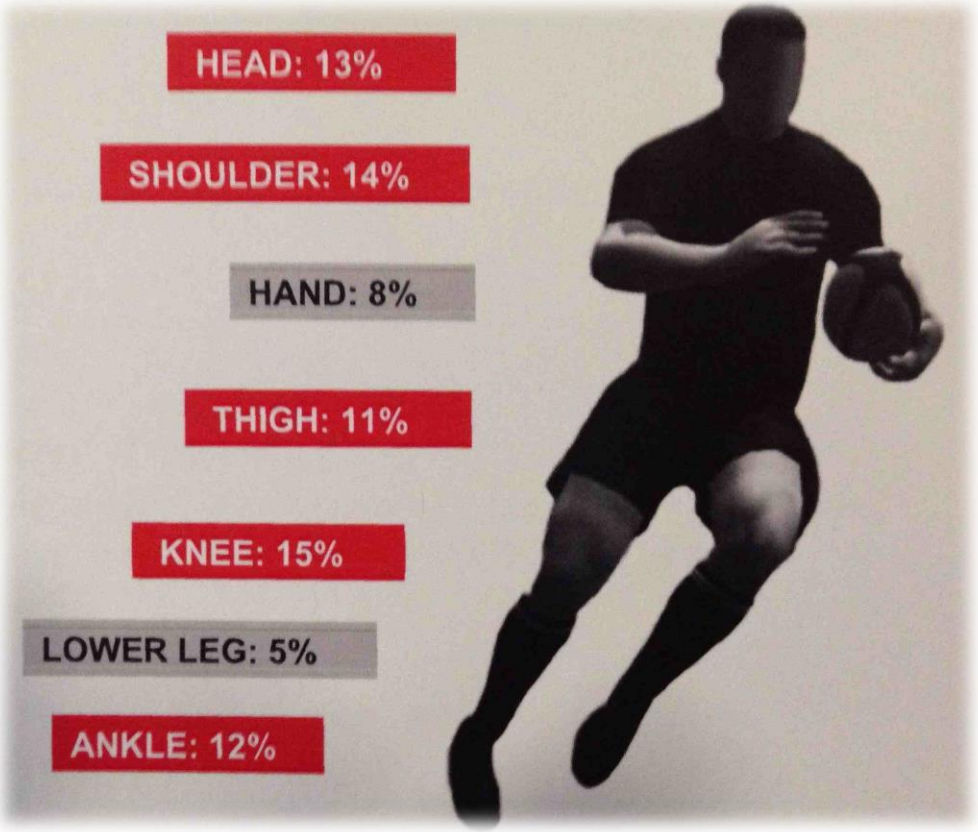

Concussion and Children

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RFU injury research data from schools rugby

- Head is most commonly injured body part in school rugby
- Tackle is the most frequent cause

Body Region Injured (Top 5 only)	Percentage of injuries (Top 5 only)
Head	24%
Hand	13%
Knee	11%
Shoulder	11%
Ankle/heel	7%

Concussion and children

- Particular care needs to be taken with children and adolescents
- Affects developing brain more than adult brain
- Children under 10 can show different signs.
- Must be assessed by Medical Professional
- Medical professional must determine when the player is ok to return
- Conservative Return to Play to allow brain time to recover

Concussion & Coaches / DoR

- Prevention
- Education
  - Players and parents
  - Other coaching staff aware of 4R's
- Management
  - Recognise
  - Remove
  - Recover
  - Return

Recognise

- **<u>Does not need to be knocked out</u>**
- Coaches are Crucial
- Continuing to play
  - increases risk of severe, longer lasting symptoms
  - Increases risk of other injury to themselves or others
  - Risk of very rare but serious brain injury in adolescents ? "second impact syndrome"

Signs & Symptoms a Coach may see

- Player doesn't know which half it is or who they are playing
- Unsure what happened before and/or after incident
- Slow to answer questions or follow directions
- "Coach I'm fine"
- Easily distracted
- Eyes looking through you; glassy; blank stared
- Abnormal playing style
- Balance problems

If you suspect concussion YOU MUST REMOVE the player immediately

Signs or Symptoms Player Reports

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- Headache
- Dizziness
- Dazed
- Visual problems
- Ears ringing
- Tiredness
- Nausea, vomiting
- Stomach cramps
- Poor balance

- Lacking co-ordination
- Poor concentration
- Inappropriate emotions
- Generally unwell

When in doubt...sit out !!

DANGER SIGNS – dial 999

Symptoms can worsen or develop over time

- Severe drowsiness or Unable to be woken
- Worsening headache
- Weakness and/or numbness
- Worsening balance and/or co-ordination
- Slurred speech or difficulty speaking/understanding
- Increasing confusion, agitation, anger
- Worsening eye sight or hearing
- Loss of Consciousness
- Convulsions
- Clear fluid coming out of ears or nose

Remove

- Beware of neck injury in not fully conscious or neurological symptoms
- Any player with suspected concussion

<u>If the player is Conscious</u>

- Coach or Club Medical Professional or First Aider must discuss with parents/family
- Must be seen by a medical professional
  - Club healthcare professional experienced in concussion
  - General Practitioner
- Do not let player continue
- Do not leave them alone
- Do not let them drive
- Do not let them drink alcohol

Remove

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If Player is Unconscious

- Do not move them
- Call for immediate medical help
- Speak to them
- Check they are breathing
- Call an ambulance if needed
- Do not try to move from field of play until experienced medical personnel arrives to remove player as per emergency protocol
- Move the training session or match to another pitch
- Keep them warm and dry

Break


DON'T BE A HEADCASE
STOP! CHECK FOR CONCUSSION
HEADACHE EMOTIONAL APPEARANCE DROWSINESS CONFUSION AGITATED SEIZURE EARS AND EYES

Recover

- Symptoms can be made worse by exertion
- Mental
  - Reading, homework, school, concentrating, watching tv, using computer, x-box, driving.
- Physical
  - School sports, gym, table tennis, running, playground play, athletics, hockey, football etc….
  - Rugby playing, training, skills, units; school, club, county, Saracens, divisional, international.

EVERYTHING!

How long can it take to be clear?

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UNTIL CLEARED BY AN EXPERIENCED DOCTOR

- Depends how long symptoms take to recover
- With adolescents must be conservative
- Can take longer in children versus adults
- Depends on previous number and severity of concussions
- Depends on other mental health co-morbidities
  - Eg migraine, depression, ADHD, austism, learning difficulties, sleep disorders

Graduated Return to Play Programme

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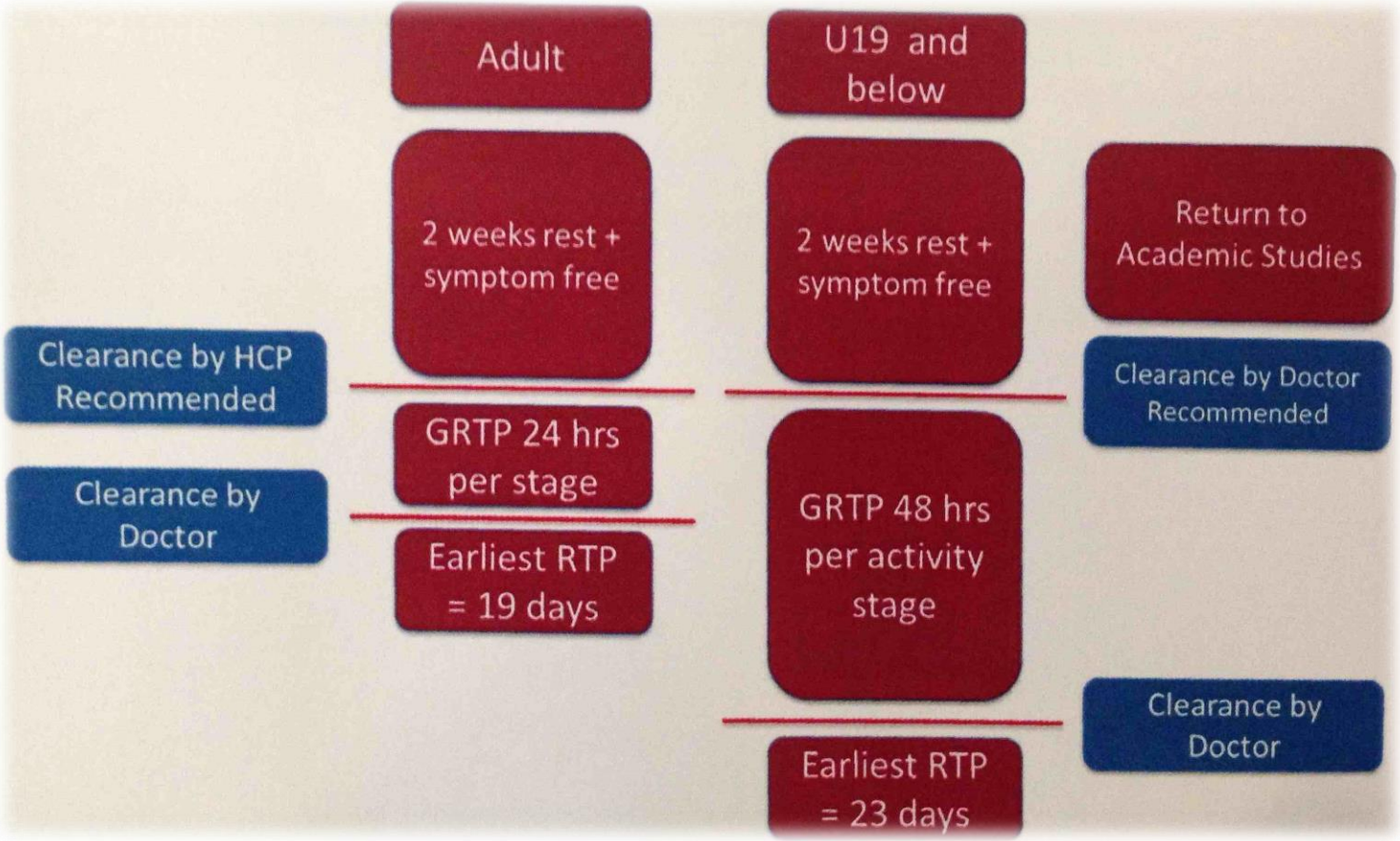
Stage	Rehabilitation Stage	Exercise Allowed	Objective
1	Rest	Complete physical and cognitive rest without symptoms	Recovery
2	Light aerobic exercise	Walking, swimming or stationary cycling keeping intensity, <70% maximum predicted heart rate. No resistance training.	Increase heart rate and assess recovery
3	Sport-specific exercise	Running drills. No head impact activities.	Add movement and assess recovery
4	Non-contact training drills	Progression to more complex training drills, e.g. passing drills. May start progressive resistance training.	Add exercise + coordination, and cognitive load. Assess recovery
5	Full Contact Practice	Normal training activities	Restore confidence and assess functional skills by coaching staff. Assess recovery
6	Return to Play	Player rehabilitated	Safe return to play once fully recovered.

Routine Setting GRTP



Enhanced Care Setting

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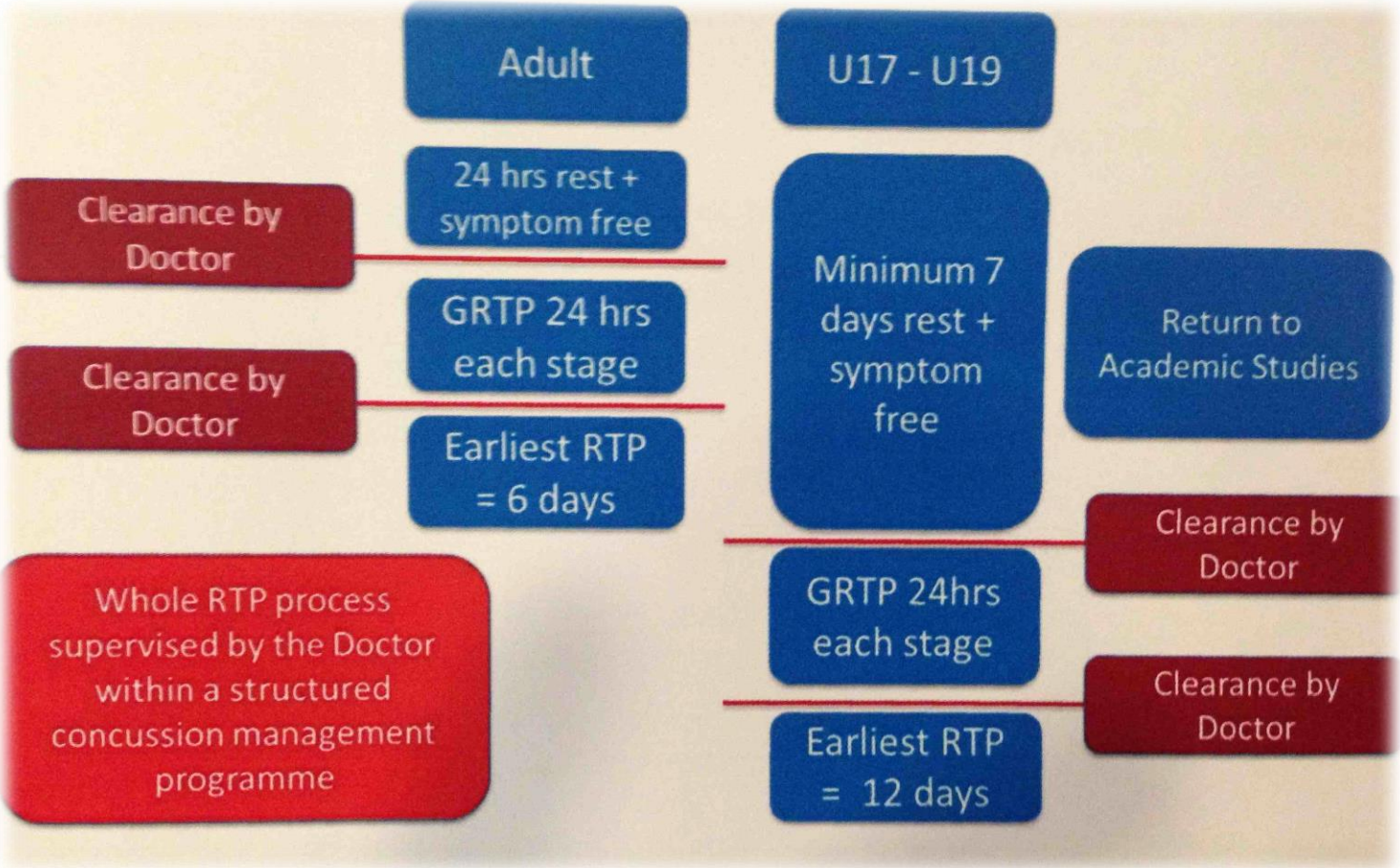
- Professional Clubs or Rugby Academies
- Need doctor with training and experience in management of concussion/TBI
  - to be available to supervise player's care and GRTP
  - To clear player prior to RTP
- Only as part of structured concussion management programme
  - Baseline SCAT 3 +/- Computerised Psychometric/Cognitive testing of players
  - Clinical serial multimodal concussion assessment
  - Formalised GRTP with regular SCAT 3
  - Access to Neuropsychologist/neurology/neurosurgery specialists
  - Formal education programme for coaches and players

Enhanced Care Setting GRTP



How long can GRTP take

- Depends on player's age and whether there is a medical professional experienced in concussion management overseeing return to play:
  - Enhanced Care setting over U19 **AT LEAST** 6 days
  - Enhanced Care Setting U17-U19 **AT LEAST** 12 days
  - Enhanced Care Setting U16 and Below **AT LEAST** 23 days
  - Routine Setting over U19 **AT LEAST** 19 days
  - Routine Setting U19 and below **AT LEAST** 23 days

If symptoms reoccur the player must consult a Healthcare Practitioner as soon as possible as they may need referral to a specialist in concussion management

Return

MUST BE CO-ORDINATED WITH PARENTS, PLAYER, SCHOOL, ALL COACHES IN ALL TEAMS

- Once they are completely better at rest, and cleared by a medical professional they can start a stepwise increase in activities.
- Graduated Return to Play (GRTP) programme

- If school/club has medical resources the GRTP should be carried out by the club/school coach, and overseen by the club/school healthcare professional/doctor.
- Parents need to be involved in the process

Return

MUST BE CO-ORDINATED WITH PARENTS, PLAYER, SCHOOL, ALL COACHES IN ALL TEAMS

- If it is not feasible for coach to conduct levels 2-4, these can be supervised by parents/done on own
- Or protocol may simply be extended with each level being conducted by the coach at training sessions/PE lessons.
- On completion of level 4 the player can resume full contact practice ONLY WITH MEDICAL CLEARANCE

Return

MUST BE CO-ORDINATED WITH PARENTS, PLAYER, SCHOOL, ALL COACHES IN ALL TEAMS

- It is the parent's or player's responsibility to obtain medical clearance before returning to play.
- Schools/clubs advised to keep record of player's or parent's confirmation that clearance has been obtained

Return

MUST BE CO-ORDINATED WITH PARENTS, PLAYER, SCHOOL, ALL COACHES IN ALL TEAMS

- If any symptoms occur whilst progressing through GRTP, the player must consult with their medical practitioner before returning to the previous stage.
- Need to wait 24 hour (>U19) or 48 hours (<U19) period of rest without presence of symptoms

Tool To help?

In Enhanced Care Setting SCAT 3

- Endorsed by IRB and RFU
- Monitors progression of signs and symptoms

In Routine Setting Pocket SCAT

- Useful as a reminder of signs and symptoms
- **Not** to be used by coaches to rule out concussion and return player to game

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

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.

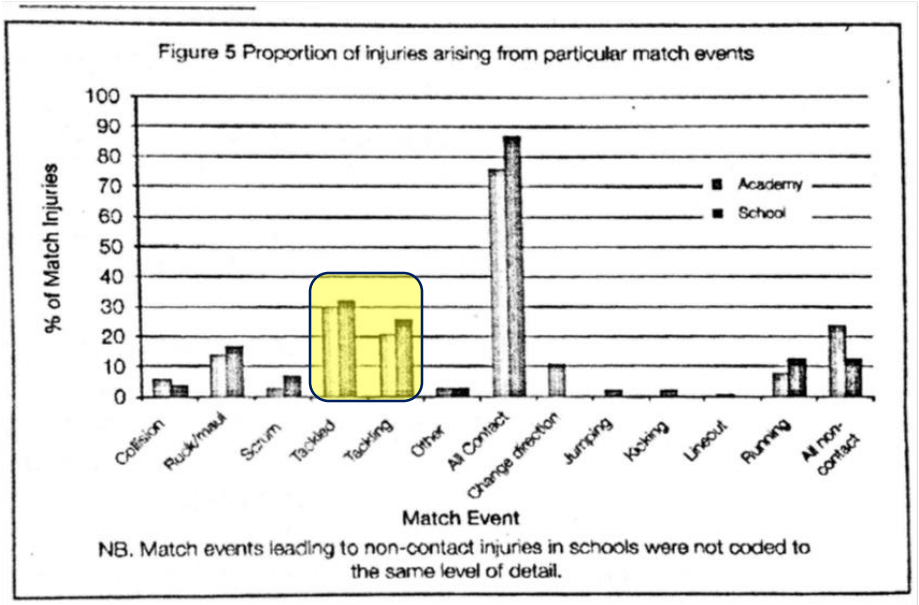
from McCrory et. al, Consensus Statement on Concussion in Sport. Br J Sports Med 47 (5), 2013

What happens when it goes wrong?

- Minor ➔ Major Traumatic Brain injury
  - Extradural/Subdural bleed
- Second impact syndrome
- Post-concussion syndrome
  - Headache, dizziness, anxiety, irritability, sleep disturbance, personality change, libido
  - Memory and concentration
- Cumulative effects of multiple brain injury
  - Increased severity and symptoms with repeated concussion
  - >3 = 5x risk of Alzheimer's, 3x risk depression, 3x memory deficit
- Dementia pugilistica/Chronic Traumatic Encephelopathy?

Prevention

- Correct tackle technique coached
  - Performed consistently
  - Individual coaching if poor tackle technique cause of concussion
- Explain dangers of tip, high and spear tackles, and tackling players in air
  - Zero tolerance approach



Prevention

- Safe playing or training area
  - Check Ground conditions
  - Ensure all posts and barriers on or close to pitch are covered

- Address player behaviours

- Protective equipment ??
  - Headgear does not protect against concussion
  - Mouthguards do not protect against concussion

Resources

- IRB Concussion Education module for coaches, first aiders, match officials and administrators (http://irbplayerwelfare.com/concussion)
- RFU Headcase resources (http://www.rfu.com/takingpart/playerhealth/concussion) (http://www.rfu.com/takingpart/playerhealth/concussion/resources-and-downloads)
- Headway (the brain injury association) Concussion Advice (https://www.headway.org.uk/sport-concussion.aspx)
- Pocket Concussion Recognition Tool (http://bjsm.bmj.com/content/47/5/267.full.pdf)
- SCAT 3 (http://bjsm.bmj.com/content/47/5/259.full.pdf)
- Child SCAT 3 (http://bjsm.bmj.com/content/47/5/263.full.pdf)

Case Study

[Shontayne Hape: My battle with concussion]

http://www.nzherald.co.nz/nz/news/article.cfm?c_id=1&objectid=11264856

Further Understanding

RFU Headcase Online Modules

http://www.englandrugby.com/my-rugby/players/player-health/concussion-headcase/#

IRB Player Welfare: Concussion Management for General Public

http://playerwelfare.worldrugby.org/?documentid=module&module=21

Summary

- Need to safeguard immediate and long term health of young players
- 4 R's – Recognise, Remove, Recover, Return
- Must be assessed by a medical professional
- Use Graduated Return to play programme
- Contact us or players doctor for help or if concerned

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DON'T BE A HEADCASE

HEADACHE; EMOTIONAL; APPEARANCE; DROWSINESS; DIZZY; CONFUSION; AGITATED; SEIZURE; EARS & EYES

TAKE CONCUSSION SERIOUSLY

THANK YOU

ANY QUESTIONS……..

Contacts

Jennifer Crooke – Head Academy Physiotherapist (jennifercrooke@saracens.net)

Dr Adejuwon – Saracens Club Doctor