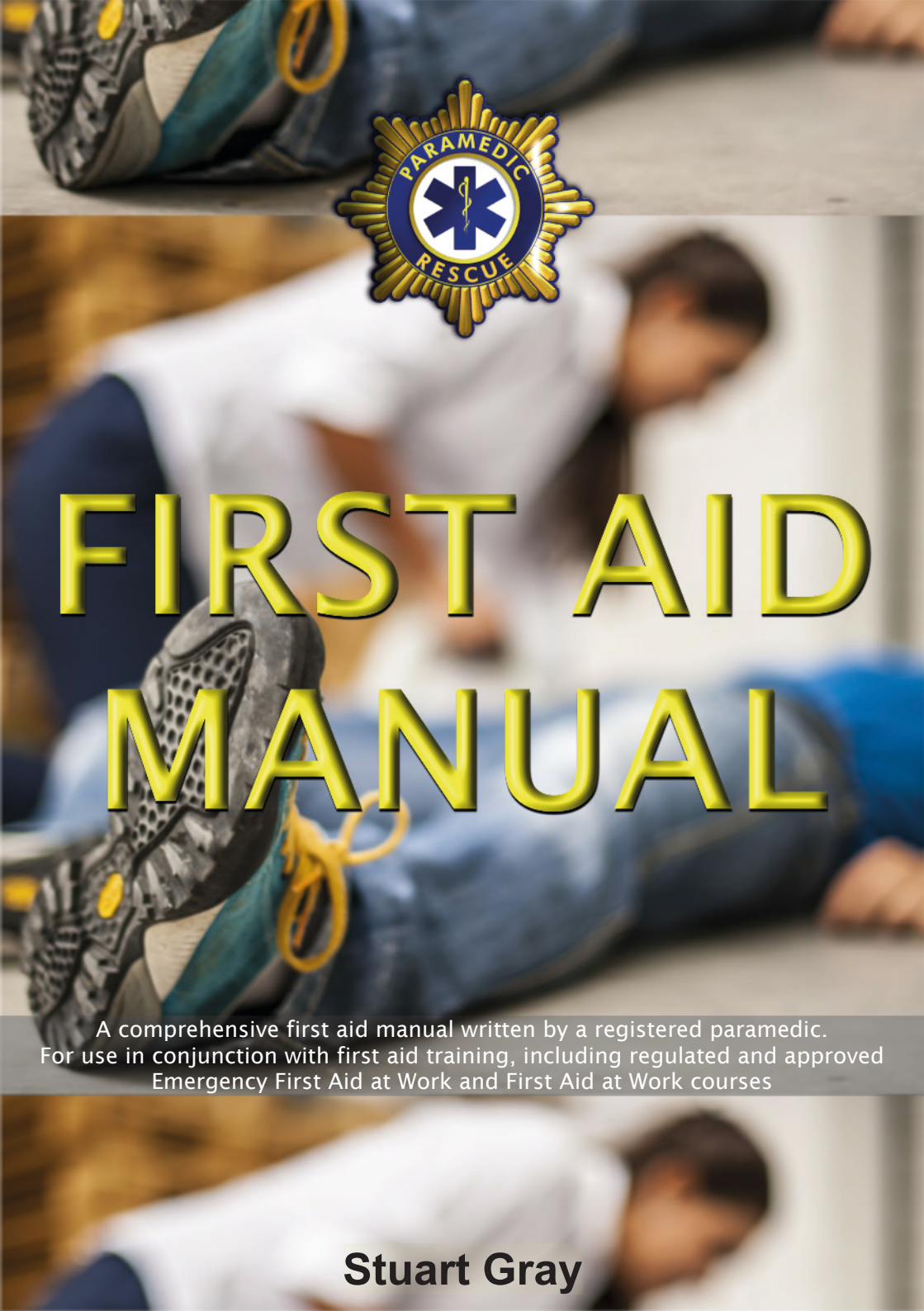

FIRST AID MANUAL

A comprehensive first aid manual written by a registered paramedic.
For use in conjunction with first aid training, including regulated and approved Emergency First Aid at Work and First Aid at Work courses

Stuart Gray

Author's Introduction

I have designed this manual to be clear and easy to understand. It is important that you follow the lessons closely and practise your skills thoroughly before allowing yourself to move on, or you may find the weight of information too much to take in.

There are ten units; at the end of each you will find a short, multiple choice progress test with which you can assess your understanding of the subject. These tests are not formal and are only there to help you revise and retain the information.

During the practical elements of your course, you will be expected to understand the skills that you have learned and be able to carry them out safely and appropriately.

You should practise your new skills and continually read and re-read your learning materials so that you remain as up-to-date as possible. Ongoing research and future studies will change the rules every so often, so you should try to keep abreast of developments so that you give the very best care to your patients.

When you successfully complete both parts of the course (theory and practical), you will be issued with a certificate, valid for three years. You should refresh your training annually if possible and you must renew your certificate every three years if you wish to remain First Aid qualified.

Good luck and enjoy your course.

Stuart Gray, BSc.(Hons), Cert. Ed., MCpara
Registered Paramedic

Paramedic Rescue Services (PRS) is a First Aid Industry Body (FAIB) accredited provider of first aid training and can certify and renew qualifications for all nationally recognised first aid courses.

PRS was originally registered as a first aid training provider with the Health & Safety Executive (HSE) in 1992

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UNIT 1

First aider role and responsibilities

Learning objectives

At the end of this unit, you should understand the steps that are necessary for the safe and effective treatment of a patient. You should also know how to arrange appropriate transportation and delegate outside of your area of responsibility where necessary by calling the emergency services

Defining a First Aider 1.1

A First Aider is a person who has undertaken training in order to carry out the initial assessment of an incident and who can recognise, treat and manage an ill or injured patient.

First Aiders take control of emergency situations until professional medical help arrives on scene. They are responsible for the safety and comfort of a patient, or patients, in their care and should never work outside of the boundaries of their training, knowledge or skills.

1.2 Duty of care

Simply put, a duty of care is a legal obligation on those with responsibility for the care of others, to exercise due diligence in that care and to apply the necessary protection or treatment required, within their scope of practice.

If you are a trained first aider, you will have a duty of care within your workplace, or whatever environment you hold your certification for, and you will be expected to apply knowledge and skills in the application of treatment and management of a patient. Your duty of care is limited by the following criteria:

1. You have the knowledge and skills to carry out treatment and that you have been formally trained and certified to do so.
2. You are confident enough to practise your skills without causing further harm to the patient.
3. The patient has been fully informed and has given, where possible, consent for you to carry out treatment.
4. The treatment you give is within the your scope of practice; in other words, you only do what you are trained to do.
5. You ensure the continuation of a patient's care by appropriate delegation or promotion (reporting the incident to medical professionals).

Negligence 1.3

To be negligent, it must first be proven that you have a duty of care. If, when that duty of care is authorised (such as when a first aider is certified to practise in the workplace), there is a failure to provide care that leads to further harm, or an act that contributes to the harm of an individual for whom you have a duty of care, then this could be considered negligent.

The law states that negligence is:
A failure to behave with the level of care that someone of ordinary prudence would have exercised under the same circumstances. The behaviour usually consists of actions, but can also consist of omissions when there is some duty to act (e.g., a first aider who does not carry out, or delegate, CPR when a patient is in cardiac arrest).

Generally, four elements must exist for negligence to be argued:

1. You had a legal duty of care. In many cases, it will be your employer who has that legal duty of care and not you personally.
2. The duty of care was breached, either through an act or omission.
3. The patient suffered an injury as a result of that breach.
4. It can be proven that the breach caused the injury.

1.4 Patient Management Protocol

A step-by-step strategy for the management of a patient will help you to make the correct assessment, treatment and definitive care decisions. Here are six steps to follow when dealing with a first aid incident.

1

History - what happened?

Find out what took place and assess the situation carefully. Find out what the patient's medical history is, including regular use of prescribed drugs.

2

Mechanisms - what caused the injury or illness?

Ascertain the facts by listening to the history and gathering witness information, where relevant.

3

Signs and Symptoms

Get vital signs; determine the presence of breathing and a pulse. Records other signs and symptoms. This is your first clinical assessment and is known as the primary assessment.

4

Diagnosis

Record a conclusion, where possible, about the medical condition or state of injury of the patient. A query diagnosis may be recorded if you are uncertain about the illness or injury.

5

Treatment

Carry out the appropriate safe treatment for the injury or illness, staying within your scope of practice.

6

Definitive care

Decide on the best means of definitive care for the patient. You may decide to discharge the patient back to work, send them home, refer them to their GP, send them to the Urgent Care Centre (UCC), Accident and Emergency Department (A&E) or call an ambulance.

Infection control 1.5

You should always be aware of the possibility of infection, cross-infection and the spread of disease beyond yourself and the patient.

These simple measures will help protect you. The materials used should be considered your basic Personal Protection Equipment (PPE).

1

Wear gloves whenever possible when dealing with blood or other body fluids

2

Wear a surgical mask, if you have one, whenever you deal with possible airborne infection

3

Wash your hands thoroughly after handling body fluids, even if you've been wearing gloves

Progress test 1

To complete the unit, answer the 5 MULTIPLE CHOICE questions below.
Circle what you believe is the correct answer.

1. In the Patient Care Protocol what follows HISTORY?

A. Signs and symptoms
B. Shake and shout
C. Mechanisms
D. Danger

2. When a QUERY diagnosis is made, it indicates that...

A. You are uncertain about the illness or injury
B. You are certain about the illness or injury
C. An x-ray will be required
D. The patient does not need treatment

3. A duty of care allows you to carry out treatment without consent if necessary

A. TRUE
B. FALSE

4. PPE stands for..

A. Patient Protocol Examples
B. Personal Protection Equipment
C. Personal Positioning Example
D. Positive Pressure Exhalation

5. For a person to be found negligent, it must be proven that a breach in duty of care caused the injury

A. TRUE
B. FALSE

UNIT 2

Airway and breathing

Learning objectives

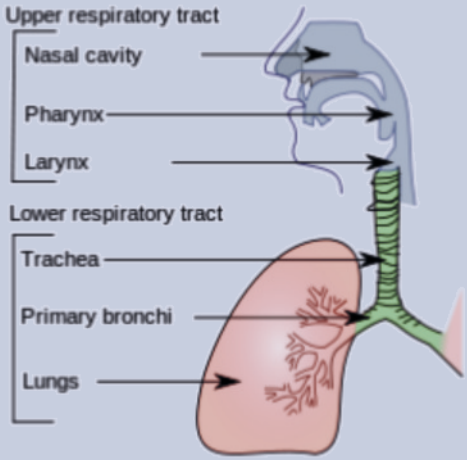
At the end of this unit, you should be able to identify the basic anatomical structure of the airway and will understand the basic physiology of breathing. You will also have knowledge of the most common airway and breathing emergencies

Anatomy of the airway 2.1

The airway is the route taken for air to enter the lungs so that we may absorb oxygen from the atmosphere and excrete our waste gases. Since this is the only way in which oxygen can be delivered to our bodies, it is vital that it is kept clear and functioning at all times.

The airway comprises the following main parts:

The mouth and nose
The pharynx
(back of throat)
The larynx
(voicebox)
The trachea
(windpipe)
The bronchi
(plural; right and left bronchus)
The bronchioles
The alveoli
(where gas exchange takes place)



2.2 Asphyxia

999
If in doubt

Every cell in our body requires oxygen to fuel the reaction that takes place with glucose to produce the energy required for the cell to survive and carry out its function. Since tissues are collections of cells which carry out a specific function, oxygen must be delivered to tissues constantly for us to live.

Definition	Lack of oxygen to the body's tissues

Causes	Hanging Strangulation Suffocation Smoke and gas inhalation Airway obstruction (including choking) Drowning Hyperventilation Asthma Anaphylaxis

Signs & Symptoms	Difficulty in breathing Clutching & pointing at throat Cyanosis (blue tinge to skin) Congested neck and face Protruding neck muscles and veins Dizziness Exhaustion and muscle fatigue Loss of consciousness

Lack of oxygen for as little as four minutes can lead to death

Treatment	Remove the patient from the cause Remove the cause from the patient Ensure that the airway is clear Ensure that the patient is breathing

999
If in doubt

Hyperventilation 2.3

Hyperventilation can be triggered as an emotional response to pain, fright or fear. In some cases over-excitement will cause it. It manifests as fast breathing: hyper means over and ventilation means to breathe. Normally, hyperventilation is not life-threatening, but it can result in breathing problems if sustained for too long.

Definition

Over-breathing

Causes

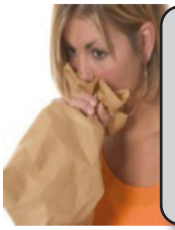
Stress
Fear or fright
Panic
Anger
Excitement
Pain

Signs & symptoms

Fast, noisy breathing
Chest tightness
A look of fear
Flushing of the cheeks in some cases
Dizziness / nausea
Pins and needles at the extremities
'Clawing' of the fingers
Collapse and faint

Management

Sit patient down in a forward-leaning position
Attempt to calm the patient using your voice
If the patient does not improve in 10 minutes or collapses and becomes unconscious: ***CALL AN AMBULANCE***



What about using a paper bag?

We no longer advocate the use of paper bags to treat hyperventilation because there is no evidence that they resolve the situation any more efficiently than with a simple coaching routine.

2.4 Asthma

999
If in doubt

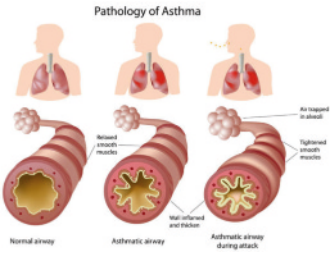
Asthma is a disease affecting roughly 1 in 6 of the population to some extent. This figure may be skewed, however, by the number of patients being diagnosed on the basis of a persistent cough or slight wheeziness.

Definition

Inflammatory disorder of the airways characterised by *difficulty breathing out*

Signs & Symptoms

- Difficulty in breathing OUT
- Noisy / wheezy breathing
- Cyanosis (blue tinge to skin)
- Congested neck and face
- Protruding neck muscles and veins
- Rapid and sometimes irregular pulse
- Exhaustion and muscle fatigue
- Loss of consciousness



Causes

Asthma Triggers

Treatment

Allow patient to take their OWN BLUE INHALER
If condition does not improve in 5 minutes: **999**
If patient does not have their own inhaler: **999**

Remember!
Only BLUE inhalers will make a difference during an asthma attack.

Anaphylaxis

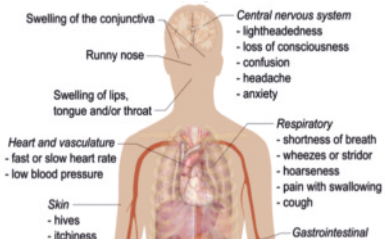
When we react to invading foreign substances, mast cells in our bodies release a substance called histamine. This causes swelling around the area affected by the invading substance. For reasons not yet fully understood, some people over-react and release a lot of histamine when they are affected by a foreign protein. This can result in wide-spread swelling, especially around the airway, ultimately causing death by asphyxia.

Definition

A potentially life-threatening systemic reaction to an allergen

Causes

Bee stings
Nuts
Fish and seafood
Some antibiotics (e.g. Penicillin)
Certain fruits (Kiwi fruit, strawberries)
Many others



Signs & symptoms

Rash on body and itching
Vomiting
Swelling, especially around the face and neck
Difficulty breathing
Cyanosis (blue tinge to skin)
Loss of consciousness

Management

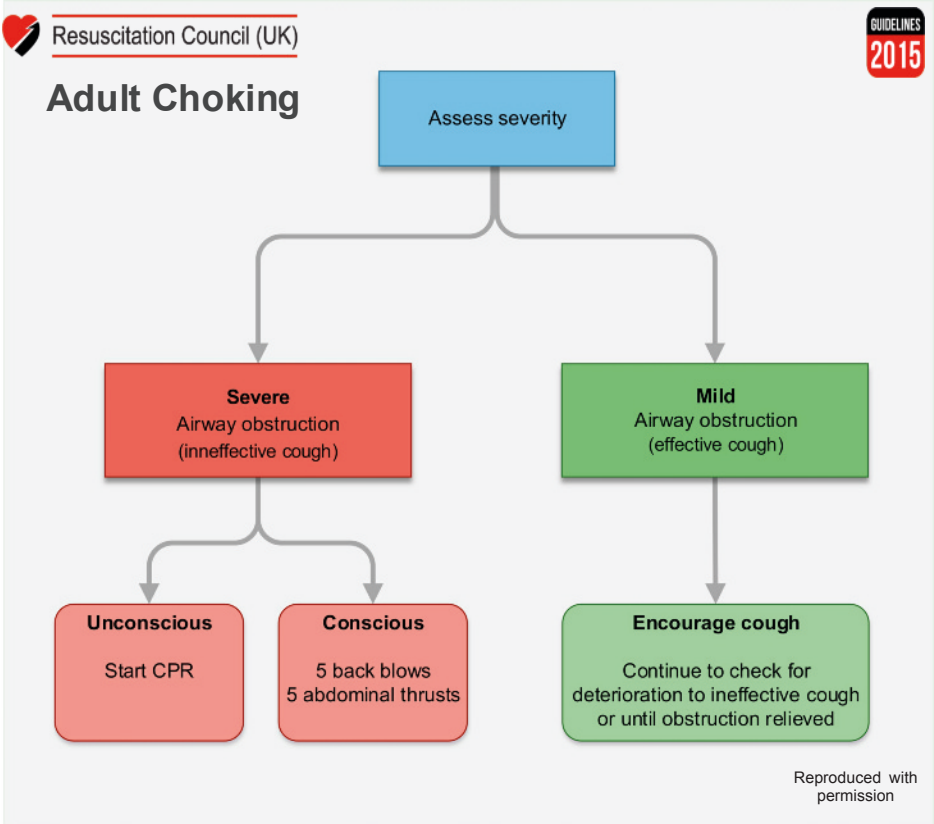
Establish that the patient is having a reaction
If the patient has an Adrenaline auto-injector, either get them to take it or administer it for them
Call 999 immediately

2.6 Choking

999
If in doubt

A person who is choking will have either a partial obstruction or a complete obstruction. In the case of a partial obstruction, the patient will be able to speak and may need no more than observation and an ambulance. Otherwise you will have to take action to prevent asphyxia.

Definition	Partial or complete obstruction of the airway by a solid object
Signs & Symptoms	Immediate change in the patient's behaviour; panicking, fearful look, pointing at throat or mouth Difficulty breathing or not breathing at all Flushing of the face and neck Grasping at neck Cyanosis Unconsciousness



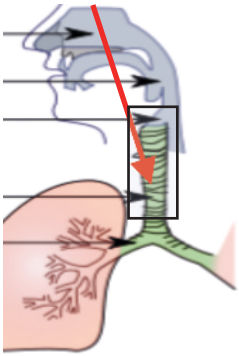
Progress test 2

To complete the unit, answer the 5 MULTIPLE CHOICE questions below.
Circle what you believe is the correct answer.

1. What is the definition of asphyxia?

A. Lack of air to the lungs
B. Insufficient breathing
C. Loss of blood
D. Lack of oxygen to the body's tissues

2. What part of the airway anatomy is indicated with the RED arrow?



A. The mouth
B. The nose
C. The Trachea (windpipe)
D. The larynx (voicebox)

3. One of the causes of asphyxia is...

A. Choking
B. Bleeding
C. Shock
D. Unconsciousness

4. During an asthma attack, patients need...

A. A doctor
B. A blue inhaler
C. A brown inhaler
D. A paper bag

5. Anaphylaxis is initially treated with what drug?

A. Aspirin
B. Ventolin
C. Antibiotics
D. Adrenaline

Student notes

UNIT 3

The unconscious patient

Learning objectives

At the end of this unit, you should be able to manage an unconscious patient and place them into the recovery position if necessary.

Unconsciousness 3.1

When someone is unconscious they are unable to respond to you. They may still hear you (this is the last sense to go) but they are unable to move or speak or otherwise indicate that they understand you. Of course, the depth of a person's unconsciousness determines at what level they can communicate with you, but we are concerned mainly with those casualties who are deeply unconscious and do not respond at all.

By definition, unconsciousness is a lack of response

The causes of unconsciousness can be remembered using the acronym FISH SHAPED:

Faint
Imbalance of temperature
Stroke
Heart attack

Shock
Head injury
Asphyxia
Poisoning
Epilepsy
Diabetic emergency

3.2 The Primary Assessment

DR AB is a good way to remember your Primary Survey

Danger

D

This is the first clinical assessment of a patient but always begins with your safety first. Ensure that the environment you are entering is safe and that all hazards have been dealt with prior to assessing your patient.

Safety is paramount and your priorities are yourself, other people and the patient, in that order.

Response

R

A conscious patient will answer you when you speak to them to ascertain what happened. Be aware that non-verbal responses can also confirm that a patient is conscious and able to understand you.

Unconscious patients do not respond in any way but you must be absolutely sure that the person you are assessing is fully unresponsive.

Airway

A

Always ensure that a patient's airway is clear.

If the patient is talking to you, then their airway is clear.

If the patient is unconscious, you should open the airway, using the head-tilt, chin-lift technique.

Head-tilt, chin-lift technique

You may have to remove obstructions from the mouth to clear the airway of an unconscious patient, prior to opening the airway if necessary.

Breathing

B

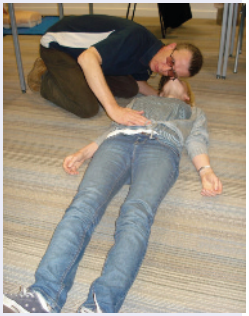
In conscious patients, breathing should be obvious but in unconscious patients, you will have to check to be sure.

Check for at least 10 seconds by:

Listening close to the patient's mouth and nose

Looking for chest movements

Feeling for movement at the diaphragm



The Secondary Assessment 3.3

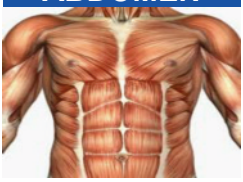
HEAD

Look for obvious bleeding / injury
Feel for deformity, where appropriate
Look at eyes, nose and ears

NECK

Keep patient still
Feel for deformity and pain where appropriate
If patient is conscious, check function of fingers and toes
In conscious patients, ask about tingling, numbness or paralysis

CHEST & ABDOMEN

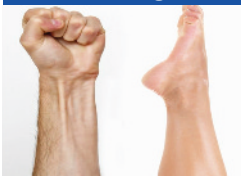


Look for bilateral chest movement on breathing
Look for obvious bleeding / injury
Feel for deformity, where appropriate
Palpate four quadrants of abdomen (confirm soft, non-tender)

PELVIS

Look for obvious bleeding / injury
Feel for deformity, where appropriate
Do not put pressure on the Pelvis

LIMBS



Look for obvious bleeding / injury
Feel for deformity, where appropriate
Don't forget to check the hands and feet

3.4 Managing the unconscious patient

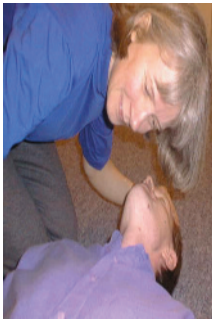
The following procedures must be carried out when managing an unconscious person. It is important to follow the step-by-step process below and practice it until you are skilled and confident.

1. *Assess the scene for danger*
2. *Assess responsiveness of patient (shake and shout)*
3. ***IF NO RESPONSE:** Open and look in the mouth for obstructions. Clear with finger-sweep if necessary*
4. *Open airway with head-tilt, chin-lift*
5. *Check breathing for 10 seconds*
6. *Send someone to call for an ambulance: "Unconscious person... is breathing"*
7. *Check carotid artery for a pulse (10 seconds) if trained to do so*
8. *Visually assess the head, neck, chest and pelvis for obvious injuries*
9. *If an injury is found or the history suggests injury **do not** move the patient*
10. *If **no** injury is found and the history does **not** suggest injury **or** the patient's airway is compromised, you may place patient into the **recovery position***
11. *Keep patient warm, reassure and continually check airway, breathing and circulation*

Try to get a response

Open and look in mouth

Open airway



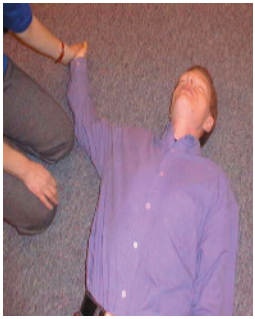
Check for breathing for 10 seconds

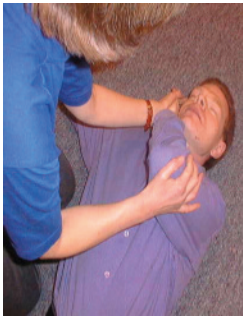
Managing the unconscious patient

3.4

Send someone to call 999

Check carotid pulse for 10 seconds





Check for injuries in the head, neck, chest, pelvic areas and if there are none, place the patient into the recovery position. If airway is compromised, do the same.

The recovery position is designed to prevent accidental asphyxia

Progress test 3

To complete the unit, answer the 5 MULTIPLE CHOICE questions below.
Circle what you believe is the correct answer.

1. What is the definition of unconsciousness?

A. Lack of blood
B. Lack of response
C. Lack of oxygen
D. Not breathing

2. Two causes of unconsciousness are...

A. Fainting and asthma
B. Fainting and anaphylaxis
C. Fainting and shock
D. Fainting and hyperventilation

3. The first thing to check when you get on scene is...

A. The patient's airway
B. The patient's breathing
C. The patient's pulse
D. The safety of the scene

4. After checking breathing, what should be done?

A. Check the pulse
B. Check for injuries
C. Call for help
D. Place patient in the recovery position

5. The recovery position is carried out to prevent...

A. Asphyxia
B. Vomiting
C. Cardiac arrest
D. Further injury

UNIT 4

Cardiopulmonary Resuscitation

Learning objectives

At the end of this unit, you should be able to carry out basic life support (BLS). You should understand your priorities with respect to the patient and should be able to carry out resuscitation, safely and effectively.

The importance of CPR 4.1

Resuscitation is carried out in order to sustain life functions in a person who is unconscious and is not breathing. This person may or may not have a pulse.

The term CPR is often used to describe the activity. The term means Cardio (the heart) Pulmonary (lungs) Resuscitation (to bring back). Therefore, the term CPR is applicable when we are breathing into someone and compressing the chest to stimulate cardiac output (although non-Health Care Professional rescuers can now carry out chest compression-only CPR in adults).

When a person stops breathing and their heart stops working properly (so that there is no output and therefore no pulse), this is known as **cardiac arrest**. Adult cardiac arrest is usually, but not always, the result of a heart attack caused by coronary obstruction, as a result of long-standing heart disease, and the death of cardiac cells. It is the biggest cause of death in adults in the first world.

Bad diet, obesity, smoking, lack of exercise and stress are all known to contribute to heart disease which can terminate in cardiac arrest in later life, but some people suffer cardiac arrest for no obvious clinical reason and children are more likely to have breathing-related causes.

Less than 8% of cardiac arrest patients survive. The best chance for survival (up to 25%) is a combination of early CPR, early access to emergency pre-hospital care and early defibrillation. CPR alone rarely reverses the problem associated most with cardiac arrest - **Ventricular Fibrillation (VF)**.

Source: British Heart Foundation

4.2 Adult CPR

999

Resuscitation Council (UK)

Adult Basic Life Support
Non-Healthcare Professionals may carry out compression-only CPR

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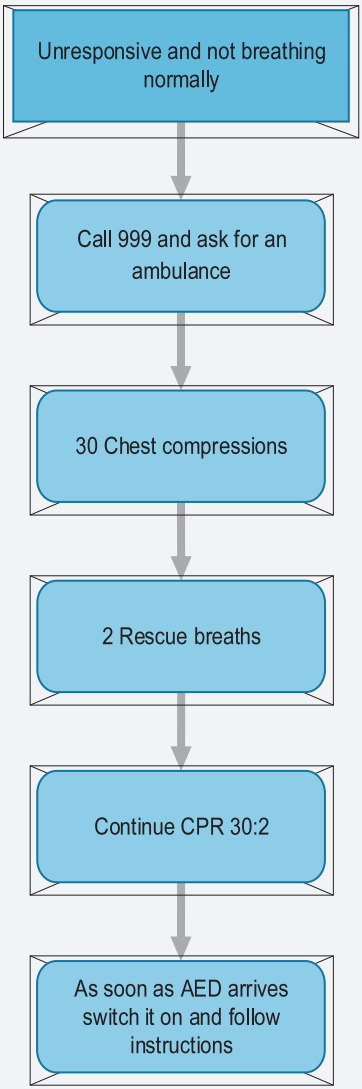

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Introduction to defibrillation 4.4

The heart muscle is an efficient pump, but only because every cell is electrically stimulated by impulses from the brain to contract and relax in a strictly controlled manner. When a heart attack occurs, the smooth running of these impulses is blocked in a small part of the heart muscle, causing electrical confusion and disco-ordination. This condition is known as Ventricular Fibrillation (VF) and is an immediately life-threatening event that can lead to Sudden Cardiac Arrest (SCA).

SCA occurs because the heart is no longer pumping (it has not stopped but it isn't able to force blood around the body) and so there is no output. The person will immediately lose consciousness and stop breathing because their brain is no longer receiving blood. Eventually, if the condition is not reversed, the person will die as a result of lack of oxygen.

The only way to successfully reverse VF is to use a defibrillator; a device that delivers a high energy charge to the heart. This charge has the effect of 're-setting' the myocardial cells so that they might function normally again when the impulse is received from the brain. It goes without saying that if no CPR is carried out prior to defibrillation, there may not be any impulse being generated. Clearly a successful outcome is influenced by the combination of early CPR and early defibrillation.

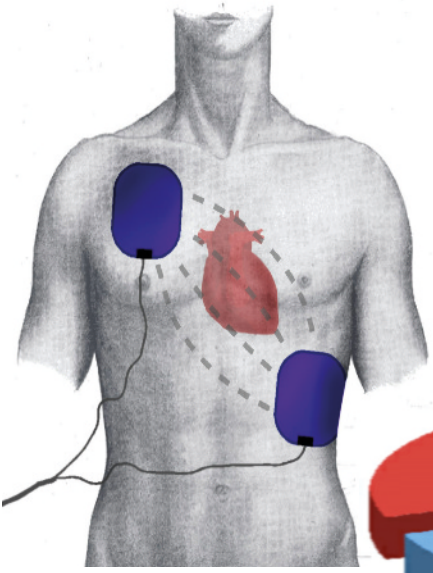
By calling an ambulance as soon as you recognise adult cardiac arrest you will create the earliest possible window of opportunity for defibrillation to take place. If you spend time carrying out CPR without having called for help, you may have wasted precious time as each minute in cardiac arrest without defibrillation can equate to a 10% less chance of survival.

Source: British Heart Foundation

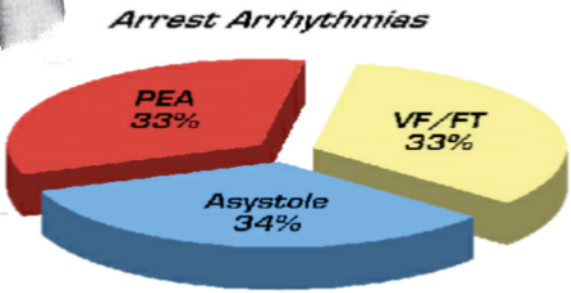
4.4 Introduction to defibrillation

Survival depends on correct early intervention

The Chain of Survival shows how to save a life in 4 steps



Statistically, cardiac arrest patients will have a shockable rhythm in 33% of cases



Source: Pre-hospital Emergency Care

Progress test 4

To complete the unit, answer the 5 MULTIPLE CHOICE questions below.
Circle what you believe is the correct answer.

1. This is an AED; what do the letters stand for?

A. Adult Electrical Device
B. Automatic Electricity Defibrillator
C. Automated External Defibrillator
D. Adult External Defibrillator

2. VF can be reversed using CPR alone…

A. TRUE
B. FALSE

3. Non-Healthcare Professionals should carry out compression-only CPR on an adult in cardiac arrest…

A. TRUE
B. FALSE

4. The most common cause of adult cardiac arrest is…

A. Heart disease
B. Pulmonary embolism
C. Blood clots
D. Stroke

5. Only qualified personnel are permitted to use an AED in an emergency

A. TRUE
B. FALSE

Student notes

UNIT 5

Bleeding and wounds

Learning objectives

At the end of this unit, you should be able to recognise and control bleeding and appropriately treat various types of wound. You should also be able to recognise and manage shock.

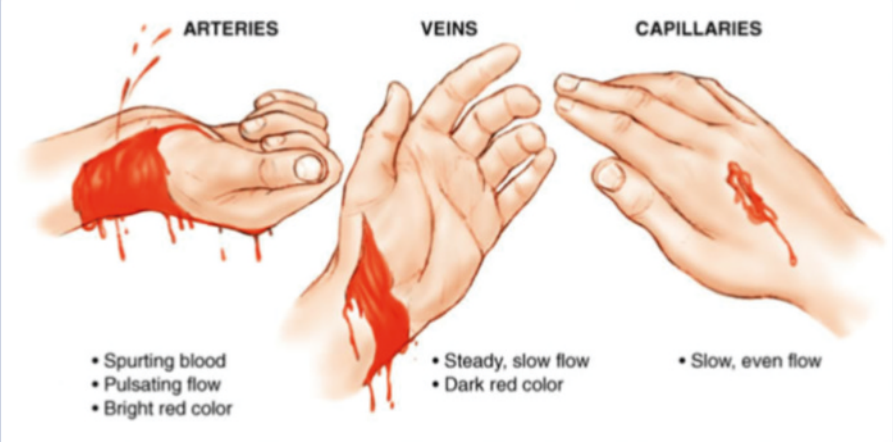
Types of blood vessel 5.1

There are three main types of blood vessel in the body:

Artery: bright red blood

Vein: dark red blood

Capillary; light red blood



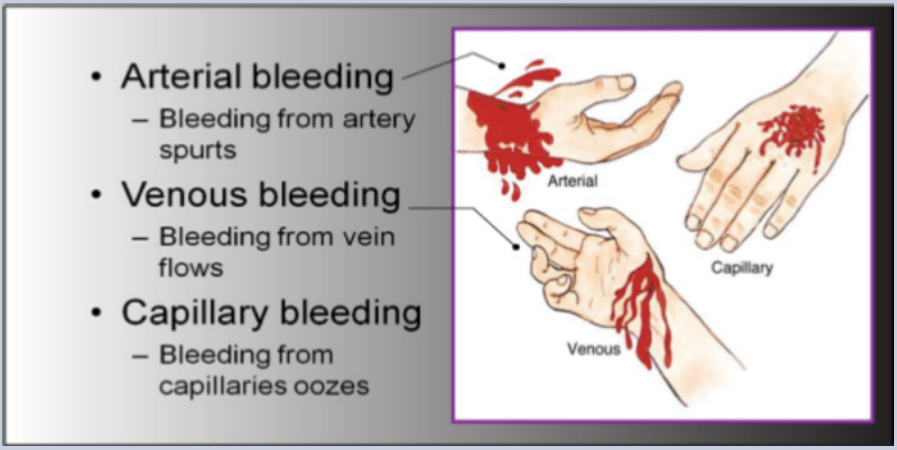
5.2 Types of bleeding

The different nature of blood vessels means that when one or other is damaged, the nature of the bleed is specific to it. There are three types of bleeding that you will generally encounter as a first aider - each is described below:

Arterial: spurting; bright red

Venous: flowing; dark red

Capillary; oozing, light red



Types of wound 5.3

Different wounds bleed and heal in different ways. First aiders should have a good knowledge of each and what to expect, so that management can be appropriate and complications avoided.

Abrasion (graze)

Avulsion (peeled)

Amputation

Contusion (bruise)

Incision (slash)

Laceration (tear)

Puncture (stab)

Gunshot

5.4 Wound management

First aid management of all external bleeding is generally the same:

Direct pressure and elevation

This may mean putting your hand on the wound to stop the bleeding.

Where possible, You should always wear gloves when dealing with blood.

You will probably have to apply a dressing. A bandage may also be required for support.

If a wound requires cleaning you should use clean water or sterile saline (eye wash solution).

The elevation sling

A good elevation sling is safe, secure and comfortable

Internal bleeding

The management of bleeding that you cannot see is difficult because you cannot stop the haemorrhage and you must rely on the history, mechanisms, signs and symptoms and good judgment to be able to act appropriately.

Always call an ambulance if you think a patient may be bleeding internally. With or without obvious signs of shock, you should place the patient into the shock position (known as the Trendelenburg position), wherever safe to do so.

Specific wounds 5.5

NOSEBLEED

1. Sit patient down, with head forward and low
2. Ask patient to pinch the nose just below the nasal bone
3. Do not close the nostrils or plug them up
4. Tell patient to hold this position and breathe through the mouth for 10 minutes
5. If after 10 minutes, the bleeding continues, repeat steps 2 - 4

Try this three times (30 minutes of treatment) if necessary

If bleeding does not stop, take patient to A&E or UCC (Urgent Care Centre)
An ambulance is only necessary if bleeding is severe or there are complications

ORIFICES

The orifices leading to the body cavities are not often covered in first aid manuals but I believe it is important that students, whether medical or non-medical, understand what is expected of them should a patient present with bleeding from any of the following:

Eyes
Caused by either trauma or internal pressure. Can be very serious and requires an ambulance.

Ears
Could be caused by a head injury and is significant. Other causes include ruptured ear drum, so in every case, call an ambulance where significant blood is present.

Mouth (coughing or vomiting)
Violent coughing fits often produce a little blood and so this is generally benign, but frank and copious blood after coughing or on vomiting will require an ambulance.

Rectum (termed "bleeding PR')
Haemorrhoids are often the cause and treatment should be sought via the GP or pharmacist, but if bleeding is continuous and copious an ambulance should be called.

Penis
Frank blood when urinating can be very serious and requires an ambulance.

Vagina (termed "bleeding PV')
This type of bleed, if not caused by trauma and not associated with a period, in women of child-bearing age, generally indicates a miscarriage and an ambulance should be called.

5.6 Complications of bleeding

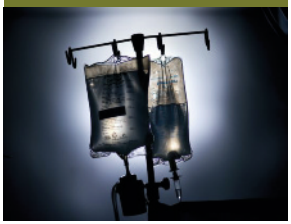
999
If in doubt

INFECTION

Wounds can cause damage to the skin, exposing the unprotected layers to the air and opportunistic microbes.

You must try to cover a wound with clean, non-fluffy material, preferably a sterile dressing, where possible, to ensure its protection.

SHOCK



Hypovolaemia from fluid loss as a result of bleeding (internally or externally) can be fatal, even if the wound itself is not.

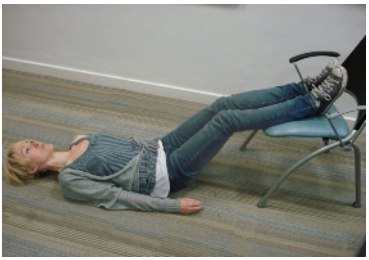
If you suspect shock, or anticipate it, you must lay the patient flat, raise their legs, cover and give reassurance.

EMBEDDED FOREIGN BODY

An impaled object can cause further injury, introduce infection and complicate treatment.

Although you must never remove an embedded foreign object (EFO), you should try to apply pressure around it to control bleeding, and ensure that it remains stable until removed at hospital.

999 Hypovolaemic shock 5.7



Your body has a limited volume of fluid inside it. Depending on your size, there may be 5 - 7 litres of blood in the circulatory system. Critical blood pressure and the ability of the blood to deliver oxygen and nutrients to every cell is dependent on the blood volume remaining constant.

If a person begins to lose blood, their body will compensate at first by reducing the diameter of the small peripheral blood vessels, thus increasing blood pressure. If the bleeding continues, this mechanism becomes less effective and larger blood vessels begin to shut down, causing a depletion of blood supply to vital organs. If the situation is not reversed organ failure will occur and death will follow.

The total amount of fluid we have in our bodies is known as the TOTAL BODY VOLUME (TBV). If 30% of the TBV is lost (i.e. 1.5 to 2 litres of fluid), clinical signs and symptoms of HYPOVOLAEMIC SHOCK will become apparent, although this may occur much earlier in some people. *Hypo means low and volaemic means 'of volume'*

Definition	Lack of perfusion to the body's tissues
Signs & Symptoms	Pale, cold, clammy skin Pattern bruising; Cyanosis Rapid, shallow breathing Rapid, weak pulse Confusion and restlessness Yawning and thirst
Treatment	Control external bleeding (if any) Lay patient flat and raise their legs where possible Cover (keep warm but do not overheat) and reassure patient

Fluids
Paramedics deal with fluid loss by replacing it - not with blood but with salt water (saline), which is injected into the veins. This 'bulks up' the volume again so that the body responds correctly to the demands of the vital organs, buying precious time for the patient.

Progress test 5

To complete the unit, answer the 5 MULTIPLE CHOICE questions below.
Circle what you believe is the correct answer.

1. An abrasion is a type of wound, also called a graze

A. TRUE
B. FALSE

2. Arterial bleeding gushes from a wound

A. TRUE
B. FALSE

3. An embedded foreign object in a wound should...

A. Not be removed
B. Be removed if safe to do so
C. Be removed if the patient gives permission
D. Not be removed except if it is in a limb

4. This is the treatment position for shock

A. TRUE
B. FALSE

5. Shock is caused by a lack of perfusion to the body's tissues

A. TRUE
B. FALSE

UNIT 6

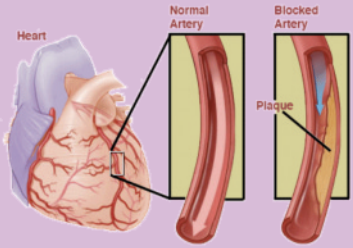
Medical conditions

Learning objectives

At the end of this unit, you should be able to recognise, treat and manage common medical conditions

Angina 6.1

Angina Pectoris means 'crushing chest' and is a symptom, not a disease. As the name suggests, it is a pain felt in the chest. It can appear without the existence of underlying disease but is largely associated with a lack of oxygen supply to the heart muscle due in part to exertion and to heart disease. *It usually has a sudden onset.*



Under normal circumstances a person who is diagnosed will have a spray (Glyceryl Trinitrate, or GTN) to administer under their tongue. This drug dilates the blood vessels of the heart and allows more blood, and thus more oxygen, through to the muscle. A combination of rest and GTN will usually bring about relief within minutes.

Signs & Symptoms

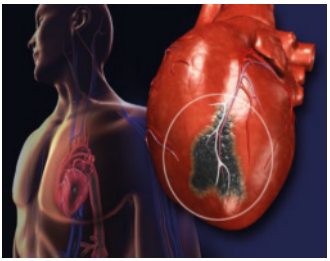
Pallor (pale complexion)
Shortness of breath and a rapid pulse
Pain behind breastbone (but may spread elsewhere)

Treatment

Allow patient to take their own GTN
Keep patient sitting up; reassure the patient
If pain persists or it is the patient's first episode: **CALL AN AMBULANCE**

6.2 Heart attack

999



A heart attack is known medically as a Myocardial Infarction (MI) and occurs when part of the heart muscle has become deprived of oxygen long enough for some of the cells to die. An obstruction may develop in one of the arteries leading to the heart muscle and as it progresses it causes less and less blood to get through to that particular part of the heart. The problem will eventually cause extreme pain and the affected person will go into cardiac arrest if the condition is not dealt with in time.

If you are dealing with a patient having a suspected heart attack, you should be prepared to carry out resuscitation at any moment as the condition of such a patient can change suddenly and dramatically. Always call an ambulance when there is chest pain and the possibility of a cardiac related condition.

Unlike Angina, an MI will usually occur gradually, without any history of exertion and the pain will not subside with rest. So identification of one or the other is best achieved by asking three pertinent questions:

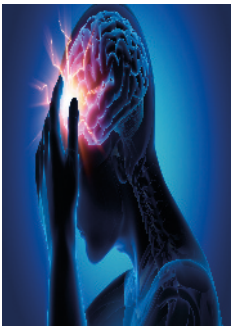
1. How long have you had the pain?
2. What were you doing when the pain started?
3. Has the pain eased after rest?

Pain Scoring

Ask the patient to give you a number to represent their level of pain; 0 is no pain and 10 is the worst pain. Use this pain scoring system to monitor potential improvements after giving GTN and resting the patient

Signs & Symptoms	Pale, cold, clammy skin; possible cyanosis Shortness of breath; rapid, weak pulse (may be irregular) Severe, vice-like pain behind breastbone, left arm or jaw Nausea and vomiting A sense of foreboding and fear
Treatment	Allow patient to take their own GTN if they have it If you are permitted, give one aspirin to chew slowly Keep patient sitting up; reassure the patient

Stroke



A stroke is known medically as a Cerebrovascular Accident (CVA) and occurs when the blood supply to a part of the brain is interrupted as a result of a blockage (embolism) or the rupture of a blood vessel (haemorrhage).

If you are dealing with a patient having a suspected CVA, you should be prepared to carry out resuscitation at any moment because the patient can deteriorate suddenly and dramatically. Always call an ambulance when there is a change in the person's condition, such as neurological deficit, paralysis or loss of bladder control accompanied by a severe headache.

Communication with this patient is vital and you may find that they are confused, irritable or even aggressive. They may cry or swear during their conversation with you. A CVA can often be progressive, so it is important that you ascertain what has happened to the patient, and how long ago the change occurred. Even if the signs and symptoms appear to resolve, call an ambulance immediately.

Signs & Symptoms	Flushed and warm skin Noisy breathing and snoring, often with puffing of the cheeks Slow and full pulse Incontinence Nausea and vomiting Difficulty speaking; slurring; facial paralysis Headache Possible paralysis of one side of the body

Treatment	Ascertain the onset time (when did the changes start) Keep patient sitting upright if possible Reassure the patient Remember respect and dignity at all times

Carry out a FAST check and determine, if possible, the onset time before calling an ambulance

6.4 Epilepsy

999
If in doubt

An epileptic patient needs to be monitored and kept safe until they complete their seizure.

Typically, there are three stages to a generalised epileptic seizure:

1. **Tonic**; cry out, stiffen up and fall down
2. **Clonic**; muscle spasms, back-arching, loss of bladder control, tongue-biting
3. **Post ictal**; resting phase; sleep

Ensure that you do not interfere with a seizure by holding the patient down or placing objects in the patient's mouth. The patient may suffer minor injuries and these can be dealt with after the seizure has ended.

Management of an epileptic seizure

Monitor and time the patient's seizure - **Call an ambulance if:**

- If this is their first ever seizure or they are not known to be epileptic
- If the seizure lasts longer than 5 minutes, or the normal duration known for them
- If they are having repeated seizures
- If serious injury occurs during the seizure
- If they do not resume breathing or have breathing difficulty after the seizure

Otherwise, allow the patient to recover in their own time and continually remind them where they are and what has happened. It may take an epileptic patient some time to fully recover, and often they may wish to sleep.

If it is possible, try to record the time that the seizure began, or how long the seizure lasted so that the ambulance crew can manage the patient appropriately. You will probably be asked this question when the crew arrives

Diabetes

Diabetics cannot control their blood sugar levels and many people are required to inject Insulin (Type 1 Diabetics) regularly to stay alive. Normally, diabetics do not need to go to hospital if their condition is managed properly.

In order to correctly identify which emergency you may be dealing with, you must get to know the Signs & Symptoms

Hypoglycaemia

This means the blood glucose level is **LOW**

(meter reads less than 4 mMol)

HYPO

Pale, cold, clammy skin
Shallow breathing
Rapid, weak pulse
Confusion and irritability
Aggression
Loss of co-ordination
Loss of consciousness

Hyperglycaemia

This means the blood glucose level is **HIGH**

(meter reads more than 10 mMol)

HYPER

Warm, flushed skin
Deep, noisy breathing
Strong pulse
Strong breath smell
Frequent urination
Frequent drinking
Vomiting
Aggression
Loss of co-ordination
Loss of consciousness

Treatment in either case if you are not sure:
Give something sweet to eat or drink
Monitor patient's recovery for 20 minutes if safe to do so

Many diabetics use a Glucometer to measure the amount of sugar in their blood. The number on the screen (if measured in mMol/L, which is common, should read above 4.0 and below 10.0 under normal circumstances.

If patient is not a known diabetic, does not recover after treatment or is unconscious: CALL AN AMBULANCE

Progress test 6

To complete the unit, answer the 5 MULTIPLE CHOICE questions below.
Circle what you believe is the correct answer.

1. Angina Pectoris means 'Heart attack'...

A. TRUE
B. FALSE

2. One of the important questions to ask a suspected MI patient is...

A. Do you have angina?
B. Have you taken any tablets?
C. Has the pain eased with rest?
D. How often do you get chest pain?

3. A stroke can be caused by a blockage in the brain's blood vessels...

A. TRUE
B. FALSE

4. An ambulance should be requested for a fitting patient when...

A. The seizure has lasted more than 5 minutes
B. The patient has had more than one seizure
C. The patient is not known to be epileptic
D. ALL of the above

5. Hypoglycaemia means the patient is suffering from...

A. High blood glucose
B. High blood sodium
C. Low blood sodium
D. Low blood glucose

UNIT 7

Bone and soft tissue injuries

Learning objectives

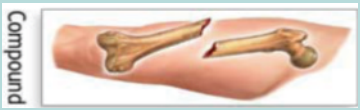
At the end of this unit, you should be able to recognise, treat and manage injuries to bone and soft tissue.

Fractures and fracture management 7.1

A fracture occurs when there is a break in the continuity of a bone.
By definition, a fracture is a chipped, cracked or broken bone.

CLOSED (simple)
Skin is not broken
Bone may be splinted by muscle
No external bleeding or infection risk

OPEN (compound)
Skin is broken
Bone may not be splinted and is unstable
Risk of shock and infection



There is a five step approach to the management of any fracture:

STEP 1
Control bleeding
STEP 2
Remove constrictions
STEP 3
Check distal pulse (the pulse below the fracture)
STEP 4
Immobilise if there is imminent danger or the ambulance is delayed
STEP 5
Re-check distal pulse

7.2 Serious fractures

999

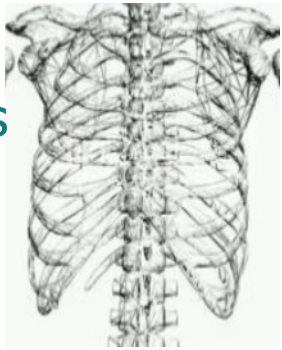
Fractures to these bones are deemed potentially life-threatening and an ambulance should be called.

A single rib fracture may not be serious but careful assessment of the patient is required

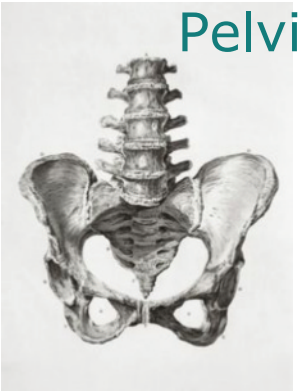
Skull

Spine

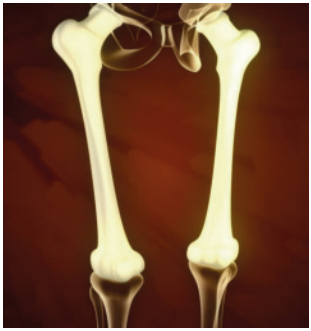
Ribs



Pelvis



Femur (thigh bone)



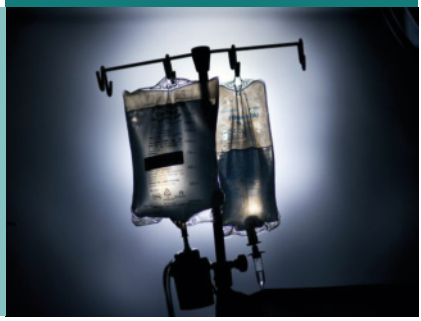
Complications of a fracture 7.3

INFECTION

Fractures can sometimes be open, exposing the unprotected bone and soft tissue to the air and opportunistic microbes.

You must try to cover an open fracture with clean, non-fluffy material, preferably a sterile dressing, to ensure its protection.

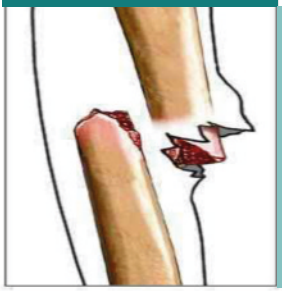
SHOCK



Hypovolaemia from fluid loss as a result of bleeding can be fatal, even if the fracture is not.

If you suspect shock, or anticipate it, you must lay the patient flat, raise their legs, cover and give reassurance.

PROTRUDING BONE



Open (compound) fractures can result in exposed, protruding bone. This can present an immediate hazard to the patient and the first aider. It can also complicate the management of the fracture. Ensure, where possible, that protruding bone is covered and exercise due diligence during treatment.

7.4 Dislocations

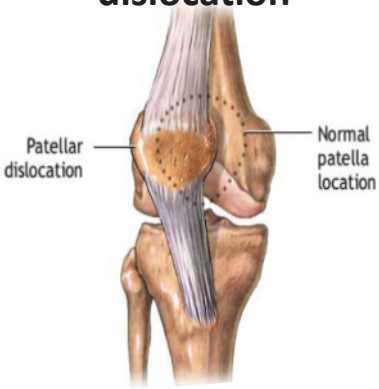
999
If in doubt

Dislocations occur at joints, where two or more bones meet.

Bones are held together at joints by ligaments and if these become weakened by disease or damaged by trauma, the joint becomes unstable and bones can slip out of their natural alignment, causing pain and immobility.

Sometimes dislocations go back into place spontaneously or they are put back (reduced) by the patient. Even so, the injury should still be treated by a doctor at hospital.

Knee joint dislocation



Signs & Symptoms	
	Sudden pain in muscle or at joint, usually as a result of lifting,
	Twisting or the sudden exertion of force at the joint
	There may be redness or bruising around the area
	There may be obvious deformity of the joint
	Restricted movement of the joint
	Patient will complain of pain and possibly a 'cold' or 'frozen' joint

Treatment Rest * Ice * Compression * Elevation

***R**est the part*
***I**ce - apply a cold compress or ice pack (never place ice directly on the skin)*
***C**ompression - firmly press the cold pack onto the injured site*
***E**levate the part if the patient will allow this and it is safe to do so*

Treat dislocations as possible fractures and refer the patient to A&E or call an ambulance. Depending on the severity of the dislocation

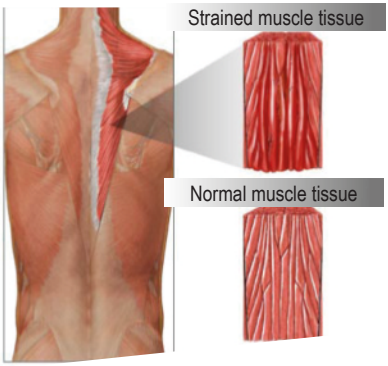
R
I
C
E

Strains and sprains 7.5

Definitions

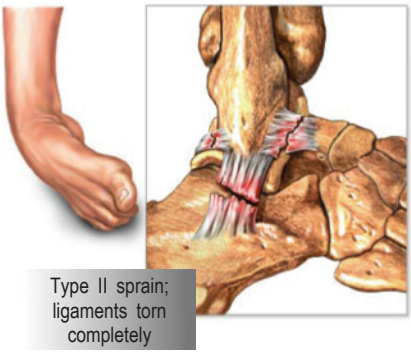
STRAIN (pulled muscle)

An overstretched or torn tendon.
Tendons connect muscle to bone



SPRAIN

An overstretched or torn ligament.
Ligaments connect bone to bone at a joint



Signs & Symptoms

Sudden pain in muscle or at joint, usually as a result of lifting,

Twisting or sudden movement

There may be redness or bruising around the area

Swelling of the joint and extremity (hand or foot)

Treatment

Rest * Ice * Compression * Elevation

Rest the part
Ice - apply a cold compress or ice pack (never place ice directly on the skin)
Compression - firmly press the cold pack onto the injured site
Elevate the part if the patient allows and it is safe to do so

If you believe that the patient has a simple strain, they may be referred to A&E or sent home to recover. If you believe the patient has a sprain, you must consider the possibility of a fracture and refer them to A&E or call an ambulance

R
I
C
E

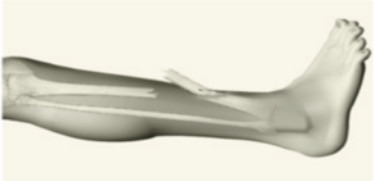
Progress test 7

To complete the unit, answer the 5 MULTIPLE CHOICE questions below.
Circle what you believe is the correct answer.

1. What is the definition of a fracture?

A. A cracked bone
B. A chipped bone
C. A broken bone
D. ALL of the above

2. What type of fracture is this?



A. Simple
B. Complicated
C. Compound
D. Dislocated

3. A sprain occurs as the result of a torn tendon..

A. TRUE
B. FALSE

4. The following are joint injuries...

A. Sprain and strain
B. Sprain and dislocation
C. Strain only

5. Which of these is a serious fracture?

A. Skull
B. Spine
C. Femur
D. ALL of the above

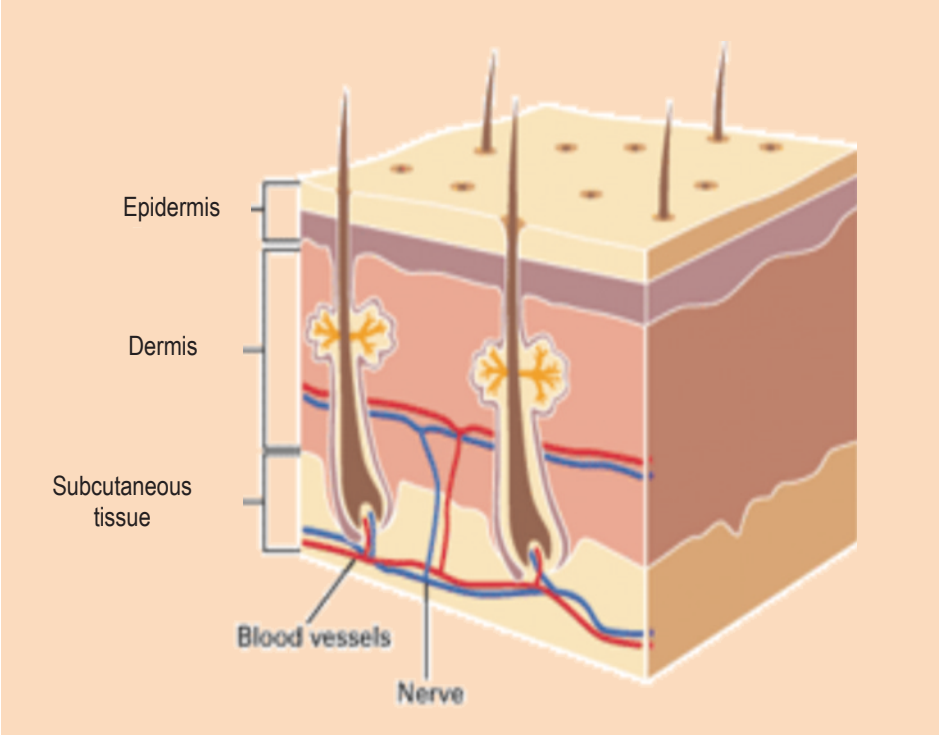
UNIT 8

Thermal injuries

Learning objectives

At the end of this unit, you should be able to recognise and treat various injuries brought about by thermal changes to the skin (e.g. burns)

Anatomy of the skin 8.1



8.2 Types of burn

DRY

Caused by naked flame

Can penetrate to full thickness

Can cover a large skin area

WET

Known as a SCALD

Caused by hot liquids or gases

Commonly results in superficial or partial thickness burns

CONTACT

Caused by a hot surface

Can penetrate to partial thickness

Usually covers a small skin area

ELECTRICAL

There will be an exit wound

Usually results in full thickness burns

Usually covers a small skin area

RADIATION

Caused by the sun, x-ray exposure, tanning booths, etc.

FRICTION

Caused by a body part rubbing against a resistant surface

Commonly results in superficial or partial thickness burns

Commonly covers a large skin area

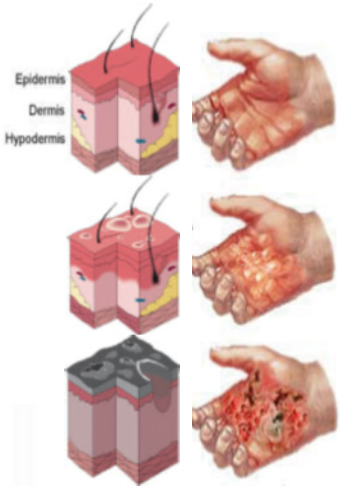
Depths of burns 8.3

Burns are classified by depth, with three classifications commonly used in first aid:

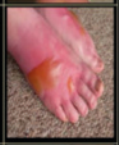
Superficial
Affects top layer of skin
Results in redness and pain
Will usually heal

Partial Thickness
Affects top and middle layer of skin
Results in redness, blisters and pain. Will heal but may leave scars

Full Thickness
Affects all three main layers of the skin
Results in redness, blisters and charring, with little or no pain
May require skin graft



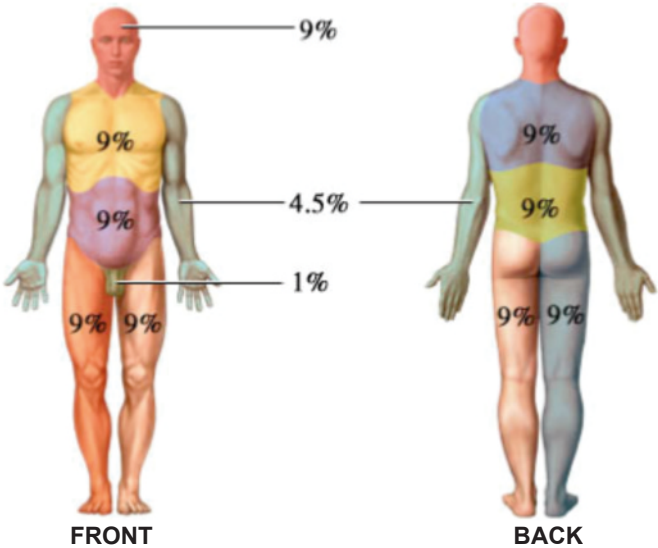
These are also called first, second and third degree burns by classification. A more comprehensive table is shown below.

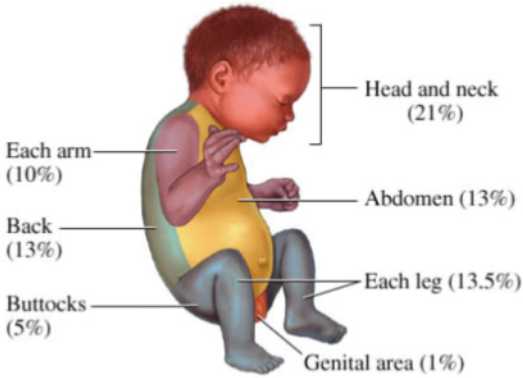
Burn	Damage	Appearance	Texture	Sensation	Treatment	Complications	Looks Like
1st degree *superficial*	Affects only the outer layer of skin – burned, but not all the way through	Redness, swelling (no blisters)	Dry	Painful	Cool with running water or a cold compress.	Repeated sunburns can lead to cancer.	
2nd degree *superficial, partial thickness*	Affects first and second layers of skin – 1st burned through and 2nd also burned	Intense and splotchy redness, wet blisters	Moist	Painful	Cool with running water or cold compress, cover with loose, sterile gauze. **Do not pop blisters!**	Local infection, cellulitis	
2nd degree *deep, partial thickness*	Affects first and second layers of skin – both burned all the way through.	Red and white, bloody blisters	Moist	Extremely painful	Immediate medical attention	Scarring, possible skin grafting.	
3rd degree *full thickness*	Extends through all layers of skin.	White and brown	Stiff, dry, leathery	painless	Immediate medical attention	Scarring, contractures, possible amputation	
4th degree	Extends through all layers of skin, sub-dermal tissue, and into muscle and bone.	Black, charred, with dead tissue.	Dry	Painless	Immediate medical attention	Amputation, functional impairment, gangrene, death	

8.4 Calculating burn area

The area of a burn can be estimated either by using your hand and 'measuring' 1% at a time, or by using the rules of nines. This rule is applied in the medical profession to determine, with some accuracy, what area of skin has been affected by a burn. The larger the area, the worse the burn and therefore the prognosis for the patient. Generally speaking a burn of more than 9% will need to go to hospital for treatment, but this depends on the other factors; type and classification.

The rule of nines





Burn management 8.5

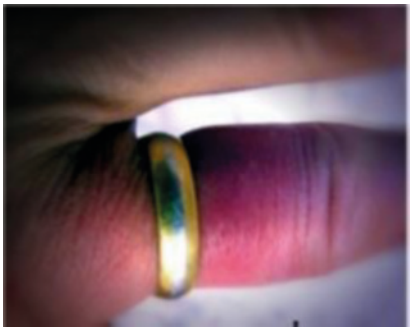
1

Douse with cold water for no more and no less than 20 minutes

2

Remove constrictions that may interfere with circulation due to swelling around them. For example, watches and rings.

Remove clothing only where material is not sticking to the skin



3

Cover burn with wet sterile dressing or clingfilm if available

4

Treat for shock if appropriate.

Remember that the airway may be affected by burns around the mouth and nose.

If in doubt, or the burn seems severe, **or was caused by electricity**, call an ambulance

8.6 Complications of a burn

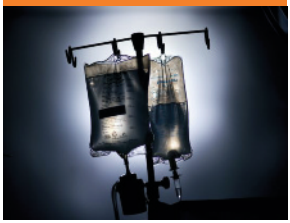
999
If in doubt

INFECTION

Burns cause damage to the skin, exposing the unprotected layers to the air and opportunistic microbes.

You must try to cover a burn with clean, non-fluffy material, preferably a burns dressing, or clingfilm where possible, to ensure its protection.

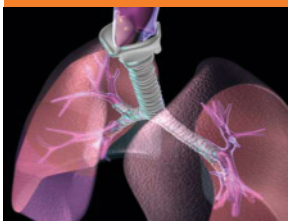
SHOCK



Hypovolaemia from fluid loss as a result of burns can be fatal, even if the burns are not.

If you suspect shock, or anticipate it, you must lay the patient flat, raise their legs, cover and give reassurance.

AIRWAY OBSTRUCTION



Swelling of the soft tissue of the throat and upper airway may occur, due to heat and smoke inhalation.

Ensure adequate breathing and be prepared to resuscitate if the patient appears to be struggling.

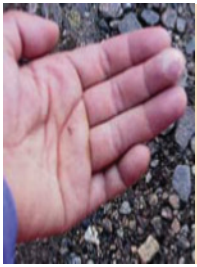
HYPOTHERMIA

The loss of large areas of skin will lead to insulation failure and the patient's core temperature may drop, causing potentially fatal hypothermia.

Keep the patient warm (but not hot) wherever possible after treatment.

Cold injuries

Frostnip



A person with frostnip has skin that has become pale and numb after exposure to freezing temperatures. If exposure continues, it may progress to frostbite.

Symptoms of frostnip include pale skin, skin numbness, burning skin pain, and cool skin surface.

Frostnip may be treated safely at home. The affected part may be slowly warmed by breathing onto the injured site, such as breathing into cupped hands. A hand with frostnip can also be warmed under the armpit.

Frostbite

Frostbite occurs when tissues freeze. This condition happens when you are exposed to temperatures below the freezing point of skin. The nose, cheeks, ears, fingers, and toes (your extremities) are most commonly affected.

Signs and symptoms include burning, numbness, tingling, itching, or cold sensations in the affected areas. The regions appear white and frozen.

Treatment involves elevating the affected parts to reduce swelling, removing constrictions and taking the patient to Accident & Emergency for definitive care.

Hypothermia

Hypothermia begins when the body's core temperature drops below **35°c** (95°f).

In mild cases, symptoms include:
Shivering, feeling cold, low energy, or cold, pale skin.

The symptoms of severe hypothermia include: loss of control of hands, feet, and limbs, uncontrollable shivering that suddenly stops.
There may be unconsciousness, shallow or no audible breathing, weak, irregular or no palpable pulse, stiff muscles, and dilated pupils.

Treatment

Re-warm the patient using body heat or a warm bath where possible.
Try to re-warm at the rate at which they became hypothermic.

Progress test 8

To complete the unit, answer the 5 MULTIPLE CHOICE questions below.
Circle what you believe is the correct answer.

1. What type of burn is caused by boiling water?

A. Friction
B. Contact
C. Scald
D. Chemical

2. What depth of burn produces redness and blisters?

A. Superficial
B. Partial thickness
C. Full thickness
D. All of the above

3. The primary first aid treatment for all burns is...

A. Cooling with ice
B. Cooling with water
C. Cooling with creams
D. Cooling with butter

4. Burns can be seriously complicated by...

A. Infection
B. Shock
C. Hypothermia
D. ALL of the above

5. When using the Rule of Nines, what percentage represents one entire arm and one entire leg of an adult?

A. 18%
B. 36%
C. 10%
D. 27%

UNIT 9

Other emergencies

Learning objectives

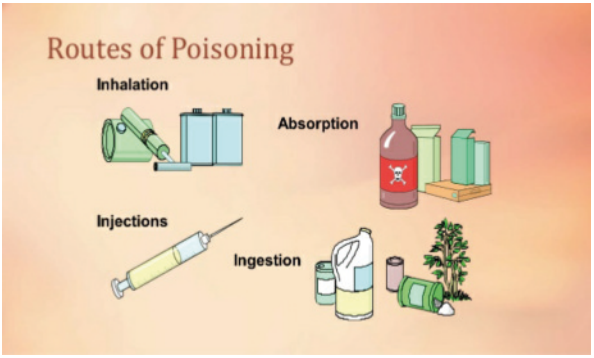
At the end of this unit, you should be able to recognise various other medical or traumatic conditions and be able to manage them accordingly.

9.1 Poisoning

999
If in doubt

Definition

Any substance in the body that causes temporary or permanent harm



If a chemical is splashed into the eye, this entry route is called ***instillation***

Signs & Symptoms

Depending on the entry route and type of poison you can expect to see some or most of these signs and symptoms

Treatment

Treatment will depend on the route and type of poison

Flush with water for 20 minutes if absorbed or instilled

Move patient to fresh air if inhaled

Remove stings by scraping off (not with tweezers)

Give sips of water if ingested

Do not induce vomiting

Eye injuries

Eye injuries are common occurrences and usually involve dust or other small particles on the surface of the eyeball, causing nothing more than irritation. You should be able to recognise the difference between a simple eye injury and a serious one.

Do not make an eye injury worse by touching it unnecessarily

Signs & Symptoms

The eye is red, swollen and watery
The patient feels that there is something in the eye or scratching the eye
Vision is blurred or otherwise impaired
There is a visible foreign body in the eye

You may use sterile saline or clean tap water to irrigate an eye

Treatment

Do NOT touch the eyeball!
Sit the patient down comfortably and place his/her head in a position suitable for irrigation and drainage
Open a SEALED and IN-DATE bottle of eyewash or use clean water
Irrigate the eye, working from the inside of the nose outward
Repeat irrigation until the irritation has eased
If there is no relief after repeated irrigation, refer to A&E (with an eye-pad over the affected eye) or, in extreme cases, call an ambulance

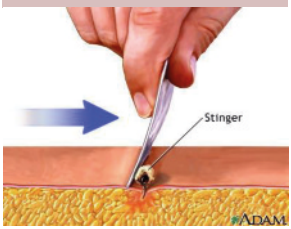
9.3 Bites and stings

999
If in doubt

Bee sting

Bees often leave a stinger in the wound. This should be carefully removed using a fingernail or other flat object (such as a credit card) to flick it out of the skin.

Be very careful not to squeeze the venom sac when you do this as this will introduce more venom into the skin.



Wasp sting

Wasp stings tend to be more painful. There is no stinger to remove but the site should be cleaned and treated exactly as with a bee sting.

Bites

Bites from cats, dogs, small animals and spiders must always be cleaned thoroughly once any bleeding has been controlled.

Dog bites must be reported to the police.

Call an ambulance if:

The patient appears to be having a severe allergic reaction to the bite/sting

The wound is severe or bleeding cannot be controlled

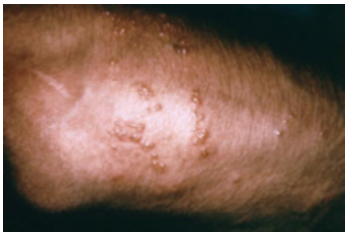
General Treatment

- *Control any bleeding*
- *Clean the site with with an antibacterial wipe if possible*
- *Apply a cold compress to control swelling*
- *Antihistamine creams can be of benefit but their use must be discussed with the patient*

Progress test 9

To complete the unit, answer the 5 MULTIPLE CHOICE questions below.
Circle what you believe is the correct answer.

1. This is a Poison Ivy rash; how did the poison enter the body?



A. Injection
B. Inhalation
C. Absorption
D. Ingestion

2. Vomiting should be encouraged in a suspected ingested poison if…

A. They are thirsty
B. They are elderly
C. You think they have taken tablets
D. You must never induce vomiting

3. What is the most common cause of eye irritation?

A. Loose contact lenses
B. Embedded foreign objects
C. Dust or other small particles
D. Flying insects

4. You should touch the eyeball when...

A. It is necessary to examine it properly
B. You need to keep it still
C. There is a impaled object in it
D. You must never touch the eyeball unnecessarily

5. You can use the following to irrigate an eye...

A. Sealed and in-date eyewash or clean water
B. Only sealed eyewash solution
C. Only clean water

Student notes

UNIT 10

Regulations

Learning objectives

At the end of this unit, you should understand the first aid regulations with respect to record keeping and the maintenance of first aid kits in the workplace

10.1 Record keeping

It is good practice to keep records of significant incidents requiring first aid treatment, either in the form of a summary sheet, outlining the basic details, or in an accident book.

The accident book is usually used and maintained by the first aiders, but the employer has overall responsibility for it.

Workplaces with more than 10 employees are legally required to have an accident book and to record all pertinent first aid incidents. Accident records must be kept for at least three years from the date of the incident. This is because employees have a limit of three years to bring any action for compensation against a company as the result of their accident or the treatment they received. The record pertaining to the original incident and treatment must be kept and not amended or deleted.

Records should be kept legibly and stored where they cannot be accessed by unauthorised individuals and where the documents are protected from damage.

It is also in your interests to keep an accurate record of your first aid treatment.

Incident reporting 10.2

When you report a serious injury or illness you, or the nominated person, must state the following:

- **Your name**
- **How many patients you have**
- **What is wrong with your patient(s)**
- **Your exact location (or nearest landmark)**
- **Remember to confirm your telephone number (preferably mobile)**

When the paramedics arrive, give a patient handover by stating:

- **The patient's name and age**
- **What happened to the patient and when and where it occurred**
- **The nature of the illness or injury**
- **Your vital sign observations and any treatment you gave**

RIDDOR - Reporting of Injuries, Diseases and Dangerous Occurences Regulations
Major injuries, deaths and injuries causing more than 7 days absence from work must be reported to the Health & Safety Executive (HSE)

10.3 First aid equipment

The British Standard for first aid kits in the workplace (BS8599-1) gives guidance for minimum first aid kit contents, depending on the size of the workplace.

Always check items are in date and are unopened before using

British Standard Compliant Workplace First Aid Kit Contents	Required Contents		
	Small	Medium	Large
First Aid Guidance Leaflet	1	1	1
HypaCover Sterile Dressings (Medium)	4	6	8
HypaCover Sterile Dressings (Large)	1	2	2
HypaBand Triangular Bandages	2	3	4
Safety Pins (Pack of 12 Assorted)	1	1	2
HypaCover Sterile Eye Dressings	2	3	4
HypaPlast Washproof Plasters (Pk of 20)	2	3	5
Sterile Moist Wipes (Pk of 10)	2	3	4
HypaPlast Microporous Tape	1	1	1
HypaTouch Nitrile Gloves (Pair)	6	9	12
HypaCover Finger Dressings	2	3	4
HypaGuard Face Shields	1	2	3
HypaGuard Foil Blankets	1	2	3
Burn Dressings 10x10cm	1	2	2
Clothing Cutters 17.5cm	1	1	1
HypaBand Conforming Bandages	1	2	2

Surgical gloves should also be kept in your kit but medicines, even over the counter tablets, should not be stored inside the box.

Progress test

answers

Progress test 1 - answers

1. **In the Patient Care Protocol what follows HISTORY?**
   C. Mechanisms

2. **When a QUERY diagnosis is made, it indicates that...**
   A. You are uncertain about the illness or injury

3. **A duty of care allows you to carry out treatment without consent if necessary**
   B. FALSE

4. **PPE stands for...**
   B. Personal Protection Equipment

5. **For a person to be found negligent, it must be proven that a breach in duty of care caused the injury**
   A. TRUE

Progress test 2 - answers

1. **What is the definition of asphyxia?**
   D. Lack of oxygen to the body's tissues

2. **What part of the airway anatomy is indicated with the RED arrow?**
   C. The Trachea (windpipe)

3. **One of the causes of asphyxia is...**
   A. Choking

4. **During an asthma attack, patients need...**
   B. A blue inhaler

5. **Anaphylaxis is initially treated with what drug?**
   D. Adrenaline

Progress test 3 - answers

1. **What is the definition of unconsciousness?**
   B. Lack of response

2. **Two causes of unconsciousness are...**
   C. Fainting and shock

3. **The first thing to check when you get on scene is...**
   D. The safety of the scene

4. **After checking breathing, what should be done?**
   C. Call for help

5. **The recovery position is carried out to prevent...**
   A. Asphyxia

Progress test 4 - answers

1. **This is an AED; what do the letters stand for?**
   C. Automated External Defibrillator

2. **VF can be reversed using CPR alone…**
   B. FALSE

3. **Non-Healthcare Professionals should carry out compression-only CPR on an adult in cardiac arrest…**
   A. TRUE

4. **The most common cause of adult sudden cardiac arrest is...**
   A. Heart disease

5. **Only qualified personnel are permitted use an AED in an emergency**
   B. FALSE

Progress test 5 - answers

1. An abrasion is a type of wound, also called a graze
   A. TRUE

2. Arterial bleeding gushes from a wound
   B. FALSE

3. An embedded foreign object in a wound should...
   A. Not be removed

4. This is the treatment position for shock
   A. TRUE

5. Shock is caused by a lack of perfusion to the body's tissues
   A. TRUE

Progress test 6 - answers

1. Angina Pectoris means 'Heart attack'...
   B. FALSE

2. One of the important questions to ask a suspected MI patient is...
   C. Has the pain eased with rest?

3. A stroke can be caused by a blockage in the brain's blood vessels...
   A. TRUE

4. An ambulance should be requested for a fitting patient when...
   D. ALL of the above

5. Hypoglycaemia means the patient is suffering from...
   D. Low blood glucose

Progress test 7 - answers

1. What is the definition of a fracture?
   D. ALL of the above

2. What type of fracture is this?
   C. Compound

3. A sprain occurs as the result of a torn tendon…
   B. FALSE

4. The following are joint injuries…
   B. Sprain and dislocation

5. Which of these is a serious fracture?
   D. ALL of the above

Progress test 8 - answers

1. What type of burn is caused by boiling water?
   C. Scald

2. What depth of burn produces redness and blisters?
   B. Partiall thickness

3. The primary first aid treatment for all burns is...
   B. Cooling with water

4. Burns can be seriously complicated by...
   D. ALL of the above

5. When using the Rule of Nines, what percentage represents one entire arm and one entire leg of an adult?
   D. 27%

Progress test 9 - answers

1. **This is a Poison Ivy rash; how did the poison enter the body?**
   C. Absorption

2. **Vomiting should be encouraged in a suspected ingested poison if...**
   D. You must never induce vomiting

3. **What is the most common cause of eye irritation?**
   C. Dust or other small particles

4. **You should touch the eyeball when...**
   D. You must never touch the eyeball unnecessarily

5. **You can use the following to irrigate an eye...**
   A. Sealed and in-date eyewash or clean water

Student notes

Appendix I

Major or minor?

When do you know what illness or injury to send to Accident and Emergency or to your local Minor Injuries Unit (also known as the Urgent Care Centre)? Here's some information to help you make the right decision.

Some minor injuries units, urgent care centres and walk-in centres do not have facilities to treat young children. This depends on the capacity, resources or skill levels available at the departments. Contact your local minor injuries unit, urgent care centre or walk-in centre in advance if you're not sure whether you or your child can be treated there.

Minor injuries units and urgent care centres can treat:

- sprains and strains
- broken bones
- wound infections
- minor burns and scalds
- minor head injuries
- insect and animal bites
- minor eye injuries
- injuries to the back, shoulder and chest

Accident and Emergency (by ambulance if necessary) is required for:

- chest pain
- breathing difficulties
- major injuries
- stomach pains
- Gynaecological and pregnancy problems
- allergic reactions
- overdoses
- alcohol-related problems
- mental health problems
- conditions likely to require hospital admission

Appendix II Frequently asked

This FAQ page is designed to answer a few of the common questions that I am asked when I teach.

About cardiac arrest and chest compressions…

Do all the clothes have to be removed, even in females?

Yes they do but you must try to create a screen or cover as much of the patient's exposed body as possible whilst still carrying out a critical and potentially life-saving action.

About abdominal thrusts for choking…

Can you still do this when a pregnant woman is choking?

Yes. A pregnant woman's abdominal anatomy means that her diaphragm will be a little higher, so carry out thrusts above the bump. You'll be saving two lives.

About Epipen and Adrenaline auto-injectors for Anaphylaxis…

Can you inject the device anywhere on the body?

No. You must only inject the upper aspect of the thigh or the buttocks if you have no choice. Research has shown that injection of Adrenaline into any other site results in slower uptake and therefore a slower treatment where seconds could make the difference between life and death.

About calling an ambulance…

What if I change my mind or no longer need an ambulance?

Please call 999 back and tell them you wish to cancel and that an ambulance is no longer required, stating a reason if possible. This is much better than allowing an emergency ambulance to travel to you on blue lights and sirens for no good reason.

When you first call, ask for the call number or CAD number, so that you have a reference to use if you need to call back and cancel. It will save you, and the emergency services, a lot of time.

References & Links

Click the link button to go directly or copy and paste the link into your navigation bar

UNIT 1

The Children Act 1989
https://www.legislation.gov.uk/ukpga/1989/41/contents

Click here to go

Definition of *in loco parentis*
https://en.oxforddictionaries.com/definition/in_loco_parentis

Click here to go

Definition of *duty of care*
https://en.oxforddictionaries.com/definition/duty_of_care

Click here to go

Definition of *negligence*
http://e-lawresources.co.uk/Negligence.php

Click here to go

UNIT 2

Hyperventilation and paper bag rebreathing
Hypoxic hazards of traditional paper bag rebreathing in hyperventilating patients. Callaham, Michael. Annals of Emergency Medicine , Volume 18 , Issue 6 , 622 - 628

Asthma inhaler use
https://www.asthma.org.uk/advice/inhalers-medicines

Click here to go

Anaphylaxis
https://www.anaphylaxis.org.uk/

Click here to go

UNIT 3

NHS accident guidelines
http://www.nhs.uk/Conditions/Accidents-and-first-aid/Pages/What-to-do-after-an-accident.aspx

Click here to go

References & Links

Click the link button to go directly or copy and paste the link into your navigation bar

UNIT 4

Resuscitation guidelines
https://www.resus.org.uk/resuscitation-guidelines/

Click here to go

Brown, AM et al. "In-Flight Automated External Defibrillator Use and Consultation Patterns." Prehospital emergency care : official journal of the National Association of EMS Physicians and the National Association of State EMS Directors 14.2 (2010): 235–239. PMC. Web. 29 Sept. 2017.

UNIT 5

Hypovolaemic shock
https://www.healthline.com/health/hypovolemic-shock#symptoms3

Click here to go

UNIT 6

Angina
https://www.bhf.org.uk/heart-health/conditions/angina

Click here to go

Heart attack
https://www.bhf.org.uk/heart-health/conditions/heart-attack

Click here to go

Stroke
https://www.bhf.org.uk/heart-health/conditions/stroke

Click here to go

Epilepsy
https://www.epilepsysociety.org.uk/

Click here to go

Diabetes
https://www.diabetes.org.uk/

Click here to go

Chickenpox
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Meningitis
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References & Links

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UNIT 7

Strains and sprains
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UNIT 8

Burns and scalds
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UNIT 9

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UNIT 10

Strains and sprains
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First aid regulations
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