



CONCUSSION MANAGEMENT

FIRST AID IN RUGBY

BUILDING CHARACTER SINCE 1886

INTRODUCTIONS & WELCOMES



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www.playerwelfare.worldrugby.org/firstaidinrugby



OVERVIEW



Introduction & Motivation

Safety approach

Introduce a system of assessment for the injured sportsman

- MILS
- Concussion
- Jaw thrust & Head tilt / chin lift
- HAINES

Safety tests

Emergency action planning

WHAT IF



STEPS TO PLAYER WELFARE



If they are on the deck, think about the neck

- Don't shake them, don't roll them, don't sit them up
- Think about the spine, keep it in line and take your time
- Stop the game and ask about pain
- An unconscious player has a neck injury until proven otherwise

STEPS TO PLAYER WELFARE



Tackle concussion

- Don't lose your head, read the signs instead
- Concussion makes no sense - a confused player may be concussed
- If in doubt, sit it out
- Don't risk your brain to win a game

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SAFETY APPROACH: SCENE SAFETY



The biggest catastrophe that can happen in a first aid scenario is where **one casualty becomes two** due to on-scene hazards and a lack of rescuer awareness. Before assisting anyone else, it is of utmost importance that you consider how **safe** the scene is before entering. If the match is still ongoing, there is a risk of injury to a rescuer. Players can also be a hazard by panicking or trying to help. Take **control** of the situation, let everyone know you are in charge both vocally and by your actions and prevent panic. Well-meaning interference from players such as rolling unconscious people over could seriously affect an injury.

SAFETY APPROACH: SCENE SAFETY



- *Move other players away from the casualty as soon as possible*
- *One casualty becomes more*
- *Primere non nocere*



UNCONSCIOUS, HEAD-INJURED PLAYERS



Unconscious head injuries cannot tell you about any other symptoms they may have, such of a painful neck or loss of feeling for example. So, it is important that we treat all injured Rugby players with **head and potential serious neck injuries** in mind when we first attend to them. This is done through an approach called "manual in line stabilisation" (**MILS**) that simply shields and stabilises the head and neck from accidental movement. It is particularly important that nobody moves the player unnecessarily or tries to turn them on their side.

When someone is unconscious, the muscles become floppy and relaxed. The **tongue** – which is also a muscle - can fall back and block the airway (swallowing the tongue). Thus, the absolute priority of all injured players is to assess the **airway** and ensure it is **open** so that air can get in and out of the lungs with each breath.

The vast majority of unconscious Rugby players remain so for only a few seconds or up to a minute. It would be very unusual for a player to remain unconscious for much longer than this, but of course that is not impossible.

HIDDEN INJURIES

Major chest or abdominal injuries in Rugby are extremely rare. However, if they do occur, they often can remain hidden and only present late due to blood loss or “shock”.

Ensure all players who are removed from play with injuries have **adequate supervision** and are not left alone, just in case their condition worsens. Have a low index of suspicion for asking for help or hospital for anyone you are not happy about.

In case an injured player's condition deteriorates, ensure that he/she is supervised at all times



DISTRACTING INJURIES

A distracting injury is a **visually dramatic** injury that may distract you from the lifesaving aspects of looking after an injured player such as a brain or neck injury, an obstructed airway or are whether they are breathing normally. Typical distracting injuries in sport would be badly broken limbs that are deformed or wounds that are **bleeding** profusely. Do not be distracted. **Think about the whole casualty** rather than just, for example, the badly broken leg.



WHO SHOULD BE TREATED AS HAVING A SERIOUS NECK INJURY?

1. Anyone who is unconscious.
2. Anyone with an injury above the collarbone.
3. Anyone who has a pain in the neck.
4. Anyone who has loss of movement in the arms or legs and/or difficulty breathing.
5. Anyone you are unsure about!



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AIM:
**INTRODUCE A SYSTEM OF ASSESSMENT FOR THE
INJURED RUGBY PLAYER**

D – DANGER
R - RESPONSE
A - AIRWAY
B - BREATHING
C - CIRCULATION

MILS

"Manual in-line stabilisation" (MILS) is the recommended approach for an injured Rugby player who may have a head or neck injury.

It simply describes the rescuer using his hands and forearms to cocoon the injured player's head and neck and make an assessment of DR ABC in greater detail.

Ears?

Talk?

What if combative?

Confused?



CONCUSSION



The World Rugby Player Welfare website concussion modules can be found at worldrugby.org/playerwelfare

Tackle concussion

- Don't lose your head, read the signs instead
- Concussion makes no sense - a confused player may be concussed
- If in doubt, sit it out
- Don't risk your brain to win a game

CONCUSSION



Concussion should be regarded as a **significant** injury and taken seriously. It is a functional injury that affects the way the brain works through processing and dealing with information. Although it is commonly caused by a blow to the head, it can come from a **blow** to the body, where the force of the collision is transmitted up to the brain. It is not always associated with loss of consciousness.

Concussion has many different symptoms or signs and many these can be found in the World Rugby **Concussion Guidelines**. Common symptoms include poor concentration, memory loss and balance difficulties. Tools such as the **Pocket Concussion Recognition Tool™** are a useful adjunct that may help with the diagnosis of concussion.

If an athlete has a suspected concussion, he/she should be **removed** from the field of play and not allowed to return. They should not be allowed to drive a motor **Return** to play should follow a graduated approach as per that described in Rugby Concussion Guidelines



Pocket CONCUSSION RECOGNITION TOOL™

To help identify concussion in children, youth and adults



FIFA®



FEI

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 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

WHAT SHOULD YOU DO IF A PLAYER HAS A SUSPECTED CONCUSSION?

1. Remove from pitch.
2. Do not leave alone.
3. Do not allow to drive motor vehicle.
4. Same day medical review.
5. Graduated return to play protocol (refer to the World Rugby Concussion Guidelines).

A clash of heads is often the cause of concussion



MANAGING SPORTING HEAD INJURIES



1. If on the field, approach with MILS (ideally from the front) and think, "Neck?".
2. DR ABC assessment – having an open airway is the absolute priority.
3. Unconscious? – maintain MILS and continue to shout for help.
4. Combative? – let go and "talk the casualty down".
5. Conscious? – make an assessment for symptoms of neck injury - "Do you have pain in your neck?"
6. Remove all concussions from field of play and seek medical assessment.
7. Never leave any head injury unsupervised and do not allow the casualty to drive.

JAW THRUST

The tongue is firmly attached to the jaw bone. So, if the airway is obstructed, lifting the jaw forwards will pull the tongue forwards and away from the back of the throat - allowing the free passage of air in and out. This is known as the jaw thrust procedure. This is the technique of choice for opening the airway in any head or neck injury as it causes very little movement of the neck.



Skill 1

Opening the airway with the jaw thrust procedure



1. Kneel at the head end of the casualty supporting the head with MILS (see later).
2. Place both thumbs on the casualty's cheek bones.
3. Place the index and middle fingers behind the angle of the jawbone.
4. Gently lift the jaw forward – ensuring minimal movement of the head and neck.
5. Reassess the patient for airway sounds.
6. If you let go, the airway will close.

HEAD TILT / CHIN LIFT

Another technique for opening the airway exists and is known as the head tilt / chin lift and relies on the position of the tongue relative to the throat. Tilting the head backwards and lifting the chin forwards effectively moves the tongue forwards away from the back of the throat and opens the airway. However, it involves significant movement of the neck and so is not recommended in a head or neck injury in a Rugby setting.



Skill 2

Opening the airway. Head tilt / chin lift (not if you suspect a head or neck injury)



1. Kneel at the side of the casualty's head and neck.
2. Place one hand across the forehead of the casualty.
3. Put two fingers of the other hand under the chin.
4. Lift the chin forwards whilst stabilising the forehead – so tilting the head backwards.
5. Look in the mouth and assess the airway noises.

Putting fingers into the mouth to grab the slippery tongue will not help open the airway and may make it worse. **Do not do it!**

PARTIALLY OBSTRUCTED AIRWAYS WITH BLOOD OR VOMIT



The only effective way to remove liquids from the back of the throat is to turn the casualty **on to their side** to allow it to **drain** away with gravity. As injured players with an obstructed airway will almost certainly die unless you open it, airway takes absolute priority over any potential neck injury.

Hence, you should **not delay in rolling** the player over onto their side if the airway is gurgling due to witnessed blood or vomit. If this liquid travels further down into the lungs, it will cause further problems with breathing at a later stage.

PARTIALLY OBSTRUCTED AIRWAYS WITH BLOOD OR VOMIT



Ideally, any attempt to roll the casualty should involve up to four people, but a lone rescuer can position the casualty on their side to allow liquid to drain away or even use the **HAINES** (High Arm In Endangered Spine) maneuver. This is a modification of the traditional roll and recovery position maneuver that produces less sideways bending of the neck. It can be found in more detail in the spinal injuries chapter.

Once the airway has been opened, **A** of the DR ABC has been addressed and the rescuer can then make a more detailed assessment of **B** - Breathing.

EMERGENCY ROLL WITH HAINES MANOEUVRE FOR VOMIT THAT IS OBSTRUCTING AIRWAY



Skill 3

HAINES style emergency roll manoeuvre



1. Place the player's nearest hand on their chest.
2. Raise the player's opposite arm alongside their head.
3. Place your hand under the player's head.
4. Place your second hand on the player's nearest shoulder / upper arm.
5. Supporting the head, roll the casualty away from you and tilt the head back.
6. Allow liquid to drain away with gravity.
7. Return to original position.
8. Reassess airway.

MANAGEMENT OF POTENTIALLY SERIOUS NECK INJURIES

1. Take control.
2. Approach with MILS.
3. DR ABC assessment.
4. Ensure help.
5. Don't move unless absolutely necessary (e.g. obstructed airway or not breathing).
6. Keep warm and wait for help.
7. Reassess.

MILS: PURPOSE

1. Discourage the spinally injured player from moving the head.
2. Protect the head and neck from accidental contact during a busy rescue.
3. “Red flag” to others that there is a problem with the neck.



Skill 4

Manual in-line stabilisation (MILS)



1. Kneel or lie behind the head.
2. Place one hand on each side of the head.
3. Try not to completely cover the ears.
4. Continue with DR ABC assessment.
5. Instruct the player not to move their head.

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OAA SAFETY TESTS

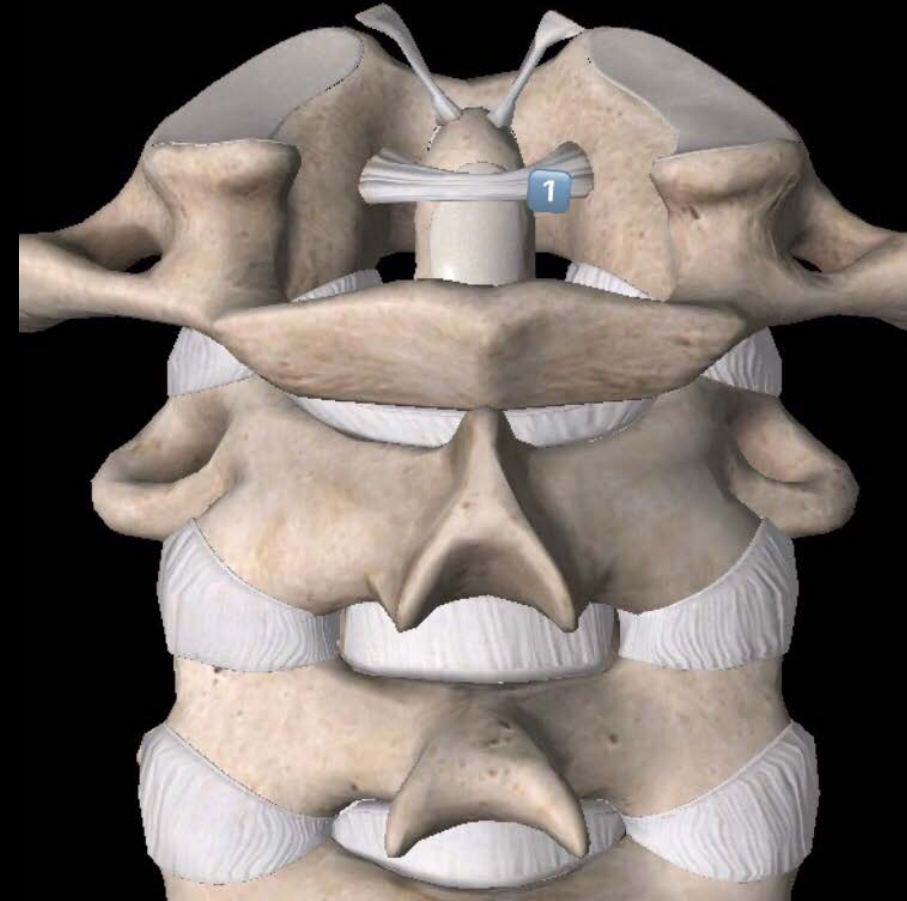
1 Transverse ligament

30

What clinical test assesses the function of this ligament?

SHARP-PURSER TEST

- Instability
 - Supine, push C1 ventral.
- Lig. alare
 - Supine, move head & palpate sp C2
- Stress test lig. Alare
 - Supine, move head & **fixate** C2




OAA SAFETY TESTS

- Sharp-Purser test
 - Supine or sit

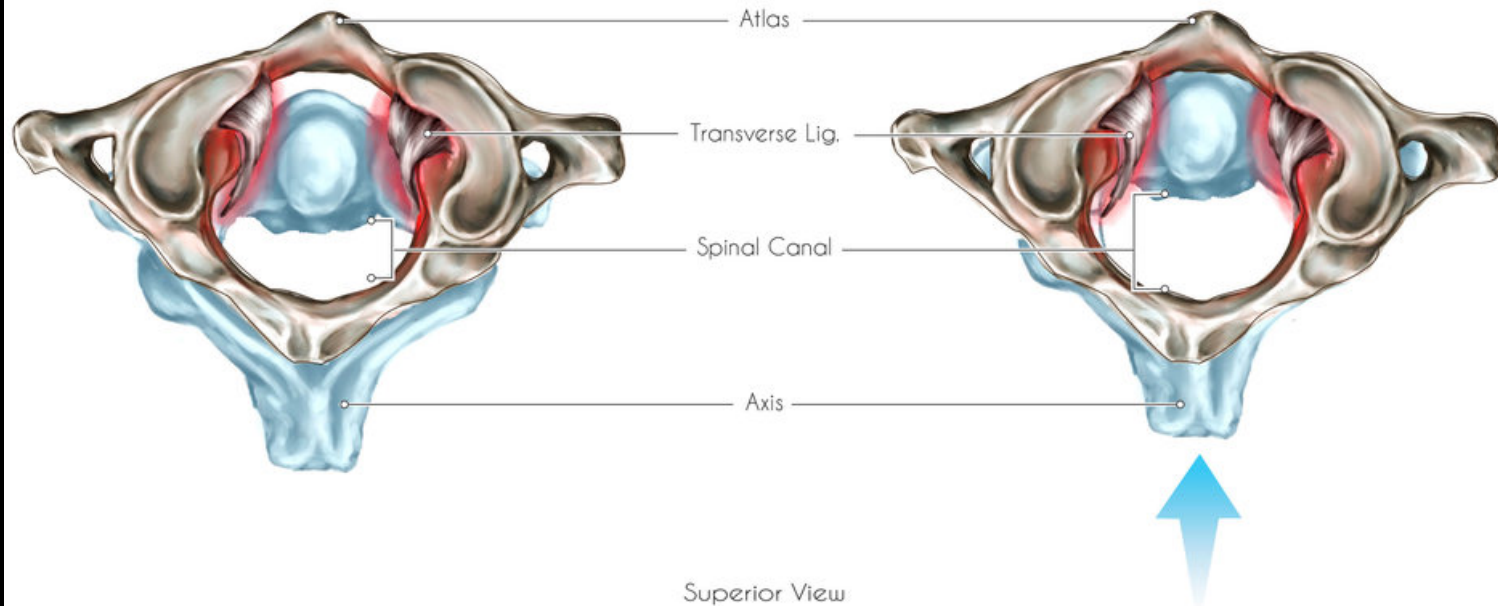
Modified Sharp-Purser Test

Transverse Ligament Injury



Vertebral position due to injury

Vertebral position during test



Atlas

Transverse Lig.

Spinal Canal

Axis

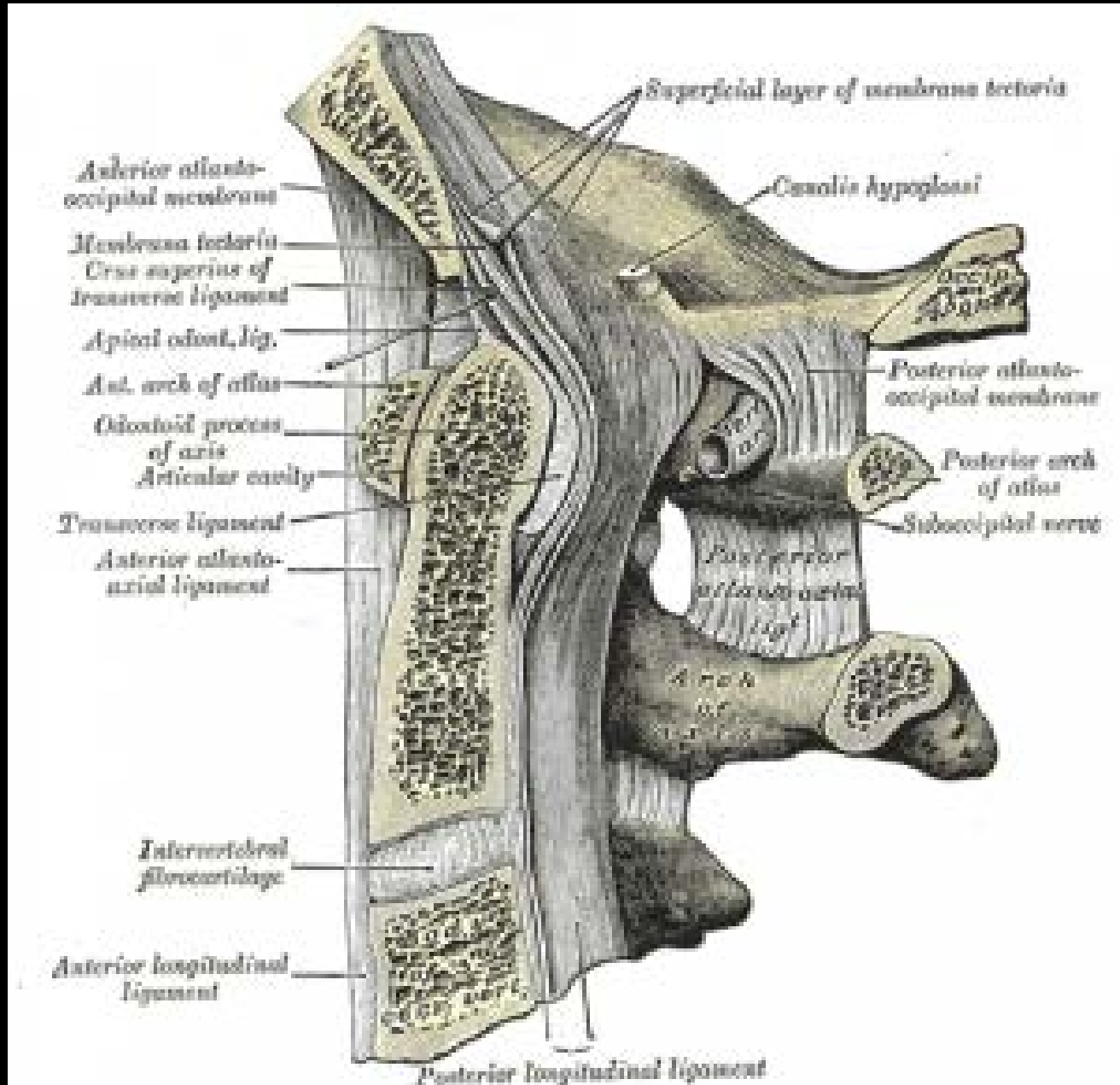
Superior View

OAA SAFETY TESTS

- Membrana tectoria
 - Supine
 - Fix. tp bilat C2 and distx occiput

- **D**iplopia
- **D**ysarthria
- **D**ysphagia
- **D**izziness
- **D**eafness
- **D**eclines strength or sensation over the face (crossed signs may be bilateral)

6 D's of Med. Obl.



OAA SAFETY TESTS

- De Kleyn Nieuwenhuysen



- Which artery do you test?
- What does it tell you?
 - Progressive more symptoms (eg. VBI)
 - Progressive better (eg. nausea)
 - Direct local neck pain (eg. facet)

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EMERGENCY ACTION PLANNING

Whilst the role of the first aider is often reactive, there is no doubt that being **prepared** for illness and injury at a sports stadium will make the situation calmer and more controlled for all involved.

Preparing for the “what ifs?” is a concept known as emergency action planning. This includes simple information such as checking for presence of **emergency kit** like a **defibrillator**, being aware of the skills of anyone acting as a first aider or in an official medical role. Also, knowing the contact phone numbers or signals for help can be of great value, especially at unfamiliar venues. Lines of communication for activating the emergency services are also important



CASE BASED

- Be:
 - Precise
 - Accurate
 - Fast
- Make decision

Thinking is difficult,
that's why most people judge.

CARL JUNG

THINKING MINDS



THANK YOU

