FA LEVEL 2 EMERGENCY FIRST AID IN FOOTBALL

- EFAiF -



The FA

FOR ALL

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Please note that any Resuscitation Guideline or WADA regulation implemented after the production of this manual will supercede the information in this manual.

Please refer to the appropriate websites for up-to-date information **(www.resus.org.uk; www.hse,gov.uk/firstaid; www.WADA-ama.org).**

FOREWORD

This is a manual designed to work in unison with The FA **E**mergency **F**irst **A**id **i**n **F**ootball Course and is not a stand-a-lone text. It is to be used by "First Aiders" working within football in the UK and around the world where relevant. It is a short and **practical guide** to dealing with life and limb threatening injury and illness, mainly on the field-of-play, **both in training and in matches.** It will provide a comprehensive guide to immediate first aid management of player injuries and illnesses. It will also advise on equipment the First Aider should carry to all events when dealing with players. This manual may be of use to those therapists and doctors just starting out in their football medical careers.

What is recommended in this text is "best practice first aid within football."

Injury prevention, risk reduction, nutrition, anatomy, physiology, crowd care and return to play guidance are not discussed in this manual. This is another course and manual that will be available to football in 2019 concentrating on the common injuries and illness that may occur within football but that is outwith the scope of emergency first aid.

This manual has been prepared by those who deal with incidents of this nature, it will complement the EFAiF course and provide a guide to continually refresh your knowledge and learning.

There are 2 on-line e-learning modules on Concussion in Football and Sudden Cardiac Arrest in Football that you are highly recommended to undertake in 2017/18 season to supplement this text. For Concussion in Football please visit: **https://learning.thefa.com/totara/program/index.php?categoryid=69&viewtype=program** or for Sudden Cardiac Arrest visit: **tinyurl.com/FA-SuddenCardiacArrest**

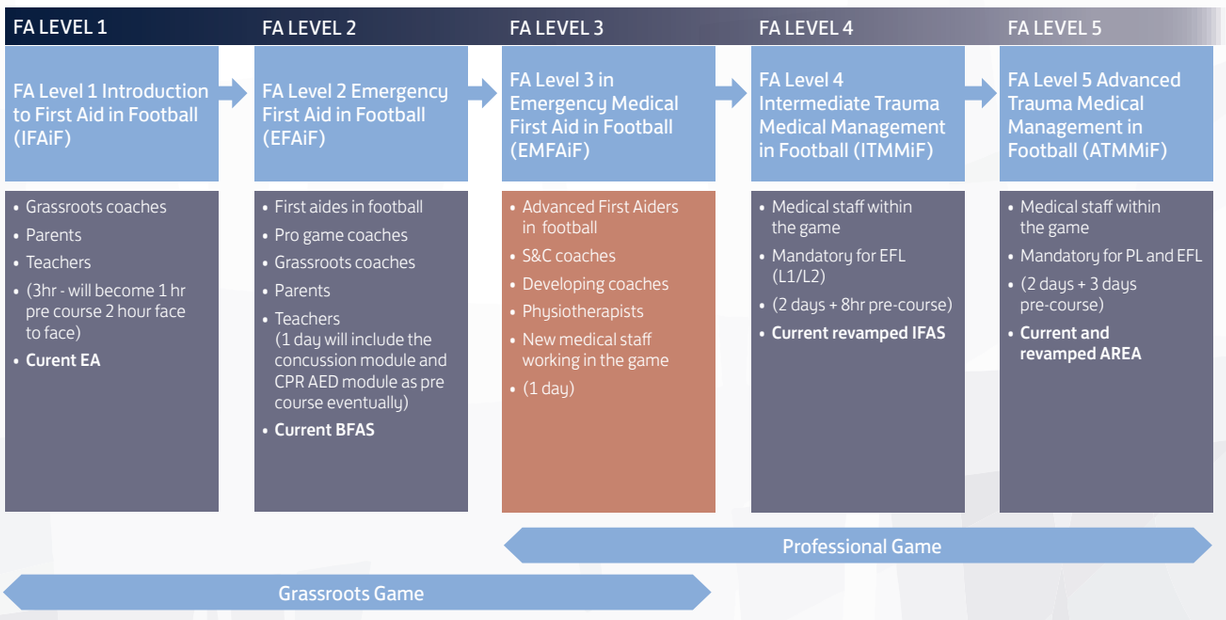
To access the modules you will need to log in with your FAN first which you can do here: **www.thefa.com/account/signin** (if you want you can copy this from IFAiF)

Whilst all efforts have been made to ensure that the content of this manual complies with up-to-date guidelines from within the FA, CFA and the football leagues, it is up to each individual First Aider to ensure that their knowledge and development remains up-to-date.

Provision for sports is subject to the regulations of the HSE (Health and Safety Executive) it is beyond the scope of this manual to go into the details of the HSE regulations and Safety at Sports Grounds (Taylor Report/Green Guide) – **please refer to the HSE website for the relevant sections that refer to you and your sport beyond those that the FA and leagues dictate.**

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June 2017

FA Medical Pathway



Assessment Criteria for **EFAiF** August 2017 onwards

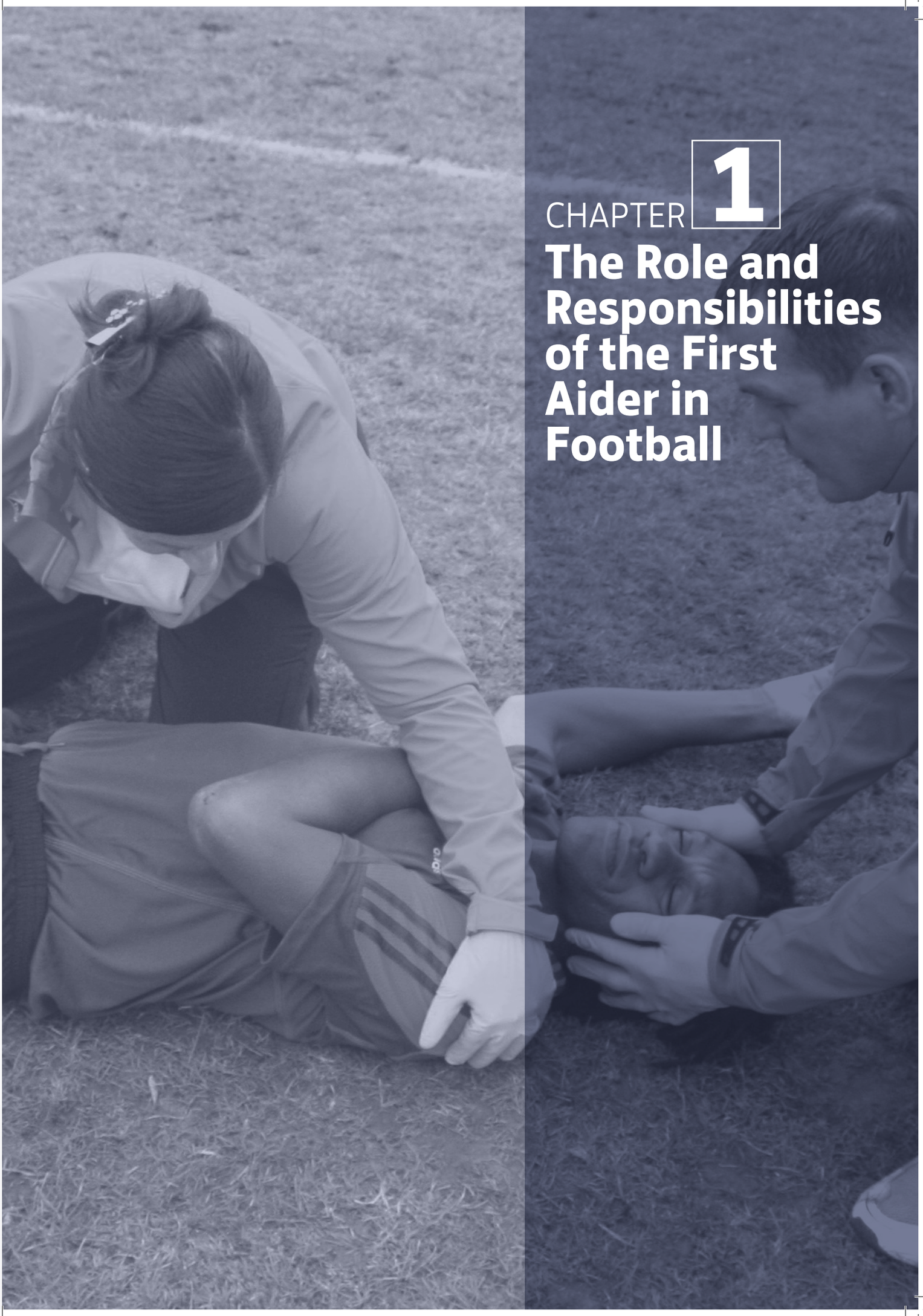
EFAiF is a one day course that has an 'informal' assessment component involved of provision of effective BLS with an AED other competencies will also be assessed by the tutor(s) during the day that are to be completed in order to gain a successful completion of the course.

The overall aim of the course and supplementary text is to raise the standard of first aid provision within football. It is extremely applicable to coaches, parents and carers who are or may be the designated first aid providers within their club/team environment. Whilst every effort has been aligned to take into account best practice from guidelines within the HSE and resuscitation council it does i**nclude additional competencies** and skills not generally in a first aid course or first aid at work course, that by design are also tailored to their own individual environment.

This course goes beyond generic first aid and includes elements specific to football within the UK and worldwide. The inclusion has the additional elements of;

- The role of the First Aider in football
- The jaw thrust as an airway opening technique for a contact sport such as football
- The A-E approach of the injured footballer (inclusive of the unconscious footballer)
- Emergency Action planning for football
- Preparation for action for sudden cardiac arrest in the young
  - Recognition, BLS with AED
  - Breathing for every player during BLS, compression only CPR is not recommended for those First Aiders with a duty of care to respond to players during matches and training (this is different context to the lay person attendance in a different environment)
- The FA Concussion guidelines and concussion management from a first aid perspective for football
- Dispelling the myths of first aid in football
- The football specific first aid kit and record keeping
- Duty of care in football
- Medical emergencies in football
- Focusing on those illnesses that can lead to life threatening injuries in football
- Limb threatening injuries in football
- Wounds and bleeding / Fracture management for football
- Acute soft tissue injury management in football
- Spinal injuries in football, manual in line stabilisation and assisting the ambulance crew with a log roll
- Paediatric elements to all of the above

These sister courses at Level 1 and 2 are not designed to follow the specific one or three day first aid at work competencies or criteria that are not always relevant to the football field. The focus is on how to save a life and will not cover burns, poisoning, minor illness or common sporting injury management, even for football. The purpose is injuries or illnesses that are a risk to life or limb within football. The recovery position is not a major focus as seldom are First Aiders alone with unconscious players, but the position is contextualised for use in sport. The completion of the Level 1 and 2 courses will provide the more relevant and prevalent sports first aid that generic first aid courses do not provide as they cover the remit applicable to their own environment which is specifically first aid at work and the work environment that is not the sporting field of play.



CHAPTER 1

The Role and Responsibilities of the First Aider in Football

CHAPTER 1:

THE ROLE AND RESPONSIBILITIES OF THE FIRST AIDER IN FOOTBALL

An important role is PREVENTION. Prevention of harm to oneself as the First Aider and prevention of further harm to the player requiring assistance.

In order to achieve this, each of the following points should be followed by the First Aider in charge of training or a match:

- Ensure scene safety 1.1 and provide a safe environment 1.2
- Be present at all football events inclusive of training and matches
- Always carry a suitably stocked first aid box or have one easily accessible at all times 1.3
- Have access to clean/sterile water (and ice) 1.4
- Have a working knowledge of the club/team Emergency Action Plan relevant to emergency care of your players 1.5 includes
    - Advise the local hospital emergency department of the match to be played so that they are aware of potential injuries that may come into their department during or after the match
    - Have access to a telephone (mobile or landline) for emergency calls
    - Advise the visiting team coach or First Aider / medic of where you will be standing if they require first aid, and give to them details and directions of the local hospital emergency department, and the location and access to a (mobile or landline) telephone
    - Have a working relationship with the club / team Health and Safety Officer 1.4
- Keep records of all treatments administered to any player or persons 1.6
- Injury prevention pertaining to medical emergencies 1.7

1.1 Scene Safety

An important part of any administration of first aid in football is the safety of the all people involved (inclusive of players, coaches and support staff). The first active role of the First Aider is to ensure his/her safety and then of the players who require your first aid help.

The rules of the Match state that the referee will decide, once the ball is no longer in play, whether a player requires first aid assistance from the First Aider. Do not enter the field until the referee has signalled for you to respond onto the field.

If the field is not safe to enter, for whatever reason, do not enter the field until it has been declared safe by the referee or local security personnel.

For injuries that occur in training session, use your judgement and check your own personal safety before approaching the player.

You will not be of help if you become a casualty.

Although the risks on any football field are going to be reasonably well controlled, it is always worth taking a few seconds to make sure the area is safe and if necessary the match or training session is stopped whilst first aid treatment is carried out.

Safety issues specific to a football field-of-play include:

- Other players – may be arguments amongst opposing team players
- Spectators – field-of-play invasion by spectators, throwing of missiles onto field-of-play
- Unsuitable field-of-play conditions – uneven surfaces or slippery surfaces
- Adverse weather conditions – lightening
- The pitches and facilities are they a safe environment for playing football
- Ensure there are no risks to health from a collision with an advertising board or perimeter fence
- Ensure there are no foreign substances on the field e.g. dog excrement, stones, bottles which can inflict injuries that have been known to happen and that can be quite serious from a lack of awareness of hazards of this type

Remember, that no matter how well equipped or qualified the First Aider is, in serious medical emergencies the best place for the player to be treated is the nearest hospital. **Do not forget to request ambulance assistance as early as possible (call 999). If you are in a stadium where an ambulance is on standby, be sure to request for it to come to assist you.**

1.2 Providing A Safe Environment – Hygiene and Hand Washing

Infection control in football is the prevention of the invasion and growth of harmful bacteria into the tissues of the body. Infection can enter the body through wounds that are in contact with dirt from the field-of-play or from someone else's blood or other bodily fluids, e.g. coughing or sneezing into the wound.

In order to prevent the spread of infection, it is very important that the First Aider considers the following important points:

- Tries to have a high standard of personal hygiene
    - Clean and **wash hands** thoroughly before and after treating each individual player with soap and water as per the guidance given below
    - If the First Aider has to cough, sneeze or blow their nose to use a tissue or paper towel, and then wash their hands afterwards
    - Try to **wear clean clothes**/uniform – germs can be present on soiled clothing
    - Protect oneself by **covering all cuts, lacerations or abrasions** on ones body, particularly on hands and arms, with waterproof dressings e.g. plasters
    - Keep finger **nails short**, clean and free of nail varnish
    - Have a working relationship with the Health and Safety Officer 1.1
- **Avoid wearing sharp jewellery** i.e. rings especially when dealing with the player, since they are a perfect environment for bacteria to live and multiply. Such jewellery might scratch the player and cause the player to have an open wound that is then at risk of getting an infection
- **Wear protective gloves** (ideally disposable) when administering first aid treatment to players and change gloves between every player. These gloves should be warn at all times for the person designated to enter the field of play for player care
- Ensure bandages, gloves, dressings, swabs and pocket masks are single use. If this is not possible, then please make sure that the equipment is thoroughly washed as described below
- Use bleach solution (5mls of standard washing-up liquid and 30mls of standard household bleach, ideally freshly made at every session) for **cleaning up spilled body fluids** from work surfaces and any equipment that you will use again
- Dispose of soiled dressings appropriately so that bacteria do not multiply inside the dressing and then infect someone else who may come into contact with them. Seal them in a plastic bag type container and enquire how medical waste is disposed of in your community club environment.

Seek advice from your doctor about protecting yourself against common infectious and community diseases such as **vaccinations** for yourself against diseases like Hepatitis B, Tetanus and Tuberculosis that may be found in your community

Hand Washing

- Wash your hands before and after any contact with injured players, after removing protective gloves, or after touching any soiled dressings with bare hands
- Routine hand washing with soap and water removes most bacteria from soiled hands. As a general rule, use soap and water when hands are visibly dirty or contaminated blood/ body fluids
- Always wet hands under running water (as hot as you can bear) before using soap, then rinse and dry hands thoroughly with a clean towel or cloth
- It is preferable to remove rings and watches when washing hands to ensure no area of the hands are missed (these would normally not be advised to be worn by First Aiders on the field of play). If you have treated a player without gloves, it is important to also wash any jewellery with soap and water
- It is better to use liquid soap from a dispenser than a bar of soap if possible
- Wash hands for a minimum of 15 seconds vigorously and thoroughly without adding more water
- Clean all parts of your hands, especially your thumbs, fingertips and fingernails
- Rinse hands thoroughly under running water
- Dry hands with disposable **paper towels**. Brisk rubbing movements of paper towels – remembering the back of hands and between fingers. If paper towels are not available, wave your hands in the air until they are dry. Do not dry them on your clothes
- Dispose of the paper towels carefully, do not contaminate your hands when disposing them
- **Try not to use communal hand towels** because they can be a source of cross infection
- **Alcohol-based hand rubs** can be used as an alternative to hand washing on clean skin (if you are field-of-play side and your hands are free of dirt). Alcohol based gels are NOT a replacement for soap and water!! They will NOT kill all germs
- Use **hand cream** to keep your skin in good condition. Skin integrity is an important barrier to cross infection
- Bring you own soap and a clean towel, in case they are missing

1.3 Contents of a First Aid Kit

Below is a recommended list that deals with the majority of injuries described in this manual. The football clubs should be responsible for providing this first aid equipment. However it is your responsibility as a First Aider, to check the contents of the first aid kit before each match or training so that you are sure that all the items of first aid equipment is in date, sterile and present. Please ensure a system is in place to record and order replenishment items as and when required.

Minimal Contents:

- Protective disposable gloves, (2 pairs minimum consider hypoallergenic)
- Rescusi Face Shield or Pocket Mask for rescue breathing (see Chapter 2)
- Plasters* (various sizes, waterproof and conforming so not to restrict movement) (consideration to hypoallergenic if required)
- Sterile trauma type clean dressings (variety of sizes)
- Tape – variety of sizes (elastic and zinc oxide)
- Gauze swabs – sterile and non-sterile
- Yellow clinical waste bags or similar to dispose of soiled dressings and plasters (following local authority guidance)
- Access to ice on the day or ice packs
- Crepe bandages – individually wrapped so sterile
- Triangular bandage – individually wrapped so sterile
- Foil space blankets or preferably ambulance type blankets to keep players warm when injured
- Rescue type scissors
- Paper and Pencil/Pen and spare copies of injury report forms
- Packet of sugar or sachet full sugar jam
- Tweezers
- Sterile water pods (to clean wounds or irrigate eyes)
- Sterile eye pads or suitable dressing
- Mobile phone
- Printed directions to the nearest Emergency Department for any player (home or away) that requires transfer to hospital
- Post code and directions to your venue

This is not a fully inclusive list but a suggested minimum list, this can be added to, to suit the needs of your players and your particular environment.

** where concerns of allergies to plasters may exist, ensure player medical records document allergies in full and ask players/parents before applying plasters if they are allergic to them before they are applied. Stocking also hypoallergenic plasters will help.*

It is **HIGHLY RECOMMENDED** that you also have access to the following equipment for a match of football:

- An Automated External Defibrillator (AED) (see chapter 2) that is kept in a position that is accessible at all times (preferably outdoor heated cabinet) for match and training sessions for all teams within your club
- A first aid room or space to treat players away from direct sunlight, that is accessible with a stretcher and has a doorway that will allow for stretcher entry. Inside should be a sink with access to hot and cold running water and/or sterile water and a clinical waste bin to dispose of soiled dressings
- A stretcher or bed or trolley. If you do not have these keep the player still and warm on the field-of-play until the ambulance arrives
- A copy of this first aid manual
- Player injury record forms (player medical history must be kept inside lockable cupboard)
- A concussion recognition tool aligned to The FA Concussion Guidelines

If you have a health care professional affiliated with your club (doctor or physiotherapist) they may wish to give further advanced treatment to an injury and it may therefore be advisable to have access to other items, that they alone can use or items such as sun-tan lotions etc that you may also be able to provide with prior permission. Signed permission can be taken annually from parents for the supply or application of sun tan lotion and similar items as and when required as they update their child's health form for current conditions and medications taken/required.

As a First Aider you CANNOT provide the player with medications

You may however be able to assist a player in taking their own prescribed medication. Please also refer to Chapter 7.

1.4 Clean Water

Access to clean water is important at all times both for player's to drink and for use in cleaning wounds.

Safe clean water is bottled water with the cap sealed – not a bottle that has been re-filled with water from a tap.

Unfortunately tap water cannot be guaranteed to not contain bacteria that might cause an infection if poured onto open wounds. Clean water can be applied to wounds to wash away dirt and debris (see Chapter 3).

1.5 Emergency Action Plan

All clubs should have a medical emergency action plan in place that is integral to the overall function of their club. The plan will have standard operating procedures (SOP's) or protocols for the actions to be taken to ensure an effective medical response in the event of a player, member of staff , match official or spectator being injured or becoming ill whilst on their site(s) or hired pitches.

Benefits of a Medical Emergency Action Plan are it:

- Supports the minimum standard of care for all eventualities
    - You do not need to know the whole EAP, but ensure you know the ones relating to first aid and medical provision for the players, the team and the facility
- Facilitates a prompt organized appropriate response
    - Who does what / who goes where / etc
- Minimises any delay in commencing effective life preserving first aid (the ultimate aim of your role)
- Promotes optimal care and prevents deterioration of the player
- Organization and efficiency will have the added benefit of also relieving player and parental anxiety
- Facilitates effective teamwork
    - Reduces the stress on those involved
    - Allows a routine that can be practiced in anticipation of
- Promotes recovery of the player
- Reduces risk of potential further damage or disability
    - E.g. Manual in line stabilization considerations for a sport like football
- Reduces the chances of errors by being prepared with personnel and equipment
    - Drills and skill practice will ensure competency is maintained
    - Equipment checking will ensure a fully stocked first aid kit and a working AED required for every session of football training or competition
- Facilitates incidence review, audit and constructive learning
    - Every incident, however minor, should be reviewed and improvements, if required, introduced immediately in preparation for future occurrences
    - **EAP's are fluid and should be updated accordingly as and when necessitated**
    - **An example EAP form to populate see Appendix I**

In essence for an EAP related to first aid, it will revolve around

- Pre- activity preparation
    - Medical EAP (MEAP) for different situations
    - Consider writing for your club if you do not have them. What would be the actions of the personnel within your club for example if a cardiac arrest occurred / what would be the actions if a player suffered a broken leg as another example?
    - Expand on this with what would be your role as a First Aider within the club if a member of the crowd suffered an injury or illness? Is this within your role or is this the role of someone else as your duty of care is to the team?
- The club environment
    - Access to venue / directions to venue / access to specific areas / contact details
    - Attire – are you and your helpers appropriately clothed for the environment
    - Do you have the correct personal protective equipment for example gloves
    - Pitch safety awareness immediate and surrounding ground
- The First Aiders
    - How many / who is located where in the ground / who covers which event(s) / first aid updates
- Helpers
    - Trained to assist the First Aiders as and when required, with regular practice – advised monthly
    - Do you consider your players and coaching staff helpers? If you do – advise and educate them on why we don't want injured players moving "they should not move an injured teammate, the first person to touch the player will be the First Aider. Dispel the myths of swallowing ones tongue
- First aid kit, equipment and facilities
    - Ensure fully stocked and in working order and enough kits to cover all games and training sessions necessary. Remember as a First Aider there is a limit to the kit you can carry, you can only carry that which you are trained to use
    - Have a check list to ensure everyone is signing to say it has been checked and restocked
- Communication
    - Who needs to be advised at what point
    - How will this be done, radio or mobile phone
- Transport
    - Ambulance
    - Designated drivers
- Hospitals
    - Location with nearest Emergency Department – remember to have typed out for visiting times
- Record Keeping
    - Essential part of any First Aider role, to document what you have done and to hand that over to the ambulance or hospital on arrival. Please refer to Chapter 1.6

1.6 Injury recording

If at all possible administratively, because of your responsibility for the care of your team, it is advisable for you to complete a medical record file of all your players detailing their age, date of birth, address, emergency contact details, previous medical history, allergies and illnesses, current medication and any relevant information. This will help you know your players with specific medical conditions that you can monitor and will help you if or when you need to handover the player to the ambulance services. You can also include this to record your current first aid treatment as below.

Following an injury or illness to a player on the field that you deal with as a First Aider you should record (Appendix 3) the details of:

- Date and time of the injury/illness and if an injury, what was the mechanism e.g. what occurred to cause the injury e.g. tackle, heading football, collision with another player
- Player's name
- Date of birth or age
- Location of incident (e.g. training or match)
- First aid treatment given
- Player observations since the injury/illness e.g. is the player improving or deteriorating

This information can then be used to handover to the ambulance service if required or to be kept by yourself for your medical records. If you are using the above for medical records, each time you see the player for further treatment (if required) you can add subsequent treatments to the above record so that a full record of the player's progress is recorded for each injury/illness sustained.

All medical and personal information that you keep must always comply with the UK data protection act. Any data with confidential information (name, address, medical condition and such) **MUST** be held in a secured environment, i.e. locked cupboard.

The role of the First Aider involves a position of trust and confidentiality and is a large part to the commitment of that role. Player details, medical information and treatment should never be discussed with **ANYONE** not directly involved with their care.

Should you wish for the player's requiring parental consent to gain parental permission to apply such items as plasters and ice, then store those records with the medical records.

As a First Aider you cannot prescribe medication to players but you can assist them in taking their own. Player's with conditions such as asthma will be required to bring their medication with them to training and matches, which you might store for ease of use in your run on bag so it is easily accessible to player's if/when required (see Chapter 7).

Accident/Incident Book

As many players at clubs, particularly junior sides, will not be employees of the club, there may be confusion over the requirement for completion of accident books. It is good practice and can provide documented evidence to the benefits of the First Aider, if an accurate record of any untoward incidence or injury and treatment of is recorded at the time.

It is advisable to discuss the requirements of an Accident Book with both your club and the FA to ensure the compliance of your sport or team with any health legislation or Governing Body Byelaws and recommendations. This would be good practice.

There will also be a Club Welfare Officer attached with your club, ensure you touch base. Other information that may be required to be completed are The Catastrophic Injury and Sudden Death Referral form that is completed when a severe incident occurs and the The Football Association Safeguarding Children Best Practice Guidelines: Club annual membership, information and consent form that is completed by the parent/carer at the start of each season.

1.7 Prevention

This section will concentrate on some of the preventions that, as a First Aider, you can assist with. Other preventable interventions you can assist with as a First Aider are discussed in the asthma, anaphylaxis and sudden cardiac arrest sections in Chapter 7 'other medical emergencies'.

Training with Fever

Exercise plus Infection is an important area of concern and risk for sports active individuals. The risk of a player exercising when he/she has an infection can have serious effects on the heart and therefore players with symptoms must not undergo training nor partake in any matches until they are symptom free.

Minimise the risk of infections by:

- Do not allow infectious players i.e. players with the following symptoms; namely diarrhoea, fever, vomiting or flu type symptoms to attend training or play in a match. They must also avoid contact with other players so as not to spread the infection to others
- Ensure players wash their hands and do not share bath towels
- Monitor player training – avoid over-training eg excessive fatigue, declining performance
- Advise the players on diet, ensure they eat adequately to match their activity. This may also include advising parents on good nutrition and a healthy balanced diet where applicable. This diet should follow the Government recommended guidelines of food intake to match expenditure, good hydration, eat 5 a day. Where you feel dietary problems exist refer the player to their own GP. Players should not be encouraged to take supplements unless their is a medical prescription for them
- Consider Immunisation/Vaccination – e.g. Flu jab or Tetanus. Speak with their GP if they are particularly prone to specific types of infection or illness or if they have a cut that has an infection from polluted grounds

Will infection affect performance of a footballer?

Research suggests that an "average" cold does not significantly impair the parameters of athletic performance.

However, please be cautious and use the following parameters as a guide: **If they have any systemic symptoms, such as a fever (high temperature), muscle pains, productive cough, severe sore throat or any symptoms (for example diarrheoa and vomiting) then they should not play or train until they are symptom free.**

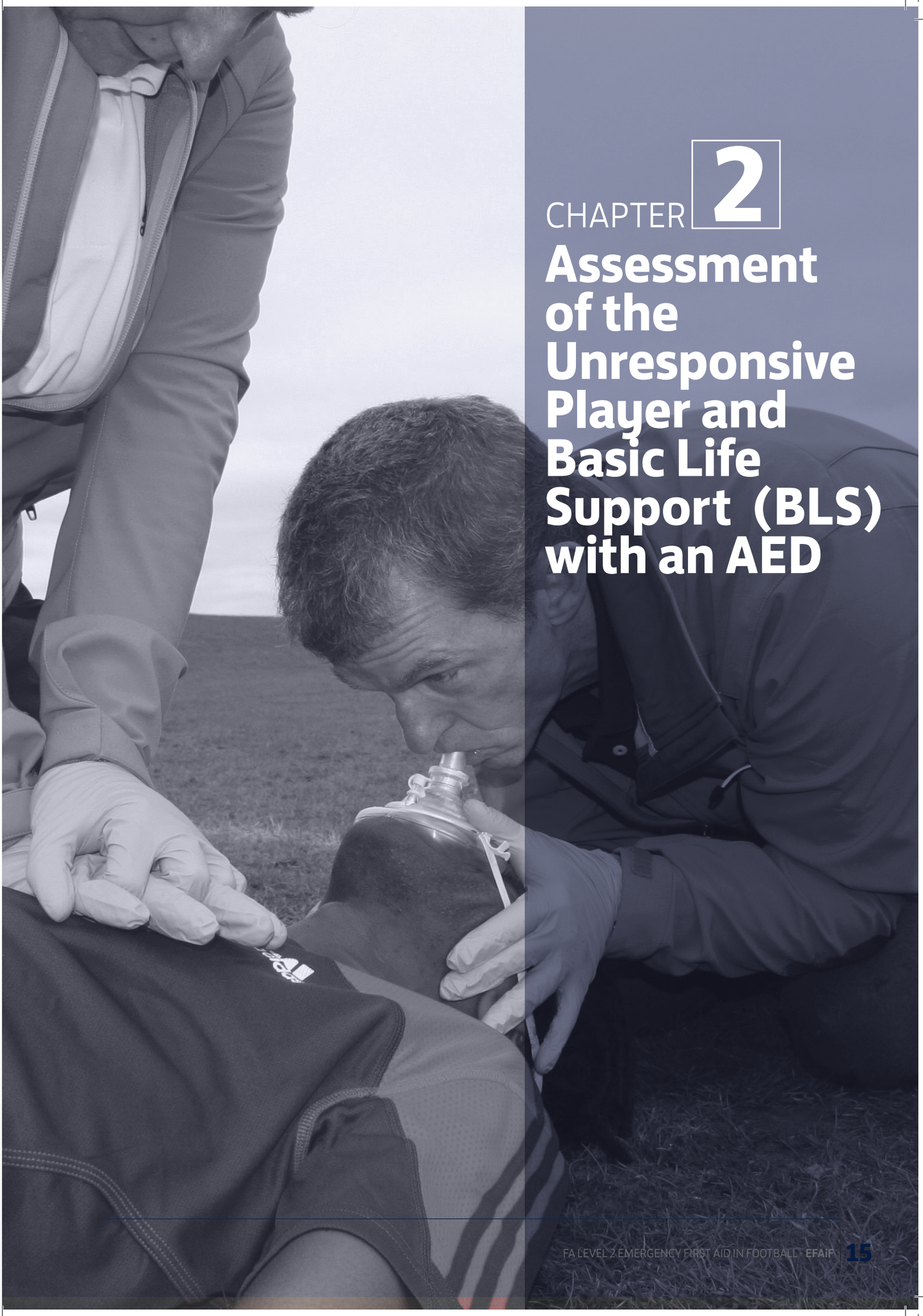
Your Experiences

Activity 1

Please complete the below activity, considering what you have already had experience of and what you feel fits into each category.

Green	**Amber**	**Red**
'Minor' injuries or illnesses	'Serious' injuries or Illnesses requiring hospitalisation	Life-threatening conditions

CONDITIONS	GREEN	AMBER	RED
Muscle strain	☐	☐	☐
Ligament sprain	☐	☐	☐
Choking	☐	☐	☐
Unconsciousness	☐	☐	☐
Heart condition	☐	☐	☐
Asthma	☐	☐	☐
Abdominal injury	☐	☐	☐
Fracture	☐	☐	☐
Seizure	☐	☐	☐
Graze	☐	☐	☐
Cramp	☐	☐	☐
Allergy	☐	☐	☐
Bruise	☐	☐	☐
Dislocation	☐	☐	☐
Concussion/Brain injury	☐	☐	☐
Hypothermia	☐	☐	☐
Head injury	☐	☐	☐



CHAPTER 2

Assessment of the Unresponsive Player and Basic Life Support (BLS) with an AED

CHAPTER 2:

ASSESSMENT OF THE UNRESPONSIVE PLAYER AND BASIC LIFE SUPPORT (BLS) WITH AN AED

2.1 The Unresponsive Player - Approach and Contact

Players should always be approached and managed in the following manner. **This is known simply as the "DR ABCDE or A-E" approach.**

NB If any life-threatening problem is found it should be dealt with immediately before moving on to the next stage. An example would be a life threatening catastrophic bleed (see Chapter 3).

NB If the player is not breathing or not breathing normally, the assessment would be stopped and Cardio Pulmonary Resuscitation (CPR) commenced immediately.

There are many potential causes of a player becoming unresponsive in the field-of-play. The following is a list of the most common causes:

- Sudden cardiac arrest (see Chapter 7)
- Asphyxia – lack of oxygen into the body (see Choking)
- Shock (see Chapter 3)
- Head Injury (see Chapter 6) i.e. traumatic injury on the field-of-play*
- Heat Exhaustion (see Chapter 7)
- Epilepsy (see Chapter 7)
- Diabetes (see Chapter 7)
- Fainting (see Chapter 7)

***In all situations that involve trauma it is important to immobilise the head and neck until a cervical spine injury is ruled out (see Chapter 6). The method of dealing with the airway will be different where trauma has occurred and spinal injury is suspected.**

The A-E Approach – for the assessment of all injuries on the field-of-play

This approach is applicable for assessing all injuries you encounter on entering the football or training field-of-play for player injuries and is not just applicable to BLS. The A-E approach is always preceded by checking first for your own safety to attend to the player i.e. dangers and second for the player's response (DR ABCDE).

Danger

- On approach look for any dangers to yourself and the player
- Approach, **if it is safe to do so**
- Remember if you are incapacitated you will be of no help to anybody
- If it is unsafe, wait for the referee or local security personnel to sort out the matter. Remember to call the ambulance if required

Response

- Speak to the player in a clear, loud voice
- If they do not respond
  - Assuming **no trauma** - apply painful stimuli by squeezing their earlobe between your thumb and finger and if they still do not respond assess the airway to see if it is clear (see below)
  - If trauma suspected – approach with manual line stabilisation and without moving the head and neck either squeeze the earlobe or if you have already checked the mouth is clear, a jaw thrust will act equally as a pain response assessment
- Always consider a neck injury and do **not** "shake" an unresponsive player in order to assess their response

Airway

- **Look** inside the player's mouth to assess if anything is blocking their airway
- Examples of items that may block a player's airway on the field-of-play:
  - Loose and poor fitting gum shield if the player wears one
  - Blood in the mouth
  - Broken and loose teeth
  - Mud (especially if the ground it wet and the player falls face down)

- The usual thing that blocks the player's airway is the player's own tongue. This occurs when the player is unresponsive usually on their back. The muscles of the tongue go floppy and the tongue falls back into the back of the throat completely blocking the airway. The way to lift the tongue from off the back of the throat is to tilt the head back (see below) if there is no potential of a neck injury being present. If there is **suspicion of a neck injury or trauma** involved, then we lift up the chin also known as a jaw thrust (see Chapter 6)

- Remove any obvious obstructions with the tweezers from the first aid kit if they are clearly visible and to the front. Do not place your fingers inside the mouth so that they are not bitten by the player
- Open the airway using the Head Tilt Chin Lift manoeuvre (see below). **If you suspect trauma or the player has fallen onto his/her head, neck or face, then in this case a neck injury may be present and opening the airway should not move the neck. In that case, use the chin lift/jaw thrust method only (see later Chapter 6)**
- If the player is face down or on their side and you need to get them onto their back, a safe way of achieving this is discussed in Chapter 6
- If well fitting dentures or gum shields* are present leave them where they are inside the mouth

** Well fitting gum shields are the custom made shields made for individual players by their dentist or orthodontist*

Breathing

- **Look, listen and feel for breathing for a maximum of 10 seconds.** This should all be done at the same time, by looking to see if the player's chest is rising and falling as they breathe in and out. Listen by placing your ear close to the player's mouth and nose to listen for sounds of breathing. Feeling for breathing can be done in two ways, first by placing your hand on the players chest to feel if it rises and falls as they breathe or second by placing your cheek close to the players mouth in-order to feel air being expelled onto your cheek as they breath out
- If the player appears **not to be breathing** (that is you cannot see, feel or hear breathing) or **not breathing normally** begin Cardio-Pulmonary Resuscitation **(CPR)** – see below. Not breathing normally is when the player is only taking the occasional gasp of air. Do not mistake this for normal breathing. For a player to be breathing normally they must take at least 10-12 breaths in and out every minute, equating to 2 breaths in 10 seconds of assessing
- If the player is breathing normally continue with the assessment

Circulation

- Look for and stop with any life **threatening bleeding** (see Chapter 3)
- Look for **Signs of Life** – including
  - Normal breathing (spontaneously taking a breath)
  - Eyes – are they fixed and staring or acknowledging your arrival?
  - Spontaneous movement of arms and legs?
  - Attempting to cough
  - Skin colour of the player

REMEMBER: the player has been exercising – they won't be pale, cold or clammy – they will be red, hot and sweaty.

Disability

If the player is breathing normally and has signs of life i.e. chest is rising and falling and airway is open but they remain unresponsive, you can reassess and monitor the player's level of response for signs of improvement:

- Disability level. This is achieved by noting if
  - The player is fully **alert** and responsive to you
  - The player is not alert but is responsive to your **voice**
  - The player is not alert but does respond to your touch or to a **painful stimulu**s e.g. earlobe squeeze
  - The player is totally **unresponsive** – does not respond to any of the above

A	Alert
V	Responding to verbal stimuli
P	Responding to painful stimuli
U	Unresponsive

Expose Examine

- You cannot treat what you cannot see. You must be able to see the injury in order to be able to effectively treat it. Injuries may be hidden under player clothing
- Expose the relevant injury by removing as much clothing as is necessary when in public on the field to look for underlying injuries, you must see it before you can move it!
- Consider the players medical history that you are aware of so that you can pass this information onto the Ambulance on arrival

A good way of remembering the information required to be passed onto the Ambulance, use the following pneumonic - SAMPLE:

S	**Signs and symptoms –** that player complains of or you have seen
A	**Allergies –** any known allergies e.g. hay-fever, penicillin
M	**Any Current Medication prescribed or other**
P	**Previous Medical History** – relevant medical conditions that may affect the current injury or its management
L	**Last food or drink** that the player consumed
E	**Events leading** to the incident and shortly after i.e. mechanism of injury, does the player recall all events i.e. is the player concussed, time of injury is important and what first aid you have provided so far

For those experienced in first aid, the medical pneumonic used would be the ATMIST handover and it can be adjusted to suit first aid needs and can compliment the SAMPLE information.

A	Age of player
T	Time the incident occurred
M	Mechanism of injury
I	Injuries sustained/that the player presents with
S	Signs and symptoms player presented with
T	Treatment that you have provided to date

2.2 Basic Life Support (BLS) - Cardio-Pulmonary Resuscitation (CPR) with an Automated External Defibrillator (AED)

Sequence for the collapsed player. This section has the same initial approach as the unresponsive player, but if there are no signs of life CPR should commence immediately as described below and an AED applied as soon as it arrives.

1. Danger

Ensure your personal safety

2. Responsive

- **Shout for HELP. If you are called to help a player on the field, then make sure you have others to help you. If you come across the player unresponsive and you are alone, call immediately for help**



PIC 1 Checking for response (non-trauma)

- **Assess if the player is responsive** by painful stimuli e.g. pinching the ear lobe and asking him/her loudly "are you all aright?" (as described above)



PIC 2 Pinching earlobe (non-trauma)

3. Airway and Breathing

If the player responds

- **Assess the player** using the ABCDE approach
- Check to see if further medical assessment is required? This may be in the form of an ambulance being summoned for example a suspected neck injury or a profusely bleeding wound that cannot be managed with basic first aid

If the player does not respond:

- **Look in the mouth.** If a foreign body or debris/mud/blood is **clearly visible,** attempt to remove it (as taught above)



PIC 3 Look inside the mouth

- **Open the airway** – head tilt and chin lift is the manoeuvre of choice if there has been no associated trauma i.e. in a witnessed collapse with no suspicion of a neck injury
- **A head tilt and chin lift** is done by placing two fingers under the players chin and your other hand along the players forehead
- Apply pressure to tilt the head backwards with your top hand and with the hand under the chin, lift the chin
- **This movement may allow breathing to restart**



PIC 4 Head Tilt Chin Lift

- If you suspect that trauma has been involved, such as uncontrolled fall or foul play on the field-of-play the technique of choice would then be a **jaw thrust** or chin lift (see below) whilst maintaining in-line stabilisation of the neck (see Chapter 6 for further details)



PIC 5 Jaw Thrust/chin lift technique used to open the airway where there is suspicion of a neck injury, the neck is held between the hands (see chapter 6)

If there is a risk of neck injury, establishing a clear airway takes priority over concerns about a potential neck injury

- Keeping the airway open, look, listen and feel **(for no more than 10-seconds)** to determine if the player is breathing normally
- Listen at the player's mouth for breath sounds
- Look for chest movement (can you see the players **chest** rising and falling as he breathes in and out)
- Feel for air on your cheek – place your head to the side close to the player's mouth and see if you can feel his breath on your cheek



PIC 6 Look listen and feel for breathing no longer than 10 seconds

PLEASE BE AWARE

- Occasional gasps, slow, laboured or noisy breathing is common in the early stages of cardiac arrest (the term medically applied is **agonal breathing**/gasping/ abdominal breathing) – it is a sign of cardiac arrest and should not be mistaken for a sign of life. **Normal breathing is at least ten breaths every minute**

HOW TO RECOGNISE THIS

- Stomach rises and falls – **not** the chest
- Exercising players may use accessory muscles if breathing hard, but in addition to the stomach appearing to move the chest would definitely be moving
- Agonal breaths are irregular and can be accompanied by a snoring sound, present in up to 40% of arrest victims

THIS IS NOT NORMAL BREATHING

OTHER COMMON FIRST SIGNS OF A CARDIAC ARREST ON THE FIELD OF PLAY ARE:

- **Witnessed collapse** for no apparent reason
  - Any witnessed sudden collapse is a cardiac arrest until proven otherwise

and

Presence of a seizure / fit

  - The player will appear to be having a fit as blood flow to the brain is reduced
  - **This is not epilepsy – suspect cardiac arrest in a player with no diagnosis of epilepsy**
  - For management of players with epilepsy (see chapter 7)
- **If in doubt start CPR**

4. If there is NO breathing or the player is not breathing normally:

- One person should start **CPR** by starting external chest compressions with ventilations (assisted breathing) at a ratio of 30 chest compressions followed by 2 breaths - see below
- Other persons, if present, should:
  - Call for the ambulance if it already has not been called and report back afterwards
  - Bring the AED ASAP
- If you are **alone*** this will mean leaving the player to go to summon for help before you start CPR

** in a game such as football it is extremely unlikely that you would ever be totally alone, other players, coaches, parents and support staff will be available to assist. Please note the differences for paediatric BLS. See Chapter 2.4*

Chest Compressions

- Kneel next to the player's chest
- Place the heel of one hand on the centre of the player's chest, then place the heel of your other hand on-top and interlock your fingers, ensuring that your shoulders are directly over the player's chest and your arms and elbows all straight, perpendicularly
- Press down using the heels of your hand in a rhythmic manner, then release the pressure without losing contact between your hands and the player's chest
- Pressure/compression and release should take an equal length of time
- The recommended depth of compression is 5 to 6cm but push as far down as you can
- The recommended rate is 100-120 compressions in one-minute, which you can count as 1 and 2 and 3 and etc, pushing down on the number and releasing on the "and"
- Once chest compressions have started you must continue with this in a ratio of 30 compressions to 2 breaths until the player recovers (shows signs of life) or medical help arrives



PIC 7 Chest compressions (Side View)



PIC 8 Chest compression

Rescue Breathing

- Open the airway (jaw thrust is recommended for a football match if c-spine cannot be ruled out, e.g. where the incident is unwitnessed) and start rescue breathing of the lungs with the most appropriate equipment immediately at hand. A pocket mask is highly recommended to be a standard piece of equipment carried by First Aiders in attendance at a football match or training, a face-shield as a minimum
- Place the face mask onto the player's face, over the mouth and nose (round edge to chin, pointed end to nose)
- Ensure there is a good seal between mask and skin. The seal is maintained by ensuring your fingers pull the chin into the mask, this also has the dual role of opening the airway at the same time. The thumbs rest on the cheek bones, but minimal pressure is applied downward onto the face
- Use a breath-in time of 1 second and give enough volume to produce a chest rise as in normal breathing
- Watch the chest rise and then fall after you remove your mouth
- Take another breath of fresh air and repeat the process
- Take another breath of fresh air and repeat the process
- **Give a total of 2 breaths**
- **Then return to chest compressions**
- Where the collapse is witnessed and there is no suspicion of a neck injury Head Tilt Chin Lift can be used

Two person CPR

- **If more First Aiders or bystanders are present one person can provide chest compressions alternating with one person giving the rescue breaths**
- Once the first person has counted to 30 compressions out loud, the second rescuer provides the two breaths and then the chest compressions begin immediately after the second breath is provided
- Please ensure no downward pressure is being applied to the chest when breathing is provided, this may limit the air reaching the lungs



PIC 9 Pocket mask ventilation/breathing



PIC 10 Two-person CPR



PIC 11 Face shield



PIC 12 Rescue breathing through a face shield

- If no pocket mask is available – a face shield can be used, which is a thin sheet of plastic specifically designed with a filter (see pic 11)
- The plastic shield is placed over the players face and then air is blown into the filter by the rescuer as above for pocket mask breathing, at the same time as pinching the player's nose closed (see pic 12)

- If no pocket mask or face shield is available then **mouth-to-mouth** ventilation may be given
- If, for whatever reason, you do not wish to undertake mouth-to-mouth rescue breathing, you can still do CPR effectively by continuing good quality chest compressions until help or a **pocket mask arrives.** For football, First Aiders with a duty of care to respond for player care rescue breathing is a required element of CPR and thus a pocket mask (face shield) should be a minimum item of equipment in your run on bag
- Close the player's nose between your finger and thumb
- Keeping the head in the jaw thrust (JT) or head tilt chin lift (HTCL) position, make a seal around the player's mouth with your mouth and blow steadily into the player's mouth whilst watching for the chest to rise
- Keeping the airway open, remove your mouth, take a breath of fresh air and repeat the above
- **Give a total of 2 rescue breaths after every 30 chest compressions**

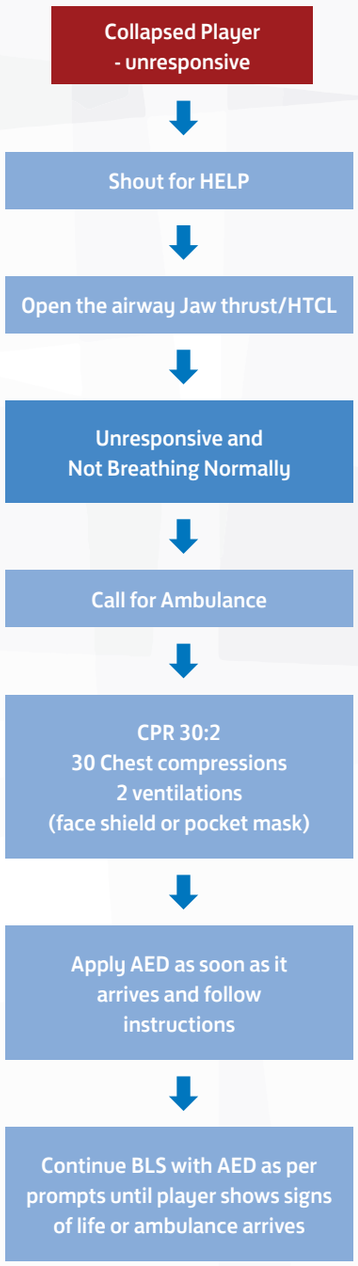
If your rescue breaths do not make the player's chest rise and fall effectively, give another 30 chest compressions before your next attempt, then repeat a total of 2 breaths as above, ensuring the airway is open (HTCL or JT).

- Do not pause to re-assess the player. Minimise interruptions to chest compressions
- **Continue resuscitation until the player shows signs of life or the Ambulance arrives**. Signs of life would be the player takes spontaneous breaths*, their chest rises and falls, they attempt to cough, they make voluntary movements
- If you can, change the person providing chest compressions about every 1-2 minutes to prevent fatigue
- You should not stop CPR until the player shows signs of life or help arrives

If you have an **automated defibrillator then this must be applied as soon as possible.** Follow the prompts made by the defibrillator.

** spontaneous breathing may not initially on recovering from sudden cardiac arrest be enough to sustain life and be classed as normal breathing (more than 10 breaths per minute). If the player is spontaneously breathing, one can assume they have a pulse, provide rescue breaths in between the player's own spontaneous breaths until the spontaneous breathing rate exceeds 10 breaths per minute.*

A flow diagram to follow for CPR on the Football Field-of-play



2.3 Automated External Defibrillation

The automated external defibrillator (AED) allows a quick and easy way to administer an electrical shock to a patient with the minimum of fuss. Although most AED's will vary in their shape and size, the general principles remain the same. Not all people who collapse in a cardiac arrest will have a shockable rhythmn, so the AED will not shock everyone. However, the majority of initial arrythmias are shockable which is why an AED is an essential part of your first aid equipment.

The aim of defibrillation is to stun the cardiac cells in order for the natural pacemaker of the heart to resume its natural role and allow effective cardiac contractions.



PIC 13 iPad AED unit

AED's are easily stored and have a long battery life, however these should be checked on a regular basis e.g. prior to every match and training session. Please refer to manufactures guidelines for care of the defibrillator you have and its contents. You should have a designated person within your club who checks the AED on a regular basis.

AED's normally may come with some additional equipment such as a razor to shave extremely hairy chests to allow the pads to fix securely, a pocket mask or face shield, a pair of sterile gloves and a set of AED pads. Most AED pads now are extremely sticky and it is very rare that a razor would be required for pads to adhere to the chest, only consider shaving if the pads haven't adhered to the chest wall.

AED are normally activated spontaneously on opening the cover, but some do have an on/off button. Please ensure you are aware of how your own club AED is activated. They speak to you throughout the process, initially requesting that you place the pads onto the patient's chest.

REMEMBER! IT IS ESSENTIAL THAT AS THE OPERATOR YOU ARE FULLY CONVERSANT WITH THE MODEL AND CONTROL FEATURES OF THE AED MACHINE USED AT YOUR FACILITY. PLEASE KNOW WHERE IT IS STORED AND ENSURE YOU HAVE AN ACCESS KEY!

Safety rules to be observed before each shock sequence

- Nobody must be touching the player once the AED has given verbal instructions not to touch the patient analysing rythmn. This is the phase when the AED is analysising and deciding if to administer a shock
- If the AED advises a shock is required, it will have a brief period of "charging". During this charging period recommence chest compressions until the AED advises "press flashing button to deliver shock." It is safe to touch the chest during the charging period and this minimises time off the chest which has been shown to have a positive influence on a successful outcome
- The **Stand clear** shout is always given and always have a good look to make sure no one is touching the player before you press the button to deliver the shock
- If the player's chest is wet with sweat or water, wipe it with a towel before applying the AED pads
- Although it is better for the player not to be lying on a wet surface, AED use can still be underataken in the wet and rain. If the player is in a puddle/pool of water to be safe move the player quickly out of the puddle before attaching the AED pads. DAMP on-the-field conditions are acceptable and you can shock. If it is raining, use an umbrella or coat to shield over the top of the AED and players chest
- Remove any supplemental oxygen away from the face and immediate area before AED use (if oxygen present)
- If the player has to be shocked whilst lying on a metal stretcher e.g. scoop stretcher, make sure that either pad or that nobody is touching the stretcher before shock administered
- Remove any jewellery (necklace if present) or underwire bra for female players

Normal Pad Position

The positions shown below should be used wherever possible. Right upper chest and left lower chest, slightly to the side. Dependent on your AED unit will depend upon what the pads will look like, however the position wont change. The Zoll AED is designed to be one unit with pads and x-marking the spot for compression hand placement.



PIC 14 AED pad position using a Zoll AED

Automated Defibrillator Controls

Although all machines will vary, a typical AED will have the following controls:

- On off button
- Discharge button – a flashing button that once pressed will deliver a shock to the player

Applying the AED to the player

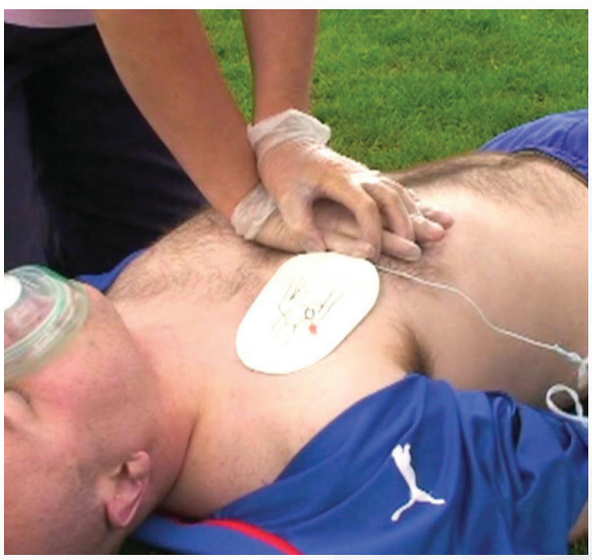
- Cut off clothing where necessary (see picture 15), minimise interruptions to chest compressions as much as possible and try to cut around the person providing compressions
- Dry the chest (if required) again do not interrupt chest compressions. There should be no need to shave players chests, as the pads are extremely sticky. The aim is to get the AED on to provide a shock (if required) as soon as possible. (see pic 16)
- Apply both pads onto the player's bare chest, checking that all wires are firmly in place (as above picture shows). If there is more persons present one person can continue with chest compressions whilst the other person places the AED pads in place (see pic 17)
- Pad placement is normally right upper chest, left lower chest (see PICS 18 and 19)



PICS 15 Cut off clothing



PICS 16 Dry the chest



PIC 17 Apply both pads onto the player's bare chest





PIC 18 and 19 Pad placement

- Once the pads are correctly and safely in place, the AED will analyse the rhythm and request that the player is not touched
- Ask the persons performing CPR to stop and move away "stand clear". The machine will then follow the algorithm (see below)
- If a shock is advised, the AED will say shock advised, charging. There will be a brief time to charge (re-commence chest compressions at this point). This time from 0-8 seconds, will depend on your AED unit. Newer units charge almost instantaneously. Then the discharge button will flash and the AED will prompt you by saying "Shock advised, push flashing button now"



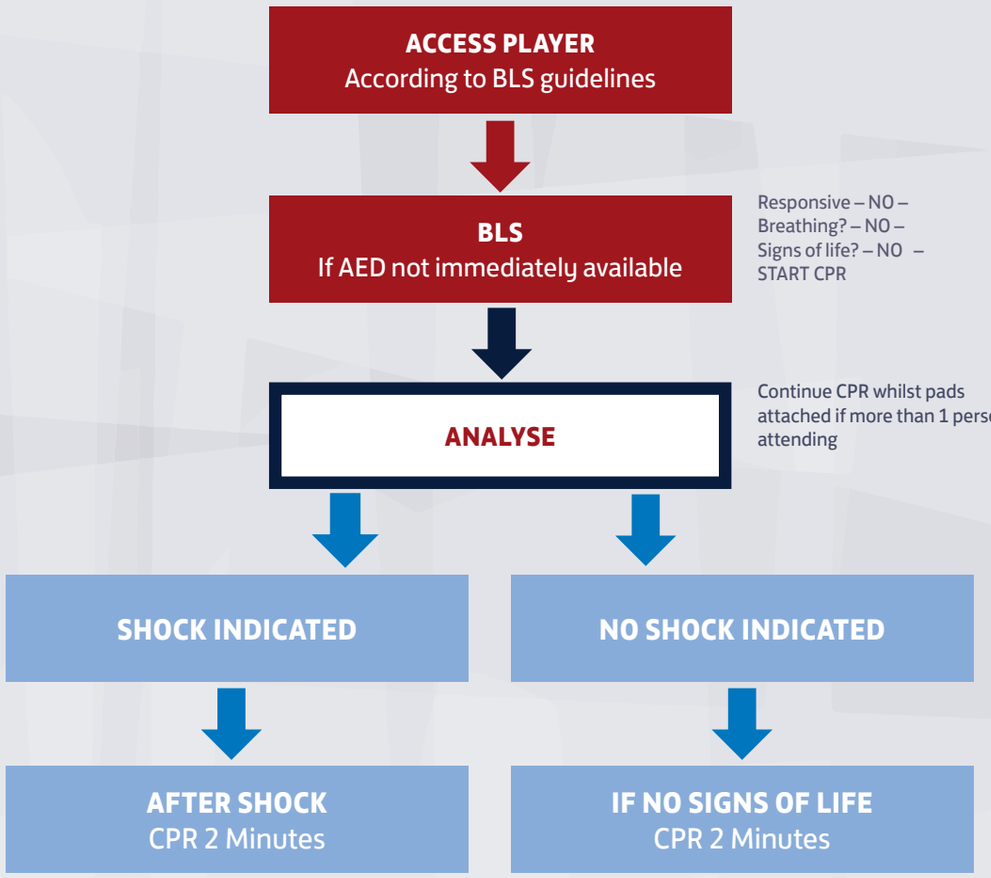
PIC 20 Stand clear, AED safety and push flashing button now

- It is IMPORTANT that you check that neither you or any other rescuer is touching the player, once you are certain everyone is clear then push the flashing button
- A shock will then be given to the player



PIC 21 Continue CPR 30 chest compressions to 2 breaths

- Commence CPR again immediately
- The AED will automatically re analyse the player again after every 2-minutes. During this time period continue with effective CPR
- Continue until the ambulance arrives and takes over or the player recovers
- If a shock is not advised by the AED and it says "no shock advised continue with CPR" This means that no shockable rhythm is present. Continue with CPR at the ratio of 30 compressions to 2 breaths and do not stop this cycle until the AED asks you to "stand clear analysing"
- The AED will automatically analyse the player every 2-minutes
- Continue to follow the voice prompts of the AED until the Ambulance arrives and takes over or the player recovers
- In the unlikely event that a child collapses in cardiac arrest, then an AED (with adult pads) can be applied to a child above the age of 1 (see UK resuscitation council guidelines). Paediatric pads are available to purchase for those persons dealing with young children on a regular basis. Paediatric pads are advised for players between 1 - 8 years old. Some AED units have a switch that will change the attenuated shock applied from paediatric to adult mode. The FA reccommend that you purchase the AED device that best suits your player demographic
- Consider changing roles frequently to minimise fatigue whilst minimising interruptions to chest compressions. For CPR to be effective rate and depth have to be maintained



The AED will time each 2-minute time period for you and then reanalyse the player

CONTINUE until Ambulance arrives or the player shows signs of life.

Please Note:
Return of spontaneous circulation (signs of life). Successful and early resuscitation will hopefully result in a successful outcome. In this instance when the player shows signs of life, stop CPR and monitor the player. Check breathing is adequate to sustain life, if it is less than 10 breaths per minute you may have to continue to breathe for the player as discussed on page 23. Keep the AED pads in situ, the AED will continue to monitor every 2 minutes. This is safe, the AED will monitor and will not shock a player with an output. If the player arrests for a second time, recommence CPR/AED.

Please Note:
AEDs should be applied as soon as they are available. Chest compressions where possible should be continued whilst the pads are positioned.

Remember to keep your skills up to date and practice on a regular basis. You should refresh your qualification annually. Run drills on a regular basis (once a month) at your club for allocating roles, accessing the AED, swapping responders and performing the actions of CPR and AED application. Speak with your County FA's and FA Tutors for help in keeping up to date.

2.4 Resuscitation in children

The AED will time each 2-minute time period for you and then reanalyse the player. Each time the AED wants to re-analyse it will say "do not touch the patient – analysing" make sure at this point that no one is touching the player.

CONTINUE UNTIL AMBULANCE ARRIVES

Please Note: *AEDs should be applied as soon as they are available. Chest compressions where possible should be continued whilst the pads are positioned and whilst the AED is charging.*

Although football may not necessarily be a sport formally played by the very young (U8's), CPR for cardiac arrest is included here for completeness sake because of its possible occurrence domestically and in schools and the need to have this life saving skill so as to treat immediately.

Resuscitation in children – as per first aid procedures

The normal first aid CPR procedure and ratio is the same as for adults of 30:2. Hand positions are the same as for adults, i.e. centre of the chest. Whether one will perform rhythmic chest compressions using one hand or two hands will depend on the size of the child and the size of the rescuers hands. The goal is always rhythmic, regular fast effective compression of the chest with minimal interruption.

Do not be worried about doing any harm to the child during resuscitation, because the techniques save lives.

The only difference for children is to

- Give 5 initial rescue breaths BEFORE start compressions
- If you are alone, provide one minute of CPR before going for help
- Depress the chest by 1/3 (4-5 cm dependant on the size of the child) of its depth

If your player (adult or child) shows signs of life, you can, if desired or indicated place them gently, carefully and slowly into the recovery position so that you protect their airway. **However**, if you are not leaving them and can maintain their airway and monitor their breathing in the position that you are there is no requirement to move them unless you had to leave them alone.

In Summary

- Everything for assessment is as per Adult BLS (danger, response, ABC)
- Those with no knowledge of paediatric resuscitation should use the adult sequence
- By definition a child is age 1 to onset of puberty, otherwise treat as an adult and use BLS guidance

Abstract taken from resuscitation guidelines for clarity. All providers should be encouraged to initiate CPR in children even if they haven't been taught specific paediatric techniques. CPR should be started with the ratio that is familiar and for most, this will be 30:2. The specific paediatric sequence incorporating the 15:2 ratio is primarily intended for those who have the potential to resuscitate children as part of their role. Where the players in your club are primarily children then consider 15:2.

Paediatric resuscitation guidance in Football

The following are the modifications more suitable for children taught within football for those with a duty of care to respond to the first aid care of young footballers....

- Jaw thrust to open the airway, if this doesn't work the head tilt chin lift method must be used by adding head tilt gradually until the airway is open
  - **The jaw thrust method should be used where trauma has occurred or is suspected**
  - **Where no trauma is suspected the HTCL manoeuvre is fine**
  - **Remember airway takes priority over concerns about the neck**
- Check for breathing for no more than 10 seconds
  - Look for chest movement
  - Listen at the mouth and nose for breath sounds
  - Feel for their breath on your cheek
- If no breathing or not breathing normally give 5 initial rescue breaths
- If you have difficulty achieving an effective breath, the airway may be obstructed, make up to 5 attempts to achieve effective breaths, if still unsuccessful move onto chest compressions
- C – look for signs of life (movement, coughing)
  - If signs of life are present, it may be a respiratory arrest, in this instance continue to breath for the child until they can effectively breath alone – continue to reassess for signs of life
  - However, children do suffer from SCA – if in doubt start CPR
- Provide chest compressions 15:2 (compressions to rescue breaths)
  - Compress the chest one third of its depth (4-5cm for an older child)
  - The rate should be 100-120 per minute like in adults
  - Allow the chest to recoil by releasing the pressure but not the contact with the chest
- Apply the AED as soon as it arrives
  - If no paediatric pads are available, use adult pads.
  - If the child's chest is small and the pads would touch, consider front and back application (but do not waste time) – this will be discussed and shown during the course
- Continue until the child shows signs of life or ambulance arrives
- Change rescuers frequently to avoid fatigue
- Risk assess the players you are working with in your team and plan and train your helpers appropriately

If alone in a paediatric arrest, 1 minute CPR before go get help

- Probably not relevant for football as never alone but important note to remember in case
- The ONLY exception to performing 1 minute of CPR before going for help is if you have witnessed a sudden collapse of a child and you may suspect sudden cardiac arrest. In this situation a shockable rhythm is likely and the child may need defibrillation. Seek help immediately if there is no one present to go for you!

AEDs in paediatric arrest

There are many purpose made AED pads for children, which attenuate the shock delivered. These devices are recommended for children between 1-8 years old. Some AEDs have a switch that will adjust from adult to paediatric mode.

Check your AED equipment is fit for purpose.

If purchasing, choose the unit that best suits the needs of your football club.

The FA have a scheme in place (from July 2017) for clubs to apply to purchase an AED which is thirdly funded by the FA, third via the BHF and a third self funding. Please discuss with the National Game Board how to access this scheme.

2.5 The Recovery Position

For a player who is unresponsive, the most immediate danger is **airway obstruction** caused by their tongue relaxing against the back of the throat and/or other obstructions such as vomit, mucus, blood, and mud. When dealing with a player who is unresponsive, therefore, the First Aiders main concern remains the maintenance of a clear airway at all times.

The **IFAiF** and **EFAiF** course specific for football teaches the learners the Jaw Thrust (JT) manoeuvre to avoid unnecessary movement in football where a contact injury could result in damage to the neck or spine of a player. The JT as previously explained has the effect of lifting the tongue off the back of the throat thus opening up the airway, this is the football recommended method of opening the players airway and maintaining that airway until medical help arrives. This is further supplemented by continual reassessment of the player to ensure adequate breathing and in the presence of an unconscious player following a traumatic incident by the application of manual in-line stabilisation (see chapter 6).

Having conducted the initial **assessment** (airway clear, breathing adequate, any major bleeding controlled) the First Aider should ensure that the player is in a position of continued airway safety – this **may** entail moving them if they are on their back if at any time the player's airway is under suspicion or risk of being lost and/or the JT can no longer be maintained in an unconscious player.

A conscious player where in line stabilisation is in place, can be left in position until help arrives assuming the airway is not compromised and there is no need to move.

If the airway sustainability is in doubt or **you have to leave the player totally alone,** the most effective position is lying propped on the side with the mouth and head positioned to allow drainage. This is commonly known as The **Recovery Position** (see below). The First Aider should obviously be very careful if neck or other injury is suspected but remember airway **always** comes first!

The recovery position over the years has gone through several modifications, below are discussed the original recovery position, the two-person recovery (modified log roll) and the version that originated in Austrialia when there is a suspicion of a spinal injury High Arm in Endangered Spine manoeuvre (HAinES).

The recovery position is used for

1. Any unresponsive player who is breathing normally, (rescue breathing is not required) but you are concerned about a risk to their airway i.e. they may vomit or the airway is compromised with fluid e.g. blood.
2. Any conscious player if they are going to be left alone whilst help is summoned and they are at risk of lapsing back into unconsciousness i.e. will become unresponsive. This would only occur where you are alone with a player – a rare event in football.

The recovery position allows the relaxed tongue to remain forward, keeping the airway clear and preventing vomit from entering the lungs. Where there has been no trauma or suspicion of trauma (i.e. incidents that have occurred outside of football activity) all unresponsive casualties can be placed into this position to protect their airway until the Ambulance arrives as long as normal breathing has been confirmed first and the casualty is continually monitored for this.

The recovery position is NOT a treatment of choice nor an automatic default position for any unconscious player. It is however a position that CAN be used if the above apply or the airway cannot be maintained in position. It is imperative that this information is relayed to all concerned with player welfare in the club and to the player's themselves.

In a return of spontaneous circulation after a sudden arrest, the recovery position is not the default position. In this instance, AED pads will be in position. The player remains supine, continually monitored until help arrives. The AED will continue to analyse every two minutes. If the airway is at risk, consider rolling on the side until the airway is clear, then return back, so as not to disrupt the AED pad position.

To place a player into the recovery position

- Kneel beside the player and make sure that both their legs are straight



PIC 19 Placing into the Recovery Position

Place the arm nearest to you out of the way so it does not cause an obstruction when you turn the player towards you.

Bring the far arm across the chest and hold the back of the hand against the player's nearest cheek.





PIC 20 With you other hand, grasp their far leg just above the knee and pull it up keeping the foot on the ground

PIC 21 Keeping the hand pressed against the cheek, pull on the leg and roll the athlete towards you onto their side



PIC 22 Adjust the upper leg so that both the hip and knee are bent as right angles



PIC 23 Open the player's mouth and keep it open so that the player can breathe through the mouth and allows any fluid or vomit if present to spill onto the ground and not into the lungs. Check breathing regularly (at least every minute)

If the player deteriorates and/or you cannot detect signs of life, then the player must be turned back onto their back.

It is important to turn the player over as quickly as possible whilst exercising great care, particularly not to injure the head and neck. Reassess the player as you may have to begin BLS again. You do this by using your ABCDE response check-list as described early in this chapter.

If more persons are present to assist then player turning (recovery position) can be performed using more people to help and the head and neck can be supported at the same time with manual in line stabilisation (MILS, see Chapter 3). The same hand hold positions and placement of the player limbs is as for the single person recovery, but the head is stabilised and held in a neutral position by the second First Aider.





PICS 24 and 25 Two person recovery/modified log roll





PICS 26 and 27 Showing the serial movement of a two person turn



PIC 28 The player is then held in this position rather than the final position of the recovery position, with the neck maintained in alignment until the airway is clear and or the ambulance has arrived

If the player deteriorates and shows no signs of life the player should be lowered down to the ground extremely carefully and a full ABCDE assessment initiated.

The recovery position over the years has gone through several modifications, below are discussed the original recovery position, the two-person recovery (modified log roll) and the version that originated in Austrialia when there is a suspicion of a spinal injury High Arm in Endangered Spine manoeuvre (HAinES).

In this position airway manoeuvres to keep the airway open can be used as previously described.

The **H.A.in.E.S H**igh **A**rm in an **E**ndangered **S**pine technique can also be used. Again this is a one-person technique that takes into consideration a spinal injury following trauma but has been shown to cause significantly less lateral movement of the head and neck than the original recovery position shown on generic first aid courses. It however does come with the warning, that once the player is placed into the H.A.IN.E.S recovery position, that the First Aider use "airway manoeuvres such as 'Jaw Thrust' (lifting the jaw 'forward' and upward, whilst avoiding pressure on the neck) first, in preference to head tilt in order to further reduce movement to the neck" to ensure the airway is kept open.

The H.A.in.E.S

- The single rescuer kneels to one side of the player
- Places the further arm of the player palm up beside their head
- Places the players nearest arm across their chest
- Places the players nearest knee up, keeping foot on the ground
- Places their own arm underneath the nearest shoulder ensuring your hand is under their neck to stabilise the head and neck (ensuring not to push or lift the head and neck)
- Gently roll the player away from you by gently pushing on their raised knee and shoulder simultanesouly ensuring the players head is kept on the raised arm at all times
- Whilst continuint to support the players head, place their non raised arm under the armpit of the raised arm
- Check that the players airway is clear and they are breathing normally
- Consider use of the JT if required
- Stay with the player and monitor until ambulance crew arrives

In Summary: in a sporting situation (e.g. where body contact has occurred with a risk of associated neck injury) if the player is conscious, there is generally no need to move the player, but continue to monitor them for airway safety. If however, the airway is at risk or you have concerns of maintaining a clear airway and/or any of the above plus they are unconscious make that decision and turn them slowly, gently and carefully into the one of the recovery positions shown above. The choice will be dependent upon the number of persons present and the mechanism of injury +/- spinal injury.

2.6 Choking

Choking is obstruction of the flow of air from the environment into the lungs, Because of this, choking prevents breathing and can cause death from a lack of oxygen (asphyxia). The life threatening nature of choking depends on whether the airway obstruction is partial or complete i.e. whether some air or no air can be breathed in.

Signs of choking include:

- Difficulty in breathing and/or speaking
- Vigorous coughing attempts as the player tries to dislodge the obstruction
- Player turning blue around the lips
- Player loses consciousness after a short time showing signs of complete airway obstruction

Things that can cause choking on the field-of-play are:

- Broken gum guards after collision or loose teeth
- Severe allergic reaction e.g. bee sting
- Chewing gum whilst in training or during matches
- Eating during physical activity

Dealing with Adults who are choking

If the airway obstruction is partial, the player will usually be able to dislodge the foreign body by coughing. However, if obstruction if complete, urgent intervention is required to prevent death.

Partial Obstruction:
The player shows signs of choking but is able to make some noise / speak and can breathe.

- Calm the player and instruct him/her to follow your instructions
- Encourage him/her to breathe slowly, deeply and to cough as hard as they can when breathing out
- There is no need to do anything else as long as their condition does not deteriorate

Complete Obstruction
If an obstruction is complete. The player's cough is ineffective and the player is unable to speak or make any noises, cannot breathe in any air, starts to turn blue and will lose consciousness if the obstruction is not removed immediately. If this begins to happen to the player, and they are still standing and conscious, then do the following.



PIC 29 Initiating back blow



PIC 30 Back blow

- Stand to the side and slightly behind the player
- Support the player with one hand and lean the player well forwards
- Give up to five sharp **back blows** between the shoulder blades with the heel of the other hand

Each blow should be aimed at relieving the obstruction, so all five need not necessarily be given.

If the backblows fail to relieve the airway obstruction and player remains conscious, carry out **abdominal thrusts.**



PIC 31 Abdominal thrust

- Stand behind the player and put both arms around the upper part of the abdomen generally between the bottom of the breast bone and belly button
- Clench your fist, and turn it so that your thumb is up against the abdomen and then grasp the outer side of the clenched fist with your other hand pull sharply inwards and upwards, with the aim of producing a sudden expulsion of air, thereby expelling the foreign body from the airway

If the obstruction is still not relieved continue **alternating** 5 back blows with 5 abdominal trusts until the obstruction is relieved or the patient loses consciousness and starts to collapse to the ground. IF that happens, assist their fall so that they do not injure themselves.

Once the player is lying on the ground unconscious, with no breathing, due to the airway obstruction:

- Open the mouth, look for, and if possible, remove the foreign body if it can be seen
- If the obstruction cannot be seen and removed, and there is no breathing, begin chest compressions (see BLS/CPR section)
- At the end of each cycle of compressions, quickly check the mouth to see if the object has been expelled

Dealing with Children who are choking

One should differentiate between "children" and "babies" because there is a difference in treatment.

You should suspect that a child might be choking if there is:

- Sudden noisy breathing or sudden silence, especially if they have been eating and playing at the same time
- Associated coughing and/or gagging

If the child is conscious

- Try and calm them down and follow your instructions
- Encourage them to breathe in slowly, deeply and to try and cough hard when they breathe out
- Monitor for deterioration

If the child cannot cough effectively, regard this as a complete airway obstruction. Perform up to 5 back blows and then alternate with 5 abdominal thrusts, until the obstruction is relieved or the child loses consciousness (same as for the adult).

If the child is unconscious and not breathing because of the airway obstruction, do standard CPR.

- Start CPR (see BLS section). **Standard CPR with rescue breathes and chest compression allows you to try and breathe some air into the lung with your breathes whilst the chest compression tries to force the obstruction out of the airway**

Player handover to the ambulance or hospital

- Identify one person to hand over to the ambulance on its arrival
- Advise the Ambulance of as much detail as you can. For example, players name, age, mechanism of injury, time of incident, previous medical history, medication, emergency first aid treatment already given and all relevant signs and symptoms you have seen
- It is easier for the First Aider who works with a team regularly to know about the player's previous medical health. It is harder for the First Aider who is covering a one off tournament with players they have not met before. Take as much information as you can from bystanders and family members present if the player is unable to respond

Your Experiences
Activity 2

Answer the following questions (for answers refer to Appendix 4)

1. You and a player are alone in the changing room after a game, when she collapses. On approach and initial assessment she has an open airway but she is not breathing. You should?

A. Give 2 rescue breaths
B. Give 30 chest compressions
C. Call for help
D. Immobilise her neck as she fell down
E. Place her into the recovery position

2. When attending a player on the field of play, to which one of the following is your first responsibility?

A. The player's airway
B. The player's signs of life
C. The cause of the injury
D. The player's safety
E. Your personal safety

3. When performing CPR on an adult, which one of the following statements is correct?

A. The correct ratio for CPR is 1 ventilation to 5 compressions
B. The correct ratio for CPR is 1 ventilation to 15 compressions
C. The correct ratio for CPR is 0 ventilation to 30 compressions
D. The correct ratio for CPR is 2 ventilations to 15 compressions
E. The correct ratio for CPR is 2 ventilations to 30 compressions

4. Regarding the use of an AED in football, which one of the following statements is correct?

A. An AED should be applied onto the player as soon as it arrives
B. An AED should be applied to the player within one minute of its arrival on scene
C. An AED should be applied immediately after 30 compressions and 2 rescue breaths has been completed
D. An AED is never required when CPR is already in progress
E. An AED should not be used in the rain

5. A player with a partially obstructed airway, who is coughing should be managed in which one of the following ways (chose one best answer)

A. Be given 5 backslaps
B. Be given 5 abdominal thrusts
C. Be left alone
D. Be encouraged to cough
E. Be given CPR

Notes

Notes



CHAPTER 3

Wounds and Bleeding

CHAPTER 3:

WOUNDS AND BLEEDING

A wound is an abnormal break in the skin or other tissues of the body that permits the escape of blood internally or externally and may allow the entrance of germs and infection.

All organs of the body depend on an adequate and uninterrupted supply of blood in order to survive and function. Any substantial loss of blood is dangerous and the degree of danger depends on the amount of blood that is lost.

The ability to recognise that bleeding is taking place and how to stop it is one of the most important aspects of first-aid casualty survival.

There are two types of bleeding:
1. External Bleeding that can be seen at source and blood may spurt-out to the pulse rate (arterial bleed), be a constant flow (venous bleed) or just oozes out to the wound surface. Another form of external bleeding is catastrophic bleeding.

Catastrophic Bleeding

This occurs when there has been damage to a major vessel. It is unlikely in football and is more usual for gun shot and stabbing wounds. However a laceration by a football boot to the groin area, could result in a catastrophic bleed if a major vessel was lacerated (extremely rare injury). These types of bleeds can also occur after major trauma for e.g. a fracture to the pelvis but where the blood is not visible but internal (see later in this chapter).

When referring to a catastrophic bleed it is important to note that in this instance the blood would be spurting (pumping) out of the wound at a very fast pace and in large copious amounts and would quickly cause the player to bleed fully out and die if not stopped. This is not a wound that oozes blood and appear bad, such as occur with lacerations to the face and head.

In this rare instance, the bleeding takes priority over the airway and breathing. The bleeding must be stopped before the airway can be attended to. If several First Aiders are present, one can take the bleeding wound and the other deal with the airway.

Treatment of a Catastrophic Bleed
Direct pressure as for any wound is the first point of contact. Deep and firm direct pressure to try to stem and control the bleeding and keep the blood inside the body. Cover up as much of the area as you can with your gloved hand and a sterile towel (if you have one) to stop as much bleeding as you can. You must get the bleeding under control and then assess the player's airway. This is a medical emergency and requires urgent medical attention.

These types of wound would always take precedence over the airway and breathing, but are rare on a football field-of-play .

2. Internal Bleeding cannot be seen but can sometimes be detected by areas of swelling. Examples are given below:

- With **contusions** (bruises). Most contusions are minor with minimal internal bleeding that just cause discolouration of the skin. Severe contusions are apparent with mass swelling and discolouration and severe pain felt by the player and an inability to move the body part. This requires emergency treatment and should be sent immediately to hospital
- With **closed fractures** (swelling) (see Chapter 5)
- in the **abdominal** cavity (from damage to internal organs, e.g. spleen, liver)
- In the **thoracic** cavity (from damage to lungs) Internal bleeding may be difficult to diagnose for the First Aider because quite often blood cannot be seen. However, if internal organs are affected, blood may appear via the existing channels from the body and have certain characteristics. These characteristics are listed below for your information, all require immediate referral to hospital
- **Lungs -** bright red and frothy and coughed up through the mouth
- **Stomach -** a dark coffee colour and is vomited up
- **Kidneys -** blood stains the urine into a smoky grey colour
- **Large Intestine -** blood passed by the bowel as a black sticky tarry substance
- **Brain -** blood escapes through the ears, nose and eye orbits as blood stained watery fluid

Blood Loss
The percentage of blood volume lost is of importance for the development of the clinical picture, therefore, you should assess how severe the player is bleeding. A small amount of blood loss in a child may be of serious significance, whereas a similar volume lost by an adult may be of no consequence.

To assess the severity of bleeding, look out for the amount of blood lost:

- In body tissues (swelling)
- On the floor, taking into account the type of surface (absorbent), and the player being moved
- On the player's clothing taking into account the clothing being thick, thin, absorbent or non-absorbent
- On the wound dressings and bandages

The severity of bleeding can be assessed through monitoring and assessing the player for signs of:

- Faintness
- Dizziness
- Restlessness
- Feeling sick
- Feeling thirsty
- Feeling cold and shivering
- Blurred vision
- **Breathing** rate increasing from normal, may indicate a severe bleed somewhere especially if it is rising whilst the player is at rest
- **Pupils** become larger as the condition worsens
- **Skin** is pale and the limbs are cold, with blueness developing on the lips

Wounds

There are many types of wounds, the commonest in football are listed below: All wounds can be prone to bleeding and it is important as a First Aider that you know the types of wounds and how to manage them.

The management of a wound centres on:

- Control of bleeding
- Prevention of infection
- Prevention of further complications

- **Abrasion –** is a superficial wound to the skin usually caused by scraping of the skin across a rough surface. A good example of these are friction burns (grass burns)
- **Contusion –** bruising occurs after a blow by a blunt instrument e.g. kick onto the thigh or shin. This can cause bleeding that is under the skin (internal)
- **Laceration –** results from a snagging and tearing of tissues, e.g. clash of heads can cause a cut above the eye
- **Incision** – is a straight cut to the tissues. On the field it can be caused by the studs on players boots that can become sharp with wear and tare
- **Puncture –** is a penetrating wound, caused by an object that may or may not still be in place. Usually caused by knives, animal/insect bites or fencing*. Assessing the depth and severity of this type of wound can be difficult. These are not common on the sporting field unless the player falls onto something on the field-of-play that should not be there e.g. broken glass. All football fields-of-play should be checked for foreign objects prior to training and playing on them to prevent such wounds occurring

  **There has been one instance of a youngster impaling themselves on a fence going to retrieve a ball in 2017. Be vigilant in checking the safety of playing surfaces and surroundings*
- **Amputation –** is a complete separation of bone and tissue from the rest of the body. These are not common in football but there are instances where players have gotten fingers caught in training on fence wire surrounding the field-of-play and parks causing amputation of the finger end

First aid management of External Bleeding

- Always ensure the player has an open airway and is breathing first (see Chapter 2 ABCDE approach)
- Inspect the injury for foreign bodies or debris; remove anything that is not embedded
- Control any obviously serious blood loss by applying direct pressure over the wound with a clean dressing (if no foreign objects are embedded in the wound)



PIC 32 and 33 Direct pressure onto a bleeding wound

- If bleeding passes through the dressing, apply a further clean dressing on top. Please be aware if blood passes through the pad there may not be enough direct pressure being applied. Place a further dressing on top and increase the direct pressure applied
- Place the player in a lying position to slow the heart rate and lessen blood flow
- **Elevate** and immobilise the injured area to allow the effects of gravity to slow the blood flow for example, place an arm in a triangular sling or raise the legs with your arms or by placing their feet on a soft pad **if the injury allows**



PIC 34 Direct pressure and elevation of a bleeding wound

- If a **foreign body** (e.g. glass) is embedded in a wound, leave it where it is and apply a dressing around the area. Transfer to hospital for the object to be removed safely. Removing embedded objects can cause severe bleeding and should **only** be done under medical guidance
- If the wound is still bleeding or if foreign objects are in the wound, apply **indirect pressure**



PIC 35 Indirect pressure with fingers into the groin



PIC 36 Indirect pressure with the thumbs into the groin

- Pressure should be applied for 10 minutes into the groin and then released until colour comes back to the limb
- If the bleeding is still heavy then pressure should be reapplied to the pressure point for a further 10 minutes



PIC 37 Indirect pressure upper limb

- For upper limb bleeds, indirect pressure should be placed at the top of the arm

Wound Dressings

A wound dressing will help in stemming the blood loss and in keeping the area clean.

Sterile and clean dressings that are large enough to cover the wound should be used if possible. When applying a sterile dressing the First Aider should have washed their hands and be wearing gloves, do not touch the part of the dressing that is in contact with the wound to prevent the transfer of germs/ infection to the bleeding wound.

However, in the first instance of a serious bleeding injury the priority is to stop the flow of blood out of the body by any means necessary, so if no appropriately sterile dressing is immediately available use towels or clothing (player shirt) or your gloved hand can be used.

Wound dressings should be rechecked for effectiveness, correct placement and that the wound is covered on all four sides. If the dressing becomes soaked with blood, apply another dressing over the top and increase the direct pressure applied, do not remove the original one.

Continue to observe the player and note if the bleeding is slowing or stopped, for example dressings are no longer being soaked with blood. It is important to monitor the player for signs of impairment of circulation (e.g. the limb is going pale), if this is the case your dressing might be too tight.



PIC 38 Wound dressing

Wound Cleaning

Superficial wounds (where the wound does not penetrate through the whole skin) may be managed effectively at the field-of-play side without requiring hospital intervention. However you must ensure that the wound is clean and not dirty i.e. have any mud or grass inside.

If the wound is dirty, sterile water can be applied to wounds to wash away dirt and debris present on the wound from the field-of-play and/or to wash away blood so that the wound can be examined for the full extent of the injury. The wound should be washed with clean/sterile water or salt water. A large volume of water is required to effectively clean a wound for example at least a 250-500mls bottle of sterile water.

Dry the wound with a clean towel and then manage as above.

For deep wounds, the player may require stitches and therefore after stopping the bleeding and cleaning as much as your are able to see, the player must be sent to hospital for wound closure. The hospital will then consider the risks of infection and whether the player requires immunisation.

First Aid Management of Internal Bleeding

Effective management until medical help arrives may be achieved by:

- Ensuring the player has an **open airway** (see Chapter 2). ABCDE approach
- Positioning the player **lying down** in their most comfortable position. Abdominal injuries may be more comfortable if the knees are bent
- If the player is bleeding from an ear from a simple blow, covering the ear with a sterile dressing and inclining the head so the affected ear is downwards, to allow for drainage. If associated head and neck injury see Chapter 6
- Elevating the legs to help with circulation. If the injury allows you to do so
- Loosening restrictive clothing
- Anticipating vomiting and giving nothing by mouth
- Moving the player as little as possible
- Keeping constant **observation** of the player, their breathing rate and level of consciousness and the presence of pain should be noted regularly and recorded
- Watching out for **signs of shock**

Shock

Shock is not a specific entity, but the name given to a clinical syndrome. The condition exists where there is an inadequate blood supply and oxygen to the tissues in the body, either because of a lack of fluid or due to a failure of the circulatory system.

Severe shock causes a fall in blood pressure and, if untreated, it can lead to death.

To function normally the body requires three intact mechanisms:

- An effective heartbeat
- An adequate quantity of blood
- Intact blood vessels

Certain players are at high risk in terms of suffering from shock under the following circumstances:

- Bleeding injuries or broken bones resulting in loss of blood either from internal or external bleeding
- Congenital heart conditions or older players or coaches who may suffer a heart attack resulting in an inadequate circulation, thus blood is not getting around the body
- Illness e.g. meningitis
- Injection or sting – causing an allergic reaction (see Chapter 7)

Management of shock

Early recognition and management can prevent or limit the effects of shock.

The player requires fluid replacement immediately and requires urgent transfer to hospital. Call for an ambulance immediately. For external bleeding stop the bleeding (see above) and for heart conditions provide BLS (see Chapter 2) until further medical help arrives.

Until ambulance help arrives, effective management may be achieved by:

- Ensuring an open airway (A-E approach)
- Keep the airway clear as much as you can, if you have a suction use this, should they vomit. If you do not have a suction unit, lay them on their side to drain the vomit from their airway (recovery or modified recovery position see Chapter 2)
- Placing the player in an appropriate position, usually lying down flat if conscious or in supported side lying if unconscious and bleeding from the mouth and face.
- Call for help, if medical help is available administering high concentrations of oxygen
- Treating other injuries that might be the cause of the shock, example supporting fractures, reducing pain and controlling bleeding if present
- Keeping the player at normal temperature. Do not overheat or allow to become too cold
- Raising their legs to maintain the blood pressure to the vital organs (if their injuries permit you to do this)
- Avoiding unnecessary movement and rough handling
- Providing reassurance by keeping the player calm and still until the ambulance arrives
- Keep the player under constant observation, constantly checking breathing and level of consciousness (see Chapter 2)

Other important points:

- Give nothing by mouth, as the player may need an anaesthetic to treat the underlying injury cause
- Note and report

Your Experiences
Activity 3

Answer the following questions (for answers refer to Appendix 4)

1. Direct pressure should be used for what type of wounds?

2. Indirect pressure should be used for how long?

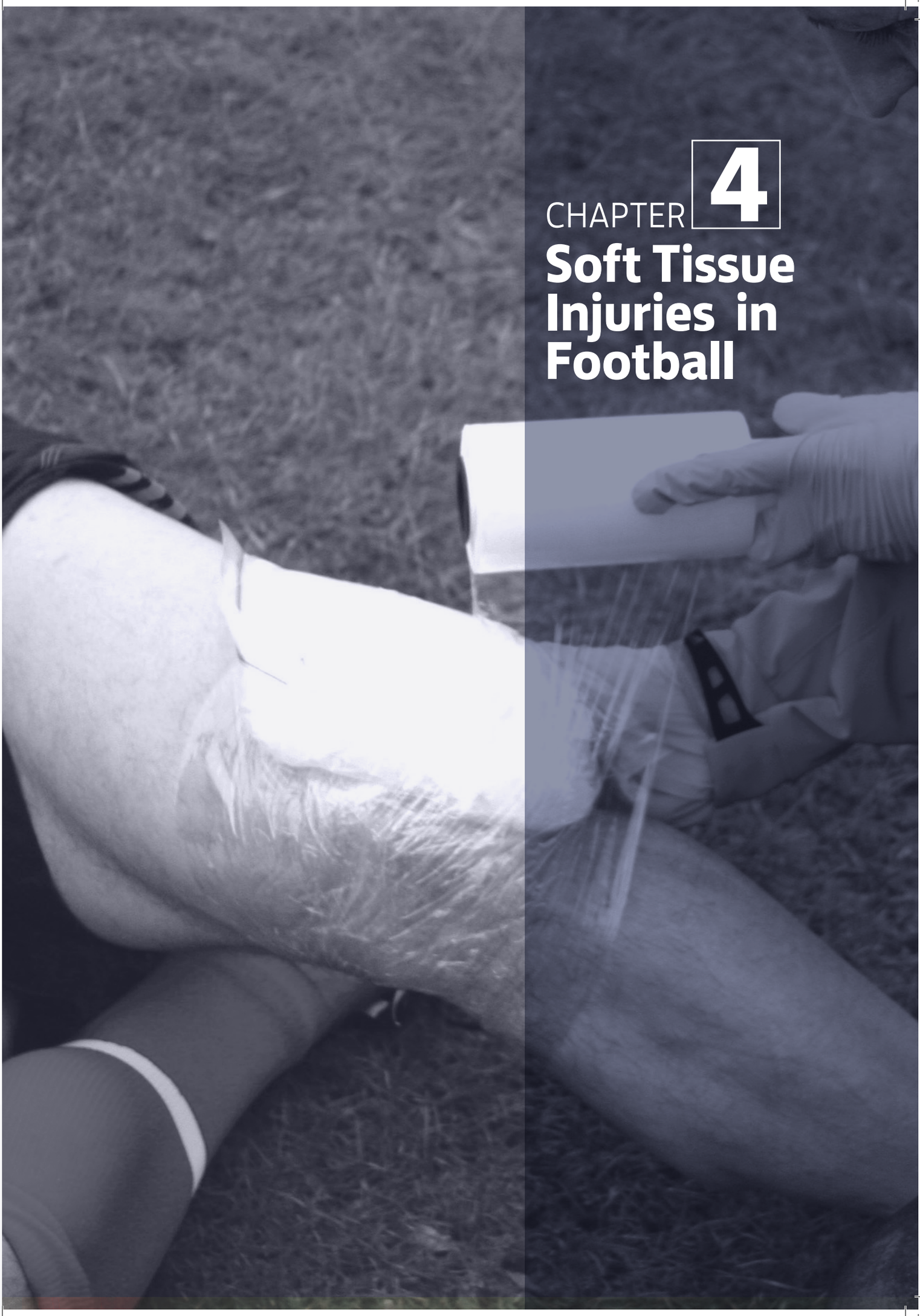
3. What should you do in the instance that the first wound dressing becomes fully soaked in blood?

4. What is defined as a catastrophic bleed?

5. What is shock?

Notes

Notes



CHAPTER 4

Soft Tissue Injuries in Football

CHAPTER 4:

SOFT TISSUE INJURIES IN FOOTBALL

The majority of lower limb injuries in football are sprains of the ankle and knee ligaments, and strains and contusions of the thigh and calf muscles. Soft tissue injuries whilst very common are not always the easiest to manage and to treat. Some severe ligament sprains can take as long to heal as a fracture (broken bone) does. It is **not the purpose** of this text to concentrate on the common injuries that occur in football, but to advise the First Aider how one might assist with an injury that is potentially limb threatening.

However, a short guide has been placed below in the immediate management of an injury as a First Aider will not have the skills to decide if a limb is broken or sprained and the player will require medical review.

A 'sprain' is an injury to the ligament. A ligament attaches two bones together to form a joint. Ligament sprains can be graded into minor (where only a few ligament fibres are torn), moderate (where the ligament is partially torn) or severe (where the ligament is completely torn).

The common **mechanism** is when the ligaments are stretched too far from their normal position, displacing the surrounding joint from its normal alignment.

Typical **symptoms** of a sprain are: bruising, swelling and pain on movement. Moderate and severe injuries may cause problems with walking. Severe ligament sprains can lead to an unstable joint, as the ligament ends are no longer attached, meaning the ligament cannot stabilise the joint. Some players may feel a 'pop' or tear when the injury happens.

A common **example** in football is an ankle sprain. The player can be running for a ball or making a tackle, when his ankle suddenly twists inwards beneath him tearing the outside ligaments of the ankle joint.

Another common example is a complete tear of the anterior cruciate ligament (ACL) of the knee. The mechanism is a sudden twisting injury e.g. the foot caught in the ground as the player twists to kick a ball or make a tackle.

A First Aider would not necessarily be able to distinguish this from a fracture, therefore after initial immediate care (see below) the player would be referred to the nearest emergency department or if required an ambulance called.

A 'strain' is an injury to the muscle or tendon. A tendon attaches muscles to bones. A strain usually results from an overstretch or overworking of the muscle or tendon causing some damage or tearing of the muscle or tendon fibres. The grades of a strain are like those for a sprain.

A common **mechanism** of injury causing a muscle strain is sudden acceleration e.g. running for a ball from a static position or deceleration (slowing down). For a tendon a common mechanism is overstretching.

Typical **symptoms** of a strain are pain in the injured area, weakness of the muscle when trying to move it and muscular spasm. There can also be localised swelling to the area and it may feel swollen and hot to the touch due to local inflammation. Bruising can also be evident when the strain is moderate or severe. A severe strain can sometimes result in a complete rupture where a gap is palpable within the muscle itself, these injuries are often very painful and can be disabling to the player for a short period of time.

A common **example** in football is a hamstring (posterior thigh muscle) strain when the footballer tries to slow down after a fast sprint. A common example in the upper limb is when the goalkeeper lands onto the ground with his arm fully extended, causing damage to the tendons of the rotator cuff muscles that support and hold the shoulder joint.

A 'contusion' is a bruise to the skin and underlying tissues. A common **mechanism** of injury causing a contusion is direct contact; either a blow or severe knock to a body area. Damage to the underlying tissues and muscle causes bleeding into the area.

Typical **symptoms** are swelling, discolouration and pain on touching or in the instances of a severe contusion pain on moving the area.

A **common example** of this is a contusion to the front thigh muscles (quadriceps), which is commonly called a "dead-leg" or "cork" injury caused by the knee catching the opposition player's thigh during a tackle.

Types of swelling to be aware of for the First Aider in Football

Swelling can be caused by either fluid leaking from tissues or from bleeding into the tissues.

After a traumatic (serious) injury there can be dramatic bleeding. Dramatic bleeding into tissues is visible by the injury swelling up immediately (within 5-15 minutes) of the injury occurring. This type of bleeding is always due to blood and is a sign of a very serious injury. The player should be referred to hospital. This type of bleeding occurs due to a total rupture of a ligament, muscle or tendon or in response to a broken bone.

Swelling that gradually appears over the first 24-hours is not as severe and can be managed as described below. This type of swelling occurs as a result of minor or moderate injuries as discussed above.

Swelling is linked with inflammation (which is heat and redness of the area) and may present as a localised bump or general swelling of the injured area. It is important to try to minimise this swelling to prevent damage to other surrounding structures.

How should a First-Aider recognise and treat a soft tissue injury?

Signs and symptoms of a soft tissue injury can be very similar to those of a fracture (broken bone). A fracture must be ruled out by careful evaluation before continuing to manage the injury (see Chapter 5). This may require the player being first seen by a doctor or therapist.

Aims of first aid management

- To minimise bleeding and swelling into the soft tissue. Excess bleeding or swelling into the injured area will cause pressure on the surrounding tissues that will increase the player's pain. Excessive swelling and inflammation can cause damage to the tissues in the surrounding area
- To prevent further injury – rest and immobilise (see below) the injured area to prevent the injury becoming worse
- To promote recovery – to give the healing tissues the best environment in which to heal

First Aid Management

1. Check that the player is alert with no confusion / concussion, has no symptoms/signs of a neck injury or any other serious injury

2. **Check if the player can be moved**

- A player should not be moved if a serious injury is suspected e.g. a broken bone is visible through the skin (see Chapter 5) or if a neck or back injury is suspected (see Chapter 6). In this instance keep the player still, comfortable and warm. Support the injured site (see below) and reassure them until an ambulance arrives to transfer to hospital. Suspected severe injuries should be sent to hospital
- If the player is moving or can be safely moved, transfer them from the field-of-play or activity that they are doing, so that you can assess the extent of the injury

3. **Assess the injury**

- First exclude a fracture. Feel the injury for warmth, deformity and swelling. The player may feel tenderness or pain indicating the exact site of the injury. Abnormal movements or malalignment may indicate a fracture (see Chapter 5). Remember, it is not always easy to distinguish a soft tissue injury from a broken bone, so be gentle and careful. If you are not sure, treat as a broken bone and refer to hospital by ambulance
- If there is an immediate large swelling at the injury site, then this usually indicates bleeding into the area. This indicates serious damage. Apply ice (if you can or cold wet clean towels if that is all you have) and transfer the player to hospital immediately. An example is a complete rupture of the anterior cruciate ligament of the knee. The knee joint would swell to a mini size football immediately after the injury
- For upper limb injuries or lower limb injuries where the player is partially mobile, somebody may be able to drive the player to hospital and not wait for an ambulance
- Please note: Where serious injury is present then calling for an ambulance is always the preferred and recommended option

4. **Treat the Injury**
   Use the Protection, Rest, Ice, Compression and Elevation regime (PRICE for treatment following soft tissue injury.

P.R.I.C.E.

As a First Aider, the aim of treatment is to give the injured footballer the appropriate initial basic care. The player will probably not be able to continue playing if it is a serious injury, but the player with a minor injury may try to continue playing. If you have ruled out a serious injury and ruled out the need for the player to be transferred immediately to hospital by Ambulance, then the following regime can be followed to manage the player's minor injury. However if in doubt, or with any child, refer them to the nearest emergency department for medical review.

Protection and Rest

Consider the following treatment within the first 72 hours of the injury that you are going to treat. (Acute injury phase)

- Stop the player performing any movements that are the same as that which caused the initial injury, so as to prevent further damage
- External supports or braces will help to stop these movements, if you have them. If you do not have these, then bandages and tapes that limit the movement are also effective
- If you have no external supports or bandages, long football socks or towels can be used to tie legs together whilst resting or awaiting transport to hospital, so that the good leg acts as a splint for the injured leg (see Chapter 5.2)
- For those players that cannot put any weight on a limb, transfer them to hospital. If you cannot transfer them to hospital but need to wait until you return home, then crutches may be necessary for travel purposes to help the injured player be mobile
- For injuries to the upper limb the player's shirt can be lifted up and over the injured arm and this will act as a good support (sling) for injuries to the shoulder, collar bone, elbow, hand or wrist (see later)
- Good support often helps relieve the player's pain from the injury

After 72 hours from the injury : if no medical referral is necessary or practical:

- Early mobilisation and weight bearing is more effective than total immobilisation/rest after an ankle sprain, particularly for minor sprains, so avoid total immobilisation where you can

- Be guided by what pain your player feels but some 'loading' e.g. weight bearing is recognised as an essential component of soft tissue injury management
- Where there is no fracture or complete rupture or risk of causing further damage, total rest and immobilisation should be avoided after the acute phase (after the first 72-hours). Use the following step as guidance through this process but if possible, always seek advice from a doctor or therapist to guide you during this period
- Progress the player to full weight bearing as his injury improves i.e. as his pain and swelling reduces and his range of movement returns to full range. A safe transition is required from protection/rest to tissue loading after injury and this can guide you within the limits of the pain that the player experiences with full consideration of the injury. If the player experiences pain or the swelling returns stop all activity and refer the player to hospital via Ambulance

Ice

First 72 hours

- Apply ice immediately after an acute soft tissue injury. This is an essential part of your first aid equipment and should be carried with you in a cool box or stored close by in a freezer during every training session and match. Ice will help in preventing and reducing the heat and redness to the area as well as reducing the swelling that is occurring and relieving some of the pain the player is experiencing
- The best type of ice to use is crushed ice or ice cubes in a plastic bag





PIC 39 and 40 Ice application

- Apply the ice over a damp/wet paper tissue (or something similar like cling-film wrap) that is thin and will not stop the body part from being cooled. Avoid applying ice directly to the skin as ice burns can occur. Applying over towels or bandages will reduce the effect the ice will have on the underlying tissues. Ensure the ice is moulded around the affected area for the maximum effect
- Ice should be applied for a period of **10-minutes**
- The time between ice applications should be guided by the players pain and discomfort and can be more frequently than 10-minutes every 2-hours if the symptoms are severe, frequent application will help with pain relief
- Ice-ing should be continued for the duration of the acute phase (first 72 hours)
- Icing for longer periods e.g. more than 20-30 minutes should be avoided
- Smaller body parts such as the hand and fingers or foot and toes will cool at a quicker rate than other areas of the body so may require less application time. These body parts can also be easily immersed in a bowl of cold water for cooling (preferably with ice cubes added). This type of treatment is known as ice-immersion and is a very effective treatment
- If the player's signs and symptoms deteriorate during this period then they should be referred to the local doctor or straight to hospital for further evaluation

72 hours onwards

- If ice is effective and helping the player then it can be continued beyond the acute phase for as long as it is effective
- Ice is also beneficial when the player begins to return to training, as it can be used to cool the recovering injury site down after exercise

An alternative to ICE

If you don't have ice, very cold-water application via a wet towel or cloth is another option. The aim is to try to cool the area as much as possible, to reduce the heat and swelling in the area and to prevent further injury. If you are using cold towels then remember the player's body heat, especially after exercise, will be quite high and will warm the wet towels up quickly. Replace the wet towels with fresh cold wet towels every couple of minutes. Please ensure that the towels are very wet with cold water before application to maximise the benefit.

For players self treating at home – advising them to immerse their injury in a cold bowl of water for upper limb or cold water bath for the lower limb injuries for up to 10-minutes (or as long as they are able) might also be a suitable alternative to ice application if they have no ice at home.

Cold water and iced water can occasionally be uncomfortable and can often cause a headache. Advise players to immerse their injury for as long as they can. This type of application might have to be intermittent.

Compression and Elevation

First 72 hours
Compression and limb elevation are often applied together. Their aim is to try to prevent swelling of the injured tissues by promoting easier return of blood flow back to the heart, thus countering gravity, which does the opposite. By doing this, the player will feel pain relief at the site of the injury.

Ideally Compression should conform to the shape of joint e.g. ankle. If, not the compressive force is negated and a poorly compressed joint or limb may encourage swelling to accumulate — e.g. for an ankle compression, apply the bandage from the toes in a figure of 8 pattern* to just below the knee and use felt padding around the ankle bones to prevent the accumulation of swelling around the pain sensitive ligaments that are injured during an ankle sprain injury.

Compression provides support to the injured limb. This support can control the range of movement (and help to restrict the movement if required) at a joint and provide reassurance to the player after the injury. External supports (compression) can also be used to corroborate the severity of an injury to a player, particularly when the player is persistent that they wish to return to active play.

Compression should be removed during ice application and then reapplied following the ice. Ideally if this can be done whilst the leg is elevated this will provide additional benefit to healing.

Elevation of the injured limb is used to limit the amount of swelling around the injury. Reducing the amount of swelling will aid in reducing the amount of pain the player will feel. Ideally, elevate the limb above the level of the heart.



PIC 41a Figure 8 bandage application



PIC 41b Figure 8 bandage application



PIC 41c Figure 8 bandage application



PIC 41d Figure 8 bandage application



PIC 41e Figure 8 bandage application



PIC 41f Figure 8 bandage application

**figure of 8 bandage (see pics 41 a - f) is a technique where the bandage overlaps only half of the way on the previous layer. The method is one where a continuous wrapping around and around the limb is avoided. A bandage that continually wraps around will get tighter and tighter and can affect the blood flow to and from the injury.*



PIC 42 Elevation with ice

There is no time restriction on how long elevation can be applied, however the lower down the leg the injury, the longer should be the application time of elevation so as to assist with drainage of excess fluid (swelling) back to the heart.

Placing and securing the injured hand at rest onto the opposite shoulder is an easy way of elevating upper limb injuries e.g. hand and wrist injuries.

With any lower limb injury the player should be encouraged to elevate his leg on a stool or bed whenever he is resting for the first few days after the injury. Sitting in a chair with the leg dependent (where the foot is resting on the floor) should be avoided for long periods of time, because this causes swelling to occur.

After a period of resting and elevating the leg, the player should be encouraged to slowly and gradually return the leg to the dependent position (foot onto the floor) as there is a risk of increasing swelling at the injury site if the player begins to stand and become mobile too soon.

After 24-hours the player can be encouraged to do light non-weight bearing exercises in the elevated position e.g. for an ankle sprain, with the leg elevated on a stool, the player can be encouraged to do circular ankle movements to try to regain ankle motion and to again assist with decreasing the swelling that may have accumulated. For the upper limb e.g. shoulder injuries, the player can be encouraged to stand and lean forwards and let his affected arm hand down and gently swing it around in circular movements to gain movement back at the shoulder.

72 hours onwards

Compression and elevation can be used as long as they are effective and as long as the swelling remains. The use of elevation is stopped before the use of compression. Compression may be applied for longer periods for the benefit of providing support to the injury site as the player recovers and in helping restrict the range of movement until you wish the player to gain full range (i.e. when there is no more pain or swelling).

Compression can later be used as a support for return to full activity providing the player with reassurance. Eventually the player should wean off compression in order for the soft tissues to regain their full strength.

Protection

- Remove from the field-of-play
- Move to a safe location to assess
- Support the injury by applying a bandage

Rest

- Avoid stress to the injury (do not mimic the injury mechanism that caused the injury in the first instance)
- Reduce activity during the first 72 hours

Ice

- Use crushed ice (or ice cubes in a bag) apply for 10-minute periods immediately after injury
- Apply regularly and intermittently e.g. at least every 2-hours during the first couple of days, during waking hours
- Compression
- Should conform well over the area it is applied (e.g. should fit well). Poorly fitting compression bandages will lead to areas of increased swelling
- Should be taken off at night and replied before getting out of bed the next morning
- Should be applied from below to above the injury and the pressure of the compression should be kept uniform along the limb
- Should not restrict the circulation above or below the bandaged area. If there is pain after application of the compression bandage, you may put it on too tight and may need to undo it again but less tight

Elevation

- Elevate the limb where possible above level of the heart
- After elevation slowly return the limb to the dependent position
- Can be used in isolation or combined with compression or non weight bearing exercise

The PRICE regime should be used at least for the first 72 hours after the injury **and for as long as it is effective**. Some injuries will respond quicker than others to this treatment and it depends upon the severity and position of the injury.

Players should be advised how to use the PRICE regime at home and continue with the process until you or ideally their doctor/ therapist review them again. Ideally if you can see them again 24-hours after the injury to reassess you should do so. At this point the injury should be responding to the treatment, if the injury is noticeably worse then the player should be referred to a doctor or local hospital for further review if they have not already done so.

Another type of injury affecting the soft tissues are dislocations.

Dislocation

Dislocation - *where a bone is partially or fully dislodged at a joint, usually as a result of a wrenching or tearing action.*

The most common dislocations in the lower limbs are to the patella (knee cap) often caused by a direct blow. In the upper limb most dislocations occur to the shoulder, elbow and fingers as a result of a fall or the arm being knocked backwards during a contact tackle e.g. trying to grab another player. Shoulder dislocations, whilst not common in football, do occur in goalkeepers.

Management of dislocations may involve normal soft tissue management as when the joint is partly dislocated (subluxed). Usually the player will feel this occur and will also feel it relocate back to its normal position. If the joint is completely dislocated that means that the two bones forming the joint are no longer in contact). Dislocations can be associated with multiple soft tissue injuries including sprains. They can also be associated with fractures (see Chapter 5). This injury will require immediate transfer to hospital and may require an ambulance if the player is unable to move.

The player with a dislocation will be in significant pain and the injury may be very easy to see for example with a dislocated patella will you will find the kneecap usually lying on the outside of the knee rather than in the centre. The player will be unable to move the knee joint and it will look deformed. On asking the player how the injury happened or what they felt, they often say that they felt something "popping out." These are clear indications that a dislocation has happened.

The dislocation requires "reducing" which means "putting the bone back in place". The safest place for this to occur is in hospital. The player requires an urgent transfer to hospital. The limb can be supported (see chapter 5 on immobilisation) and ice can be applied for pain relief.

Following the reduction of the dislocation, the limb will be immobilised for a short period of time, after which time the aims of treatment are the same as for other soft tissue injuries. The player needs to return to full range of motion of the joint and regain full strength. The PRICE regime can be used to assist this process as described above. This process should be guided by what the doctor has said as this injury could occur again.

Your Experiences
Activity 4

Write a PRICE protocol for the players within your team, so that you can provide them with a leaflet to take home, about what to do at home when a soft tissue injury has been confirmed so that they have clear instructions about what they can and cannot do in the first 24-48 hours and how often to do this. Don't forget to put the cautions discussed in this chapter.





CHAPTER 5

Bone Injuries: Fractures of the Lower and Upper Limbs and Ribs

CHAPTER 5:

BONE INJURIES: FRACTURES OF THE LOWER AND UPPER LIMBS AND RIBS

Injuries to the bones in football are not common but when they do occur are generally serious injuries. The usual cause of any fracture to one of the limbs or to the ribs is due to contact with another player, an object such as a goalpost or the ground.

Fractures account for about 4% of all football injuries.

There is another type of fracture known as a stress fracture which is an incomplete break in a bone. It is caused by "unusual or repeated stress," rather than one severe impact or event. It could be described as a very small crack in a bone. Stress fractures usually occur in weight-bearing bones, such as the shin bone or small bones in the foot. They are characterized by the player complaining of localized pain that is made worse by activity. Local pressure by your finger on the area will make the pain worse.

All fractures, even if only suspected, should be immediately referred to the hospital for investigation and management. Missing any fractures can result in poor union or delayed healing of the bone as well as development of complications.

A fracture can be classified into different types

Closed – the bone(s) are broken but the skin is kept intact over the area of the break.

Open – the skin has been damaged over the area of the broken bone. This can have a high risk of infection.

Complicated – besides the broken bone there is damage to other nearby structures e.g. trapped blood vessels or nerves.

Greenstick fracture (found only in children because they have flexible bones) - one side of a bone is broken while the other is bent (like a green stick). Because a child's bones are much more pliable than adult bone, an incomplete, or 'greenstick' fracture may occur.

Greenstick fractures are commonly mistaken for strains or sprains because there are only a few signs and symptoms present. Young children who fall onto an outstretched hand suffer a greenstick fracture to the forearm and this presents as a 'bump' along the forearm, often painful to touch.

Should such a 'bump' be felt after a fall, a greenstick fracture should be suspected in a younger child. If this injury is not sent to hospital for treatment (straightening) the bone will begin to heal in this position and the child may be left with a deformity and resulting movement difficulties later on such as muscle weakness.

Do not delay, regardless of your experience, send the young player to hospital for medical review.

Fracture Dislocations – this is when a bone is broken and also partially or fully dislodged at the joint simultaneously, usually as a result of a wrenching or tearing action. e.g. a fracture to the lower leg resulting in a dislocation of the ankle. This results in the foot being turned at right angles to the rest of the leg. For more information on dislocations refer to Chapter 4.

The most common fracture-dislocations in the upper limb are to the shoulder and elbow and result from a fall or from the arm being knocked backwards during a contact tackle e.g. trying to grab another player. Shoulder dislocations whilst not common in football do occur in goalkeepers.

Signs and Symptoms of Fractures

Pain at the site of the injury (can be severe pain)

Weakness / loss of power e.g. weak leg and the player unable to place any weight on it

Abnormal /unnatural movement e.g. movement occurs that is not normal for that limb

Swelling

Deformity/Irregularity e.g. a normal straight bone is bent or there is a lump within a bone

Crepitus e.g. the bone makes crunching noises as you palpate/ touch it or when the player tries to move it

Tenderness e.g. player feels tenderness when you touch the injury site

There may also be associated bruising over the fracture site. The player may be able to give you a history of hearing something 'snap'.

First Aid Management of a Fracture

Effective management may be achieved by:

- ALWAYS assuming there may be a fracture, if you are in doubt
- Reassuring the player and explaining what you are doing as you carry out the assessment
- Don't move the player unless absolutely necessary. It may be best to keep the player comfortable and await the arrival of the ambulance (see below under management)
- Looking at the injury may give you important clues as to the diagnosis and management. For example, you may see a bony lump (deformity) that suggests a break in a bone or you may see immediate bruising alerting you to some immediate bleeding into the area
- Listen to what the player is telling you they felt or heard, for example, did the player here a 'snap' as the injury occurred?
- Support and immobilise the affected part of the body by using your hand, avoiding any direct pressure to the injury site, to prevent further movement and to control the area.
  See section 5.2 on Immobilisation
- Apply a wound dressing to open fractures. If heavy bleeding is present, consider application of direct or indirect pressure, whichever is effective (see Chapter 3 on wounds and bleeding)
- Keep the player warm by the application of a blanket
- Call the ambulance as this player will need hospital admission to treat the break

Be aware in some serious injuries or complicated fractures that the blood vessels or nerves can be affected or damaged. It is important to check for circulation and nerve impairment above and below the injury site. You can quickly and easily do this as described below.

Colour (circulatory) **check** – is done by looking at the colour of the limb, does it compare with the opposite limb or is it pale or mottled (patchy colour) and looks as if it is not receiving a blood supply? It may also feel cold to the touch. In order to have a look you may have to very carefully remove the players clothing e.g. cut away the sock in the case of an injury to the ankle. When the ambulance service arrive, they may cut away the laces to carefully remove the boot to check the colour and feel the warmth of the foot.

Movement check - can be done by asking the player to wiggle their toes or fingers or gently bend their knee or arm. Being able to move a limb is an indication that the injury is not as severe as you think, however be careful that they are not just moving areas above the injury. Reluctance or inability to move an injured body part may be a sign of a severe injury.

Sensation can be evaluated by asking the player if they can feel you touching them at different points, compare this with the opposite limb.

All Fractures are emergencies, but some fractures are stable and others have associated complications that make them a priority emergency.

Associated complications are;

- An **open fracture** – where the bone has damaged the skin and may be protruding. This is at risk of developing a severe infection from an open wound or the player losing a lot of blood
- **Reduced circulation** – the fracture may have slowed or stopped the blood supply because of pressure on or damage to the blood supply to the limb and if not treated urgently in hospital can result in severe damage to the limb below the fracture site. For a limb with a compromised blood supply there is a window of four to six hours before irreversible tissue damage occurs so do not delay in getting the player to hospital
- Fractures **with dislocations** – these require immediate transfer to hospital so that the dislocation can be corrected to avoid damaging other tissues and blood vessels that might be under stress from the abnormal position of the joint
- Fractures **to the ribs** may affect the players breathing. Their breathing may become fast and shallow. This could be a sign of damage to the underlying lungs and the player requires urgent treatment in hospital to correct this (see Chapter 5.1)

5.1 Injuries to the Chest

Chest injuries are relatively rare in football. Any injury to the chest can cause difficulties with breathing leading to a lack of oxygen to the body. First Aiders must be able to recognise the severity of the injury in order to be able to take immediate action.

Injuries to the chest usually result from a direct contact (tackle) with another player or a goal post.

Chest injuries may be minor but they could become life threatening and may cause associated injuries as discussed below. Chest injuries if left un-treated, can cause one or both lungs to collapse due to accumulation of air. This, in turn can cause increased pressure around the heart, leading to cardiac arrest if not recognised and treated early.

The two main types of chest injury are:

Closed – where the skin is not broken and air does not have access through the chest wall. However there still could be damage to internal organs.

Open – where the skin has been penetrated by an object (this can be external e.g. landing on a sharp object or internal by a broken rib).

One type of open wound is called a sucking chest wound, as air is sucked into the lung cavity with breathing causing the lungs to collapse. The First Aider can deal with this type of chest injury, and prevent further deterioration by the application of a non adherent wound dressing. Inadvertent sealing of this type of wound with an adherent occlusive dressing can create life threatening injuries. These players need an urgent ambulance and very careful monitoring even with the dressing on.

Fractures of the ribs

The player may complain of pain that is made worse when breathing in (especially a deep breath) or when coughing even if no other complaints are present.

Signs for the First Aider to look out for with chest injuries

- Any difficulty in breathing
- Blueness around the lips after injury
- Coughing up blood
- Increased breathing rate
- Unequal movements of the chest wall i.e. one side rises more than the other
- Pain at the site of injury – the player can pinpoint the painful area.

Rib fractures (or occasionally fractures to the collar bone) can also cause damage to the underlying lungs. In this instance, the player will complain of more difficulty in breathing and their breathing may become fast and shallow. This can be potentially life threatening and the player should be immediately transferred to hospital. Any injury to the chest with pain and/or difficulty with breathing must be transferred to hospital urgently.

Management of chest injuries by the First Aider

- Ensure that the player can breath comfortably and without pain. Count how many breaths the player is taking in one minute. Make a note of this. If he/she is breathing more than 30 breathes per minute then transfer the player to hospital. Likewise, if the breathing rate drops below 10 per minute, the player needs medical attention and you may need to consider resuscitation (see Chapter 2). You can use this figure to reassess the player at regular intervals
- Make the player comfortable by allowing him/her to choose their position of comfort, either sitting or half lying. Lying down fully is often really painful with fractures to the ribs. Do not lay on the side to occlude an injury you consider may be an open chest wound
- Placing the arm on the side of the injury into a sling can often assist in stabilising the chest (see section 5.2)
- Urgent, rapid and smooth transport to hospital
- If the player is unconscious with a chest injury and you have concerns about maintaining the airway – consider side lying (2 person log roll if associated neck injury suspected as previously taught) if possible inclined to the injured side **(but with underlying injury caution).** If you do not have concerns over maintaining the players airway, DO NOT move them. You do not want players laying on fractured ribs

Most injuries to the chest experienced by footballers are minor bruising with few rib fractures. Life threatening chest injuries are very rare. Attention by referees to aggressive play with Red cards will decrease these injuries even more.

5.2 Immobilising and Support of a Fractured Limb

Arm slings

Arm slings using triangular bandages are tied at various points (see below) to make a sling for the arm on the injured side to rest in. If you do not have access to triangular bandages, than any kind of towel, cloth or small sheet can be used. In some instances the players own clothing is sometimes the most effective sling (see below).

Arm slings are used to support fractures of the

- Upper arm
- Collar bone
- Shoulder
- Ribs, sternum and scapula (by immobilising the arms on the injured side to prevent movement)
- Wrist
- Hand



PIC 43 Low arm sling

- Lower arm (forearm)
- The lower arm is positioned at right angles across the body, slightly inclined
- Place the sling between the arm and the body
- Bring the lower end of the bandage up and over the injured arm
- The sling is tied off just above the collarbone on the same side of the body as the injured arm



PIC 44 High arm sling

- Triangular slings are also used for elevating wounds of the hand
- The injured arm is placed diagonally across the chest with the fingertips resting on the collar bone on the opposite side of the body
- The sling is tucked underneath the affected arm, elbow, wrist and hand and
- Tied just above the collar bone on the uninjured shoulder side

Of all the techniques of immobilising an upper limb injury the picture below is possibly the easiest and most effective as well as most comfortable for the player as it requires little movement.

- The shirt or clothing is pulled up from the bottom and encases the player's arm
- If the playing shirt is tight enough it will hold itself in place, if it is large a safety pin or knot can be tied at the back

For some injuries to the upper limb the player can use his good arm/hand to support the injury site. For example, with wrist and hand injuries, you may find the player holds his injury site in his good arm or cups it into their own chest. This is obviously a comfortable position for the player and if it can be maintained this way, leave them to support this and monitor until medical help arrives or they transfer to hospital.



PIC 45 Player's shirt as a splint

Splints

The purpose of splinting is to:

- Immobilise a limb
- Reduce pain
- Prevent further damage
- Reduce bleeding from moving fragments
- Minimise the progress of shock (see Chapter 3)
-

If splints are to be used they must be:

- Long enough to immobilise the joint above and the joint below the fracture
- Wide enough to provide full support
- Well padded to provide full comfort
- Strong enough to prevent movement



PIC 46 A box splint



PIC 47 An inflatable splint



PIC 48 A man-made splint

- If you do not have access to any splints, then it is easy to **make your own splints** using football socks to tie around the leg in similar points to the picture shown above
- It is best to tie the good leg to the injured leg, so that the good leg acts as a 'splint' for the injured leg
- An alternate to using socks is the use of towels, bandages or sheets
- Many items can be used to provide splintage as long as they can be adequately padded and will fit into place e.g. cardboard, wood, rolled up newspaper

The application of any splint or support usually has the desired effect of immediately reducing the pain the player is suffering because the injury is now supported. If you do not have any support at all, using your gloved hands cupped underneath the injury site is the best support you can offer until medical help arrives.

Once a player has been immobilised with a splint they will require a stretcher to transfer them from the field-of-play. A player with an injury to one limb can usually use his good (uninjured) limb to help him move onto a stretcher. However, if you have used the good limb as a splint as in the above paragraph the player will need to be lifted onto the stretcher (see Chapter 6). Be careful when placing a player onto a stretcher that they are always secured (tied) onto the stretcher to avoid the possibility of them falling off. If you do not have access to a stretcher, you will have to call an ambulance and await its arrival before moving the player from the field. In the interim ensure you keep the player warm.

Your Experiences

Activity 5

Answer the following questions (for answers refer to Appendix 4)

1. If you are unsure if the injury to the player is a fracture or a soft tissue injury, how should you manage it?

2. What do you look for when checking the distal circulation of a suspected fracture/break to the leg?

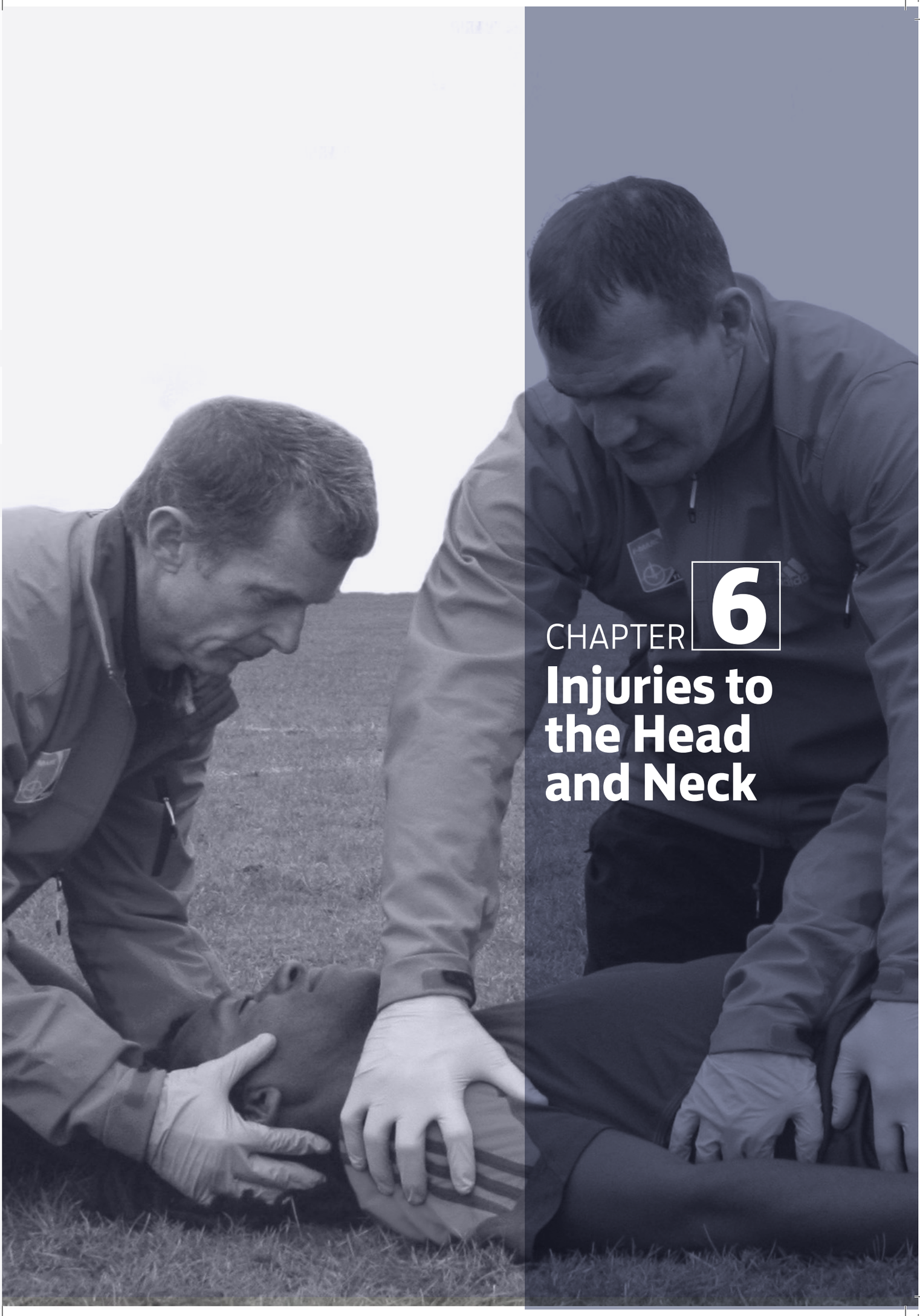
3. What signs and symptoms might you look for if you suspect your player may have suffered a chest injury?

4. Why do we support or try to splint a broken limb?

5. Have you ever dealt with a broken limb on the football field? Write a short reflection about what you felt you did well and what could be improved for next time.

Notes





CHAPTER 6

Injuries to the Head and Neck

CHAPTER 6:

INJURIES TO THE HEAD AND NECK

Injuries to the head and neck can be very serious and occasionally fatal. Fortunately these injuries are very rare in football.

It is important to have an awareness of the potential problems that can occur to a player who suffers an injury to the head and/or neck. This chapter will focus on these potential problems beginning with neck (cervical spine) injuries.

Cervical Spine Awareness

It is important that you deal with all known or suspected spinal injuries (fractures) and dislocations quickly and correctly. Proper immobilisation and player management may mean the difference between complete recovery and lifelong paralysis, or even death.

Mechanism of Injury

Spinal injuries are caused by direct or indirect forces and should always be suspected in all cases where:

- There is a history of accident or injury to the spine or neck e.g. high tackle, (blow to the head from an outstretched hand, kick or knee to the head) or fall onto the head and neck
- The player complains of pain in their back or neck after injury
- There has been forced chin to chest or whiplash (head back) injuries of the neck as the player was hit or fell
- A heavy weight has fallen on the player's shoulders e.g. another player
- A fall from a height and landing on either the heels e.g. jumping to head a ball or diving to save the ball landing awkwardly onto the head or neck or two players colliding whilst heading a ball and landing awkwardly on their head or neck

A neck injury should be considered for

- any injury occurring above the collar bone
- any head injury with loss of consciousness
- and where abnormal flexion or extension of the neck has occurred

Signs and Symptoms of a Spinal Fracture

As well as the normal signs and symptoms of a fracture (see Chapter 5), there may be other features, which are specific to a spinal injury.

- The player may complain of a loss of feeling or sensation in the body below the site of injury
- The player may complain of a hot feeling, or 'pins and needles' sensation above the site of the injury
- There is evidence of paralysis or generalised weakness below the injury site e.g. the player is unable to wiggle fingers or toes or squeeze your hand when asked

Management of Spinal Injuries

The management of spinal injuries will be reinforced several times in this chapter due to the great importance effective first aid can have under these circumstances.

Management of the player that is CONSCIOUS

- Do not move the player unless they are in immediate danger. Unless life is at risk NEVER attempt to move the player, await further medical help/arrival of the ambulance
- Immediate manual immobilisation (see below) of the player is paramount. **Once applied it should not be released until the player is firmly strapped to a long board or suitable immobilisation device and some form of head restraints are applied, usually by the ambulance crew.** This could take a long-time to achieve, so the First Aider may be applying manual immobilisation for a prolonged period of time from 5-30minutes, dependent on how long it takes the ambulance to arrive. Ensure you take up a comfortable position as you will not be able to move or let go of the head until medical help arrives and takes over the head control. This skill will be taught to you during the EFAiF course
- Check their ABCDE once you have control of the injured player's head (see Chapter 2). An airway must always take priority, so it is airway with cervical spine (neck) control when a neck injury is suspected. It is always best to check and keep re-checking frequently their ABC until medical help arrives
- If there is any doubt as to the presence of a spinal injury, you must immobilise and secure the player, prevention is better than a cure!
- The only time head and neck immobilisation would be stopped is if the player stopped breathing, then BLS with AED would be priority and not the head and neck
- Talk to the player at all times, tell them what you are doing to help him/her keep calm
- Movement of the player must only be carried out by the ambulance service



PIC 49 Manual in line stabilisation of the head and neck in prone

Manual immobilisation

The First Aider's hands should be placed on either side of the player's head, cupped around the ears (not over the ears this allows the player to hear).

Always talk to them to provide reassurance.

The same technique is applied to hold the head and neck regardless of the position that the player lands in. Players do not always fall onto their backs.

Management of the player that is UNCONSCIOUS

- Do not move the player unless they are in immediate danger. Unless life is at risk NEVER attempt to move the player with a suspected spinal injury, await further medical help
- Manual immobilisation (see above) of the player is paramount and must be performed immediately on arrival at the player on the field-of-play
- Ensure an open airway. Jaw thrust to be applied if the mouth is clear. HTCL is not chosen first as this requires moving the head and neck
- Look inside the mouth. This can be done with the player in any position (i.e. the position that you find them). Keep the head and neck still and supported and gently open the mouth



PIC 51 In-line stabilistation of the player on her side, second rescuer inside the the mouth opening the airway to look inside mouth

- If the athlete has noisy breathing (snoring) it implies that the airway is being partially obstructed, apply a jaw thrust to open the airway
- A jaw thrust (chin lift) allows the tongue to be lifted off the back of the throat and opens up the player's airway. This technique only causes minimal movement of the head and neck
- **To apply a jaw thrust the First Aider places their hands either side of the head, as in manual in-line stabilisation and then places their index (first) fingers under the jaw at the base of the ear on either side and gently pushes the jaw upwards and forwards**



PIC 50 In-line stabilisation of a player, lone rescuer opening to look inside the mouth



PIC 52 Jaw thrust with in-line stabilisation of the head



PIC 53 Jaw thrust in side lying



PIC 54 Jaw thrust lying on front

- A jaw thrust may be enough to open a player's airway and the noisy breathing will stop
- If the noisy breathing returns when you stop performing the jaw thrust, for example when a player is lying on their back and is unresponsive, the jaw thrust may need to be held in place until the player arouses and can maintain their own airway or until an ambulance arrives to take over. If it cannot be held open then the player will have to be moved onto their side to open the airway
- A jaw thrust may be used to open up the airway in a side lying and prone position (lying on the front) and gravity will keep the airway open maintain this without having to continue the application in most cases (see pics 53 and 54 on previous page)
- **A clear airway** must take priority over all other injuries.
- If a clear airway cannot be maintained because of the position of the players head and neck then the player will have to be turned (see below the log roll)
- Manual immobilisation of the player's spine is essential. Once applied it should not be released until the player is firmly strapped to a spinal/long board or suitable immobilisation device and a head restraint device is applied by the ambulance crew
- **Please note: if the airway cannot be maintained or a jaw thrust cannot be performed then a HTCL is done in increments until the airway is open**
- Movement of the player onto a stretcher must only be carried out by the ambulance crew
- Keep the player still and warm – have someone cover them with a blanket
- Talk to them to reassure them even if they are unconscious they may still be able to hear you

Player Assessment with C-spine injury

Player's should always be approached and managed in the following manner:-

NB If any life-threatening problem e.g. arterial bleed (see chapter 3) or airway obstruction (see Chapter 2) is found it should be dealt with immediately before moving on to the next stage. In some cases full resuscitation (see Chapter 2) may be required. In this instance it may become difficult to maintain manual immobilisation of the neck.

- Danger
- Response
- Airway with neck control (manual immobilisation) as shown above
- Breathing
- Circulation
- Disability
- Expose/Examine

If a player is unconscious due to trauma, it is reasonable to assume that there is also a neck injury present until ruled out by an x-ray not a First Aider.

However a clear airway must ALWAYS take priority.

Resuscitation with a Neck Injury

A player in cardiac arrest regardless of suspected or known neck injuries must be resuscitated. Try and move the patient gently if you have to turn them onto their backs take as much care of the spine as you can. Do not be aggressive because you have a resuscitation, but do not waste valuable time. The head and neck will have to be released in this instance as BLS with an AED will take priority.

REMEMBER!
The importance of summoning ambulance assistance

Resuscitation is performed as per Chapter 2. Where there are a sufficient number of persons present then manual immobilisation can be maintained if desired (**but** time is not wasted in attaining or maintaining this). If insufficient persons are present then the **emphasis** should be on chest compressions and ventilations. The actual act of performing CPR will cause minor movement of the head and neck and in-order to achieve adequate rescue breathing. If an AED is present and applied then when it is analysing everyone MUST let go of the player's neck **making continued manual immobilisation impossible and impractical in this situation.**

If resuscitation is **successful and signs of life are established,** it is important to maintain a good airway and ensure that the tongue does not cause an obstruction by falling back against the back of the throat (this will only usually occur if the player remains unconscious). This does not mean that the player has to be moved and a jaw thrust will usually suffice. However if the airway **cannot** be maintained adequately then the player needs to be turned onto their side. Best practise would be to log roll* however, if you are alone and unable to summon any assistance, then the modified recovery position (2 person log roll) or HAinES if alone, will have to be implemented.

**A log roll is the turning of a player onto their side or onto a piece of extrication equipment, such as a spinal board, when a neck injury is suspected. One person has manual immobilisation of the neck and three other people roll the player onto his side with the person who is holding the head controlling when the others move. It is important that the movement is controlled and timed so that the player is rolled as a "log" all in one piece.*

If only two or three persons are present then this technique is adapted as previously in the two person log roll (see Chapter 2).

Controlled log roll

A controlled log roll is the manoeuvre of choice when moving a player. **The person in charge of each movement is the person who has control of the head and neck,** this may not necessarily be the same person who is in charge of the medical or first aid management. This ensures that the head and neck is moved at precisely the right time.

The techniques are described below and shown on the EFAiF course. The purpose of inclusion is for you as First Aiders to take control of the head and neck until the ambulance service arrive and on arrival assist the Ambulance crew with moving the player when required. First Aiders should be stabilising the head and neck of a player who has an open airway and is breathing and not move them till the ambulance arrives and directs the movement, however in an absolute emergency where you as the First Aider cannot maintain the airway would you consider moving the player before the ambulance arrives.

In an ideal situation at least four persons are required, one to control the neck, the tallest person at the shoulders, the next tallest person at the chest region and the fourth person at the pelvic/leg region. Each of the three persons on the body will interlink arms and when all hands are on the player to be moved, three hands will be on top of the body and three hands will be underneath (see below). The player is then turned into the bodies of the persons completing the manoeuvre.

The manoeuvre is executed on the command of the person controlling the neck, the command is usually "is everyone ready, on my command we will turn onto his side, **ready, steady, roll.** A quick recheck when the player is on his side and then the manoeuvre is repeated onto his back, ready, steady, roll." Ready, steady, roll could also be ready, steady, move or 1,2,3. However it is less likely to cause confusion if words rather than numbers are used. Neither however is wrong.

This technique is used to move the player with a suspected neck or back injury in all instances, regardless of their initial starting position. For example the same movements are applied if the player started out on their front or on their side.

Turning a player from the front to their back for further assessment or direct onto a stretcher/board to extricate them from the field of play has exactly the same hand positions as the movement from their back.



PIC 55 The log roll start position of First Aiders hands and head support



PIC 56 The movement onto the side to check the back and insert the stretcher or long/spinal board if the ambulance crew are present with their equipment



PIC 57 The second stage of a log roll of a player from his front



PIC 58 The log roll continues so that the player is on his side



PIC 59 The log roll is complete with the player lying on this back. The same technique is applied if the player begins on their side, this might be even a player that is curled up onto their side



PIC 60 The hand positions for a log roll with a player in side lying The player is then gently log rolled onto their back in one move when everyone is ready with the person holding the head and neck in control of the timing of the movement



PIC 61 Showing the completion of the log roll from side lying



PIC 62 Triple immobilisation on a long back board will look like when the ambulance crew (or you're your own club medical staff) have safely packaged a player



PIC 63 Lifting the player

The ambulance crew will transfer the player onto a lifting and extrication device, usually a spinal/long board or scoop stretcher for a suspected neck or back injury. The neck will have a rigid collar that is well fitting applied and the head and neck is also supported by head blocks and tape at the chin and forehead. This is known as triple immobilisation, the body must always be securely fastened to the stretcher before the head is secured. The ambulance crew will bring this equipment and apply it, you can assist them if trained and able.

First Aiders please note a **neck collar is NOT a recommended piece of equipment** for First Aiders to have in football. The collar will provide only 30% support to the neck and evidence shows the manual in line stabilisation to be a better form of neck support. The neck collar is only used by health care professionals where all the immobilisation kit is to be used and never as a device alone.

Once this triple immobilisation is in place the person at the head can be advised to let go of the head and neck, but they will always stay at this end of the stretcher closely monitoring the player for signs of deterioration.

Ideally for a full extrication with equipment it requires a minimum of 6-8 persons. One to stay at the head end to talk to and monitor the player (usually medical person leading the care of the player). 2 or 3 persons either side of the stretcher to lift and carry (2 or 3 dependent on the size of the player, 2 either side if a smaller player) and the last person to guide the stretcher off the field of play and ensure no-one and nothing is in the way as a trip hazzard. As with the log roll the tallest persons are always at the head end, with decreasing height down to the foot end. The stretcher is lifted only to the height of the smallest persons hip height on the command of the person at the head end monitoring the player. The stretcher is always carried off feet first with everyone facing the same way.



PIC 64 Manual in-line stabilisation in sitting



PIC 65a Manual in line stabilisation whilst lowering a player from sitting to lying with a suspected neck injury



PIC 65b



PIC 65c

Manual in-line stabilisation should be applied at all times that a neck or back injury is suspected with any trauma, whilst it is rare in football it may happen. The player does not have to be unresponsive or lying on the ground, in line stabilisation can be applied in any position.

If you have to lower the player to the ground then do so slowly, carefully and with as much help as you can. Another rescuer can assist by swapping in-line stabilisation with you to support from the front, whilst two of you slowly lower the player safely to the ground. Once the player is flat, in-line stabilisation can be resumed from the head-end whilst a full ABCDE assessment is carried out.

The Player Who is Self Immobilising

On approach some players may already be up and walking in this instance they are self immobilising their own neck. Manage them with the A-E approach. Consider MILS. If they are steady on their feet, no altered levels of consciousness and no neck pain complained of, allow them to walk themselves off from the field of play, walk with them closely, be ready to help if required. If the players appears disorientated and unsteady, support them off the field of play from both sides (2 persons required) supporting the head and neck from both sides and monitor closely. This technique will be shown during the course. Take them to a place where you can manage them appropriately. If they cannot walk, then sit them on the floor and manage as in pic 65a-c.

Head Injuries and Concussion Management in Football

A head injury is any trauma that leads to injury of the scalp, skull or brain usually resulting from an injury above the collar bone, but can be transmitted from other body parts to the head. The injuries can range from a minor bump (bruise or laceration) on the skull to serious brain injury. Head injuries are a very common sporting injury and do occur in football from direct contact with another player, the ball, the goal posts or the ground.

All head injuries are serious even if the player appears normal and unaffected. Any injury or blow to the head is suspect. Some head injuries take time to develop and it could take several hours before symptoms develop, resulting in collapse and possible death. If you have not directly witnessed the incidence, obtain the history from another player or official at an early stage, or review video evidence if present as the player may lose consciousness or have no recollection of the injury (amnesia). Video evidence may be available for parents videoing if the team doesn't officially record matches.

Players who have received a blow to the head, sufficient to render them unconscious but have apparently recovered, should always have a medical examination in hospital, please refer to the FA concussion guidelines.

Head injuries may be present in conscious or unconscious players.

Scalp Wounds

Scalp wounds usually occur from direct violence. The player may be dazed or confused. This type of wound usually bleeds considerably, matting hair and running down the face. It can often be difficult to pinpoint the source and extent of the wound. Treat and assess appropriately, consider associated concussive injury.

This section will focus on how to manage head injuries in football and what advice players and carers should be given by the First Aider.

The incidence of head injuries in football has been shown to increase with age and level of play. Injuries at the elite level occur four times more often than at amateur level. The majority of these injuries are minor and occur in aerial duals due to contact with another players elbow or from head to head contact.

There are two main types of head injuries that this chapter will focus on before discussing injuries that can occur to the face and jaw. These are structural brain injuries and concussive brain injuries. They differ in that the former is a structural brain injury that can rapidly deteriorate and become fatal. This injury usually requires neurosurgery and fortunately is extremely rare in football. The latter injury is **concussion,** which is also a **brain injury** that results in the player suffering problems related to awareness, memory and attention reflecting a functional disturbance rather than a structural injury. Injuries leading to concussion occur about two to three times more often in female football players.

Even for experienced medical staff it is difficult to distinguish between the types of head injury, which is why both should be managed with great care and in exactly the same way by the First Aider.

Structural Brain Injury

A structural injury is usually a "bleed" within the head that causes pressure on the brain. This pressure results in the brain becoming starved of oxygen and due to the enclosed nature of the skull, the pressure continues to build up inside the head. This build up of pressure can lead to fatal results if not dealt with immediately by transferring the player to hospital for treatment.

These injuries may be caused by a direct force to the head. For example; when a player receives a blow to the head from another player, an object strikes the head such as a ball or a player's boot strikes the head or from a fall onto the pitch itself. They may be associated with other injuries such as a fracture of the skull (see later in this chapter).

If any player who has taken a knock or blow to the head and who is not fully alert and orientated for time, place and person, transfer to the hospital immediately.

Signs and Symptoms – many listed below are later signs. A bleed can occur over a matter of hours or days. Your main signs are that your player is not improving, in fact he is deteriorating.

- May complain of headaches due to the pressure in his head building up
- Continue to be confused and suffer continued memory loss
- Vomits repeatedly
- Appear drowsy and does not improve
- May have convulsions (begin to fit as his brain is starved of oxygen)
- Pupils becoming unequal (this is usually a very late sign)
- Decreasing levels of consciousness
- May have suffered prolonged loss of consciousness after the incident (>1 minute)

NB: All players who have had trauma to their heads are also regarded as having an injury to the neck as well and must be treated as such by also immobilising the neck.

Remember your ABCDE approach, assessment and management.

Concussion

Concussion can be caused by a blow to the head region. In football, this can be from contact with another player's head, knee, hip, elbow etc or contact with the pitch or contact with the football itself.

Concussion has a rapid onset of symptoms that usually last from 7 to 10 days in duration and that may or may not involve the player losing consciousness. The recovery in children and adolescents may be longer.

The FA Concussion guidelines and The FA Concussion e-learning module have been written to help and advise all those working within football how to manage a player who may have suffered a concussive event.

Please visit **www.thefa.com/get-involved/coach/concussion** and complete the e-learning module, this is an essential component of the 'first aid tools' for anyone caring for player welfare.

To access the module you will need to log in with your FAN first which they can do here:
https://learning.thefa.com/totara/program/index.php?categoryid=69&viewtype=program

Summary Points

A concussion is an injury to the brain



While injury to the brain can be fatal, most concussions recover completely with correct management

All concussions should be regarded as potentially serious and should be managed in accordance with the appropriate guidelines

Incorrect management of concussion can lead to further injury

Anyone with any concussion symptoms following a head injury **must** be removed from playing or training





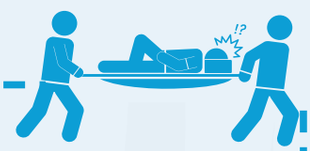
Loss of consciousness does not occur in the majority of concussions

Return to education or work must take priority over return to play

There must be no return to play on the day of any suspected concussion

A progressive exercise program that introduces an individual back to sport in a step-wise fashion is recommended after a concussion





An injury to the cervical spine (neck) may occur at the same time as a concussion and normal principles of cervical spine care should also be followed

What is concussion?

Concussion is an injury to the brain resulting in a disturbance of brain function. There are many symptoms of concussion, common ones being headache, dizziness, memory disturbance or balance problems.



What causes concussion?

Concussion can be caused by a direct blow to the head, but can also occur when a blow to another part of the body results in rapid movement of the head e.g. whiplash type injuries.

Onset of Symptoms

The symptoms of concussion typically appear immediately, but their onset may be delayed and can appear at any time after the initial injury

Loss of consciousness does not always occur in concussion (in fact it occurs in less than 10% of concussions).

A concussed player may still be standing up and may not have fallen to the ground after the injury.



Who is at risk?

Concussions can happen to players at any age.

However, **children and adolescents (18 and under)**:

- are more susceptible to brain injury
- take longer to recover
- have more significant memory and mental processing issues
- are more susceptible to rare and dangerous neurological complications, **including death caused by a single or second impact**

Studies indicate that concussion rates in **women** are higher than in men in football.

A history of **previous concussion** increases the risk of further concussions, which may also take longer to recover.

How to recognise a concussion

If any of the following signs or symptoms are present following an injury the player should be **suspected** of having a concussion and **immediately removed from play or training and must not return to play that day. The Pocket Recognition tool may be used as an aid to the pitchside assessment (see Useful Links section)**

If in doubt sit them out.

Visible clues (signs) of concussion
What you may see

Any one or more of the following visual clues can indicate a concussion:

- Dazed, blank or vacant look
- Lying motionless on ground / slow to get up
- Unsteady on feet / balance problems or falling over / poor coordination
- Loss of consciousness or responsiveness
- Confused / not aware of play or events
- Grabbing / clutching of head
- Seizure (fits)
- More emotional / irritable than normal for that person

Symptoms of concussion
What you may be told by the injured player

Presence of any one or more of the following symptoms may suggest a concussion:

- Headache
- Dizziness
- Mental clouding, confusion, or feeling slowed down
- Visual problems
- Nausea or vomiting
- Fatigue
- Drowsiness / feeling like "in a fog" / difficulty concentrating
- "Pressure in head"
- Sensitivity to light or noise

Questions to ask a player

These should be tailored to the particular activity and event, but failure to answer any of the questions correctly may suggest a concussion. Examples with alternatives include:

What venue are we at today?	**Which half is it now?**	**Who scored last in this game?**	**What team did you play last game?**	**Did your team win the last game?**
or	or	or	or	or
Where are we now?	Approximately what time of day is it?	How did you get here today?	Where were you on this day last week?	What were you doing this time last week?

Video footage: If video footage of the incident is available this may be of assistance in establishing the mechanism and potential severity of the injury and can be used to contribute to the overall assessment of the player. This may be viewed by the person assessing the injured player or can be commented on by a third party, such as the tunnel doctor in an elite professional setting. A coach or parent may have video footage that could be helpful in a non-elite setting. However video evidence must not be used to contradict a medical decision to remove the player.

What to do next

Anyone with a suspected concussion **MUST** be **IMMEDIATELY REMOVED FROM PLAY.**



Once safely removed from play they must not be returned to activity that day.

Team-mates, coaches, match officials, team managers, administrators or parents who **suspect** someone may have concussion MUST do their best to ensure that they are removed from play in a safe manner.



If a neck injury is suspected suitable guidelines regarding the management of this type of injury at pitchside should also be followed (see useful links for pitchside injury management training)

If ANY of the following are reported then the player should be transported for urgent medical assessment at the nearest hospital emergency department:

- Severe neck pain
- Deteriorating consciousness (more drowsy)
- Increasing confusion or irritability
- Severe or increasing headache
- Repeated vomiting
- Unusual behaviour change
- Seizure (fit)
- Double vision
- Weakness or tingling/ burning in arms or legs

In **all** cases of **suspected concussion** it is recommended that the player is referred to a medical or healthcare professional for diagnosis and advice, even if the symptoms resolve.

Ongoing management

Rest the body rest the brain.

Rest is the cornerstone of concussion treatment. This involves resting the body, 'physical rest', and resting the brain, known as 'cognitive rest'. The period of rest allows symptoms to recover and in the non-professional setting allows a return to work or study prior to resuming training and playing.

Rest means avoiding:

- **Physical activities** such as running, cycling, swimming, physical work activities etc.
- **Cognitive activities (thinking activities)**, such as **school work, homework, reading, television, video games**. Students with a diagnosis of concussion may need to have allowance made for impaired cognition during recovery, such as additional time for classwork, homework and exams



Anyone with a concussion or suspected concussion should NOT:

- **be left alone** in the first 24 hours
- **consume alcohol** in the first 24 hours, and thereafter should avoid alcohol until free of all concussion symptoms
- **drive a motor vehicle** and should not return to driving until provided with medical or healthcare professional clearance or, if no medical or healthcare professional advice is available, should not drive until free of all concussion symptoms



Returning to play after a concussion

The graduated return to play (GRTP) protocol should be followed in all cases. This staged programme commences at midnight on the day of injury and stage 1 (initial rest period) is 14 days in all players unless they are in an enhanced care setting. In all cases, progression to stage 2 of the GRTP can only occur if the player has no symptoms.

Return to work and study after a concussion

At the non-professional level, adults must have returned to normal education or work and students must have returned to school or full studies before starting physical activity (stage 2) in a GRTP program.

Graduated return to play protocol

A graduated return to play (GRTP) protocol is a progressive exercise program that introduces an individual back to sport in a step-wise fashion.

Stage 2 of the GRTP protocol should only be started when a player

- is symptom-free at rest and has completed the initial rest period (14 days in a standard care setting and modified in an enhanced care setting)
- has returned to normal education or work if not a professional footballer
- is not receiving treatments and medications that may mask concussion symptoms, e.g. drugs for headaches or sleeping tablets.

The GRTP Protocol contains six distinct stages

Stage 1	Stage 2	Stage 3	Stage 4	Stage 5	Stage 6
Stage 1 is an initial rest period during which symptoms should resolve. This stage must be extended if symptoms persist	The next four stages are restricted, training based activity				Return to full training and match play

Under the GRTP Protocol, the individual can advance to the next stage **only if there are no symptoms** of concussion at rest and at the level of physical activity achieved in the current GRTP stage.

If any symptoms occur while going through the GRTP program, the individual must return to the previous stage and attempt to progress again after a minimum 24-hour period of rest without symptoms (this is 48 hours in players under 19 years of age).

It is recommended that a medical practitioner confirms recovery before an individual enters Stage 5 (full-contact practice).

The 6 stage GRTP protocol should be followed in all cases.

Further information can be found in the FA Concussion Guidelines here:
www.thefa.com/get-involved/coach/concussion

For information regarding the online FA Concussion course please visit:
www. learning.thefa.com/totara/program/index.php?categoryid=69&viewtype=program

Immediate management of a player suffering a concussion on the field-of-play

The major priorities at this early stage are the basic principles of first aid as you learnt in Chapter 2.

Initial on-field assessment of concussion

D	Danger	Ensuring that there are no immediate environmental dangers which may potentially injure the player or you. This may involve stopping the football match
R	Response	Response Is the player conscious? Can he/she talk?
A	Airway	Ensuring a clear and unobstructed airway. Removing any mouth guard or dental device which may be present (if they are not well fitting). 'A' is always done **with manual immobilisation of the neck as discussed above,** when a head injury occurs as an associated neck injury cannot be ruled out by a First Aider.
B	Breathing	Ensure the player is breathing adequately and normally
C	Circulation	Ensure an adequate circulation, check players colour
D	Dysfunction	Is the player alert i.e. talking and acting normally, responding only to your voice, responding only to pain or totally unresponsive.
E	Expose/ examine	Look for other injuries once the above have all be dealt with and it is safe to do so (see Chapter 2)

If the mechanism of injury leaves you with a high suspicion of a neck injury and the player is confused and unable to answer your questions, you must treat him as a neck injury and secure the head and neck as previously discussed. Remember to call an Ambulance the player will require medical attention.

If the player is unconscious, then a neck injury should be assumed until proven otherwise. Remember to open and protect the airway whilst also protecting the spine.

- Support the head and neck (manual immobilisation)
- Perform you assessment as above. Assuming A, B and C are fine then progress as follows (if there is no A, B or C then resuscitate as Chapter 2)
- Keep the player still until the ambulance arrives, do not attempt to move them (treat as for a neck injury)
- **First Aiders are not qualified to diagnose or rule out a neck injury, only doctors can**
- The removal of helmets or other head protectors should only be performed by individuals who have been trained in this. If the player is wearing a soft helmet and it is not restricting the airway, leave it alone. If the airway is obstructed then loosen the fastening only, do not attempt to remove until qualified medical help arrives
- Keep the player warm
- Reassure them whether they are conscious or unconscious speak to them to keep them calm
- **Wait until an ambulance arrives to move the player and transport to hospital**

If the player is unconscious, a neck injury must be suspected. DO NOT MOVE THEM, keep them still until medical help arrives.

For the footballer that is conscious post head injury - the following management should be followed:

You can assume that a conscious player who is talking to you and responding to you has a clear airway, is breathing and has an adequate circulation. Continue to monitor this for signs of deterioration.

If an alert player complains of neck pain, has evidence of neck tenderness or deformity (e.g. you can feel a step in the back of his neck as you are supporting it) or has neurological signs (i.e. complains of numbness or tingling/pins and needles) suggestive of a spinal injury, this requires qualified medical personnel i.e. an ambulance to manage them with spinal immobilisation and transport to hospital. **Optimum care** is the same as you would provide for an unconscious player – keep them still, immobilise the head and neck, keep them warm, reassure them until an ambulance arrives.

However, in a conscious player, the management may involve the treatment of a disorientated, confused, uncooperative player. These are the typical symptoms of concussion and the player will not be able to control these. The immediate treatment priorities remain the basic first aid principles of 'ABC - airway, breathing and circulation'. In this situation, especially if the player is fighting your help or is uncooperative, it is unwise to try to restrain them or support the head, unless you can reassure them, have them lie down and allow you to support the head until such time as medical help arrives.

In a concussed player, it is difficult to rule out a neck injury because the player may be confused. In this instance **assume a neck injury** and transfer the player to hospital by ambulance (as advised above). If you cannot get the player to lie down then keep an eye on them to ensure they don't collapse, try to reassure them and explain what you want them to do, wait until they calm down and then have them assessed by adoctor in hospital.

For a conscious player who suffers no signs of neck pain, it is still advisable to have them checked out at the local hospital. This may not however require the use of an ambulance, unless the mechanism of injury leaves you with a high suspicion of neck injury.

Management of the head and neck is as shown earlier in this chapter.

Assessing the concusses player's progression in the first 30-minutes after the injury

After you have recognised the concussion and removed the player safely from the field-of-play, all symptoms and signs should gradually begin to resolve (but not go away completely) to a manageable state within 30-minutes post the incident, that is to say the player will stop vomiting or feeling as sick, will be able to make and retain new memories and stop asking you "what happened?" Although the player will still be unable to remember the incident itself or arriving at the match/training session they will remember what you have told them happened, you may have had to repeat this several times but eventually they will retain the new memory – this is a good sign that the player is improving. The player may still have a headache and show other symptoms for days to come, but at this stage the symptoms and signs are not deteriorating.

Please note concussive signs and symptoms may be delayed – a player may seem orientated and satisfactory on initial checking on the field-of-play, but several moments later may become confused or lose their balance. Continue to monitor your player **after an incident that had the potential to cause a head injury, they should be removed from the playing field.** Any player who has been concussed (received a injury to the head) should be assessed by a doctor/hospital as soon as practical.

Any player who has suffered an injury which includes any one of the symptoms described above should NOT be returned to the field-of-play on the day of injury.

Don't forget to educate your players and the coaching staff, the last person anyone wants on the field of play is the player who doesn't know where he is or what you want them to do (which is very common in concussion) regardless of the fact that you cannot distinguish it from a potential head bleed.

If in doubt, sit them out – spread the word!



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

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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

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PIC 66 shows a brief concussion tool (refer to page 98 for a larger version)

Indications for referral immediately to hospital via ambulance

Any player who has or develops any of the following:

- High risk injury mechanism (e.g. penetrating skull trauma e.g. severe stud injury from a football boot to the head, high velocity injury)
- Deterioration in conscious state following injury e.g. progressively loses consciousness
- Focal neurological signs e.g. pins and needles in the hands or feet or loss of sensation in one of the limbs
- Confusion or impairment of consciousness which lasts greater than 30 minutes e.g. does not remember anything that has been said to them and is unable to make new memories post the incident
- Loss of consciousness for more than 1 minute
- Persistent vomiting (is sick more than once) or has an increasing headache after the injury
- Any convulsive movements (the player who fits after receiving a blow on the head)
- More than one episode of concussive injury in a match or training session (should not occur as players should never be allowed back onto the field if they have suffered a concussion)
- Where there is assessment difficulty (e.g. an intoxicated player)
- All children with head injuries (below age 19 years. There is evidence to show children behave differently to adults with brain trauma and have different risks and prolonged signs and symptoms)
- High risk athletes (e.g. haemophilia, anticoagulant use)
- Inadequate post injury supervision, e.g. no one to take them home and stay overnight with them to monitor them

Convulsion Management

Convulsive movements (fitting) may result from a concussion/ head injury. This is not a seizure that would occur for example in an epileptic person, but as a result of the blow to the head. Although dramatic, these clinical features are generally benign. The player's airway remains the main priority and assisting the player to maintain their airway will ensure the convulsion (fit) is short lived. Support and protect the head and neck but do not restrain the player. Ensure that the airway is open, this may help assist with early resolution of the fitting activity. Once the convulsion has ceased, manage the player as for any other concussion i.e. manual immobilisation, reassurance and keep warm until the ambulance arrives. Transfer to hospital via ambulance is essential to be assessed by a doctor.

Usually the player will have some signs or symptoms as with any other acute concussion. In this instance, even if the player is confident that they are fine, they still require referral to a hospital.

The hospital will provide head injury advice on discharge, unless the player is admitted, which is usually the following:

- The player should return to hospital immediately if any signs or symptoms develop that were not there initially or if those present deteriorate i.e. his headache increases
- If the player vomits more than once within a few hours of each other
- If the player suffers any other signs and symptoms such as pins and needles or loss of sensation in his limbs
- If he develops severe neck or head pains
- If he becomes drowsy or very sleepy

Whilst managing any player with concussion please inform family and friends of all advice as the player may not recall what you have said at a later stage. It does require family members to observe the player for a minimum of 24-hours post head injury and usually they are the only ones who notice if a player is becoming more drowsy or sleeping more – this may require another visit to the emergency department.

Never let a player who has suffered a head injury go alone to a hospital or home alone. They must not be allowed to drive a motor vehicle even if family members are present. Please remember players who have suffered a blow to the head are by definition cognitively impaired, so in medical terms they are unable to decide for themselves the next action – be safe and refer to the local emergency department either via ambulance with associated neck injury or isolated concussion (where a player is already ambulatory and thus clearing their own neck) attended with another First Aider or family member.

For all instances that require an ambulance to attend, do not move the player unless the environment has life threatening implications. Even if you are on a wet and boggy field, do not attempt to move the player to a firmer location for the ambulance crew, they will decide what is best for the extrication of the player and may even drive the ambulance directly onto the field-of-play.

The management of Concussion is the management of the "Invisible Injury" as we cannot see the actual injury only the signs and symptoms. Female footballers could be at a greater risk of sustaining a concussive injury, and therefore for those who are managing female footballers this is something to be aware of.

Return to play has been covered in the FA concussion guidelines, please ensure you continue to regularly update yourself with the FA guidelines and any changes to the guidelines printed in this manual that the FA may release will supercede the guidance printed here.

Concussion in Children and Adolescents

Guidelines discussed above can be applied to all children down to the age of 13 years. However for safety it is advisable to be cautious with children and adolescents below the age of 19. The assessment of a child or adolescent may require the input of a parent. Children are generally at a higher risk of receiving a concussive injury because they have:

- Decreased neck muscle strength compared with adults
- Thinner skull bones compared to adults

All concussive incidents in children must likewise be referred for medical evaluation and management before return to play is allowed. Children and adolescents are slower to recover and have prolonged memory effects. Children should not be returned to practice or matches until clinically completely symptom-free, which may require a longer time frame than for adults. In addition for children you need to limit exertion with activities of daily living as well as football and other sports they may do at school or at home for a short time period, 24-48 hours or if these activities exacerbate their symptoms. It is also advisable to limit scholastic and other cognitive stressors (e.g. text messaging, videogames, television) while symptomatic. School attendance and activities may also need to be modified to avoid provocation of symptoms in the first day or so post injury. Return to play should not occur before return to school.

Please refer to The FA return to play guidelines in U19.

Always have appropriate medical advice and a medical decision before returning a child player back to participation. This is not a decision for a First Aider to make.

Head Guards and Mouth Guards

Mouth guards have a definite role in preventing dental and orofacial injuries but neither mouth guards or soft helmet head guards have an effect on preventing concussive injuries.

The overwhelming view of international experts in sport-related head injury is that soft helmets do not prevent brain injury (as opposed to superficial head injury e.g. cuts and bruises) and there is a risk that encouraging helmet use in children and adolescents may paradoxically increase the head injury rates as children feel the head guard protects them and thus are not as careful.

For the first aid provision to other injuries that may occur to the head and neck, inclusive of eye, dental, jaw and nasal injuries please review the FA level 2 EFAiF manual and attend the associated course.

Other Head Injuries

Fractures to the skull

Because fractures of the skull often involve brain damage, they are serious injuries. Not only may the underlying brain be bruised, but the risk of an intra-cranial bleed (structural injury) is more than 60 times greater when there is a skull fracture present.

Depressed fractures to the skull may occur, these usually follow a direct blow e.g. from a football stud to the head. There may be a dent in the skull where the injury occurs. Careful handling is required to avoid direct pressure to the site of the injury as underlying structures are damaged.

Treatment
Unless scalp wounds are superficial and obviously clinically not serious, you must assume that there is a fracture of the skull. An x-ray will be needed to decide the extent of the injury. The player should be managed as above using the DRABC approach (with neck immobilisation) and sent immediately to the hospital.

Any player with a suspected fracture of the skull must also be suspected to have an injury to the cervical spine (neck). These players should be treated with care and full immobilisation and only moved by appropriate medical personnel (as described earlier in this chapter).

Some player's with a suspected fracture to the skull may have an associated concussion present with disorientation and confusion. These players may be hard to manage and should not be forced to sit or lay down against their will. Urgent medical attention must be sought.

Jaw and associated Fractures of the Face

Fractures to the jaw and face are some of the most common injuries to the face in a contact sport, usually caused by a direct blow. Some of these injuries occur outside of the rules of the game e.g. foul play.

- In a conscious player very little can be done other than care and support with rapid transport to hospital. If the player is alert, they may well support their own jaw with their hands, using them like a cup to support the chin. Ask the player to move their jaw from side to side and open their mouth fully. If they can do this with little pain an associated jaw fracture is unlikely

In an unconscious player the primary concern is maintenance of an airway and urgent medical assistance. In this instance, due to trauma to the head, face and neck the player will be managed as a neck injury because an associated neck injury cannot be ruled out with any unconscious player and with any player who receives a blow to the head above the level of the collar bone.

Eye Injuries

Eye injuries in sport are very common, and should be regarded as a medical emergency. Half of eye injuries admitted to hospital result in residual problems, thus recognising and promptly dealing with eye injuries is therefore of paramount importance for the First Aider.

There are four main types of injury:

1. Blunt injury to the globe e.g. from finger, boot or ball striking the eye.
2. Injury to adjacent structures i.e. cheekbone, nose.
3. Corneal abrasion and foreign body into the eye. These have the potential to lead to infection or scarring. Abrasions occur commonly from fingers entering the eye during contact or from dust or flying mud/grass on the field.
4. Penetrating injury – very rare but could occur from sharp fingernails or studs.

A serious injury to the eye is bleeding into the anterior part of the eye. The player must stop playing football, a patch placed over the eye using a gauze swab or similar dressing and immediately transferred to hospital.

Management of eye injuries for the First Aider

Early assessment is vital to reduce the risk of further damage and safeguard the player's vision. On the field-of-play it is extremely difficult, the player should be removed from the field-of-play to allow for a better examination and medical evaluation.

- Obtain a full history including how it happened and what symptoms are being experienced e.g. pain, double vision, blurred vision, watering
- Inspection of the eye and surrounding structures. Particular attention should be paid to signs of any foreign bodies (mud) or blood in the eye, pupil irregularity or any other clearly abnormal changes
- Adjacent structure assessment e.g. is the cheekbone or nasal bone fractured (look for deformity, bruising or depression)
- Common sense is required when assessing a player but if any of the above are clearly abnormal, the player must be referred to hospital for further examination

As a general rule, if a serious eye problem is suspected, even if no evidence is found e.g. persistent blurred vision for no obvious cause, then one should make no further attempt at examination, but send the player to hospital with an adequate eye patch.

They should be kept quiet and settled to prevent further problems and not allowed food until seen in hospital.

If any grit or dirt is in the eye then it is acceptable to irrigate the eye using clean flowing water, prior to sending the athlete to hospital.

List of Equipment that you might need for the treatment of eye injuries

- Access to clean water (see Chapter 1)
- Eye pad/dressing and tape. A dressing could be a sterile piece of gauze swab or clean square of clothing that the player cannot see through. The idea of a patch is to rest the eye (as well as protect it). Do not place pressure on the eye with the pad
- When placing an eye patch, remember the player will be worried and distressed and the uncovered eye will continue to work. Any movement of the good eye will lead to automatic movement of the injured eye as well, therefore place a patch over both eyes to completely rest them, reassuring the player as to why this is necessary prior to transfer to hospital
- Always talk to and reassure your player

Nasal Injuries

The most common nasal injury in sport is a blow to the nose causing a nosebleed, with other common injuries being nasal fractures. Primary consideration of the First Aider is to a clear airway at all times.

A conscious player who is bleeding from the nose should be treated by the First Aider in the following manner:

- Sit the player down, leaning forwards
- Pinch the soft part of the nose closed between your finger and thumb (or players own fingers) to close the bleeding vessels
- Maintain the above pressure for 10-minutes
- Ask the player to breath through their mouth whilst you are doing this
- If bleeding continues seek medical attention/send to hospital
- If the bleeding stops, advise the player to avoid rubbing or scratching their nose for several hours, to prevent dislodging a clot and causing bleeding to recommence
- If there is evidence of a fracture (deformity) to the nose, or any problems with breathing through the nose, send to hospital

For an unconscious player

- Consider the recovery position (if no suspicion of neck injury)
- Manage as you would any unconscious athlete (see earlier in this chapter)

Dental Injuries

Blows to the mouth and jaw are not uncommon in football, whether accidental or intentional (illegal). They result in damage to soft tissues, teeth, nerves or bone. They may also result in a concussion/altered level of consciousness due to transfer of force to the brain.

When making an assessment of a player having received such a blow, initially exclude concussion.

Symptoms

- Ask the player where it hurts
- Ask the player if there is any numbness
- Ask if their teeth meet together normally and if they can move their jaw from side to side and open their mouth fully (checking for associated jaw fracture)
- Ask if any of their teeth feel to be missing or deformed by running their tongue over them
- You or the player, if possible, check for wobbly, damaged or missing teeth

If there is a suspicion of a fracture to the jaw after assessing the above, the player should be sent immediately to hospital.

If there are damaged teeth then a dental opinion should be sought as soon as possible if the players have access to a dentist.

For avulsed teeth (i.e. teeth that are torn out of their socket) First aid treatment can be provided by:

- If the player **does not** continue to play, which they should not because of other associated injuries, the tooth should be replaced in the socket as soon as possible, if possible. If the tooth has been picked up from the floor, wash with sterile water being careful not to touch the root. It may require firm pressure to put the tooth back into the correct place. If this is not possible then place it between lip and gum or in a small container in their own saliva or milk. In either case seek dental help straight away
- The success of replacing an avulsed tooth is the speed in which it is replaced. If this can be done within an hour the tooth has a good chance of surviving
- Silver foil wrapped around a players gum and tooth can act as a good splint to keep the tooth in place or if they have a mouth guard put this back in
- Please note: If a player is has suffered an injury to the head and an altered level of consciousness is suspected, store the tooth outside the mouth in a small container covered with the players own saliva
- **With children** dependent on the age, consideration needs to be given to any forming teeth and potential damage to underlying structures. The traumatic avulsion/loss of a milk tooth should not be accepted without the opinion of the player's dentist being sought

Prevention of dental injury

Where concern exists, it is advisable that all players have a properly prepared mouth/gum shield preferably provided by a dentist. This will help reduce soft tissue and dental injury. There is some evidence it may also reduce incidence and severity of fractures to the jaw.

Your Experiences
Activity 6

Answer the following questions (for answers refer to Appendix 4)

1. When should a First Aider consider applying manual in line stabilisation?

2. When should a First Aider consider moving a player with a suspected spinal injury?

3. If as the First Aider you are in doubt as to the presence or not of a concussive injury, what should you do?

4. How many persons are required to help an ambulance crew of 2 to do an effective and safe log roll manoeuvre?

5. Which should be the priority of a First Aider dealing with a player if they are totally alone without any help? A potential neck injury or a potential airway problem?



CHAPTER 7

Medical Emergencies that may occur in Football

CHAPTER 7:

MEDICAL EMERGENCIES THAT MAY OCCUR IN FOOTBALL

This chapter will focus on the 'other' conditions that might require first aid attention that are not a direct result of football participation but are conditions that the player may suffer from during football training or matches.

In this chapter the acute (first aid) management of common medical conditions and illnesses (such as asthma, diabetes, epilepsy, heart disease) are described and NOT the routine chronic treatment of the underlying condition itself.

It is advisable when working as a first–aider in a team environment, that every new player signing, and also at the start each season, that you ask the players to complete a questionnaire asking about their previous medical history and illnesses so that you are aware of any underlying medical conditions your players might have as well as previous injuries that they have suffered. If your players are below the age of 16, you might wish parents to complete the form.

Asthma

Asthma is an inflammatory reaction of the airways. It is a condition that is characterised by difficulty in breathing as the passages of the lungs become narrow. It can be a life threatening emergency.

Signs and symptoms of an acute asthma attack:

- Difficulty in breathing and shortness of breath
- Wheezing on breathing out – noisy breathing as the air is forced through the narrow passageways into the lungs
- Accessory muscles may be used to breathe i.e. use of neck muscles and shoulders to try to get air into and out of the lungs
- Player may look pale, clammy, sweaty and cyanotic (blue) around lips
- The player will speak in broken sentences (inability to finish a sentence as cannot catch their breath, totally opposite to an anxious player who may be shouting for their medication)
- Player is often quiet, subdued and if the attack is severe, may become unconscious

Asthma occurs in 6 to 13% of the general population. Up to 90% of these will have exercise-induced symptoms, particularly children. Exercise-induced asthma (EIA) typically occurs after approximately 15-minutes of exercise but will occur sooner in cold, dry conditions such as football played in the winter months in cold countries.

As the First Aider within your team, know your players and be aware of any triggers that might affect certain players within your team. Remember asthma is a medical condition, when a player is noticeably suffering with their asthma they should not even be contemplating playing or training. Send them home with adequate supervision or if concerned send them to hospital.

Treatment

- **Always start with ABCDE**
- **The best treatment is prevention.** Check that your players understand their medical condition, what each of their prescribed medication is used for and that they carry emergency medications (usually an inhaler) always with them
- **The best prevention is the use of the medication prior to exercise for exercise induced symptoms.** Players usually have their own medication. *It is essential to know which of your players use inhalers and check the medication is at the field-of-play side if required during training or matches. Dependent on the age of the player, it may be a requirement for you to keep hold of the medication if the players are too young to self medicate (discuss this with parents and record on their player information)*

- Help to give the players their own medication if they require it urgently
    - For young players have consent at the start of the season to help them administer their medication, especially in situations where they may require help for example when they are suffering from an exacerbation of their asthma
    - If your player is too short of breath to take their medication adequately a spacer device can be used. Take a 500ml plastic soft drink bottle, cut a hole in the bottom to fit the pressurised dose inhaler. The player can add his dose into the bottle by depressing the spray and then allow him/her to breath in the medication by placing their lips around the screw top ending and breathing in and out





PICS 67a and 67b Making a spacer device

- If after the first dose of medication there is no improvement, take another 'two-puffs' every 2 minutes (up to a maximum of 10 puffs) preferably with the spacer device if possible
- If possible advise them to breath slow deep steady breaths
- Reassure and calm your player
- Help the player to sit down and lean forwards – this will help free the chest and allow the player to take in deeper breaths
- Do not get the player to lay down flat – this will NOT help their breathing
- **Seek urgent medical help –** this may be calling an ambulance, especially if:
    - The player's medication does not relieve their symptoms or
    - If the player has not got their medication with them
    - Or if due to the severity of the acute asthma attack they cannot get their required medication into them

It is most important that you are aware of any players under your care who are asthmatic. Checking that they satisfactorily understand the nature of their condition, what the inhaler does and that they know to always carry a supply of their inhalers.

Any player who has an asthma attack and which is not successfully treated within 10 minutes with an inhaler must be sent to hospital for medical assessment and treatment.

HOW TO DEAL WITH AND ASTHMA ATTACK

Step 1:
- Help the child to take their usual dose of reliever (usually blue) inhaler inmediately, preferably through a spacer

Step 2:
- Sit the child upright
- Get them to take slow steady breaths
- Keep calm and try to keep them calm
- Do not leave them unattended

Have the symptoms improved immediately?

YES → Continue to sit with the child until they are feeling completely well and can go back to previous activity.

Contact their parents or carers and inform them about the situation.

NO

Step 3:
- Continue to give two puffs of reliever inhaler every two minutes, up to 10 puffs

Step 4:
- If the child does not start to feel better after taking the reliever inhaler as above or if you are worried at any time, call 999.

Step 5:
- If an ambulance does not arrive within 10 minutes, repeat **step 3** while you wait.

Contact their parents or carers and inform them about the situation.

Signs of an asthma attack can include any of these:
- Coughing
- Being short of breath
- Wheezy breathing
- Being unusually quiet
- Tightness in their chest - some children express this as tummy ache

Diabetes and Hypoglycaemia

Hypoglycaemia (low blood sugar) is fairly common in sport and is due to an imbalance between physical activity and nutrition but can be influenced by external factors, such as heat . Low blood sugar can be prevented by adequate training and ingesting an appropriate carbohydrate meal.

Signs and Symptoms of Hypoglycaemia

- Premature fatigue/tiredness
- Pale, clammy, sweaty
- Unusual behaviour (may appear drunk or be aggressive) – not their normal behaviour
- Confusion
- Pulse rapid and weak
- Possible seizures
- Decreasing level of consciousness

Hypoglycaemia is easily remedied by giving the player some sugar preferably in the form of glucose (see below).

In a **diabetic,** especially one who is insulin-dependent, hypoglycaemia can be much more rapid in onset and lead to collapse. The early manifestations will often include poor decision making, reduced skill level resulting from loss of coordination, fatigue, yawning and confusion. Being aware of any players who suffer with this condition will assist in the early recognition of this disorder and may prevent the early manifestations progressing.

Signs and Symptoms of Hypoglycaemia

- Poor decision-making
- Reduced skill level due to loss of coordination
- Fatigue
- Yawning
- Confusion
- Collapse

Hypoglycaemia may occur in the hours after intense exercise not just during exercise. The player will most likely be aware of their condition if they are already diabetic but it can occur in anyone. If the player is a known diabetic, additional advice on this is always helpful especially if playing away from home or you are away on tour.

In general, it is preferable for the blood sugar of an insulin dependent diabetic to be slightly high rather than low around the time of exercise in an attempt to avoid hypoglycaemia. Most of these players are, however, well versed in the treatment of their condition and will check their blood sugars before a match, at half time and at intervals after the match.

Treatment

Always began by assessing your ABCDE. Hypoglycaemia should be treated initially with 10-20g of glucose (see examples below) by mouth in the conscious player who is able to orally ingest the food or drink. This may be repeated in 10-15 minutes.

10g of glucose is equivalent to

- 2 teaspoons of sugar
- 3 sugar lumps
- Hypostop gel (if you have access to purchase this)
- 200ml of milk
- 50-55mls of of non diet Lucozade
- 90mls of non diet Coca-Cola
- 5mls of non-diet Ribena original (to be diluted) or similar concentrated soft drink

If hypoglycaemia has caused unconsciousness in someone using insulin, emergency help is required immediately, do not delay.

Although most of the above treatments require the player to be conscious in order to swallow the food/drink, one can use sugar, honey, syrup or glucose powder or gel in **unconscious players. Then rub one of the substances mentioned on the inside of the unconscious player's cheek and it will be absorbed in a few minutes,** waking up the player. Once the player is awake, give them some additional sugar by mouth to drink. Every player that becomes unconscious without an obvious head injury as a cause, should be regarded as having a low blood sugar and treated as such without exception. In players being treated by oral anti-diabetic drugs rather than insulin, hypoglycaemia can last many hours and the player must be admitted to hospital for observation.

If concern over the airway exists at any time, especially in the unconscious player, consider placing the player into the recovery position to protect their airway.

Epilepsy

Epilepsy is a condition affecting the electrical pathways in the brain. The common symptom of epilepsy is seizures/convulsions.

It is a misconception that anybody convulsing is suffering from epilepsy. There are many other causes for a player to convulse such as low blood sugar, low levels of oxygen, heat stroke, head injury/concussion or initial sign of a cardiac arrest (see relevant Chapters 3 and 6).

If a player is known to have epilepsy, check with the player's doctor (if possible) and/or parents of young players prior to sanctioning participation in football. Exercise has been shown to be effective in reducing seizure frequency in diagnosed epileptics.

Most seizures are self-limiting within 1-2 minutes and require no treatment, except to ensure that the player has an open airway, is breathing and then consideration can be provided to their position to ensure it is safe and comfortable. The recovery position with something soft under the head so as to keep the airway open and to avoid injury can be considered if required. Assess using your ABCDE approach. The possibility of hypoglycaemia must always be considered even if the player is a known epileptic but especially if they are not.

ALL PLAYERS WHO SUFFER A SEIZURES SHOULD BE SENT TO HOSPITAL, VIA AMBULANCE

The management of the fitting player;

- ABCDE approach – ensure the player has an open airway (Jaw Thrust)
- Loosen any tight clothing so as not to compromise the airway
- Call an ambulance, advise them you have a fitting player
- If B is not present, commence BLS with AED (see Chapter 2)
- If A and B are present consider turning the player into the recovery position, and place something soft under the head to prevent injury by the hitting the hard ground during seizure movements. Equally the player can be managed in the position you find them if you are comfortable and can manage the airway effectively
- Move any objects that may cause harm to the player away from the area, this might mean keys in pockets if the player is off the field-of-play at the time
- If it is not possible to move items away and their presence is potentially life threatening, you will have to move the player
- Move any bystanders and other players away
- Take a note of the length of the fit (time the fits duration so you can advise the ambulance)
- Do not restrain the player i.e. do not hold them down
- Do not attempt to place anything in the mouth, especially your fingers
- Do not attempt to remove a well fitting gum-shield if it is in place
- **Consider the cause of the fit – it is not necessarily epilepsy especially in an undiagnosed player, consider heart conditions (see below), unobserved head injury or medical conditions discussed in this chapter**

Prolonged seizures require the player to receive medication that is beyond the remit of a First Aider to carry.

Send the player to hospital by ambulance.

The player's doctor will advise if and when the player can to return to football participation following an epileptic event.

Heart Conditions and Sudden Cardiac Arrest in Football

Many diseases can affect the heart. Generally, heart diseases are classified according to the part of the heart that they affect or the changes they produce.

Management of these conditions is often beyond the scope of basic first aid. However, as a First Aider you must be able to recognise life threatening cardiac conditions and take the necessary action for the players in your care. Consideration is provided in this chapter to the specific cardiac conditions that affect predominantly the young male player between the ages of 14-35 known as **sudden cardiac arrest in the young.**

Players may be predisposed to a cardiac injury and the early recognition will allow for early emergency ambulance being called to the scene. A calm, reassuring approach from the First Aider will assist in calming the player in these situations, which will assist in their management.

Heart Attack – this is when the blood supply to a part of the heart is obstructed suddenly causing severe pain. The player may have no previous cardiac history that you are aware of. This is more common in players older than 35 years of age.

Signs and symptoms of a heart attack

- Severe crushing central chest pain
- Pain spreading into the jaw and down left arm
- Breathlessness
- Pale, cold and clammy skin if not been exercising
- Sudden collapse

Treatment

- Always start with your ABCDE approach
- Minimize the workload of the heart i.e. sit the player down
- If conscious, place the player in a comfortable position
- Do not allow the player to move around
- Loosen any tight clothing
- Reassure the player, in a calm voice
- If player has their own medication, encourage them to take it. This may be the case in players/coaches who have known heart conditions
- If they collapse, they will need CPR, so look for this and begin immediately (see Chapter 2). If an AED is present this is required urgently
- Call an ambulance

Sudden Cardiac Arrest (SCA) in Football

The death of an apparently healthy young player is a dramatic and stressful event but fortunately it is rare in relation to the number of young people involved in sport.

Male athletes appear to be at increased risk of exercise-related SCA (9:1 ratio male to female) with black players much more susceptible than caucasian.

There are several inherited cardiovascular diseases and electrical pathway conduction problems (whose explanation is beyond the scope of this manual) that are the leading causes of sudden cardiac arrest. The majority of these players (>80%) do not know they suffer from these underlying conditions and only suffer symptoms just prior to their cardiac arrest. 40% of victims are less then 18 years of age, with the mean average age in Europe of 23 years. Less than 20% who have these conditions have warning symptoms that allow the conditions to be investigated. Whilst exercise is not a cause of SCA, any stress applied to an underlying heart condition can intensify the condition and those that exercise are 2-3 times more likely to suffer an arrest than those that do not exercise. Therefore it is imperative we are vigilant.

Signs and symptoms that indicate a player may be at risk for SCA

- Chest tightness during or after exercise
- Chest pain during or after exercise
- Chest palpitations during or after exercise (feel like their heart will pop out of their chest)
- Dizziness – unexplained episode of dizziness during or after exercise
- Episodes of **syncope** (unexplained fainting) during or after exercise, but can occur at rest. Syncope should be treated with suspicion, healthy fit individuals do not faint for no apparent reason – consider underlying cardiac conditions, to not wait, send the player to their GP for investigation
- Shortness of breath disproportionate with exercise they are doing e.g. not in line with what the other players are doing
- Unable to keep up with the other players (often labelled lazy) due to fatique, during or after exercise

If you become suspicious – if the player presents with any of the above, then do not hesitate to refer them to their doctor/GP immediately.

One of the main features is a positive family history! Usually a player will have had a close relative that has died young from natural causes (not trauma). Asking about their relevant past medical history and family history may help save a life!

Apparently healthy young players with chest pain or syncope during exercise are often treated with inappropriate reassurance that they are fit and well rather than being investigated. Some of these underlying conditions can be screened for, cardiac screening should be a consideration within grass roots football. Simple screening questions you can ask your players are:

- Has anyone died in young in your family?
    - Speak to parents to verify this
- Have you ever suffered from unexplained syncope (fainting)?
- Do you suffer any shortness of breath?
- Do you ever suffer from palpitations?
- Do you ever suffer exertional chest pains?
- Have you ever been diagnosed as having a heart murmur or arrhythmia?
- Check – is the player unusually tall or have extremely long fingers?

The above do not replace cardiac screening, but can be used as a simple means of establishing which players may require consideration for screening in the absence of a club screening policy. Any positive from the list above should be immediately referred to their GP.

Myocarditis

Another cause of SCA is acute myocarditis. This is an inflammation of the heart muscle with no initial underlying risk factors and thus cannot be screened for. Training or playing with an illness, especially an infection e.g. upper respiratory infection or flu, can lead to the development of myocarditis. Be cautious and **do not allow** players to train or play with infections or temperatures.

Commotio Cordis

This is another condition with no underlying risk factors and a perfectly normal heart and thus cannot be screened for. This is caused by a direct blow to chest wall at a particular time in the cardiac cycle which sends the heart into an abnormal rhythm. This blow is not related to the impact force but to the timing of the blow, so it can appear fairly innocuous, be vigilant and consider commotio cordis if the mechanism is suggestive. For example, a ball, knee, head or elbow hitting a player in the chest during contact. It is more prevalent in younger players' as they do not have the muscle bulk in their chest wall to absorb some of the impact of the blow. Early recognition is vital to treat this as less than 15% of these victims have been known to survive usually due to **lack of recognition** and attendees not treating the signs. ABC should be established immediately and if not present, start CPR (see Chapter 2).

Treatment of Sudden Cardiac Arrest (SCA)

The initial signs of a SCA are usually what is termed an 'arrhythmia'. Essentially this means that the heart is no longer beating normally but is fibrillating in an uncoordinated manner. The aim of the AED, has previously stated in Chapter 2, is to stun the heart therefore stop this uncoordinated anarchy within the heart and allow the normal pacemaker of the heart to take over. This is essential treatment and is required immediately or as soon as is possible which is why AEDs should be close by at every training session ideally placed with the first aid kit in the dug-out or in a locked cabinet that is easily accessible from every pitch.

- **Call for help** –someone needs to call for an ambulance immediately and if there is an automated external defibrillator available inside the stadium/club, send someone immediately to fetch it and bring it to you
- Check for signs of life using the A,B,C approach
- Begin CPR with chest compressions being done at a fast rate (more or less 2 compressions every second) and as hard as possible (at same time as set-up of AED if more than one rescuer is present) see Chapter 2. **Once the AED is working, follow its instructions exactly**
- The time taken to initiate CPR and AED defibrillation is an important determinant of successful cardiac resuscitation, thus any delay in entering the field-of-play and identifying the player who has collapsed without contact must be minimised. The rules of the Game state that medical personnel should only enter the field-of-play following a signal from the referee, except in the case of a serious injury. Any player who collapses without any prior contact is therefore regarded as a SCA and must be classified as a serious injury
- **If the player presents with a brief seizure-like activity, these slow involuntary movements on-top of the above history i.e. collapse with no contact should not be mistaken and treated as a seizure, but dealt with as a cardiac arrest and resuscitation started. The aim is to get the first shock in within 3 minutes of their collapse**
- The decision to transfer the player will be that of the ambulance when they arrive do not attempt to move them, continue with CPR and AED on the field-of-play until the ambulance arrives

Why AEDs should be present on the pitch side at training and matches...

- Sudden cardiac arrest is not rare – it may happen
- Only effective treatment is BLS with very early defibrillation (AED)
- Chance or successful resuscitation diminishes by 10% each minute you wait
- New research is to fit patients at risk of SCA with their own internal implantable cardioverter defibrillator (ICD)
- Should ideally be present at all levels of football!
    - Outside in a heated cabinet, with ease of access for use by all teams

If you have any concerns regarding any of your players please speak directly with them or their parents (if younger) and ask them to be taken to their own Doctor (GP). There are screening tests that can be conducted on players to test the heart and this might be appropriate for their doctor to arrange – if in doubt and you suspect something it is better to have them reviewed than collapse at a later date.

Anaphylaxis

Players who are allergic to a specific substance (allergens) will show a pattern of disease known as allergic reactions when exposed to that substance. Allergic reactions can occur immediately after exposure or sometimes even a few days later. Generally allergic reactions can be easily managed but on occasion a very serious life threatening allergic reaction can occur called Anaphylaxis.

Anaphylaxis is characterised by rapidly developing life-threatening airway and/or breathing and/or circulation problems, associated with a rash.

Signs and symptoms of anaphylaxis

- Sudden swelling of the face, tongue, lips, eyes or neck that can quickly lead to airway compromise and total airway blockage if early treatment is not provided
- Hoarse sounding voice
- Wheezing – asthma type symptoms
- Difficulty speaking – unable to speak in sentences
- Difficulty breathing - breathlessness
- Itchiness
- Flushing/redness
- Red rashes on the skin
- Nausea and vomiting
- Diarrhoea
- Abdominal pain/cramps

Not all of these symptoms will be necessarily present at the same time.

Anaphylaxis is caused by a very broad range of substances, often peanuts, penicillin, bites and stings from insects particularly bees.

Treatment

- Anyone suffering an anaphylactic reaction requires immediate hospital treatment. A player suffering a severe allergic reaction (anaphylaxis) will present with **immediate and progressive swelling** of the lips and tongue, with tingling of lips and tongue. There may be obvious noisy breathing, increased breathing rate, audible wheeze, difficulty swallowing, unable to talk in sentences, feel light headed, clammy, sweaty and may faint or go unconscious
- Call an ambulance – this is a medical emergency
- ABCDE approach. Protect their airway and ensure it is open and clear
- Players with a breathing difficulty may prefer to sit up and lean forwards to aid their breathing
- Lie them down and elevate their legs if they begin to lose consciousness
- If the player deteriorates, you may have to provide CPR – monitor their ABC (see Chapter 2) and be prepared
- If they are breathing but unconscious, lay them on their side, but sit so you can always see their face and monitor their breathing until the ambulance arrives
- Players with a known allergy may carry their own life saving drug called adrenaline in the form of an adrenaline-pen (e.g. Epi-pen). A prescribed, prefilled, spring-loaded, self injecting syringe of adrenaline
- You should be aware of your players who are allergic and carry such medication



PIC 68 Various forms of adrenaline-pens

Players who feel they are having an anaphylactic reaction will generally self-administer their own adrenaline pen. If the player is showing signs and symptoms (detailed above) of an anaphylactic reaction they should be able to self-inject this life saving medication into the upper outer thigh, through clothing if necessary (see below). The player still requires emergency treatment, but the adrenaline-pen will save the player.





PICS 69a and 69b Self administration of an adrenalin pen

However if the reaction is severe and rapid or the pen is not immediately accessible, the player may be unconscious by the time the pen arrives, in this instance the adrenaline pen can be administered by a First Aider* or bystander.

Adrenaline-pens come in a pre filled syringe with a self-limiting dose and are administered by opening the container, removing the safety cap at the end of the pen, jabbing the pen firmly against the player's (preferably in direct contact with the skin however in can be administered through clothing) and pressing down firmly on the pen until a click is heard/felt. The pen should be held in place for 10 seconds so that the entire dose is injected into the thigh. Any player who uses their adrenaline pen **MUST GO TO HOSPITAL. Immediate ambulance assistance is required, do not delay.**

*** The use of Autoinjectors (Epipen's) by First Aid providers in Football.**

The Medical and Health Care Products Regulatory Agency (MHRA) has provided advice on this. It states:

'People who have been prescribed an adrenaline auto-injector because of the risk of anaphylaxis should carry two with them at all times for emergency, on-the-spot use. After every use of an adrenaline auto-injector, an ambulance should be called (even if symptoms are improving), the individual should lie down with their legs raised and, if at all possible, should not be left alone'.

There is no legal problem in any person administering adrenaline that is either prescribed for a specific person or administering adrenaline to an unknown person in such a life saving situation (through specific exemptions in the medicines act). However the First Aider involved must be competent in being able to recognise the anaphylactic reaction and administer adrenaline using an auto-injector. First Aiders must ensure that they work within the guidelines of the first aid training organisation that issued their qualification and their employer.

The Health and Safety Executive also provides guidance.

As at 25 January 2008 this stated:

"Medicines legislation restricts the administration of injectable medicines. Unless self administered, they may only be administered by or in accordance with the instructions of a doctor (e.g., by a nurse). However, in the case of adrenaline there is an exemption to this restriction which means in an emergency, a suitably trained lay person is permitted to administer it by injection for the purpose of saving life. The use of an Epipen to treat anaphylactic shock falls into this category. Therefore, First Aiders may administer an Epipen if they are dealing with a life threatening emergency in a casualty who has been prescribed and is in possession of an Epipen and where the First Aider is trained to use it."

How to use an Epipen will be a skill taught on the FA EFAiF course, using Epipen trainers.

Fainting

Fainting is a brief loss of consciousness caused by a reduction in the flow of blood to the brain. As a result of this lack of blood, there is loss of consciousness and the player may fall to the ground, allowing oxygenated blood to return to the brain. Fainting is usually a transient incident of which the player will fully recover from although he/she may still suffer from the initial cause of the faint.

Signs and Symptoms

- Player feels dizzy
- Player is cold and clammy to the touch,
- Player looks pale
- Player may suffer a brief loss of consciousness

Possible causes:

- Heat effects
- Exhaustion
- Emotional distress
- Low blood sugars (not eaten prior to extensive training or competition)
- Pain (due to an injury e.g. broken bone)

Treatment

- Ensure a clear airway (ABCDE approach, see Chapter 2)
- If no obvious lower leg fractures and they are conscious raise the legs, to allow blood to flow back to the head
- If they are unconscious, but breathing normally, monitor them. Consideration can be given to place them into the recovery position if required or necessitated, they will soon awaken
- Reassure the player
- Seek medical advice to check out the reason for the fainting episode or to treat the reason if it is obvious e.g. broken bone
- Consideration provided to underlying conditions that may not be evident, especially in unexplained syncope (fainting) in otherwise healthy, fit males

The players will usually regain consciousness quite quickly once laid down.

The player will fully recover from a faint, although he/she may still suffer from the initial cause of the faint i.e. pain or low blood sugar or perhaps a reaction to seeing someone bleeding.

Please be aware that healthy fit individuals do not faint for no apparent reason. If there is no obvious trigger, as referred to above, such as low blood sugar (not eaten), frightened of blood or severe pain due to an injury, then the player should be medically assessed. The player may have an underlying cardiac disorder that requires follow-up.

Heat Stroke

Heat stroke (sometime referred to as sunstroke) is a medical emergency that can lead to death if not properly and promptly treated. It is defined as a body temperature of 104° F (40° C) or higher with accompanying physical symptoms.

Heat cramps and heat exhaustion (two other forms of hyperthermia) are less severe. Please see below for showing the differences in symptoms and severity of heat exhaustion in comparison to Heat Stroke.

Symptoms of Heat Exhaustion

- Sweating
- Redness
- Dizziness
- Cramps
- Headaches
- Exhaustion
- Nausea

Symptoms of Heat Stroke

- Lack of sweating*
- Skin hot and dry
- Body temp rises
- Confusion
- Seizure
- Coma
- Death

** as temperature regulation mechanism in the brain has failed*

First aid treatment

- Remove from heat source
- Rest
- If conscious, give cool fluids
- Cool by covering with wet sheet or clothing
- Sprinkle water onto the body and then use a fan to cause evaporation that will have the affect of cooling the body down
- Place ice packs wrapped in a wet cloth onto the groin, armpits and neck areas
- Call an ambulance

Dehydration

Everyone should drink plenty of fluid each day to stay well hydrated, but how much is enough to replace sweat loss during football? Don't think the weather has to be warm for players to suffer from the effects of dehydration.

Replacing fluid lost during football is crucial and becomes even more important in hot and humid environments. In order to restore hydration it is important to drink fluid in excess of what is lost during exercise and also at the same time replace salts lost in sweat.

The effects of dehydration are similar to a head injury – the player will feel light headed, dizzy, may have a headache, be confused and disorientated if not managed quickly and appropriately. The player is also prone to muscle cramps and injury under these circumstances.

Prevention is better than cure, ensure adequate drinks are available and that players are hydrated before starting a game or training (too late to drink just before a game or session). Ensure players have adequate breaks and ability to take a drink of water. If the player continues to deteriorate call the emergency services.

Dispelling the myths in Football

Myth 1

"Every unconscious player is at risk of swallowing their tongue"

You cannot physically swallow your own tongue. In these instances due to the unconscious state of the player the tongue, like all muscles, will be in a very relaxed state, which means it relaxes back onto the back of the throat essentially blocking the passage to the airways. All that is required is that the tongue is lifted 'away from' the back of the throat. The means of doing this is called the Jaw Thrust (see chapter 2). Equally effective is the head tilt chin lift maneovre of all first aid courses that is the manoeuvre of choice where there is no risk of associated trauma or where a jaw thrust is either ineffective or cannot be applied for other reasons (example broken jaw).

Where a player is unconscious due to a contact sport like football it is not advisable for the first action to be to move the player forcefully onto their side. The above paragraph describes the most sensible method of opening the airway of a player who is unconscious.

Never put your fingers into a players mouth to bring the tongue forwards.

First aid responsibility – to educate your players and their parents on the above.

Myth 2

"Every unconscious player should be placed into the recovery position"

The purpose of the recovery position has been discussed at length in Chapter 2.6. The recovery position is not a default position of action and it is not a treatment for every unconscious person. The recovery position and its modifications have their essential uses like any other first aid intervention but unfortunately it is prone to miss-use on too many occasions where bystanders or First Aiders mean well but chose the wrong course of action.

The recovery position (and its modifications) should be used for both conscious and unconscious players where the player is breathing normally and at risk of losing their airway and it cannot be maintained by the JT or HTCL manoeuvres or where there is suspicion of fluid (secretions, blood or vomit) occluding the airway. It should also be used if the player is breathing normally and has to be left alone for any reason (e.g to go and get help or in a multi-casualty triage situation).

The recovery position is not the default position for every unconscious player, or every fitting player or every player who has suffered a blow to the head.

It should ONLY be used where first an assessment has taken place ensuring that the player has no blockage of their airway visible and is breathing normally, more than 10 breaths per minute. For known epileptic players who are postictal (lethargic and altered level of consciousness post seizure activity) it is the position of choice once ABC established.

Once the player has been positioned in the recovery position, they should be closely and premenantly monitored for any signs of deterioration and as a minimum every minute their airway checked to ensure remained open (care with position) and the breathing rate reassessed.

The recover position is not a 'for-all' treatment. It will not prevent the player from detirorating if the cause of the unconsciousness is unrelated to the airway. It has been known that the placement into the recovery position has delayed essential inverventions happening such as CPR.

Myth 3

"Every seizure/fit is an epileptic event i.e. everyone who suffers from a fitting episode is epileptic"

It is a misconception that anybody convulsing is suffering from epilepsy. There are many other causes for a player to convulse such as low blood sugar, low levels of oxygen, heat stroke, head injury/concussion or initial sign of a cardiac arrest. It is beyond the scope of this 3-hour workshop to go into each in detail, please refer to the FA Level 2 EFAiF course for information.

If a player is known to have epilepsy, check with the player's doctor (if possible) and/or parents of young players prior to sanctioning participation in football. Exercise has been shown to be effective in reducing seizure frequency in diagnosed epileptics.

It is not uncommon for players to suffer from a seizure if they

- receive a direct blow the head (called a concussive convulsion)
- are unconscious and their airway becomes compromised. This can happen for a number of reasons, they are on their back and their tongue partially blocks their airway passages
- are suffering from cardiac arrest

All players who suffer a seizure should be sent to hospital, via ambulance and the following management principles followed.

The management of the fitting player;

- ABCDE approach – ensure the player has an open airway (Jaw Thrust/HTCL)
- Loosen any tight clothing so as not to compromise the airway
- Check that the player is breathing normally
- Call an ambulance, advise them you have a fitting player
- If B is not present, commence BLS with AED (see Chapter 2)
- If A and B are present - the player can be managed in the position you find them if you are comfortable and can manage the airway effectively
    - You can however consider turning the player into the recovery position
- Take a note of the length of the fit (time the fits duration so you can advise the ambulance)
- Do not restrain the player i.e. do not hold them down
- Do not attempt to place anything in the mouth, especially your fingers
- Do not attempt to remove a well fitting gum-shield if it is in place
- Consider the cause of the fit – it is not necessarily epilepsy especially in an undiagnosed player, consider heart conditions, unobserved head injury or an underlying medical condition

Prolonged seizures require the player to receive medication that is beyond the remit of a First Aider to carry.

Send the player to hospital by ambulance

Myth 4

"Every person that faints has low blood sugar and should eat before training."

Please be aware that healthy fit individuals do not faint for no apparent reason, especially healthy young men. If there is no obvious trigger, such as low blood sugar (not eaten), frightened of blood or severe pain due to an injury, then the player should be medically assessed. The player may have an underlying cardiac disorder that requires follow-up. Syncope/fainting has been shown to be early warning signs of an underlying heart problem, please do not ignore the signs.

Your Experiences

Activity 7

Answer the following questions (for answers refer to Appendix 4)

1. In the presence of a witnessed sudden collapse, what should the First Aider immediately rule out?

2. What are common signs of sudden cardiac arrest?

3. Can First Aiders help administer a dose of adrenalin in the form of an epi-pen in the case of an emergency?

4. What may cause a player to suddenly convulse?

5. What is an early and effective treatment of a player with suspected hypoglycaemia?

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

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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

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Notes

APPENDIX 1 - The Medical Emergency Action Plan

Club Name:	
Club Address:	
Postcode:	

FIRST AIDER/ HELPER INFORMATION	
Name	**Mobile Number**

FIRST AID EQUIPMENT AND FACILITY	
Item	**Location**
Defibrillator	
Stretcher	
First Aid Room	

Access Routes:

1. For Ambulance
2. First Aid Room to Ambulance
3. Pitch to Ambulance

OTHER INFORMATION	
Nearest hospital address: (with Emergency Department) **Note:** include contact no.	
Directions to hospital:	
Journey time:	
Nearest Walk in Centre (WIC) address:	

APPENDIX 2 - Example Medical Consent Form

Status (Please tick) Mr ☐ Mrs ☐ Ms ☐ Other ☐

First Name:		**Surname:**	
Emergency Telephone No:		**Mobile No:**	
Email:			

Parental Consent:
In the event that my son/daughter is injured whilst playing football/travelling to and from football events and I cannot be contacted on the above number, I hereby give my consent for my child to receive medical attention.

Signed:

Print Name:

Date:

In the event that the above named person cannot be reached, please give two extra emergency contact names and numbers.

Name:	**Emergency Contact Number:**
Name:	**Emergency Contact Number:**

APPENDIX 3 - Player Injury Report Form

Date:		**Time:**	
Event:			

Injured Person's Details

First Name:			
Surname:			
Date of Birth:			
Address:			
Postcode:		**Tel Number:**	

Details of all persons involved in incident

Full Name of Person:	**Contact Number:**
1.	
2.	
3.	

Full Name of Witness:	**Contact Number:**
1.	
2.	
3.	

Incident Details

Time of Injury:		Date:	

Describe the Incident

Treatment Given

Details of Person Giving Treatment:	Role of Person Giving Treatment:

Loss of consciousness?	YES	NO
Person sent to hospital?	YES	NO
Ambulance called?	YES	NO
If Yes, which hospital?		

Name of First Aider:	
Signed (First Aider):	
Date:	

APPENDIX 4

Answers to the Activities

Chapter 2 Activity 2
1 C
2 E
3 E
4 A
5 D

Chapter 3 Activity 3
1. external bleeding
2. 10 minutes
3. Place another on top, do not remove first
4. Arterial bleed, therefore blood will pump out of the wound at the rate of the heart beat
5. Clinical syndrome, inadequate blood supply and oxygen to the body

Chapter 5 Activity 5
1. As if it were a fracture
2. Colour of the limb, compare with opposite limb, cant treat what cannot see consider cutting away clothing to look
3. Difficulty breathing, increased breathing rate, unequal movement of the chest, pain
4. Reduce pain, prevent further damage, support

Chapter 6 Activity 6
1. Presence or suspicion of a neck injury
2. Never! Unless player is in immediate danger, await ambulance arrival at all other times
3. Sit them out. Refer them to hospital
4. 5 in total, one on head, one on board, 3 on body. So in presence of 2 ambulance crew members require another 3 First Aiders to help log roll
5. Airway is priority

Chapter 7 Activity 7
1. Sudden cardiac arrest
2. Seizure / sudden collapse / agonal breathing
3. Yes
4. There are many other causes for a player to convulse such as low blood sugar, low levels of oxygen, heat stroke, head injury/ concussion or initial sign of a cardiac arrest or epilepsy if a known sufferer.
5. Give them some sugar, preferably glucose

Glossary

First Aider
The person tasked with the responsibility to take care of the players and match officials at the training and match venue. Preferably suitable trained with an up-to-date qualification in first aid in sport.

The FA
The English Football Association.

EFAiF
Emergency First Aid in Football.

IFAiF
Introduction to First Aid in Football.

Refer to Hospital.
Referred to hospital – you will have to use your own first aid judgement if the player can be referred to hospital and sent in a car with a relative or if an ambulance is required to transport the player as their injury is too severe to risk being taken by car. You could send your player notes (see appendix I) with the player so that the hospital have full details of the injury.

Match
The playing of the game of football on the field-of-play, regardless of age or grade.

Field-of-Play
The playing area i.e. pitch and surrounding pitch side area.

Ambulance
The call for help from the emergency medical services in your region/country.

CPR
Cardio pulmonary resuscitation. Chest compressions and breathing in a cardiac arrest.

AED
Automated External Defibrillator. A shock box with the aim of stunning the heart to try to 'shock' the heart back into a normal rythmn.

BLS
Basic Life Support – which is compromised of CPR usually with an AED.

ABCDE
The step wise approach to assessment and management of an injured player. Starting with Airway, Breathing, Circulation, Dysfunction and Expose and examiner. Often preceded by DR – the checking for danger and response of the player.

Notes

Notes

Coaching
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Administration

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