

Lifesaver International First Aid Course

Learner Workbook

Lifesaver International Course: Learner Workbook

St John Ambulance

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First published 2005, Revised 2006

Published by: The Order of St John 25 St John's Lane Priory House London EC1M 4PP

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This book was written with trainers from many different countries in Africa during 2004 and 2005. These people met to decide what should be in it, and then read and commented on what the writers had written. Students in five countries also had a chance to look at what we had written and comment on it.

ISBN 0-9584297-2-3

How to use this book

You will use this book in the classroom during this course, but you can also use it afterwards, to find information or remind you about things you learned.

What is in this book

This book is divided into different sections, like Basic Emergency Care, Accident Care, Medical Emergency Care and so on. In each section, there are different units, like How the body works, Fractures and dislocations, Poisoning, and so on.

We have organised information in the same way in each unit. You can read on the next two pages what you will find in most units, and where.

Inside the front cover you will find space to write in information about St. John, and also emergency phone numbers.

At the end of the book we have put in tables telling you about some of the important diseases you should know about, and space to write in other diseases that are a particular problem where you live.

At the end of the book we have also put in casualty report forms that you can tear out and fill in for any casualty you help in the future.

Finding the information you want

You can find the section you want by using the contents page on page d, or the black triangles in the margin of the right-hand page.

You can find the unit you want by using the contents page, or the heading right at the top of each page.

You can find the information you want by looking for the box or heading to do with what you are looking for.

We have put information about different kinds of dressings, bandages and splints and how to use these together, in Unit 8 and Unit 17. We have coloured these pages grey, so that you can find them easily.

We have also made it easy to find Unit 29: Massive allergic reaction, by making the edge of the page grey so that you can find it easily. This is because you are often told to check this unit in other parts of the book.

Unit 1: Unit Name

At the end of this unit, you should be able to:

• This box gives you the outcomes for that unit – these say what you should know, and what you should be able to do, by the end of the unit. The box is always in the margin, here, at the beginning of the unit.

Unit name.
This tells you the name of the unit

What is ...?

This gives you background information about the subject that unit is about. It is always in a grey box like this one.

Small headings

Headings like this show you what other information is coming now. like what causes the condition, or how you can prevent it, or what common myths there are about it. There is sometimes extra space for you to write in - for example, what poisonous snakes live in your area, or what myths you have heard about.

Why do we do First Aid?

We do First Aid to:

- ✓ Preserve life (to keep the casualty alive)
- ✓ Try to stop the casualty's condition from becoming worse
- ✔ Promote recovery (to help the casualty to get better).

How can you tell?

This part tells you about the signs and symptoms of the problem the unit is about (for example eye injuries, sprains etc.).

Cortion trions

The header tells you what unit you are busy reading

This triangle tells you what section you are now in

Your actions:

This tells you exactly what you should do, stepby-step, so that you can do what you are trying to do (your aims). There are pictures to help you.

Your aims:

This box tells you what you are trying to do. It is always next to "Your actions".

Flashes

Flashes like this tell you about something you need to remember, or be especially careful about, or watch out for.



Words you need to know

This box explains any hard words that are used on the two pages you are reading at that time. These words are written in **bold** in the main part of the page, so that you know you can look for them in this box. There is always space for you to write that word in your own language. At the end of every unit, there is also space for you to write any other words you don't understand in that unit, and what they mean.

Words you need to know

Write each word in your own language on the dotted line below:

Condition – what is wrong with the casualty

Warnings

Where there is something you need to be especially careful about, or watch out for, we have put a picture of someone saying "Warning!", like this:



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SECTION ONE: INTRODUCTION

Unit 1: What is First Aid?

At the end of this unit, you should be able to:

- Explain what First Aid is
- Explain the word 'Lifesaver' as used in First Aid
- List the responsibilities (what he or she should do) of the First Aider and identify the key qualities of a First Aider
- Explain the term 'help' and identify what kind of help you may receive in different places (eg. near or far away from an ambulance and/or a clinic)
- Fill in a casualty report form

What is First Aid?

This course is about saving lives by giving First Aid. First Aid is initial assistance or treatment (the first help) given to someone who has been hurt or who has suddenly become sick. We call this person a casualty. First Aid is done using whatever materials are there, eg. a jacket turned into a stretcher, although as a First Aider you should keep a First Aid kit of some of the basic things you might need.

Anyone can give First Aid, so anyone can be a "Lifesaver". A First Aider is someone who takes charge of an emergency scene and gives First Aid.

SAFETY FIRST! Never do anything that could make you a casualty as well.

Why do we do First Aid?

We do First Aid to:

- ✓ Preserve life (to keep the casualty alive)
- Prevent (try to stop) the casualty's condition from becoming worse
- Promote recovery (to help the casualty to get better).

What can a First Aider do?

A First Aider gives basic First Aid to someone who needs it. A First Aider does 'something rather than nothing'.

Remember that you may not always be able to help someone. You can only do your best.

A First Aider can also help in many other ways, too. For example a First Aider can:

- protect the casualty's belongings (eg. his or her bag)
- keep bystanders at a safe distance
- reassure the casualty, and his or her family or friends
- work to make the area safer.

Responsibilities of a First Aider

These are the things a First Aider must do:

- **1** assess a situation quickly and safely, and call for appropriate help (the right help in that situation);
- **2** protect casualties and bystanders from possible danger;
- **3** identify the problem/s with the casualty as far as possible;
- give each casualty early and appropriate treatment, treating the most serious conditions first;
- **5** try to get the casualty to someone with more medical knowledge than you, or to the hospital, or home whatever is necessary in that situation;

NEVER move the casualty unless it is safe to do so. We will look at when and how to move a casualty in Unit 13.

6 prevent **cross-infection** between yourself and the casualty as far as possible.

Words you need to know

Write each word in your own language on the dotted line below:

Condition – what is wrong with the casualty

Bystanders – people who are there and may want to watch what is going on

Safe distance – not too close to the casualty or you or to anything that could be dangerous

Reassure – to calm someone and to get them not to worry too much

Assess – to see what is going on and judge what can and should be done

Cross-infection – one person infecting another person

If medical help is needed,

- stay with the casualty until further care is available;
- report to those taking over the care of the casualty;
- give further help if necessary.



First Aiders DO NOT **diagnose** what is wrong with a casualty. They **suspect** an injury or illness and give First Aid.

You can see that being a First Aider requires both skills and knowledge – but also, a good **attitude**. You will need to be confident, calm and caring.



In some cases, the police will need to be involved. You may need to call the police, and/or tell them what happened.

Getting help

One of the responsibilities of a First Aider is to try to get medical help for the casualty, if this is needed. In some places, this help may be quite quick and easy to get. In other places, it might be very hard. The casualty may need to be taken to a hospital or clinic and you may need to call an ambulance to get him or her there. However, in some places there are no ambulances. In other places an ambulance may take a very long time

to arrive because of very bad roads. There may be no telephones or very few telephones, so it may be difficult for you to phone. Also, clinics and hospitals may be far away, or they may be difficult to get to.

In situations like these you need to think about other people who may be able to give help, such as anyone with medical training or experience – **midwives**, community health workers, nurses; or those who have had more First Aid training than you, such as people working in emergency services like firefighting, **paramedics**, or even police.

Remember, that although it is your responsibility to try to get medical help, it is not your fault if you fail and cannot get any medical help.

Going for help

If you are alone with the casualty, leaving him or her and going for help may seem like the only way to get medical help. In general, you should not leave a casualty who is not responding, unless he or she is breathing and has been placed in the recovery position. Or you have given **CPR** without success for as long as you can.

NEVER move the casualty unless it is safe to do so. We will look at when and how to move a casualty in Unit 13.

Recording information

You will need to record the casualty's name, address and vital signs, like his or her temperature, pulse and so on. A special casualty report form can be used. We have put some at the end of this book for you to use.

Words you need to know

Diagnose – decide exactly what is wrong with the casualty

Suspect – to think or believe that a particular thing is wrong with the casualty

Attitude – the way you think about things

Midwives – people trained to help women give birth

Paramedics – people who support or help with medical work, such as ambulance staff

CPR (Cardiopulmonary resuscitation) – Keeping blood and oxygen circulating

We will look at recording and reporting again later.

Unit 1: What is First Aid?



If you do not have a thermometer, you must compare the casualty's temperature with your temperature, by placing the back of your hand on your forehead, and then on the casualty's forehead.

Note whether the casualty is hotter or colder than you, and whether his or her temperature is changing over time. In dark skin, check the **palm** of the casualty, or the **sole** of his or her feet, or nails or lips. Note whether the casualty's skin appears normal in colour, or is unusual (for example, greyish-blue). Also note if his or her colour changes over time. You also need to record his or her pulse and breathing rate, and whether these change over time. If there are writing materials, write these things down each time you check. If not, you will need to remember these, and in particular, changes over time.

It is very, very important that you keep checking the casualty's condition and make a note of what you find, for the following reasons:

- 1. The results of these checks will help you know whether the casualty is improving or **deteriorating** and any further treatment they may need.
- 2. To hand over to any medical personnel who will be taking over the care of the casualty.

You should record the findings of your primary survey, and then check about every ten minutes until the casualty begins to **stabilise**. These checks can then be carried out at longer breaks (up to thirty minutes). In longer term care, as the casualty's condition **normalises** the checks may be done every few hours.

The main measurements of the casualty's condition are:

- Level of response
- Signs of life/vital signs.

Level of Response

When a person is suffering from a sudden illness or injury, their level of response can help you to work out what is wrong with them. The way to know the level of response of the casualty is by using the system in the primary survey (see Unit 5) i.e. ask a question (for example, 'Are you alright?') and give a command (for example, 'Open your eyes.'). Gently shake the shoulders or pinch the casualty. It is the reactions that the casualty makes to these checks that tells you about their 'level of response'. The person with First Aid knowledge can measure this by watching how well the casualty is able to respond:

| | rst Aid knowledge can measure this by ng how well the casualty is able to d: |
|---|---|
| В | by them opening or closing their eyes. By their speech. By them moving limbs and body. |
| ☐ A ☐ R ☐ R | vels of response are described as: Alert. Responds to voice. Responds only to pain. Unresponsive. |
| A (aler | you write these in, you can shorten them to t); V (voice); P (pain); and U (unresponsive). |
| Signs on the case of the case | of life of life are any signs that you can see that sualty is alive. These would be, for example: wallowing any signs of breathing ye movement (even if the eyelids are closed, you may be able to see the eye moving |
| | inder the lid) iny other movement. |

Words you need to know

Palm – flat part of hand between wrist and fingers

Sole – lower part of foot that rests flat on the ground

Deteriorating – getting worse

Stabilise – stops getting worse, stays the same for some time

Normalises – gets back to normal

Are there any other words in this unit that you don't understand? Write them down here, and find out what they mean.

Worksheet 1a



- (a) What should a First Aider know (what knowledge should she or he have)?
- (b) What should he or she be able to do on the scene (what skills should she or he have)?
- (c) How should she or he behave towards the casualty (what attitudes should he or she have)?

On the facing page are different words which describe knowledge, skills and attitudes. There are also words which describe what a First Aider should and should not do.

Cross out the ones you think are NOT the right knowledge, skills and attitudes for a good First Aider and what he or she should NOT do (i.e. leave the words that describe a good First Aider and what he or she should do).

rude

Unit 1: What is First Aid?

gentle, but firm

helpful confident physically strong

may treat all injuries and illnesses

respectful is able to take control of a situation

impatient

speaks to the casualty kindly and clearly caring

diagnoses (identifies injury or illness for sure)

shouts at bystanders bossy

suspects (thinks, but is not sure of) injuries and illnesses

protects casualty's belongings

keeps unnecessary people away reassures family and friends

cleans up their own equipment after an emergency
makes an unsafe place safe so that other accidents will not happen
identifies him or herself and gets permission from the casualty to help
wants to be paid for helping the casualty

gives help in good faith because he or she cares about the casualty thinks clearly about what needs to be done and does them in order acts without care calm

Unit 1: What is First Aid?

Worksheet 1b: Basic First Aid box



1. What will you use as a First Aid box, and why?

2. Where will you keep your First Aid box, and why?

3. What First Aid equipment will you keep in it?

At the end of this unit, you should be able to:

- Describe the way common high risk diseases are spread and how to prevent them
- Use Universal precautions
- Explain the correct use of, and disposal (getting rid of/throwing away) of, gloves
- Describe the safe disposal of waste, and explain the reasons for this
- Explain the importance of correct hand washing

How diseases are spread

Infectious diseases are diseases that can be spread from one person to another. Infectious diseases are caused by a virus, bacteria or a parasite.

What is a virus?

Some infectious diseases are caused by a virus. A virus lives inside living cells. It reproduces (makes more viruses) inside the cells, spreads to other cells and destroys the cells. Examples of diseases caused by viruses are colds and flu, measles, chickenpox, mumps, hepatitis, glandular fever, herpes (cold sores or warts), and HIV. It is difficult to treat an infectious disease caused by a virus.

What are bacteria?

Bacteria are very small germs. There are many different types of bacteria. Some types of bacteria live in the body (e.g. skin, intestines) all the time and actually help the body to work well. Other types of bacteria cause infection and damage when they enter the body. Examples of infections caused by bacteria are boils, TB, and ear infections. Most of these infections can be treated with antibiotics.

What is a parasite?

A parasite is a small living thing which lives on or inside another living thing and gets its food

from it. They are a common cause of sicknesses in Africa, eg. malaria, bilharzia, guinea worm, intestinal worms and some kinds of diarrhoea.

Different diseases are spread in different ways. Infectious diseases can be spread to other people by:

- direct touching between two people or
- drops in the air from a sneeze or a cough (eg. Tuberculosis (TB)) or
- having unprotected contact with some fluid from an infected person, like blood, urine or vomit or
- having sex with someone who carries an infection spread by sex (sexually transmitted diseases including HIV) or
- getting infected blood through a blood transfusion or
- touching something that an infected person has touched, like a spoon, cup or bed linen (e.g. hepatitis) or
- being cut or pricked by a sharp object that has been used by an infected person or
- food or water which carries the infection (e.g. cholera) or
- insects which carry the disease (e.g. malaria).

A mother can also give her unborn baby an infectious disease.

Many common diseases in Africa are caused by bad living conditions, for example not enough clean water, or no toilets or bad toilets, because these conditions make it possible for there to be many bacteria, and for these bacteria to be easily spread. TB, cholera, typhoid, and some kinds of Hepatitis are caused by this (you can read more about these diseases in the tables at the end of this book).

Words you need to know

Write each word in your own language on the dotted line below:

Prevent - stop

Always
washing hands
after using the
toilet and
before
preparing or
eating food can
stop many
infectious
diseases from
spreading

When you give someone First Aid, you are coming into very close contact with that person. The chance of cross-infection (i.e. you passing an infection to the casualty, or he or she passing it to you) is high.

It becomes even higher if there is blood or other bodily fluids. For these reasons, preventing yourself and others from getting an infectious disease during and after giving First Aid is very important. You should *always* think that cross-infection may happen when giving First Aid. Therefore you must always take **precautions**.

Universal (standard) precautions

These are precautions you should take every time you apply First Aid to anyone. These are:

- ✓ Handwashing
- Wearing gloves
- ✓ Trying not to have contact between the casualty's mouth and your mouth, by using a mask or face-shield
- ✔ Handling sharp objects very carefully
- Disposing of waste correctly.

You should also avoid touching a wound or any part of a dressing that has come into contact with a wound, or will come into contact with a wound, unless you are wearing gloves/plastic bags over your hands. Try not to cough or sneeze over a casualty, or breathe close to a wound.

Proper Hand-Washing Technique

Proper hand-washing is the most important step in preventing the spread of infection. The chemical action of the soap (what it is made of), along with rubbing your hands together, will help get rid of dangerous germs on your skin.

You may not always
have gloves. You
can use a plastic
bag over each
hand instead – but
make sure there
are no holes.

Always wash your hands using the following steps. Remember to wash your hands before using any equipment; before performing (doing) any **procedures** and after performing any procedures.

What you need:

| Ш | Either running tap water or fresh clean |
|---|--|
| | water, which has either been boiled and |
| | then allowed to cool, or sterilised with |
| | bleach like Jik (1 part bleach to 5 parts water) |
| | A clean bucket or bowl, if you do not have |
| | running tap water |
| | Antibacterial soap or a clean bar of soap |
| | A clean towel or, if possible, paper towels. |

Procedure:

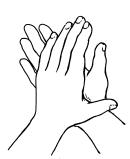
- Remove any rings, bracelets, bangles or watch. Remember to put them somewhere safe.
- 2 Turn on the water and let it run all the time you are washing your hands. If you do not have running water, you should use fresh *clean* water, which has either been boiled and then allowed to cool, or sterilised with bleach like Jik (1 part bleach to 5 parts water).
- **3** Wet your hands and wrists up to your elbow. From this point until you rinse your hands, keep your hands above your elbows.
- **4** Rub your palms together.
- **5** Rub your right palm over the back of your left hand, and then your left palm over the back of your right hand.

Words you need to know

Precautions – things you do to make it less likely something will happen

Procedures – particular things that are done in particular ways, like taking a temperature; bandaging a wound; giving rescue breaths

Sterilised – made very, very clean so that there are no germs







6 Put your palms together again, and put the fingers of one hand between the fingers of the other, and clean well between the fingers of each hand.



Wash each finger on its own, rubbing around the finger so that you cover all of the skin on every finger.



3 Rub the ends of the fingers of your right hand on the palm of your left hand around and around, and then the ends of the fingers of your left hand on the palm of your right hand.



- **9** Use your right hand to rub around your left forearm (the part between your wrist and your elbow) starting from the wrist and moving to the elbow; and then use your left hand to do the same to your right forearm.
- Rinse your hands well. If you have running tap water, hold your hands upward toward the water so the dirty water and soap runs toward the elbows and not the hands. If you do not have running water, rinse twice in clean fresh water.
- **1** Use a clean towel to dry your hands and turn off the water. Use paper towels if possible and throw them away when you are finished.

② Do not touch anything except equipment after washing your hands. Cover any open sores or wounds with waterproof **adhesive** dressings.

Wearing gloves

Plastic or rubber gloves prevent direct skin contact between you and the casualty. You should always wear gloves if you might touch blood or other bodily fluids or tissues, or anything that might have come into contact with these things. You should keep disposable gloves in your First Aid kit, and put them on as you go to an emergency scene. If you do not have disposable gloves, plastic bags placed over your hands can be used instead. Plastic bags are not the best, since they may have holes or tears, so it is always better to wear disposable gloves if possible.

Procedure:

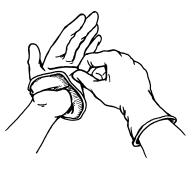
Removing your gloves correctly is very important, to make sure anything on the gloves does not come into contact with your skin. (You should use the same steps to take off plastic bags.)

- **1** Hold the **cuff** of one glove with the other hand.
- **2** Pull the cuff towards the fingers, turning the glove inside out.
- **3** As the glove comes off, hold it in the palm of your other hand.
- ② Slide your bare fingers under the cuff of the other glove, being careful not to touch the outside of the glove.

Words you need to know

Adhesive - sticky

Cuff – part of glove that goes around your wrist





- **6** Pull the cuff towards the fingers, over the first glove, so that the first glove is inside the inside-out second glove.
- **6** Tie a knot in the top of the outer glove. Dispose of properly (see below).
- Wash your hands with soap and clean water as soon as possible.

If you tear your gloves whilst giving First Aid, take them off as soon as possible, wash your hands (if possible) and put on a clean pair.

If you think that you may have been **exposed** to infection because of applying (giving) First Aid, get medical help as soon as possible.



Dealing with waste

Waste products (including both bodily fluids like blood or vomit, and things you have used, like gloves or swabs to clean wounds) can be very dangerous, since they may carry harmful bacteria. The following things can help prevent infection.

Never re-use swabs or dressings or gloves. All of these things must be placed in a paper bag and burned, if possible. If this is not possible, place them in a plastic bag inside another plastic bag, and tie it closed. It is best to take this to the clinic and ask them to dispose of it.

Surfaces that have come into contact with blood or other bodily fluids should be washed with soap and water. The surface should then be cleaned with bleach mixed with water (1 part bleach to 5 parts water). Use paper rather than cloths to do this. Or dispose of the cloth as with used dressings and used gloves. Always wear disposable gloves or put plastic bags over your hands as you do this.

Dirty sheets, towels, and clothing should be stored in a plastic bag until they are washed. They can be washed in hot water (blood will not come out, but it will no longer carry infection). It is a good idea to hang the clean washing in the sun until it is completely dry, because heat kills germs.

Keeping yourself safe in other ways

Preventing cross-infection by using universal precautions is an important part of keeping yourself safe. However, you also need to be careful not to harm yourself physically. The following can all help to keep you safe:

- staying calm and taking deep breaths,
- assessing the situation carefully for any possible hazards (see Unit 4), and
- applying correct body mechanics when you move, lift, or carry a casualty,

Body mechanics

Body mechanics is the way you use your body in any activity. It means moving your body in ways that allow the greatest possible results with the least possible effort, without risking injury.

For example, when someone lifts a heavy box by bending their back, he or she may be able to lift the box, but may cause strain and even injury to the back. Lifting the box by bending the knees, rather than bending the back, will make the chance of straining your back less. It will also probably be easier to lift the box, because the muscles in the legs are stronger than the muscles in the back.

As a First Aider, you will have to think about body mechanics a lot, for both your casualty, and yourself.

Words you need to know

Exposed – come into contact with

Hazards – things that could be dangerous or harmful

NEVER move the casualty unless it is safe to do so. We will look at when and how to move a casualty in Unit 13.

Lifting a heavy object:







Here are some of the things you need to do for correct body mechanics:

- 1. Keep your back in its normal position, and do not slouch or hunch your shoulders when you sit or stand. Stand with your feet apart so you have good balance.
- 2. Do not lean on one leg more than the other.
- 3. Prepare your muscles for action before you do an activity like lifting, pushing or pulling. For example, **contract** the muscles of your abdomen and buttocks before lifting a heavy object. Do not do anything suddenly.
- 4. Carry an object with both your hands and forearms (the part of your arm between your hand and elbow) under the object. Keep the object close to your body, with your elbows in and slightly bent. Carry for short distances only.
- 5. When moving or lifting, use large muscles to do the work, rather than smaller muscles. For example, use the leg muscles to lift a heavy object, rather than the back muscles.
- 6. Use your body weight, and not just your muscles, when you push or pull.
- 7. Roll a heavy object, rather than pushing or pulling it.
- 8. Place things you might need where you can easily reach them without having to bend or twist.
- 9. Listen to what your muscles are telling you if they feel strained or sore, stop.

When you move or lift a casualty, it is extremely important to use the correct technique, or the chances of injuring yourself are very high.

Things you should NEVER do:

- ✗ Never lift unless you absolutely have to. Always try to find another way to do what you need to.
- ✗ Never lift with a twisted back (when your back is not straight, but bent to one side).
- X Never lift a heavy object above your waist.
- ★ Never lift if there is not enough space move things out of the way.
- ✗ Never carry a heavy object with your arms straight in front of you.
- Never try to move a casualty on your own unless you are absolutely sure it is safe to do so without hurting you or the casualty.
- ✗ Never lift a casualty with someone else unless you have first talked about and agreed on how you are going to do this.
- ★ Never try to save a person who is falling rather guide him or her to the floor.
- Never lift a casualty from the floor on your own unless his or her life is in danger.
- ★ Never block your view by carrying something that is too big.

Things you should ALWAYS do:

- ✓ Always stand as close as possible to the object/casualty to be moved.
- ✓ Always hold the load or casualty firmly.
- ✓ Always raise your head once you start to lift.
- ✓ Always tuck your arms in, to avoid straining your neck or shoulder muscles.
- ✓ Always hold the object or casualty close to your body.

Words you need to know

Contract - pull together

Are there any other words in this unit that you don't understand? Write them down here and find out what they mean.

Unit 3: How the body works

to:

At the end of this unit, you should be able to:

- Identify the heart and explain its basic physiology
- Identify the lungs and explain their basic physiology
- Explain the relationship between the respiratory (lungs and breathing) and circulatory (heart and blood) systems and the body as a whole

air that it does not need✓ feel and respond to its environment and what it needs

Background information

body and keep it going

✓ replace and repair parts that are injured or unhealthy and continue to grow

In order to keep working, the human body needs

stay upright and be able to move about

✓ take in enough food and water to feed the

✓ regularly get rid of any food and water and

✓ take in enough air to breathe properly

✓ fight infections or germs that enter the body.

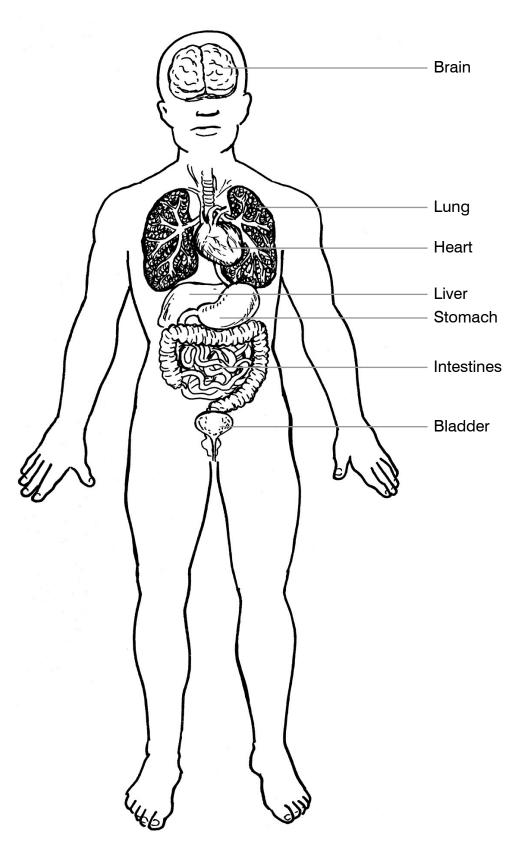
The body is made up of a lot of parts. Each part has its own job in keeping the body working. The parts are known as *systems* and they are:

- the musculo-skeletal system (bones and muscles)
- the respiratory system (lungs and breathing)
- the circulatory system (heart and blood)
- the digestive system (stomach and bowels)
- the urinary system (kidneys and bladder)
- the nervous system (brain and nerves)
- the reproductive system (womb, vagina and penis)
- the immune system (the parts of the body that fight sicknesses).

Words you need to know

Write each word in your own language on the dotted line below:

Physiology – how the body works



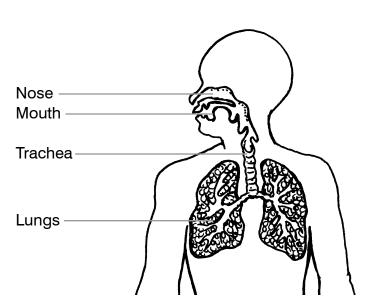
In First Aid, the systems that need most urgent attention are the respiratory and circulatory systems.

Words you need to know Absorbed – taken in

The respiratory system

Breathing air keeps us alive. If a person stops breathing, they will die if they do not start to breathe again soon. It is usually only in an emergency situation when breathing stops completely, for example if someone is injured or if their airway is blocked.

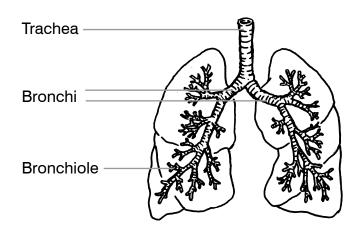
We breathe with the respiratory system. Breathing is also called respiration. The respiratory system pulls air into the lungs and



pushes it out again. It does this to bring fresh air as close as possible to the blood, so that the blood can absorb oxygen. Our bodies need oxygen to work properly, and we need to get rid of carbon dioxide. The lungs are the place where oxygen is absorbed into the blood, and carbon dioxide is taken out of the blood.

When we breathe in, the air moves down the trachea (the windpipe) to the lungs. Big airways, called the bronchi, take the air from the trachea into the lungs. Inside the lungs, smaller airways (called bronchioles) take the air to thousands of little air sacs (called alveoli).

In the alveoli, the air comes into very close contact with blood in small blood vessels called capillaries which surround the air sacs.



Oxygen passes from the air in the alveoli into the blood, and carbon dioxide passes out of the blood into the alveoli.

The capillaries take the oxygen with the blood to different parts of the body.

The small airways (bronchioles) are lined with muscles that can make them larger or narrower and so adjust (change) the amount of air passing through the lungs.

Normally an adult who is resting needs to take between 10 and 20 breaths every minute to get enough oxygen into his or her blood. This could be less when sleeping or more when exercising. If someone is taking less than 10 or more than 30 breaths every minute, they are not breathing normally. Adults who are taking more than 40 breaths a minute need professional medical care as soon as possible. You need to be able to tell the difference between breathing that is normal and breathing that is not normal.

What can go wrong with the respiratory system?

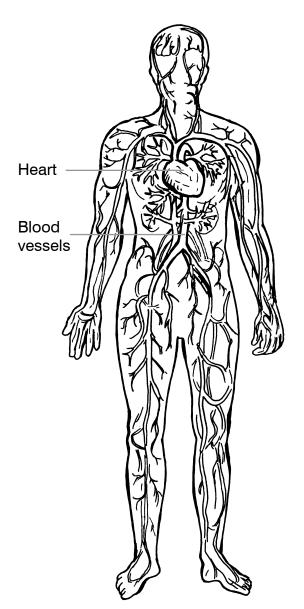
- The respiratory system could become injured.
- The airways of the respiratory system could become blocked, e.g. from choking or swelling caused by illness or an allergy or asthma.
- The respiratory system can get infected or become diseased.

Words you need to know

Are there any other words in this unit that you don't understand? Write them down here and find out what they mean.

Words you need to know

Nutrients – things that your body needs to work and grow



The circulatory system

The circulatory system is made up of the heart, the blood, and the vessels that carry the blood around the body. The blood takes oxygen and **nutrients** to the cells of the body. The heart pumps the blood around the body. It needs to pump hard enough and fast enough to keep the blood moving. Blood pressure is how hard the blood is being pumped around the body. Normally an adult's heart needs to beat 60-80 times a minute.

The blood collects oxygen from the lungs, then moves through the heart, which pumps it into the arteries. The arteries become ever smaller, until they allow the blood through only one blood cell at a time. These tiny blood vessels are called capillaries, and allow the blood to reach every cell of the body. Once the oxygen is delivered, the blood collects waste products, including carbon dioxide, and flows back to the heart through the veins. The heart then pumps this blood to the lungs, where the carbon dioxide passes out of the blood into the alveoli, and oxygen passes from the air in the alveoli into the blood, and the process starts again.

What can go wrong with the circulatory system?

- Heart disease can damage the heart so that it does not pump well enough, and might stop altogether.
- High blood pressure is dangerous. It can lead to a stroke or heart attack.
- Severe bleeding could make the heart stop.

SECTION TWO:

BASIC EMERGENCY CARE

Unit 4: Emergency Scene Management

At the end of this unit, you should be able to:

- List the steps of Emergency Scene Management (ESM) in the correct order
- Demonstrate the steps of ESM
- Demonstrate the appropriate attitude (calm, confident)

What is Emergency Scene Management?

Remember that the purpose of First Aid is to:

- Preserve life
- Prevent the casualty's condition from becoming worse
- Promote recovery.

In order to do these things, you need to give safe and effective (something that works well) help at the scene of an emergency and you should do this in a way that you have thought about carefully. The first stage of this plan is called Emergency Scene Management.

Your aims:

 Give help to any casualties without harming yourself or others.

Your actions:

Assess the situation

The first thing to do in any incident is to think about the safety of yourself and others. Do not rush into a situation – take time to see what has happened. Look especially for danger to yourself, to bystanders, and to the casualty.

If there is no one with medical experience, take charge and introduce yourself as a First Aider calmly and confidently.

NOTE:

The casualty must give you permission to help him or her (unless he or she is unconscious or not able to respond).





- What has happened?
- Is there anyone hidden from view or trapped somewhere?
- Has anyone been hurt?
- Is anyone's life in immediate danger?
- Are there any bystanders who can help? If so, send someone for help.
- Do you need help from someone with more medical knowledge than you?

2 Make the area safe

Depending on the situation you may need to send for emergency help before going near the scene.

Try to remove or reduce any danger without putting yourself or anyone else at risk.

If this is not possible, remove the casualties from the danger, if this will not put you or anyone else at risk. NEVER move the casualty unless it is safe to do so. We will look at when and how to move a casualty in Unit 13.

6 Give emergency aid

we will look at this in more detail in Unit 5. Assess the casualties to work out who to help first and what to do first. Remember to treat life-threatening conditions first. Decide on what action you need to take. Provide help to any casualties. Reassure and comfort casualties.

Get help from others

If there are bystanders, remember that they may have been involved in, or have seen, the incident, and may be upset and/or not thinking clearly. You need to be firm but gentle (strong and kind at the same time) in dealing with bystanders. Reassure bystanders if necessary.

If bystanders can help, they can be used to:

- Make the area safe
- Go (or phone) for help. They must report to you.
- Fetch First Aid equipment
- Control traffic and other bystanders (eg. keep them away)
- Control bleeding or support a limb (eg. keep an arm or leg in place)
- Make sure the casualty has as much privacy as possible (eg. other bystanders are not looking at the casualty all the time)
- Transport the casualty to a safe place.

Anyone who calls or goes for help (including yourself) must:

| Give his or her name clearly. |
|--|
| Give the exact place where the incident |
| happened in as much detail as possible (eg |
| landmarks such as a bus stop, etc). |

| Give the type and extent of the incident. |
|--|
| Give the number (how many), sexes (male of female), and possible ages of the casualties and their condition (how they are). |
| Give details of any dangers in the area (including bad weather). |
| If you phone for an ambulance, you will often be asked questions like: • Who are you? • Where are you? • Why are you calling? • What do you need? |
| Always check the person heard you clearly. Ask how long it will take for help to arrive. |
| 3 After any incident |
| If possible remove whatever caused the incident to prevent further accidents, but do not get rid of any evidence. Tell any relevant authorities (eg. the police), |
| if necessary. ☐ Re-stock uour First Aid kit. |
| Re-stock your First Aid kit. Remember that providing First Aid is emotionally demanding, and it is important that you deal with your feelings by talking about them. Talk to a friend or relative about what happened and how you felt and feel about it. |
| To help you remember all of these things, and the order in which you need to do them, you can remember a short version – AMEGA |
| A – Assessment |

Words you need to know

Below each word, write it in your own language

Incident – the thing that happened

Type - what kind

Extent - how bad

Evidence – something that is used to prove what happened (e.g. a knife)

Are there any other words in this unit that you don't understand? Write them down here and find out what they mean.

G

Make safe

Get help Aftermath

Emergency Aid

Unit 5: Casualty management and primary survey

At the end of this unit, you should be able to:

- List the steps of D R A B in the correct order
- Describe and demonstrate
 D R A B
- Explain the reasons for each action taken in doing D R A B
- Demonstrate appropriate attitudes in doing D R A B

What is casualty management and primary survey?

As we have seen, your role as a First Aider is to assess an incident, make the area safe, and try to get medical help. But obviously one of the most important things you have to do is provide appropriate emergency help to the casualty or casualties yourself.

Remember that it is your responsibility to give each casualty early and appropriate treatment, treating the most serious conditions first. How do you work out who and what to treat first?

Remember that in Unit 3 we learned:

- Oxygen is essential for life.
- Oxygen is circulated through the body by the blood, which is pumped by the heart.
- If oxygen does not get to the brain for more than about three minutes, brain tissue begins to die.

So, for life to continue, the casualty must:

- have an open and clear AIRWAY.
- be using that airway i.e. be BREATHING.
- be circulating the oxygen round the body –
 i.e. the casualty's CIRCULATION (i.e. heart
 and blood vessels) must be working.

The first thing you must do is to check whether the casualty is breathing normally. This is called your *primary survey*.

If there is more than one casualty, do a primary survey of each casualty, and treat the casualty with the most serious condition first.

Your actions:

• Danger

- Do not forget to check for dangers to yourself and the casualty.
- If you can remove any hazards safely, do so.
- If you cannot remove the danger, move the casualty if it can be done without harming yourself, the casualty or others.

NEVER move the casualty unless it is safe to do so. We will look at when and how to move a casualty in Unit 13.

Response

Check to see if your casualty is **conscious**, by:

- 1. Asking a question like "Are you alright?".
- 2. Giving a command like "Open your eyes".



Words you need to know

Below each word, write it in your own language

Conscious – being aware of what is going on around you

Unit 5: Casualty management and primary survey

- 3. Giving a gentle shake, not too roughly as you might make any injuries worse.

 NOTE: For a baby, DO NOT shake, gently slap or rub the sole (underneath) of the foot.
- 4. If the casualty is conscious, shout for help, then begin treatment for any wounds, etc.
- 5. If the casualty is unconscious, shout for help, then check A B:

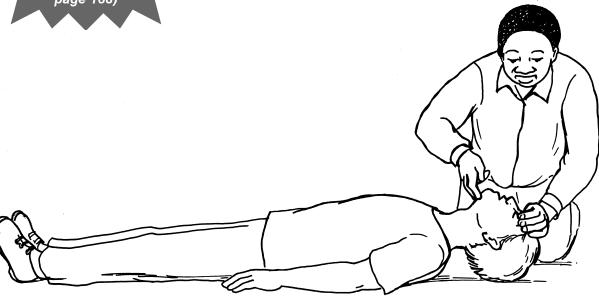
Airway

In an unconscious casualty the tongue may slip back and block the airway.

Quickly check for any obvious obstruction.

Open the airway by lifting the chin while at the same time carefully tilting the head back.

DO NOT DO THIS
IF YOU SUSPECT A
SPINAL INJURY.
Use the Jaw Thrust
method instead
(See Unit 18,
page 168)

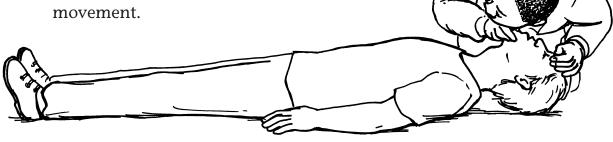


Breathing

If the airway was blocked, breathing may have stopped. Once the airway has been opened the casualty may start breathing again.

Unit 5: Casualty management and primary survey

- Check for breathing by opening the airway and placing your cheek just above the casualty's mouth and nose.
- Look at the chest and watch for movement



- Listen for breathing.
- Feel for breath against your cheek.
- Check for 10 seconds.

DECIDE **NOW** WHAT ACTION YOU MUST TAKE

- ☐ If there is somebody with you send for help NOW.
- ☐ If you are alone, decide if you must go for help NOW.
- ☐ If the casualty is unconscious and is breathing, put them in the recovery position NOW (see Unit 10).
- If the casualty is unconscious and is not breathing, start CPR followed by rescue breaths NOW (see Unit 6).

Words you need to know

Obstruction – something that is stuck and causes the airway to be blocked

Reporting

Remember that you have a responsibility as a First Aider to report what you found and what you did to any medical person who takes over from you. You should write this down if you have something to write with – otherwise you will have to remember this and tell the medical person. You could ask bystanders to remember bits of information about the casualty.

You can use a special form to write down your report – you can see an example on the facing page. We have put some of these at the end of this book for you to use.

Words you need to know

Are there any other words in this unit that you don't understand? Write them down here and find out what they mean.

To help you remember all these things, and the order in which you need to do them, you can remember a short version: D R A B

D – Danger

R - Response

A – Airway

B – Breathing

CASUALTY REPORT FORM Casualty's name: _____ Date: _____ Place: First Aider's name: First Aider's contact details: Brief description of incident: Number of casualties: _____ **Primary survey: Secondary survey:** Level of response: Vital signs time taken: _____ level of consciousness: _____ \square A \square V breathing rate: \square_{P} \square_{U} any other comments about breathing: skin temperature: pulse rate: _____ Airway: any other comments about skin: ☐ Clear Shock: Severe bleeding: ☐ Partly blocked ☐ Yes ☐ No Yes No ☐ Completely blocked Head to toe examination head: _____ neck: ____ Breathing: collar-bones: Yes: shoulders/arms/hands: ineffective chest: _____ abdomen: ____ effective pelvis and buttocks: _____ legs/feet: _____ □ No any other comments: First aid given: Casualty handed over to medical help? Yes: Name and position: ______ Time: _____ No: reason:

At the end of this unit, you should be able to:

- Recognise signs and symptoms of a casualty who is not breathing normally
- List reasons why a casualty may have stopped breathing
- Explain the terms CPR and rescue breaths
- Demonstrate effective CPR on a mannikin (baby and adult)
- Explain the differences between baby, child and adult CPR
- Identify when CPR should be stopped.
- Identify and explain what can be done to make cross-infection less likely

What is CPR? What are rescue breaths?

As we have seen, our bodies need oxygen to work properly, and we need to get rid of carbon dioxide. Our bodies get the oxygen from the air we breathe - ever time we take a breath, we pull air into our lungs. Fresh air comes as close as possible to the blood, so that the blood can absorb oxygen and release (get rid of) carbon dioxide, which we then breathe out. But our lungs do not take all of the oxygen from the air we breathe in. So the air we breathe out still has quite a lot of oxygen. And our body does not use all the oxygen in our blood. So our blood still has quite a lot of oxygen when it returns to the heart.

If someone does not get enough oxygen, damage to the body and its vital organs (such as the heart and the brain) begins. So circulating blood and oxygen in the body is very very important. If someone has stopped breathing, or his or her heart has stopped beating, you can keep the blood, with the oxygen in it (remember that the body does not use all the oxygen in the blood the first time), circulating around the body by giving chest compressions. You can also give the body new oxygen by breathing into his or her lungs yourself (remember that the air you breathe out contains more than enough oxygen). These breaths are called rescue breaths. Giving chest compressions and rescue breaths together is called cardiopulmonary resuscitation (CPR).

Checking the casualty's breathing

Check for breathing by opening the airway and placing your cheek just above the casualty's mouth and nose.

| Look at the chest and watch for movement |
|--|
| Listen for breathing. |
| Feel for breath against your cheek. |
| Check for 10 seconds only. |

What can cause someone to stop breathing normally?

One of the most common causes of not breathing and unconsciousness in an adults is heart attack (see Unit 22); in babies and children it is a breathing problem, like choking (see Unit 7). Not breathing may also be the result of:

- the tongue rolling back in an unconscious person you need to open his or her airway
- a constriction of the airway (it becomes too narrow), caused by strangulation or hanging (see below)
- breathing in gases or fumes
- head injury or stroke
- shock
- conditions such as asthma.

Not breathing, or not breathing normally, is treated differently in adults and children because of these different causes.

How can you tell that someone is not breathing normally?

He or she may:

- ✓ be breathing much more slowly or quickly that normal (see Unit 3)
- be giving short gasps for air every now and then.
- ✓ be unconscious
- ✓ have no signs of breathing.

His or her skin will become more and more blue or grey in colour.

Your aims:

 To keep oxygen circulating in the body of the casualty.

Your actions:

This process is different for adults, babies and children. For adults, you must do chest compressions first, and then rescue breaths; for babies and children, you must do rescue breaths first, and then chest compressions.

FOR AN UNCONSCIOUS ADULT OR AN ADULT WHO IS GASPING FOR BREATH:

- 1 Do your primary survey (D R A B).
- **2** Make sure that as far as possible, the casualty lies flat on his or her back.
- **3** Call for help.

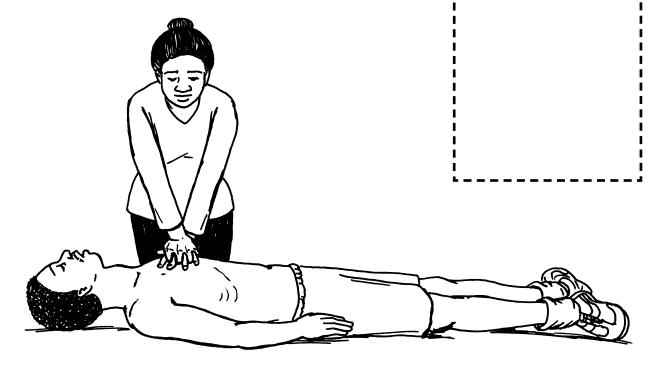
asic Emeraency Car

Step 1: Chest compressions

- **4** Kneel down next to the casualty.
- Place both hands in the centre of the casualty's chest (you do not need to take off or move any clothes). Be careful you are not pushing on the bottom of the breastbone, or the **abdomen**. Leaning well over the casualty, press straight down so the chest goes down about 4 to 5cm (about the width of 3 fingers), keeping your elbows straight. Stop pushing, and let the chest rise completely, but do not take your hands off the chest.

Words you need to know

Abdomen - soft part of the body where the stomach is

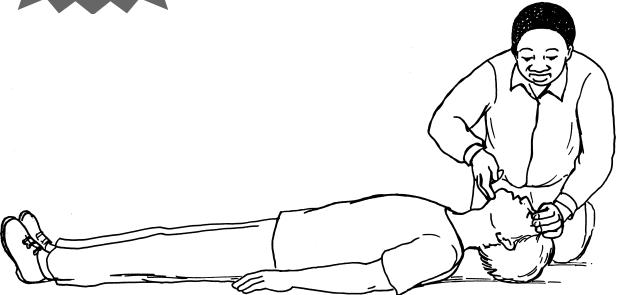


6 Repeat this 30 times at a speed of 100 chest compressions per minutes. You should press down for about as long as you release.

DO NOT DO THIS IF YOU SUSPECT A SPINAL INJURY (See Unit 18, page 168)

Step 2: Rescue breaths

• Make sure the airway is open and keep it open by placing one hand on the casualty's forehead and two fingers of the other hand under the tip of his or her chin. Tilt the head back.



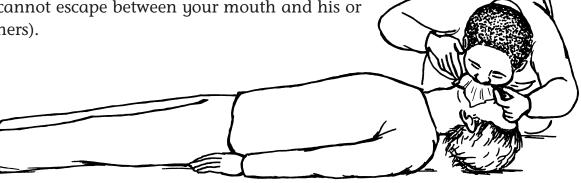
- **3** Move the hand that was on the forehead down to the nose. Pinch the soft part of the casualty's nose with the finger and thumb.
- **9** Open the casualty's mouth with the other hand. If you have a face shield or a mask, place it over the casualty's mouth.

If there is blood around the mouth, DO NOT give rescue breaths unless a water proof barrier can be used (such as a proper face shield). Instead, continue giving chest compressions at a rate of 100 per minute.

1 Take a deep breath.



• Place your mouth over the casualty's mouth, making sure you have a good seal (i.e. that air cannot escape between your mouth and his or hers).



Breathe into the casualty's mouth, whilst continuing to pinch the nose closed, for one second.

If you cannot breathe into the casualty's mouth, either because the casualty has a stoma (an opening in the throat), or the mouth is injured, or you cannot obtain a good seal around the mouth of a casualty who has been rescued from water, rescue breaths will need to be given mouth-to-stoma, or mouth-to-nose (in which case, ensure that the mouth is closed). If there is blood around the mouth or stoma DO NOT give rescue breaths.

Remove your mouth and (if the chest has risen) let the chest fall.

Give two rescue breaths, then 30 chest compressions, then two rescue breaths, and so on. It is very important to keep giving chest compressions with as little break for rescue breaths as possible. If there is someone else who knows how to do CPR, you should try to change about every two minutes, but be careful not to stop giving chest compressions for too long whilst you change.

Continue until:

| Emergency help arrives or |
|--|
| The casualty starts to breathe normally or |
| Vou are too tired to carry on |

A baby is under 1 year old. A child is between 1 and 8 but if the child is a big child, you can use adult CPR earlier. If you cannot remember how to do child/baby CPR, use the method as for an adult. Remember it is better to do 'something rather than nothing'!

FOR AN UNCONSCIOUS BABY OR CHILD:

• Make sure that as far as possible, the casualty lies flat on his or her back.

Step 1: Rescue breaths

If you cannot give rescue breaths because there is blood around the mouth and you have no face shield, give chest compressions only.

Make sure the airway is open by placing one hand on the casualty's forehead and two fingers of the other hand under the tip of his or her chin. Tilt the head back very gently.
For a baby, lift the chin with the tips of your fingers.

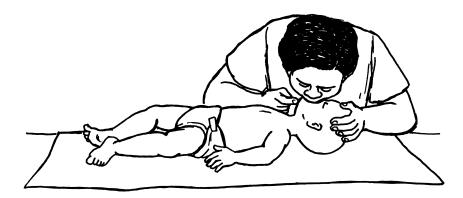


- **3** Check for breathing. If the child/baby is breathing normally, check for serious injuries, place the child/baby in the recovery position, and call for help.
- 4 If the child/baby is not breathing normally, call for help.
- **5** Look in the mouth and try to remove any visible object with a finger.

- **6** Move the hand that was on the forehead down to the nose. Pinch the soft part of the casualty's nose with the finger and thumb.
- Open the casualty's mouth with the other hand. If you have a face shield or a mask, place it over the casualty's mouth.
- **3** Take a deep breath.
- Place your mouth over the casualty's mouth, making sure you have a good seal (i.e. that air cannot escape between your mouth and his or hers).

NOTE:

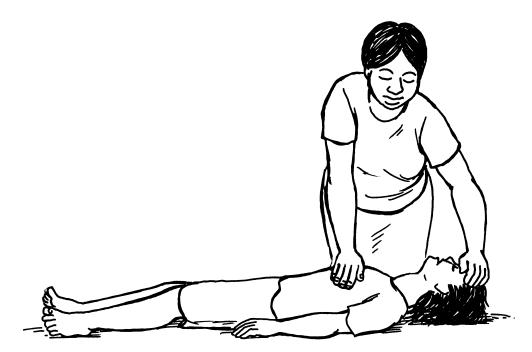
For a baby, place your mouth over both the nose and mouth; if you are unable to get a good seal, place your mouth over the nose, and hold the baby's mouth shut.



- Breathe into the casualty's mouth, whilst continuing to pinch the nose closed, for one second.
- Give 5 initial rescue breaths. If you do not see the chest rise when you give these breaths, check the mouth again and remove any obstruction. Make sure the head is properly tilted/the chin is lifted. Try again to give 5 rescue breaths. If the baby or child does not start breathing, begin chest compressions.

Step 2: Chest compressions

- Kneel down next to the casualty, or stand in the casualty is a baby and is on a table or other raised surface.
- the chest (you do not need to take off or move any clothes). Use one hand only for compressions, keeping your fingers raised so that you do apply pressure to the child's ribs (if the child is older or bigger, you can use two hands, but keep your fingers raised). Be careful you are not pushing on the ribs, the bottom of the breastbone, or the abdomen. Press straight down so the chest goes down about the width of 3 fingers. Release the pressure, and allow the chest to rise completely, but do not take your hands off the chest.



For a baby under 1 year old, find the correct spot by placing two fingers on the breastbone one finger-width below the nipple-line (the line that would join the baby's nipples). Take care not to press on the ribs, the tip of the breastbone or the abdomen. Press down with your fingertips very gently on the breastbone, so the chest goes down about the width of 2 fingers. Release the pressure, and allow the chest to rise completely, but do not take your fingers off the chest.



Give 30 chest compressions at the rate of 100 per minute, followed by 2 rescue breaths, followed by 30 chest compressions, and so on. If you are alone, continue for one minute before leaving the child to call for help, or taking the baby with you to call for help.

Words you need to know

Abdomen – soft part of the body where the stomach is

Hanging

A person who is hanged cannot breathe because the rope (or other item) around his or her neck squeezes the airway so tightly that the flow of air to the lungs is stopped. However, the force on the neck may also break the neck, causing injury to the spine, so a lot of care needs to be taken when dealing with a person who has been hanged.

Your actions:

- Remove the rope (or other item) from the around the person's neck. If the person is still hanging, you will need to support the body whilst you do this (Be aware that the body will be heavy!).
- 2 Lay the casualty on the ground. Assess D R A B. If the casualty is not breathing, begin CPR. If the casualty is breathing, place him or her into the recovery position as for a person with a suspected spinal injury (see Unit 18).
- **3** Call for medical help.

If the person was trying to hang him or herself (i.e. it was not an accident), you must tell the police. You must also keep the rope (or other item) to give to the police.

Your aims:

- Restore (bring back) good enough breathing.
- Try to get medical help.



Words you need to know

Are there any other words in this unit that you don't understand? Write them down here, and find out what they mean.

Unit 7: Choking

At the end of this unit, you should be able to:

- Explain choking
- Recognise choking
- List possible causes of choking
- Demonstrate how to treat minor and major choking in a conscious and unconscious adult, child and baby
- List ways of preventing choking, especially in children and infants

What is choking?

Choking is when the throat is partially (minor choking) or completely (major choking) blocked by a foreign object (eq. food).

Most choking incidents are minor, but they can be frightening for the casualty as well as for the person looking after them.

How can you tell that someone is choking?

If the person is conscious, ask "Are you choking?". If they show in some way that they are (for example, saying yes, nodding their head, pointing to or holding the throat), treat as for choking, below. (If the casualty is a baby, you will need to work this out for yourself).

If the choking is **minor** (the airway is not completely blocked):

| COII | ipieterg brocked). |
|-------|---|
| | difficulty in speaking, crying, coughing or breathing, but the casualty is able to do so. |
| If th | ne choking is major (the airway is blocked): |
| | not able to speak, breathe, cough or cry |
| | eventual loss of consciousness if no help |
| | given. |

Your actions:

For both minor and major choking, tell the person to cough.

For minor choking, the casualty should be able to clear the blockage without help, by coughing.

For major choking, if coughing does not clear the obstruction, you will need to help. Your actions will be the same for an adult and a child, BUT YOU WILL NEED TO POSITION YOUR HANDS DIFFERENTLY.

Your aims:

- To remove the obstruction and allow the casualty to breathe normally.
- If this does not work, to try to get medical help.

FOR A CONSCIOUS ADULT OR CHILD:

Step 1: Back blows

- Reassure the casualty.
- 2 Stand next to, but slightly behind, the casualty. Put your foot between the casualty's feet.
- **3** Bend the casualty forward so that he or she is leaning far forward, with the head lower than the chest.
- 4 Use the heel of the hand (the part nearest your wrist) to give up to five back blows between the shoulder blades. (Stop if the obstruction clears).
- **6** Check the mouth and remove any obstruction.

Repeat if necessary. If this does not work, and the casualty is still conscious, go to step 2.

6 IF THE CASUALTY BECOMES UNCONSCIOUS, begin CPR.

Keep looking in the mouth, and try to remove any object you see with a finger.



Unit 7: Choking



NOTE:

If you have used abdominal thrusts to clear and obstruction, the casualty should see a doctor as soon as possible, because there could be internal injuries.

Step 2: Abdominal thrusts

- **6** Stand behind the casualty, putting your feet between the casualty's feet.
- **7** Keep the casualty bending forwards.
- **3** Place a fist (with the thumb inwards) just above the navel (belly button) and well below the bottom of the breastbone. Grasp your fist with your other hand.
- **9** Pull sharply, inward and upwards (towards the head) up to five times.
- **©** Check the mouth and remove any obstruction.

Repeat if necessary.

6 IF THE CASUALTY BECOMES UNCONSCIOUS, begin CPR.

Keep looking in the mouth, and try to remove any object you see with a finger.

If you have done 5 back blows and 5 abdominal thrusts three times without clearing the obstruction, call for help. Keep repeating the cycle of back blows and abdominal thrusts until the airway is clear, help arrives or the casualty becomes unconscious, in which case immediately begin CPR.

FOR A CONSCIOUS BABY UNDER 1 YEAR OLD:

Step 1: Back blows

- **1** Kneel down, lay the baby face down along your forearm, with his or her head low. Support his or her back and head.
- 2 Use the heel of the hand (the part nearest your wrist) to give up to five back blows between the shoulder blades. (Stop if the obstruction clears).

3 Check the mouth and remove any obstruction.

Repeat if necessary. If this does not work, go to step 2.

4 IF THE BABY BECOMES UNCONSCIOUS, begin CPR.

Keep looking in the mouth, and try to remove any object you can see with a finger. DO NOT probe blindly into the mouth – you may push the object further into the airway.

Step 2: Chest thrusts

- Kneel down, and lay the infant on his or her back along your forearm.
- **2** Using two fingers, push inwards against the infant's breastbone, one finger's breadth below the nipple line.
- **3** Do this very quickly up to 5 times. (Stop if the obstruction clears).
- **4** Check the mouth and remove any obstruction.

Repeat if necessary.

⑤ IF THE BABY BECOMES UNCONSCIOUS, begin CPR.

Keep looking in the mouth, and try to remove any object you see with a finger.

If you have done 5 back blows and 5 chest thrusts three times without clearing the obstruction, call for help. Keep repeating the cycle of back blows and chest thrusts until the airway is clear, help arrives or the casualty becomes unconscious, in which case immediately begin CPR.





Unit 8: Wounds and bleeding

At the end of this unit, you should be able to:

- Identify the main types of wounds
- Demonstrate how to effectively treat a serious injury with a lot of bleeding
- Demonstrate correct selection (choosing) and use of dressings and bandages
- Explain what can be done to make crossinfection less likely

What is a wound?

A wound is damage to the soft tissue of the body, including the blood vessels. A wound is either **open** or **closed**. An **open** wound is when the top layer of skin has broken. In this case, there is danger of infection, and of losing blood if a major blood vessel has been damaged. An open wound may also contain the object which caused the wound, or a part of it (for example a bullet, a piece of shrapnel (metal usually from a bomb), a piece of glass, etc.). This is called an embedded object.

A **closed** wound is when the skin does not break, but the soft tissue, including the blood vessels, is damaged, and blood leaks into the tissue from the blood vessels. This causes a bruise. A closed wound will not usually get infected, but might be a sign of a more serious injury inside the body.

The way you should treat a wound depends on a number of things:
Whether the wound is open or closed. In the case of an open wound, you will need to be concerned about blood loss and possible infection.
In the case of an open wound:
Whether or not there is an embedded object.
How much bleeding there is.
How much damage there is to tissue around the wound.

Open wounds

Different kinds of open wounds

Incision

This is a clean cut caused by a sharp-edged object (eg. a knife). Blood vessels are cut straight across, so there is likely to be a lot of bleeding. Depending on where the incision is, tendons, nerves, or major blood vessels (eg. arteries) may also be damaged.

Abrasions and lacerations

These are open wounds caused by an accident and can be a small graze (abrasion) or a deep, jagged opening in the tissue (laceration). They are usually very painful, and have a high danger of infection because of dirt or other particles (very small pieces of something like glass or wood) that may have got inside.

Puncture or stab wound

This is a wound caused by an object with a sharp point, such as a knife or nail. The entry hole (where it went in) may be small, but if the object went deep, there may be damage deep into the tissue. The risk of infection is high. If the wound is to the abdomen, internal organs may be damaged and internal bleeding (bleeding inside the body) may be severe (very bad).

Sucking chest wound

This is a wound in the chest that has gone deep enough to make a hole in the lung. This can cause breathing problems.

Infection control

Infection control is extremely important when dealing with any open wound, and particularly wounds which may have been contaminated (have dirt or other particles, like glass in them). It is very important that you try to prevent infection of the casualty; but also of yourself. Blood and other body fluids can carry viruses such as HIV and Hepatitis. If possible, before carrying out any First Aid you should put on disposable gloves, or put your hands in plastic bags.

However, if this is not possible, AND IF YOU HAVE NO OPEN SORES ON YOUR HANDS, you should go ahead where life may be at risk. Unbroken skin should keep viruses out.

NOTE: If your skin does come into contact with a large quantity of blood or you are splashed in the eyes or mouth, wash the area well with water and soap, and tell your doctor or health clinic.

Gun-shot wound

This wound may have both an entry and an exit wound. The entry wound may be small, but the exit wound (where it went out) will usually be large and ragged (not smooth). There is a high risk of infection because of contaminants (things that are dirty) which may be drawn in. There is also a high risk of serious internal damage.

Amputations

This is a wound where an arm or leg or finger or toe has been completely or partly cut off. It may be possible to reattach (put back) the limb if the casualty is taken to a hospital in time. There is likely to be severe bleeding, so it is likely the casualty will go into shock.

Burns

Burns may be superficial (on the surface/not deep) or deep. A superficial burn is a burn or scald where only the outer layers of the skin are damaged. A deep burn is when the whole thickness of the skin, including the nerve endings, is damaged. An extensive (big) superficial burn or scald is more painful than a small, deep burn. Burns are dealt with in detail in Unit 15.

You can read about dressings and bandages and how to use these at the end of this unit

Basic Emergency Care

Your actions:

As always, assess D R A B, respond as needed, and treat any more urgent conditions.

Whatever kind of open wound you are dealing with, you should first control the bleeding; and then clean and dress the wound to stop infection.

In the case of a minor wound, with little bleeding:

Controlling the bleeding:

1 Apply **direct pressure** for up to ten minutes.



Cleaning and dressing the wound:

- **2** If the wound is dirty, clean it by pouring fresh water over it and gently dry the area.
- **3** Cover with a **sterile** dressing such as an adhesive dressing or clean dressing and bandage.

Your aims:

- · Control blood loss.
- Prevent infection.
- Treat for shock, if necessary.
- Try to arrange removal to the nearest health facility, if necessary.



Words you need to know

Direct pressure – pushing down straight onto the wound

Sterile – very, very clean so that there are no germs

If there is grit (small particles of stone or sand) sticking to a graze that will not come out with simple washing, try to get medical help.

In the case of a major wound with severe bleeding:

Controlling the bleeding:

- **1** Carefully uncover the wound, taking off or cutting away clothing if necessary.
- Apply direct pressure to the wound, using your fingers or palm, preferably over a clean pad or sterile dressing if easily available (do not waste time finding one!). If there is an embedded object (something in the wound, that caused the wound, like a knife), do not remove the object. Press on each side of the object to push the edges of the wound together.



- **3** Hold the limb with the wound as high as possible above the height of the heart to reduce blood loss. Continue to press.
- 4 Help the casualty to lie down, keeping the limb raised. If you think the casualty may go into shock, raise the legs above the level of the heart. Continue to press.
- **6** Keep the pressure on the wound for ten minutes.

Cleaning and dressing the wound:

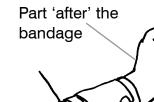
- When the bleeding is controlled, leave the first pad in place and put a sterile dressing and bandage on top (see on the next page for what to do if there is an **embedded object**). Do not tie the bandage too tightly, as you will cut off the circulation to the area after the wound.
- If blood starts to come through the dressing, do not remove it. Put another dressing over the top and bandage in place. Only do this twice (up to two pads) if blood is still coming through both pads, remove both, and start again.
- **3** Keep the injured part elevated (lifted) to stop bleeding.

You can remember the treatment for severe bleeding as:

- E Expose the wound if under clothing
- X Examine the wound
- P Apply pressure
- E Elevate (raise) the injured part
- C Cover to prevent infection
- T Treat for shock

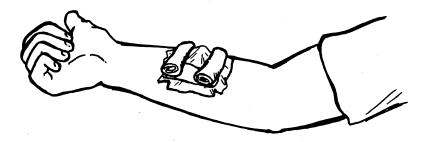
Words you need to know

Direct pressure – pushing down straight onto the wound

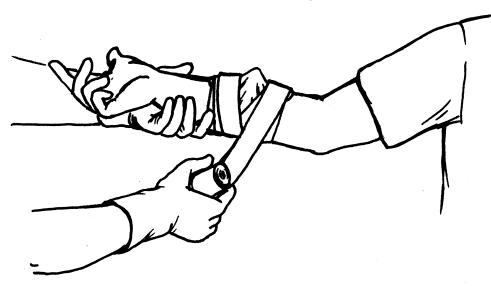


If there is an object embedded in the wound follow these steps to dress the wound:

- Place a sterile dressing lightly over the wound, unless the object is too long.
- **2** Place padding around the dressing, building it up so that it is higher than the object.



3 Bandage lightly over the ends of the pads taking care not to put pressure on the object underneath. Keep the injured part elevated to minimise swelling.



- **4** Call for help.
- **6** Keep a check on breathing and pulse.
- **6** Keep a check on the circulation beneath the bandage. If the limb becomes pale or greyish and cold after the bandage, you have made it too tight.

Remember to keep checking the casualty's vital signs and writing down (or remembering) what you found and what you did, so that you can report this to any health worker who takes over from you.

DO NOT:

✗ Do not allow the casualty to eat, drink or smoke.



Knocked out tooth

What is a knocked out tooth?

If the tooth is an adult tooth (i.e. not a baby or "milk" tooth), the tooth can be replanted (put back) if this is done quickly enough.

Your actions:

- **1** As always, assess D R A B, respond as needed, and treat any more urgent injuries.
- **2** Gently push the tooth back into its socket (NOTE: you must wear gloves or plastic bags over your hands). DO NOT clean the tooth, as you might damage the tissue and reduce the chance of the tooth growing again.
- **3** Keep the tooth in place by putting a gauze pad around the tooth and asking the casualty to hold the tooth firmly in place.
- **4** If you cannot put the tooth back and bleeding does not stop, ask the casualty to bite on a gauze pad.
- **6** The casualty should spit out, not swallow, any blood.
- **6** The casualty should go to a dentist or clinic.

Your aims:

 Replant the tooth as soon as possible.



Bleeding from the ear

What is bleeding from the ear?

Bleeding from the ear is usually a sign that the eardrum has been broken, but can be a sign of a head injury (see Unit 18).

What can cause bleeding from the ear?

- a foreign object (eg. a peanut) being pushed into the ear
- a blow to the head (i.e. something hits/knocks the head)
- an explosion.

How can you tell that someone is bleeding from the ear?

He or she may have:

| blood or other fluid coming out of the ear |
|--|
| a sharp pain |
| earache (sore ear/s) |
| deafness (cannot hear) |
| dizziness (feeling giddy – like you want to fall over) |

NOTE: If the blood is watery, there may be a skull fracture, and fluid is leaking from around the brain. See Unit 18.

Your actions:

- **1** As always, assess D R A B, respond as needed, and treat any more urgent injuries.
- **2** Help the casualty into a half-sitting position.
- **3** If there is no neck or spinal injury, the casualty should keep the head tilted to the injured side to allow the blood to drain out of the ear.

Your aims:

 Try to get medical help.





- 4 Hold a sterile dressing or clean pad (not fluffy) against the ear. Do not press.
- **5** Try to get medical help.
- **6** Remember to keep checking the casualty's vital signs and writing down (or remembering) what you found and what you did, so that you can report this to any health worker who takes over from you.

Nose Bleeds

What is a nose bleed?

Nose bleeds are a very common problem, and result from the small blood vessels inside the nose bursting. A nose bleed can be dangerous if the casualty loses a lot of blood. If a casualty has a nose bleed after getting a blow to the head, this may indicate a head injury. If the blood is watery, a skull fracture should be suspected (see Unit 18).

What can cause a nose bleed?

- picking or scratching the inside of the nose
- a direct blow to the nose
- sneezing or blowing the nose too hard.

There are some medical conditions that will cause nose bleeds. There may be different causes of nose bleeds, but the treatment is the same.

Your aims:

- · Control bleeding.
- Maintain (keep) an open airway.



Your actions

- **1** As always, assess D R A B, respond as needed, and treat any more urgent injuries.
- 2 Sit the casualty down with the head tipped forward to allow the blood to drain from the nostrils. DO NOT let the casualty tip his or her head back blood will drain into the throat and may cause vomiting.
- ② Ask the casualty to breathe through the mouth and to pinch the nose just below the **bridge** (if the casualty is a small child, you will have to pinch the nose for him or her).



Words you need to know

Bridge - top part of nose, where it is the thinnest

- **4** Reassure if necessary.
- **6** Ask the casualty not to blow, sniff, cough, spit or speak, as this may disturb any clots (when the blood starts sticking together) that have formed. Clean away any blood.
- **6** The casualty can release the nose after 10 minutes. If it is still bleeding, he or she should pinch the nose for another ten minutes.
- Once the bleeding has stopped, and with the casualty still leaning forward, gently clean around the area with lukewarm water.
- **3** Advise the casualty to rest for a few hours to prevent the clot being disturbed, and to avoid blowing the nose or picking at any clots.

If a nose bleed is very severe, or if it lasts for more than thirty minutes, then the casualty must receive medical help. Try to arrange medical help.

Bleeding from the scalp

What is bleeding from the scalp?

Head wounds bleed very freely because the scalp has a very good blood supply and the skin and the tissue under the skin are stretched. This causes head wounds to pull open, making the bleeding worse. The person with First Aid knowledge needs to remember that an injury to the head may also have caused damage to the skull. Anyone with a serious head wound or who has lost consciousness due to head injury needs to be seen by a doctor.

Your aims:

Control the bleeding.



Your actions:

- **1** As always, assess D R A B, respond as needed, and treat any more urgent injuries.
- **2** If possible try to replace any loose pieces of skin.



- **4** Keep the pressure on for up to ten minutes.
- Remember to keep checking the casualty's vital signs and writing down (or remembering) what you found and what you did, so that you can report this to any health worker who takes over from you.

Sucking chest wound

What is a sucking chest wound?

This is a wound in the chest that has gone deep enough to make a hole in the lung. This can cause breathing problems.

How can you tell that someone has a sucking chest wound?

There may be:

| | difficulty | in | breathing |
|--|------------|----|-----------|
|--|------------|----|-----------|

| | grey-blue | skin |
|--|-----------|------|
|--|-----------|------|

- sounds of air being sucked into the chest when the casualty breathes in
- bubbles of blood where the wound is when the casualty breathes out
- veins in the neck may stick out
- signs of shock.

The casualty will probably be very upset. He or she may cough up blood with bubbles in it. His or her chest on one or both sides may not go up when he or she breathes in. He or she may complain of pain when breathing.

Your aims:

- Block the wound so that no air can come in or out, so that the casualty can start breathing properly as soon as possible.
- Minimise shock.
- Try to get medical help.

Your actions:

• Ask the casualty to lean towards the side that is injured and cover the wound with his or her hand. He or she must completely cover the wound to stop air from being sucked in.



- **2** Put a sterile dressing or a clean pad (that will not leave bits in the wound) over the wound and the area around it.
- **3** Cover the dressing or pad with a plastic bag, and stick it down with adhesive tape on three sides. You must make sure the dressing or pad does not go into the wound.
- **4** Do not stick down the last side. This is so that air can go out if necessary.
- **6** Call for help.
- **6** Keep the casualty in the same position if he or she is conscious. Monitor and record vital signs.
- 7 If the casualty becomes unconscious, open the airway and check breathing. Be prepared to resuscitate. If he or she is breathing, place in the recovery position lying on the injured side to help the healthy lung work.



Words you need to know Fracture – broken bone

Closed wounds

Different kinds of closed wounds:

Bruising

Bruising is a form of internal bleeding (bleeding inside the body). Bruises are nearly always caused by a direct blow or injury to the area. Bruises that appear quickly with swelling should be given first aid. This type of bruising may mean that there is deeper injury.

Sprains

A sprain is a pulled or torn ligament, usually of the ankle or knee. The swelling that comes with a sprain is from bleeding under the skin, and fluid in the tissues. The area will be soft and painful if touched, and the person may not be able to walk properly. Sprains and strains are dealt with in detail in Unit 16.

Crush injury

A crush injury is when a casualty is crushed by a heavy weight (for example, a beam from a roof).

It may include a **fracture**, swelling and internal bleeding. The object crushing the casualty may stop blood from reaching parts of the body.

Your aims and actions will be different for each of these kinds of closed wounds. Sprains are dealt with in Unit 16.

Bruising

Your actions:

- **1** As always, assess D R A B, respond as needed, and treat any more urgent injuries.
- **2** If you are worried there might be a **fracture** or other injuries, deal with these as described in Units 16 or 17.
- **3** Raise and support the injured part in a comfortable position.
- Apply a cold compress (something cold which you can use to apply pressure to the wound like a towel with ice wrapped in it) to the area for at least five minutes.

Your aims:

- Reduce the blood supply to the injured area.
- Reduce the swelling, bruising and pain.







Remember to keep checking the casualty's vital signs and writing down (or remembering) what you found and what you did, so that you can report this to any health worker who takes over from you.

Crush injuries



Your aims:

- Try to get medical help as soon as possible.
- Treat as necessary.



Your actions:

The actions you take will depend on how long ago the injury occurred.

Less than 15 minutes:

- **1** Lift the object that is crushing the casualty off him or her as quickly as possible. DO NOT DRAG IT OFF!
- **2** Control bleeding from any open wounds and clean and dress these.
- **3** Secure and support any suspected fractures (see Unit 17).
- **4** Treat the casualty for shock (see Unit 9).
- **6** Try to get medical help.
- **6** Remember to keep checking the casualty's vital signs and writing down (or remembering) what you found and what you did, so that you can report this to any health worker who takes over from you. Be prepared to resuscitate.

More than 15 minutes:

- **1** DO NOT REMOVE THE OBJECT CRUSHING THE CASUALTY, unless you have no other choice.
- **2** Try to get medical help urgently.
- **3** Comfort and reassure the casualty.
- Remember to keep checking the casualty's vital signs and writing down (or remembering) what you found and what you did, so that you can report this to any health worker who takes over from you.

Beliefs about wound management

There are many beliefs about treating wounds. These are wrong! Some of these include:

- 🗶 Sprinkle sugar on the wound
- ✗ Leave wounds open
- ✗ Heat helps wounds heal
- **X** Cover wounds with sand or leaves.

THESE ARE WRONG!! You should not do any of them!

Have you heard of any others? Write them down

| here. | | | |
|-------|------|------|------|
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Words you need to know

Resuscitate – restart breathing or heart beat by using CPR

Are there any other words in this unit that you don't understand? Write them down, and find out what they mean.

Unit 8: Wounds and bleeding

Words you need to know

Sterile – very, very clean so that there are no germs

You should never use cottonwool to clean a wound.
This is because bits of the cottonwool could come loose and stick to the wound.

Bandages and dressings

You will use different dressings and bandages depending on what kind of wound it is, and where it is on the body.

Swabs and dressings

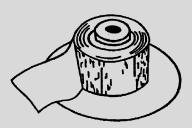
Swabs are used for cleaning the wound. Dressings are used to cover the wound to keep it clean. Swabs and dressings are usually made from a soft, absorbent material (a kind of material that takes in fluid), such as gauze. You can also use clean cotton cloths which have been boiled before use. You will have to burn these after you have used them. It is important that swabs and dressings are **sterile**.

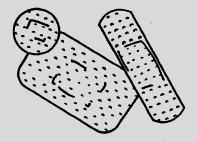
You should use different dressings for different wounds:

- A grazed knee might only need to be cleaned.
- For a deep cut, a thick clean dressing tied on with a bandage may be necessary.

Examples of swabs and dressings

Adhesive (sticky) dressings are made of a dressing and something to stick the dressing onto the skin, so no bandage is needed. They are used for small wounds.





Tubular gauze is used to bandage joints, fingers and toes. It sometimes come with a special tool to help put it on.



Bandages for tying on the dressing

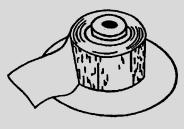
The best way to hold a dressing in the right place is to hold it on with a bandage (unless the dressing already has a sticky part to hold it onto the skin). A bandage can be a stretchy roller bandage, a strip of material, or some old stockings or a long sock, or you could fold a triangular bandage to make it long and thin (see how to do this at the end of Unit 17). It does not really matter what you use as a bandage as long as it is clean – it is better not to use a bandage at all than to use a wet or dirty bandage.

Examples of bandages

Adhesive plaster, clear plaster and stretch plaster are used for tying on gauze dressings.





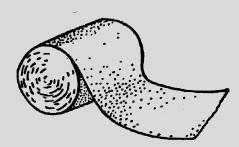


Elastic net bandage is used on the head and face.



Unit 8: Wounds and bleeding

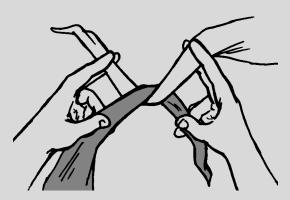
Crepe (elastic conforming) bandage is used on joints like knees and elbows.



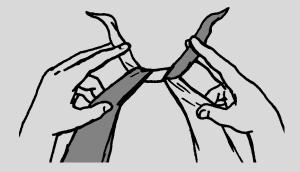
Wrap the bandage around the part of the body where the wound and dressing is, so that it keeps the dressing over the wound (if there is an embedded object still in the wound, see page 60). You can fasten the bandage by pinning it in place with a safety-pin, or by tying it, using a reef knot:

Tying a reef-knot:

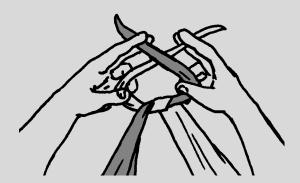
1. Pass one end over and under the other end.



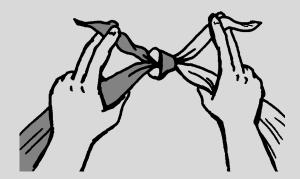
2. Hold up the two ends of the bandage.



3. Pass the other end over and under the first end.



4. Pull the two ends to tighten the knot, and tuck them under the bandage.



It is VERY IMPORTANT that you do not tie the bandage too tightly, because this will stop the blood from flowing to the part of the body after the bandage. You can tell that the bandage is too tight if the part of the body after the bandage changes colour, or the casualty says it feels strange.

Unit 9: Shock

At the end of this unit, you should be able to:

- Explain what shock is and how it is caused
- Recognise the signs and symptoms of shock
- Explain how to treat someone for shock

What is shock?

The body needs to get oxygen all the time for it to work properly. This oxygen is carried around the body by the blood. It is very important for the heart, the brain and lungs to get enough oxygen. Shock is when the circulatory system fails, and the heart, the lungs or the brain do not get enough oxygen.

What can cause shock?

Anything that makes the circulatory system fail can cause shock. This might be because there is too little blood (for example, if the person is bleeding), or because the heart is not pumping properly because of:

- Heart disease, heart attack or acute heart failure (see Unit 22)
- Overwhelming infection
- Severe dehydration because of diarrhoea or vomiting (See Unit 28)
- An injury to the spine (see Unit 18).
- Being badly burned or severe bleeding, or having many bones broken can also cause shock.

People can die from shock, so someone with shock must get immediate emergency treatment to prevent permanent damage to the organs of the body or death. Anyone who has had a bad accident must be carefully watched for any signs of shock.

Shock can be made worse by fear and pain, so talking to the patient in a calm way and trying to make them feel better is extremely important.



How can you tell that someone is in shock?

A casualty who is in shock may have: pale or grey skin that is cold and damp and sweating a very fast pulse, that becomes weaker grey-blue or purple lips, tongue, earlobes or fingernails fast breathing that is shallow (not deep). A casualty who is in shock may feel: weak and giddy sick and may vomit ___ thirsty restless and worried, and may get angry and push you away. As the shock gets worse, the casualty might: yawn or gasp for air become confused and talk nonsense not know where he or she is or what is going on, and may become unconscious stop breathing and the heart may stop. If the casualty is warm and fully conscious (knows who he or she is, and what is going on around him or her) and his or her skin is dry, it is NOT shock.

Words you need to know

Below each word, write it in your own language

Infection – when germs get into the body and make it sick

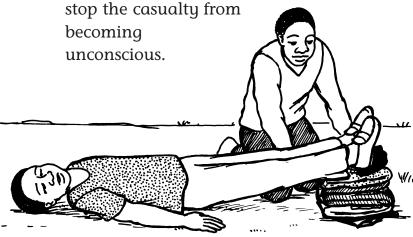
Your aims:

- Recognise that a person is in shock.
- Treat anything that has clearly caused the shock.
- Try to make sure more blood (and oxygen) gets to the brain, heart and lungs.
- Get urgent medical help.



Your actions:

- Check D R A B and treat the most urgent problems.
- **2** Put the casualty in the best position for his or her condition:
 - If there is a head or spine injury, support the head and don't move the casualty (see Unit 18).
 - If the casualty is not conscious, put him or her in the recovery position (see Unit 10).
 - If the casualty is fully conscious, and has no spine or head injury, lay the casualty down on his or her back, keep the head low (don't use pillows) and raise the legs gently until they are higher than the casualty's heart.
 This will help to keep blood in the brain, heart and lungs and may



- **3** Try to keep the casualty as still and quiet as possible. Keep talking to the casualty in a calm way.
- **4** Loosen tight clothing around the neck, chest and waist.
- **6** Cover the casualty with a blanket or clothes or some other soft cover to keep him or her warm.

If the casualty is lying on a cold floor, try to put something underneath him or her.



- **6** Call for help.
- **7** Keep checking the casualty's breathing and pulse and watch out for signs that the person might be becoming unconscious. If necessary, give CPR.
- **3** If the person becomes unconscious (but is breathing) put him or her in the recovery position.
- **9** Remember to keep checking the casualty's vital signs and recording (or remembering) these.

DO NOT:

- ✗ move the casualty (unless it is to escape from danger)
- allow the casualty to smoke
- ✗ leave the casualty alone (unless you have to go for help or treat other casualties)
- ✗ allow the casualty to eat or drink. If he or she complains of thirst, put a little water on his or her lips
- * try to warm the casualty with a hot-water bottle or any other direct source of heat.

Words you need to know

Are there any other words in this unit that you don't understand? Write them down here, and find out what they mean.



Unit 10: The recovery position

At the end of this unit, you should be able to:

- Explain what the recovery position is, and why it is used
- Identify the right recovery position for different patients
- Demonstrate how to place a casualty safely in the recovery position in the correct order, showing that you are thinking about possible spinal or other injury

What is the recovery position?

The recovery position is a special position that you put an unconscious but breathing casualty into to make sure that he or she is able to breathe easily.



A person who is unconscious is at risk of dying because of a blocked airway. The airway may become blocked by fluids or the tongue if the casualty is lying on his or her back. In most cases turning the casualty into the recovery position can prevent this. Any unconcscious casualty, including a pregnant woman, should be put into the recovery position UNLESS a spinal injury is suspected. DO NOT turn a casualty who has a spinal injury into the recovery position unless this is the only way you can maintain an open airway – and in this case, follow the actions for a casualty with a spinal injury below. Always remember to carry out the appropriate steps in the primary survey (D R A B) before turning the casualty into the recovery position.

Your actions:

Use this process for both an adult and a child. But for a baby under 1 year old, see below.

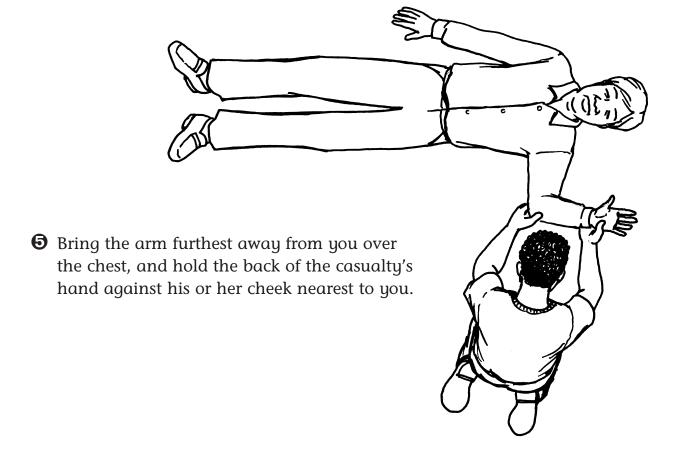
NOTE – you may not need to follow all of these steps if the casualty is already lying on his or her side or front. Where possible, roll the casualty onto his or her left side.

- **1** Kneel next to the casualty's body.
- **2** Remove glasses and any bulky objects like bunches of keys from the pockets. Do not worry about small items.
- **3** Straighten the casualty's legs.
- **4** Place the arm that is nearest to you at right angles to the body, with the elbow bent and the palm upwards, if possible (do not force the arm into this position).

Your aims:

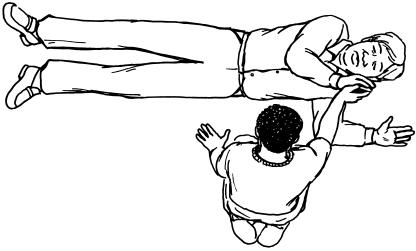
 Keep the unconscious casualty's airway unblocked.

Always keep the airway open whilst you do this.

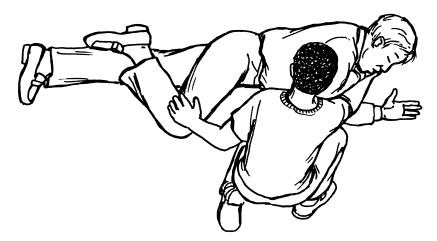


Unit 10: The recovery position

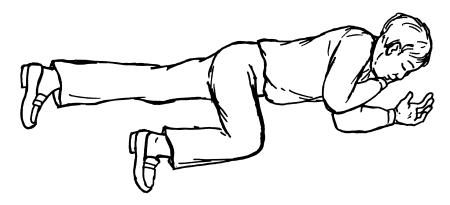
6 Using your other hand take hold of the thigh furthest away from you and pull the knee up; make sure that the foot is flat on the floor.



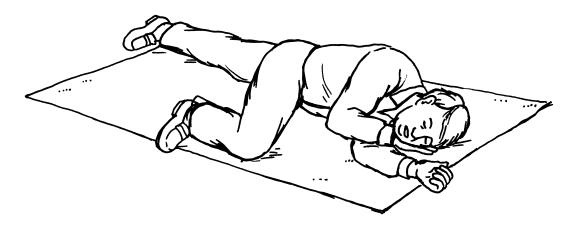
Weeping the casualty's hand pressed to the cheek pull the thigh towards you, so rolling the casualty onto his or her side.



3 Bring the upper leg towards the hip so that the knee and the hip are at right angles. This prevents the casualty from rolling forward.



9 Gently tilt the casualty's head back to keep an open airway and if necessary, adjust the hand under the cheek to support the head and keep the airway open. Check for breathing. Check for any injuries to the back.



- **1** If you have not yet done so, call for help.
- **1** Keep checking and recording vital signs.

If the casualty has to be left in the recovery position, roll the casualty onto his or her back, and then roll him or her into the recovery position on his or her other side every 30 minutes. Do not do this if there are other injuries that would harm the casualty if you did this.

Recovery position for a baby under 1 year old:

- Hold the baby in your arms with his or her head tilted downwards. This will prevent the tongue or vomit from choking the baby.
- **2** Keep checking and recording vital signs, level of response and breathing.

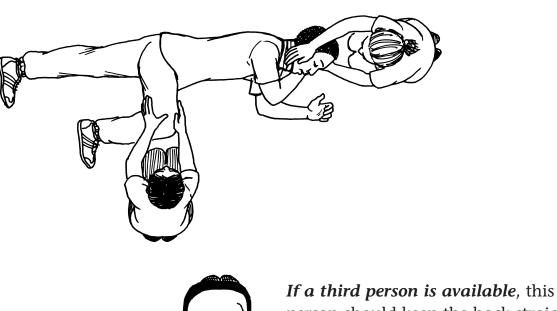


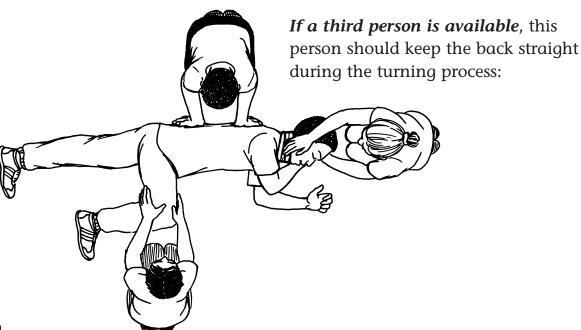
Recovery position for casualty with suspected spinal injury

DO NOT turn a casualty who has a suspected spinal injury into the recovery position unless this is the only way you can maintain (keep) an open airway. It is vital to try to keep the neck and spine straight while you do this:

If you are alone, use the actions described above, trying to keep the head and spine as straight as possible throughout.

If you have a helper, one of you should hold and turn the casualty's head at the same time as the other turns the body:

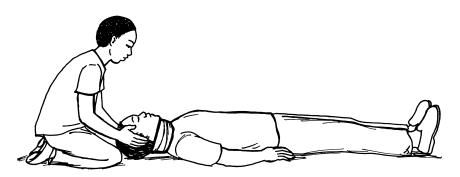




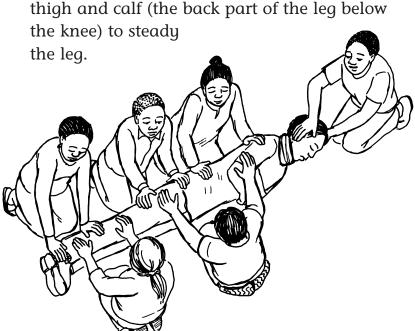
If four or more people are available, use the logroll technique as below:

Log-roll technique

• With the casualty on his or her back, support the casualty's head and neck, holding the head, neck and spine in a straight line.



- 2 Two helpers should kneel on one side of the casualty (evenly spaced), and the others on the other side (evenly spaced).
- **3** Ask the helpers to straighten his or her limbs gently.
- Direct the helpers to roll the casualty, keeping the head, body, and toes in a straight line at all times. The helpers should hold the hip, thigh and calf (the back part of the leg below the knee) to steady



Words you need to know

Are there any words in this unit that you don't understand? Write them down here, and find out what they mean.

NOTE:

If you have many
helpers, you can
ask one of them to
hold and turn the
feet of the
casualty

Unit 11: Head to Toe (secondary) survey

At the end of this unit, you should be able to:

- Explain what a head to toe survey is
- Explain when a head to toe survey should be done
- Demonstrate a head to toe survey following the correct order
- Demonstrate appropriate care (be gentle, respect privacy, be systematic, be thorough)
- Complete a casualty report form

Keep talking to the casualty as you do the survey, even if he or she is unconscious

What is a head to toe survey?

Once you have given any initial emergency treatment that the casualty needs, you need to assess him or her more thoroughly to check for any other injury or problem. This is done through a **systematic**, **thorough** check, called a head to toe survey (this is often called the *secondary survey*). If the casualty is unconscious you will need to do this after you have put him or her into the recovery position.

When trying to find out what is wrong with a casualty it is necessary to look for clues that will help you decide what is wrong. To do this, you need to gather signs, symptoms and history.

Signs are the things you yourself can see, hear, feel, smell. You need to use your senses to gather (get) signs.

Symptoms are the things that the casualty tells you about how he or she feels. You need to ask a conscious casualty questions to gather symptoms.

History is what has happened. You should ask the casualty or bystanders what happened or look around for things that might suggest what happened.

Remember that you will have already carried out your primary survey, and this will already have given you some information.

Your actions:

Remember if the casualty is unconscious they may vomit or the tongue may roll back and obstruct their airway without you being aware. Therefore it may be best to place the unconscious casualty in the recovery position before starting the head to toe survey. If there is any sign that the casualty is having difficulty breathing (for example, breathing is noisy), always put the casualty into the recovery position before beginning the head to toe survey.

Head and neck

Feel:

Run your hands over the person's scalp looking for bleeding, swelling (like a bump) or indentation (a hole or hollow). Any of these may mean a skull fracture (see Unit 18).

Try not to move the head and neck in case of injuring the spine (see Unit 18).

Face

Look:

at the face for any wounds or injuries, or to see signs of pain whilst you are doing the survey.

Look and feel:

Note the colour and temperature of the skin, and whether it is sweaty or not.

Eyes

Look:

at the eyes. If they are closed, open them. Check the size of the pupils (the black circle in the middle of the eye), whether they are the same size, and whether the pupils get smaller when the casualty looks into light, to find out if there is the possibility of head injury (see Unit 18).

Your aims:

 To use a systematic approach to identify any other injuries or problems the casualty may have.

DO NOT PUT A
CASUALTY INTO
THE RECOVERY
POSITION IF YOU
SUSPECT A SPINAL
INJURY UNLESS
THIS IS
NECESSARY TO
ENSURE AN OPEN
AIRWAY – in which
case, see page 86
on how to do this

Words you need to know

Below each word, write it in your own language

Systematic – in order/according to a plan

Thorough – complete/do not leave anything out

Unit 11: Head to Toe (secondary) survey

Look for any foreign object (like a splinter), blood or bruising (colour changes from injury) in the whites of the eyes.

Nose

Look:

Check the nose for blood or fluid. These could indicate damage inside the skull (see Unit 18).

Look and listen:

Check the rate and depth of breathing, and whether breathing is easy or difficult, noisy or quiet. These could indicate damage to the airway, or an obstruction or shock (see Unit 9).

Smell:

Note any smell on the breath.

Mouth

Look:

Check in the mouth for anything that may be blocking the airway. DO NOT remove dentures (false teeth) unless they are loose.

Look:

Check inside the mouth for any wounds or irregularity in the line of the teeth (i.e. something that is wrong).

Look:

Check the lips for burns.

Ear

Look and listen:

Speak to the casualty clearly in each ear and check if he or she can hear you. This helps to measure the casualty's response.

Look:

in each ear for any blood or fluid. These may be signs of damage inside the skull (see Unit 18).

Neck

Loosen the clothing around the neck.

Look:

Check for any medical warning around the neck (something that tells you if the person is a diabetic (for example) or has something else wrong with him or her), or for a hole in the windpipe caused by surgery.

Look:

for any wounds or swelling to the neck tissues.

Feel:

Gently check under the neck without causing movement and carefully feel the bones of the neck and the base of the skull, looking for any injuries or swelling.

Chest

Look:

If the casualty is conscious then ask him or her to take a deep breath and assess the chest for equal and even movements.

Feel:

Move your hands down and feel the rib cage for swelling, deformity (not the right shape), or irregularity (not regular/not right).

Ask the casualty if there is any tenderness (pain) at your touch, or if there is any pain or discomfort (not comfortable/does not feel alright) when breathing.

Listen:

for unusual sounds in the breathing.

Look:

for any bleeding.

Shoulders

Feel:

Gently check along the collarbones and the shoulders for swelling or injuries.

Arms and hands

Feel:

Check each arm in turn for any wounds or injuries.

Look:

If the casualty is conscious ask them to bend and straighten fingers and elbows.

Look:

Check each hand and finger for injury.

Ask the casualty if there are any unusual feelings in his or her hands or arms.

Look:

Note the colour of the fingers. Check for any needle marks on the arms. Check for any medical warning on the wrist (something that tells you if the person is a diabetic (for example) or has something else wrong with him or her).

Feel:

Take the casualty's pulse.

IF THERE IS ANY DIFFICULTY IN MOVEMENT OR ANY LOSS OF FEELING, DO NOT MOVE THE CASUALTY. These could indicate spinal injury.

Spine – Only if there is no indication of spinal damage

Feel:

Without causing any movement that is not necessary, place your hands under the small of the back and gently feel along the bones of the back for swelling and injuries.

Basic Emergency C

Abdomen

Feel:

Gently feel the abdomen for swelling, wounds or injuries. Note any rigidity (tightness) or tenderness.

Hips and pelvis

Feel:

both sides of the hips, and gently move the **pelvis** for any signs of injury.

Look:

Check the clothing for signs of blood or urine or stools.

Legs and feet

Look:

Examine each leg in turn for wounds and swelling. If the casualty is conscious ask him or her to move each joint in turn, including knees, ankles and toes.

Look:

Check each foot and ankle for swelling, injuries and movement.

Look:

for any colour changes in the toes (you may need to remove shoes and socks). Grey-blue skin may indicate a problem with the circulation, or an injury due to cold.

When you have completed the survey, treat any problems you may have found that you are able to.

Words you need to know

Pelvis – bones joining the hips and spine

Reporting

Remember that you have a responsibility as a First Aider to report what you found and what you did to any medical person who takes over from you. You should write this down if you have something to write with – otherwise you will have to remember this and tell the medical person.

You can use the secondary survey part of the Casualty Report Form to write down your report – you can see an example below. We have put some Casualty Report Forms at the end of this book for you to use.

| Secondary survey: | |
|----------------------------------|-------------------|
| Vital signs – | |
| time taken: level of | consciousness: |
| breathing rate: | _ |
| any other comments about breathi | ng: |
| pulse rate: | skin temperature: |
| any other comments about skin: _ | |
| Severe bleeding: | Shock: |
| ☐ Yes ☐ No | ☐ Yes ☐ No |
| Head to toe examination – | |
| head: | neck: |
| collar-bones: | |
| shoulders/arms/hands: | |
| chest: | abdomen: |
| pelvis and buttocks: | legs/feet: |
| any other comments: | |
| First aid given: | |
| | |
| | |

Words you need to know

Are there any other words in this unit that you don't understand? Write them down here, and find out what they mean.

Unit 12: Ongoing casualty care

At the end of this unit, you should be able to:

- Explain what ongoing casualty care is
- Identify and explain
 what you need to do
 to make sure that
 the most important
 needs of the
 casualty are taken
 care of (including
 prevention of
 pressure sores), and
 that the casualty is
 as comfortable as
 possible
- Show that you know to keep checking how the casualty is doing, and keep proper records

If you cannot get medical help, or it takes a long time to arrive, you might have to care for the casualty for quite a long time. In this case, you will have to make sure that the casualty is as comfortable as possible during this time. As well as your ongoing monitoring and recording, you will need to think about and deal with the following:

- Fluids
- Food
- Stopping pressure sores
- Taking the casualty to a clinic or hospital or to his or her home (covered in Unit 13).

Fluids

You should not usually give fluids to a casualty. But if you have to look after the casualty for a long period, you may have to give him or her fluids.

Do not give fluids if the casualty is unconscious or if he or she is feeling sick or vomiting or has abdominal injuries.

Only give small amounts at first in case it makes the casualty vomit. Small amounts often are better than a large amount all at once.

Water may be fine for a short time, but if you have to look after the casualty for some time, you may have to give more nutritious fluids such as fruit juice or soups, if these are available. Do not give tea or coffee.



Keep a record of how much fluid is being taken in, and how much is being lost, to make sure that the casualty does not become dangerously dehydrated. You can monitor this by using an intake (how much fluid the casualty has taken in)/output (how much urine the casualty passes) chart like this one:

| | | TOTAL | | | TOTAL | |
|----------|--------|----------------|------|--------|----------------|------|
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | AMOUNT | TYPE OF OUTPUT | TIME | AMOUNT | TYPE OF INTAKE | TIME |
| COMMENTS | | ОИТРИТ | | | INTAKE | |

DAILY FLUID BALANCE CHART

Food

You should not usually give food to a casualty. If the casualty is likely to get medical help within four hours or so, he or she should not be fed. However, if medical help is delayed for 8 hours or more, then foods such as porridge, rice or potato may be given to a conscious casualty. Do not force a casualty to eat.

Pressure sores

Pressure sores are caused by a person lying or sitting in the same place for too long. The blood does not flow properly to an area where a bony part of the body is pressing against the ground, or a bed or a chair. When this happens, the top layer of skin and the tissue are damaged and a sore appears. Pressure sores usually develop on parts of the body like heels, hips, ankles, the

spine and the knees.

| Signs of pressure sores are: |
|---|
| ☐ redness in a light-skinned person |
| \square the area is warm and sensitive |
| ☐ loss of feeling |
| ☐ blisters |
| \square the skin comes off and there are open |
| wounds. |

To stop pressure sores, change the position that the casualty is lying in every two hours, if this is possible. Try to help him or her to lie in a way that the hips, ankles and shoulder blades are not touching the ground. You can also put pillows or blankets under the legs, shoulders or bony parts of the body, but be careful not to make the casualty's condition worse.

Monitoring and recording

You will need to record the casualty's vital signs, like his or her temperature, pulse and so on.

If you do not have a thermometer, you must compare the casualty's temperature with your temperature, by placing the back of your hand on your forehead, and then on the casualty's forehead. Note whether the casualty is hotter or colder than you, and whether his or her temperature is changing over time. Take note of the colour of the casualty's skin. In dark skin, check the **palm** of the casualty, or the **sole** of his or her feet, or nails or lips. Note whether the casualty's skin appears normal in colour, or is unusual (for example, greyish-blue). Also note if his or her colour changes over time. You also need to record his or her pulse and breathing rate, and whether these change over time. If there are writing materials, write these things down each time you check. If not, you will need to remember these, and in particular changes over time (eq. the casualty's temperature is getting hotter, there is a difference in his or her colour, etc.).

It is very, very important that you keep a constant check on the casualty's condition and make a note of what you find, for the following reasons:

- The results of these checks will help you know whether the casualty is improving or deteriorating and any further treatment they may need.
- To hand over to any medical personnel who will be taking over the care of the casualty.

Words you need to know

Below each word, write it in your own language

Palm – flat part of hand between wrist and fingers

Sole – lower part of foot that rests flat on the ground

Deteriorating – getting worse

Words you need to know

Below each word, write it in your own language

Stabilise – stops getting worse, stays the same for some time

Normalises – gets back to normal

Midwives – people trained to help women give birth

Paramedics – people who support or help with medical work, such as ambulance staff

Are there any other words in this unit that you don't understand? Write them down here, and find out what they mean.

You should record the findings of your initial assessment, and then check vital signs (eg. the heartbeat, temperature and responsiveness) about every ten minutes until the casualty begins to **stabilise**. These checks can then be carried out at longer breaks (up to thirty minutes). In longer term care, as the casualty's condition **normalises** the checks may be done every few hours. Record your findings over time on the back of the Casualty Report Form – see the example on the facing page.

Getting help

You need to continue trying to get medical help. You need to think about people who may be able to give help, such as anyone with medical training or experience – **midwives**, community health workers, nurses; or those who have had more First Aid training than you, such as people working in emergency services like firefighting, **paramedics**, or even police, and not only doctors or clinics or hospitals.

If there is someone else there with you, you can send that person to get help. If there is no one else there, you must not leave the casualty unless you can get help very quickly. If you are alone, try to get the attention of someone (for example, by shouting for help) so you can send him or her for help. If you think that the casualty's condition will allow it, you can think about transporting him or her to medical help – but you will need help to do this. Transporting the casualty is talked about in detail in the next unit.

Remember, that although it is your responsibility to try to get medical help, it is not your fault if you fail and cannot get any medical help.

Use this table to monitor the casualty over a period of time

| | Time | |
|--------------------------------------|------|--|
| EYES | | |
| open by themselves | | |
| open when spoken to | | |
| open when casualty is pinched | | |
| no response | | |
| MOVEMENT | | |
| moves when asked to | | |
| responds when casualty is pinched | | |
| no response | | |
| SPEECH | | |
| makes sense when answering questions | | |
| seems confused | | |
| uses the wrong words | | |
| makes sounds which do not make sense | | |
| no response | | |
| PULSE | | |
| seems very fast | | |
| seems very slow | | |
| seems very weak/faint | | |
| seems strong | | |
| beat seems to change suddenly | | |
| beat seems to stay the same | | |
| BREATHING | | |
| over 40 breaths per minute | | |
| 31-40 breaths per minute | | |
| 21-30 breaths per minute | | |
| 11-20 breaths per minute | | |
| fewer than 11 breaths per minute | | |
| breathing quiet | | |
| breathing noisy | | |
| breathing easy | | |
| breathing difficult | | |

| Any other comments: | • |
|---------------------|---|
| , | |
| | |

Unit 13: Moving the casualty

At the end of this unit, you should be able to:

 Describe and explain different ways of transporting a casualty, and when each should be used or not used

Background information

In general, you must give First Aid *before* moving a casualty, and a casualty should not be moved until he or she is ready to be transported home or to a hospital.

However, if the casualty's life would be in danger by not moving him or her, or if he or she is far away from medical help and it may be a long time before he or she is seen by someone with medical experience, you may think about moving the casualty.

Moving the casualty a short distance

Deciding whether to move a casualty

There are four situations where the casualty should be moved quickly because of danger. However, move the casualty ONLY if you or someone else will not be put in danger by doing this:

The casualty is in water and is about to

Remember
your own
safety! Think
about your own
strength and
use correct
body
mechanics.

| drown. |
|--|
| The casualty is in an area that is on fire or is quickly filling with smoke. |
| The casualty is in danger because there might be a bomb or shooting. |
| The casualty is in or near a structure (such as |

Speed may be important – but still take the time to work out the safest way to move the casualty. Before you move the casualty, think about:

a building or bridge) that is about to fall

down.

- can the casualty help to move himself or herself?
- who else could help to move the casualty?
- how heavy is the casualty, and how large?
- what are the casualty's injuries, and how will these be affected by a move?
- is there anything you could use to help?
- where will you move the casualty to? Is there anything in between where the casualty is and where you plan to move him or her to?

Summary of when to use which method

You can use this table to help you decide which method to use. Each method is explained in detail on the next pages:

| Condition of Casualty | Alone | One helper | More than one helper |
|-----------------------------------|--|---|-----------------------------|
| Conscious, able to walk | Human crutchCradle carry (lightweight casualty only) | Human crutchTwo-handed seat | |
| Conscious, not able to walk | Drag method (may make head, shoulder or neck injuries worse) Cradle carry (lightweight casualty only) | Fore-and-aft carry (not for casualty with arm, shoulder or rib injuries) Two-handed seat Four-handed seat | Blanket carry Stretcher |
| Unconscious | Drag method (may make head, shoulder or neck injuries worse) Cradle carry (lightweight casualty only) | Fore-and-aft carry (not for casualty with arm, shoulder or rib injuries | Blanket carry Stretcher |

Your aims:

 Move the casualty to a place of safety without making the injury worse.

Always use your strongest muscles (those at the thigh, hip and shoulder) and follow the rules for lifting.



Your actions:

How you move the casualty will depend on:

- whether you are alone or there is someone else to help
- the condition of the casualty.

If you are alone

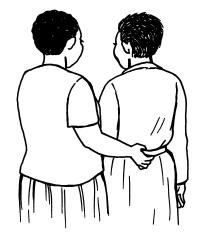
The human crutch

When to use it:

The human crutch method can be used only for a conscious casualty who can stand and walk with some help.

How to do it:

- Stand next to the casualty's weaker side, slightly behind the casualty.
- 2 Hold the casualty's hand that is nearest you with your hand that is furthest away from the casualty, placing your palm under the casualty's palm, and close your hand around his or her thumb.
- **3** Hold the casualty's arm slightly in front of his or her body.
- Put your other arm behind the casualty, and hold his or her belt, or the back of his or her trousers or clothing. Hold him or her close to your body.



5 Tell the casualty you are ready to move. Take small steps, and walk at the casualty's pace – do not rush. Keep talking to the casualty about what is happening, and keep reassuring him or her.

If the casualty says he or she is going to fall, or it looks like he or she might fall:

Step close and place both arms around the casualty's waist to support him or her.

If the casualty starts to fall, DO NOT try to hold him or her up:

- **1** Let go, putting your arms loosely around the casualty, and step slightly back.
- 2 Put your feet slightly apart, with one foot slightly in front of the other, and with your knees slightly bent.
- 3 Let the casualty fall back against you, using your arms to stop him or her falling the wrong way do not try to hold him or her up.
- **4** Let the casualty slide down your body to the floor.
- **5** Kneel down behind or next to the casualty and put him or her in the most comfortable position.





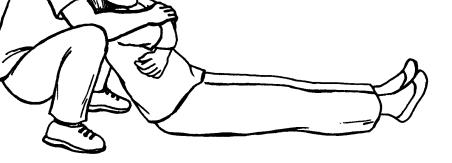
The drag carry

When to use it:

The drag carry can be used on both a conscious and unconscious casualty. It should be used only for short distances. You can use it quickly and it works well. However, you must think about the casualty's condition when deciding whether to drag by the clothes, the wrists, under the arms or the feet. It is used to drag (pull) a casualty who is either lying on his or her back or in a sitting position. The drag carry gives support and protection to the head and neck.

How to do it:

- **1** Stand at the casualty's head facing the casualty's feet.
- **2** Bend your knees and crouch down (so you are low).
- **3** Gently put your hands under the casualty's shoulders. Hold the casualty's left wrist with your right hand, and right wrist with your left hand. Support the casualty's head between your arms to stop movement.



4 Drag the casualty backward only as far as you need to for his or her safety.

The cradle carry

When to use it:

This carry can only be used on a very light casualty. It is very good for carrying a child.

How to do it:

- **1** Sit on your heels next to the casualty.
- **2** Reach one arm around the casualty's back, and the other under his or her knees.



3 Lift the casualty by straightening your legs while keeping your back straight.



If you have help

The human crutch with two people

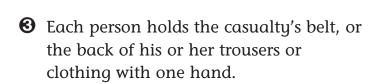
When to use it:

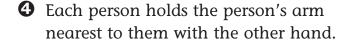
If the casualty can walk, but needs support and help.

How to do it:

- **1** Help the casualty to a standing position.
- **2** The two carriers stand on either side and slightly behind the casualty.









Two-handed seat

When to use it:

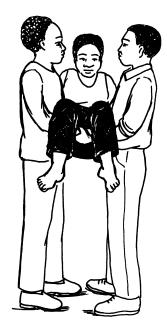
The two-handed seat can be used if the casualty cannot walk. It can be used to move a conscious casualty for a short distance.

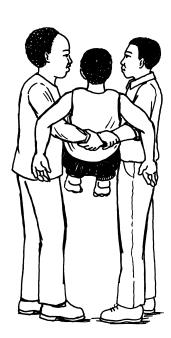
How to do it:

- **1** Make sure the casualty is lying on his or her back.
- **2** One person must stand on each side of the casualty's hips and kneel down.
- **3** Each of you must pass one arm under the casualty's back and the other arm under the casualty's thigh.
- 4 Hold each other's wrists tightly.



5 Both stand up at the same time, lifting the casualty.





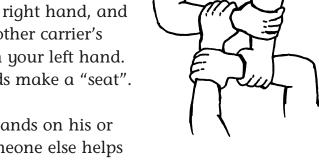
Four-handed seat

When to use it:

The four-handed seat is similar to the two-handed seat, and is used to carry a conscious casualty who has good balance and can help support himself or herself while he or she is being carried. This carry is very useful when transporting a casualty with a head or foot injury for a distance that is not too long.

How to do it:

- **1** Both of you should stand behind the casualty.
- Pace each other. Each of you must hold your own left wrist with your own right hand, and then hold the other carrier's right wrist with your left hand. Your four hands make a "seat".
- The casualty stands on his or her own or someone else helps the casualty to stand.





- **4** Both of you lower your bodies so the "seat" is about at the same height as the casualty's knees.
- The casualty sits on the "seat" and places his or her arms around your shoulders for balance and support. The casualty should NOT hold you around the neck.
- **6** Both of you stand up together, lifting the casualty.

Fore-and-aft carry

When to use it:

The fore-and-aft carry is used to transport a conscious or unconscious casualty for a longer distance.

How to do it:

- Make sure the casualty is lying on his or her back with his or her arms at the sides.
- 2 The carrier who is taller must kneel at the casualty's head and face toward the casualty's feet. He or she must slide his or her hands under the casualty's arms and across the casualty's chest, gripping his or her hands together.
- 3 The other carrier must open the casualty's legs, and kneel between them with his or her back to the first carrier, and hold under the casualty's knees.





Both of you must stand up together, lifting the casualty and walking forward.

Blanket carry

You can carry a casualty for quite a long distance if you use something that the casualty can lie on while you carry him or her. You can take rest breaks when you need to. One person must always be the leader, and give the order to "lift", "move", "stop", "lower", etc.

When to use it:

This method needs a blanket or sheet large enough and strong enough to hold the weight of the casualty, and also enough helpers. It is best to use six people for this carry to make sure the casualty does not roll off the blanket/sheet during the move. You should not use this method when you think that the casualty has a spinal injury.

How to do it:

- **1** Roll up one half of the sheet or blanket.
- **2** The carriers should stand on each side of the casualty, evenly spaced.
- **3** All the carriers should help to roll the casualty onto his or her side, making sure to keep his or her back straight.
- **4** Place the rolled-up side of the sheet or blanket against the casualty's back.



5 All the carriers should help to roll the casualty onto the blanket/sheet, over the rolled-up blanket/sheet, and onto his or her other side.



6 Unroll enough of the blanket/sheet to lay the casualty flat on his or her back. Roll up the other side to make a good hold.



- Teach carrier should sit on their heels, and hold the blanket securely (make sure the carriers are evenly spaced down each side).
- **3** Stand up together, keeping the feet slightly apart and the back straight.



Stretcher

When to use it:

This method is the best method to transport a casualty over a long distance. Stretchers can be improvised (made from something else), using for example, a door, a table-top, two poles (or branches) and coats, a blanket, or grain sacks. Two people can carry a casualty on a stretcher because of the poles, although four people is best. However, you should not use a stretcher made of non-rigid material (eg. blanket, clothing or sacks) to transport a casualty with suspected head or spinal injuries.



If there are two carriers, one carrier holds the two front poles while the other holds the back poles. It is the person at the back that gives the commands (when to lift, when to start, when to stop, etc).



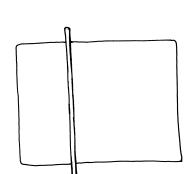
With four carriers, the person at the back on the right gives the commands.

How to make an improvised stretcher:

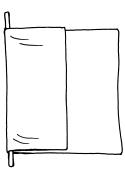
Always test an improvised stretcher with someone who is not injured and is at least as heavy as the casualty to make sure it will hold. Also check that you will be able to move the stretcher through doors/around corners/up or down stairs without hurting the casualty.

With a blanket

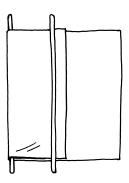
- **1** Place the blanket flat on the ground.
- **2** Place a pole one-third of the way from one end of the blanket.



3 Fold the one-third length of blanket over the pole.



Place the second pole parallel to the first (on top of the folded blanket), so that it is far enough away to fit the casualty, but close enough so that it is at least 15cm (about a hand-length) from the folded-over edge.



5 Fold the remaining blanket over the two poles. The weight of the casualty will hold the blanket in place.



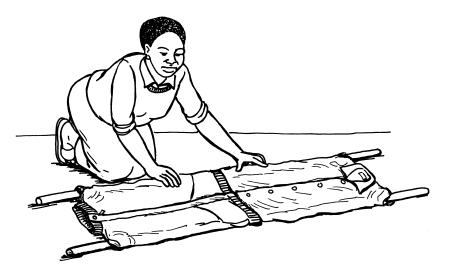
With two shirts, jackets or coats

Button and/or zip the shirts, jackets or coats closed and pull the sleeves inside-out, so that the sleeves are inside (or pull them off yourself and/or your helper so that they are inside-out with the sleeves inside).

Words you need to know

Are there any words in this unit that you don't understand? Write them down here, and find out what they mean.

- **2** Lay the shirts/jackets/coats on the ground, so that the top edge of one shirt/jacket/coat meets the bottom of the other.
- **3** Pass the poles through the sleeves of the two shirts/jackets/coats on either side this will make the stretcher.



4 If the stretcher is too short, add another shirt. jacket or coat, placing the head towards the middle.

SECTION THREE: ACCIDENT CARE

Unit 14: Near drowning

At the end of this unit, you should be able to:

- Explain what drowning and secondary drowning are
- Recognise the signs and symptoms of drowning
- Explain how to treat and look after someone who has nearly drowned

Words you need to know

Below each word, write it in your own language

Suffocated – died from being unable to breathe

Resuscitate – restart breathing or heart beat by using CPR

Hypothermia – body temperature is below normal

What is drowning? What is near drowning?

Drowning is when someone dies because they have **suffocated** in water or fluid. When a person breathes in water or fluid, the muscles of the larynx close and block the airway. This means the person stops breathing.

Near-drowning is when someone nearly drowned. He or she stopped breathing (because the muscles of the larynx closed when he or she breathed in water or fluid), but started breathing again in time, so did not die.

What is secondary drowning?

This is when the water or fluid that was breathed in irritates (troubles) the lungs, and makes the airway swell and get narrower. This can happen many hours after someone nearly drowned. This again causes the person to be unable to breathe, and could cause the person to die. For this reason, it is very important that a person who seems to have recovered (got better) after nearly drowning gets medical help as soon as possible.

What can cause drowning?

Drowning can happen if someone breathes in fluid so that he or she cannot breathe properly. So a person, especially children, babies and people who cannot swim, can drown in any water or fluid, even if there is very little of it, eg. a river, a puddle or even vomit.

Accident Ca

How can you tell that someone is drowning?

He or she may:

| be gasping for breath or not breathing |
|---|
| be unconscious |
| have water or other fluid in the mouth, or coming out of the mouth. |

His or her skin will become more and more blue or grey in colour.

There may be signs that the person could be drowning, eg. he or she may still be in or near water or fluid.

Your actions:

- 1 If the casualty is still in water, remove him or her, making sure that his or her head is lower than the body. WARNING: Do not go into the water yourself, unless you are a good swimmer. Use a rope or a strong stick to try and reach the casualty.
- **2** Lie the casualty down on his or her back.
- **3** Open the airway and check breathing. Be prepared to **resuscitate**. If resuscitation is necessary, give 5 initial rescue breaths. If the casualty is still not breathing, begin CPR as ususual.

NOTE: Do not worry about water that may have been swallowed – making the casualty vomit may cause him or her to breathe in vomit and/or choke.

4 If the casualty is breathing, place him or her in the recovery position.

Your aims:

- Get the casualty breathing again as quickly as possible.
- Keep the casualty warm.
- Try to get medical help as soon as possible.

Unit 14: Near drowning

- **5** You may need to treat for **hypothermia** (see page 234). Take off wet clothing, and cover with dry blankets or clothing.
- **6** If the casualty becomes fully conscious, give him or her a warm drink.
- 7 Try to get medical help, even if the casualty appears to have recovered fully, in case of secondary drowning.
- **3** Remember to keep checking the casualty's vital signs and writing down (or remembering) what you found and what you did, so that you can report this to any health worker who takes over from you.

Words you need to know

Are there any other words in this unit that you don't understand? Write them down here, and find out what they mean.

Unit 15: Burns and scalds

At the end of this unit, you should be able to:

- Describe the different types of burns and scalds
- List the signs and symptoms of burns and scalds
- Describe the treatment for different types of burns and scalds
- List possible ways to prevent burns and scalds
- Explain what to do if a casualty is still on fire/explain what to do in the case of an electrical injury
- Explain what can be done to make crossinfection less likely

What are burns and scalds?

A burn is painful damage to the skin caused by heat or something that is very, very cold, chemicals, or friction (rubbing). There are different types of burns depending on what caused the burn.

What can cause a burn or scald?

| Type of burn | Causes |
|-------------------|--|
| Dry burn | Flames, direct contact with heat (eg. iron, cigarette etc), friction (eg. rope burn) |
| Scald | Steam, hot liquid, hot fat or oil |
| Electrical burn | Electricity, lightning |
| Cold burn | Frostbite (see page 236, Unit 27) freezing metal, liquid oxygen, liquid nitrogen |
| Chemical burn | Industrial chemicals - may be inhaled (breathed in); domestic chemicals like oven cleaners, paint stripper, etc. |
| Radiation burn | Sunburn, sunlamp, radioactive source such as X-ray. |

How can you tell that someone has been burned?

Different types of burns have different recognition features (i.e. ways you can recognise them):

| Dry burns | Severe: |
|------------|--|
| and scalds | Pain. |
| | Difficulty breathing. |
| | Signs of shock. |
| | |
| | Minor: |
| | Reddened skin in a light-skinned person. |
| | Pain in the area of the burn or scald. |
| | Later, there may be blistering of the area. |
| Electrical | Unconsciousness. |
| | The skin is brownish/whitish or black where the electricity went into the body, and where it came out. |
| | Possible fractures from being thrown by the electricity. |
| | Signs of shock. |
| | Brown, coppery stuff on the skin if the burn is the result of a high voltage current. |
| Chemical | There are things in the area that show you there might have been or still are chemicals, like tins or bottles. |
| | Very bad stinging pain. |
| | Later, the skin is a strange colour, and there is blistering, peeling and swelling of the affected area. |
| Radiation | Reddened skin in a light-skinned person. |
| | Pain in the area of the burn. |
| | Later, there may be blistering of the affected skin. |
| | |

Unit 15: Burns and scalds

All burns and scalds are classified (put into groups) by how deeply the skin has been damaged, which you can tell by looking at the burn:

| Surface burn (called Superficial) | Medium burn (called Partial Thickness) | Deep burn (called Full Thickness) |
|---|--|--------------------------------------|
| Redness in a | Redness in a light- | Pale and waxy |
| light-skinned | skinned person | (looks strange, not |
| person | Tenderness | normal) |
| Tenderness | Swelling | Charred (black and |
| Swelling | Blistering | burned) tissue |

A casualty may have more than one depth of burn (for example, may have a full thickness burn surrounded by partial thickness and/or superficial burns).

Infection control

Infection control is extremely important when dealing with any open wound, including burns. It is very important that you try to prevent infection of the casualty; but also of yourself. Blood and other body fluids can carry viruses such as HIV and Hepatitis. If possible, before carrying out any First Aid you should put on disposable gloves, or put your hands in plastic bags.

However, if this is not possible, AND IF YOU HAVE NO OPEN SORES ON YOUR HANDS, you should go ahead where life may be at risk. Unbroken skin should keep viruses out.

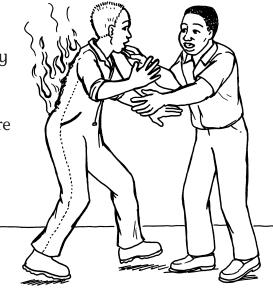
NOTE: If your skin does come into contact with a large quantity of blood or you are splashed in the eyes or mouth, wash the area well with water and soap, and tell your doctor or health clinic.

Dry burns and scalds

Your actions:

NOTE – IF THE PERSON, OR HIS OR HER CLOTHING, IS STILL ON FIRE, use the Stop, Drop and Roll procedure to put the flames out:

Stop:
Stop the casualty from running.
Any movement will make the fire worse.

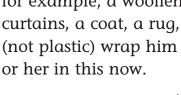


Your aims:

- Stop the burning.
- Relieve the pain and swelling.
- Make it less likely the burn will be infected.
- Keep the airway open, if necessary.
- Try to get medical help as soon as possible, if necessary.

Drop:

Drop the casualty to the ground. If there is anything to wrap the casualty in, for example, a woollen blanket, curtains, a coat, a rug,



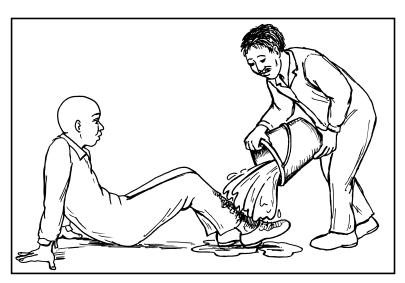




Roll the casualty on the ground until the flames have stopped.



- **1** As always, assess D R A B, respond as needed, and treat any more urgent injuries.
- **2** Lay the casualty down. Try to prevent the burned area from coming into contact with the ground.
- Flood the injured area with running cold water (you could use a jug and bowl to do this), or place the injured area in cold water (eg. in a bath or stream) for at least 10 minutes. If the casualty is on the ground, try to make sure the water is not collecting underneath him or her.









- **4** Call for help.
- **5** Continue cooling the area until the pain subsides. Be careful not to overcool the casualty be especially careful if the casualty is a baby or an elderly person.
- **6** Put on disposable gloves if available if not, make sure your hands are clean. Gently take off anything such as rings and watches from the affected area before it begins to swell. Take off burned clothing only if it is not sticking to the burn.

OUNLESS THE BURN IS TO THE FACE, cover the area with a sterile dressing to protect it from infection. If a sterile dressing is not available, use a folded triangular bandage, part of a sheet or other clean cloth. A clean plastic bag or clingfilm (plastic on a roll) will also make a good dressing for a short time.

Do not secure the dressing too tightly, since the area will swell. IF THE BURN IS

TO THE FACE, do not cover, since this might upset the casualty and/or block the airway – make sure the area is kept clean.

- **3** Treat for shock if necessary (see Unit 9).
- **9** Remember to keep checking the casualty's vital signs and writing down (or remembering) what you found and what you did, so that you can report this to any health worker who takes over from you. Be prepared to resuscitate. Continue to reassure the casualty.

Words you need to know

Below each word, write it in your own language

Resuscitate – restart breathing or heart beat by using CPR





DO NOT:

- ✗ Do not use fluffy materials (materials that are not smooth, like cottonwool) or adhesive (sticky) dressings.
- ✗ Do not burst (open) any blisters.
- ✗ Do not apply any creams, lotions or fats to the burn.
- **X** Do not touch the burn.
- ✗ Do not remove anything sticking to the burned area.

Burns to the Mouth and Throat

What are burns to the mouth and throat?

Burns and scalds on the face, or in the mouth or throat, can cause death since the rapid (quick) swelling caused by the burn can block the airway. In very bad cases, there is little a First Aider can do other than try to get medical help urgently.

How can you tell that someone has a burn to the mouth or throat?

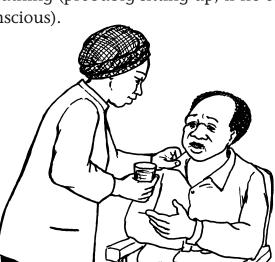
He or she may have:

soot (black tiny flakes from smoke) around the mouth and nose
 burned hairs in the nose
 redness, swelling, or burning of the tongue
 burns around mouth and nose

- difficulty in speaking
- difficulty in breathing.

Your actions:

- **1** As always, assess D R A B, respond as needed, and treat any more urgent injuries.
- **2** Try to get urgent medical help. Say what the problem is.
- 3 Try to help the casualty to breathe loosen tight clothing around the neck, and place him or her in the most comfortable position for breathing (probably sitting up, if he or she is conscious).



- **4** If the casualty is conscious give sips of cold water to help reduce the pain and swelling.
- **5** If the casualty becomes unconscious then place him or her in the recovery position (see Unit 10).
- **6** Remember to keep checking the casualty's vital signs and writing down (or remembering) what you found and what you did, so that you can report this to any health worker who takes over from you. Be prepared to resuscitate.

Your aims:

- Maintain (keep) an open airway.
- Try to get urgent medical help.

Remember your gloves!

Below each word, write it in your own language

Resuscitate – restart breathing or heart beat by using CPR

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Your aims:

- Make the area safe.
- Let the appropriate authority know what has happened, if necessary.
- Get rid of the chemical.
- Try to get medical help.

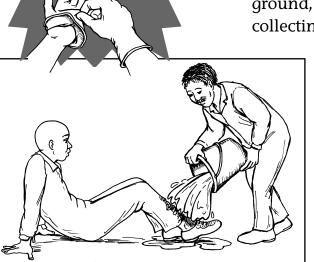
Remember

your gloves!

Chemical burns

Your actions:

- As always, assess D R A B, respond as needed, and treat any more urgent injuries.
- **2** Make sure the area is as well ventilated as possible (i.e. open windows and doors). If possible, seal the container in which the chemical was stored. If necessary, remove the casualty.
- 3 If the chemical is dry (e.g. powder) brush it off using a cloth. Make sure that you get rid of any chemical on the skin by flooding the injured area with running cold water for at least 20 minutes. If the casualty is on the ground, try to make sure the water is not collecting underneath him or her.







- **4** Gently take off clothing that might have the chemical on it while still flooding the area.
- **6** Call for help.
- **6** Remember to keep checking the casualty's vital signs and writing down (or remembering) what you found and what you did, so that you can report this to any health worker who takes over from you.

Electrical burns

Your actions:

You will need to do different things, depending on where the electricity is coming from. If it comes from a plug (in a house or at work, for example) it is a low voltage current. If it comes from a power line, it is a high voltage current.

Low voltage:

CAUTION – MAKE SURE THE CURRENT IS OFF BEFORE APPROACHING THE CASUALTY!



Most electrical burns occur at work or in the home as the result of low voltage current. You must never approach the casualty until you are sure the current is broken:

1 Immediately turn off the main/meter switch of the electricity (NOT the switch at the plughole). Stand on a pile of newspaper or a wooden box and use a wooden stick or a broom to turn off the switch.

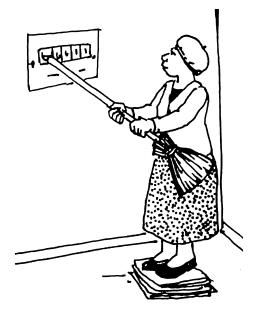
Your aims:

- Treat the burns.
- Treat shock, if necessary.
- Try to get urgent medical help.



Accident Care

Unit 15: Burns and scalds



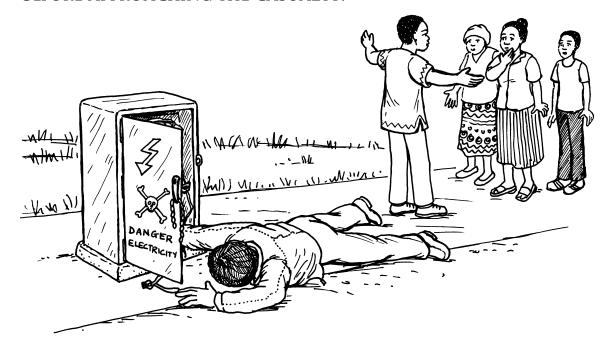
2 Do not touch the person. Use a broom or a piece of wood to move the person away from the thing that shocked them, or the source away from the casualty.

- **3** As always, assess D R A B, respond as needed, and treat any more urgent injuries.
- **4** Cool the burnt area with water.
- O Put on disposable gloves if available if not, make sure your hands are clean. Cover the area with a sterile dressing to protect it from infection. If a sterile dressing is not available, use a folded triangular bandage, part of a sheet or other clean cloth (not fluffy).
- **6** Call for help.
- **7** Reassure the casualty.
- 3 Treat for shock if necessary.
- **9** Remember to keep checking the casualty's vital signs and writing down (or remembering) what you found and what you did, so that you can report this to any health worker who takes over from you.

Accident Car

High voltage:

CAUTION – MAKE SURE THE CURRENT IS OFF BEFORE APPROACHING THE CASUALTY!



High voltage current, such as that in power lines, will nearly always kill. High voltage current can jump up to 18 metres, so no one should go near the casualty (including you) until you are sure that the power has been turned off. You will not be able to do this yourself. Wait until you are told by someone you trust that the power has been turned off.

- 1 As always, assess D R A B.
- **2** Resuscitate if necessary.
- 3 Try to get urgent medical assistance.
- **4** If the casualty is breathing, place him or her in the recovery position.
- Remember to keep checking the casualty's vital signs and writing down (or remembering) what you found and what you did, so that you can report this to any health worker who takes over from you.

Words you need to know

Below each word, write it in your own language

Fluffy – materials that are not smooth, e.g. cottonwool

Resuscitate – restart breathing or heart beat by using CPR

Beliefs about burns and scalds

There are many beliefs about how you should treat a burn or a scald. THESE ARE WRONG!
Some of these are:

- ✗ You should put butter or fat on a burn
- ✗ You should keep the area warm
- You should cover a burn with urine, or with egg white or raw egg, or with toothpaste, or with ashes
- You should visit a blacksmith or goldsmith or silversmith to use the bellows to extract (take out) heat and so help healing.

THESE ARE WRONG!! You should not do any of them!

| Have you heard of any others? Write them down here. | |
|---|---|
| | _ |
| | |
| | |
| | |
| | |
| | |
| | |

Words you need to know

Are there any other words in this unit that you don't understand? Write them down here and find out what they mean.

Unit 16: Soft tissue injuries: strains and sprains

At the end of this unit, you should be able to:

- Explain what a sprain is, and what a strain is
- Tell the difference between sprains and strains
- List signs and symptoms of sprains and strains
- Demonstrate the treatment of a sprain and strain

NEVER move the casualty unless it is safe to do so. We looked at when and how to move a casualty in Unit 13.

What is a soft tissue injury?

Soft tissue injuries are injuries to the tissues around the bones and joints. Joints are where bones of the skeleton join. Most bones end in cartilage, that is a bit like plastic, and that lets bone move against bone without rubbing together too hard. Joints allow us to bend our arms, legs and spine so that we can move around. Bones are joined together by ligaments. The actual movement of the bones is done by muscles. The muscles are connected to the bone by tendons.

Injuries to soft tissues can be divided into two main groups:

Strain: This is an injury to the muscle or tendon. Strains occur when the muscle is stretched too far and may tear a bit. This often happens where the muscle joins the tendon.

Sprain: This is an injury to a ligament at or near a joint. It is often due to a sudden violent movement that pulls the bones in the joint too far apart, and the ligaments joining the bones tear. It may be difficult to tell the difference between a sprain and a **fracture**.

How can you tell that someone has a soft tissue injury?

He or she may have:

pain and tenderness (the area hurts if it is touched)

Unit 16: Soft tissue injuries: strains and sprains

| difficulty in moving the injured part, |
|--|
| especially if it is a joint |

swelling and bruising in the area.

These signs and symptoms are very similar to fractures. If there is any doubt as to whether the injury is a fracture or soft tissue injury, treat it as if it were a fracture (see Unit 17).

Your actions:

- **1** As always, assess D R A B, respond as needed, and treat any more urgent injuries.
- **2** Sit or lay the casualty down.
- **3** Rest, steady and support the injured area in a comfortable position. If the injury is to a limb (an arm or leg), elevate (lift) it so less blood flows to the injury, so there is less bruising.
- 4 If the injury has just happened, put an ice pack or a cold compress on the area so there is less swelling, bruising and pain. (Make sure the ice is wrapped in a towel or cloth, as ice against the skin may cause a burn).



Words you need to know

Below each word, write it in your own language

Fracture - broken bone

Your aims:

- Reduce pain and swelling.
- Try to get medical help if necessary.



You can remember the treatment for soft tissue injury as:

- Rest.
- Ice (or anything that will cool the area);
- Compression;
- Elevation (lifting)

(RICE)

Unit 16: Soft tissue injuries: strains and sprains

You can remember the treatment for soft tissue injury as:

- Rest;
- Ice (or anything that will cool the area);
- Compression;
- Elevation (lifting)

(RICE)



- **6** Cover the ice pack in a layer of padding and then wrap in a bandage so there is gentle, even pressure on the injured part.
- **6** Keep the limb elevated and check every ten minutes that the bandage is not too tight. A tight bandage will make the pain and swelling worse, and could stop blood from flowing. You can tell that the bandage is too tight if the part of the body after the bandage changes colour, for example if the fingernails (if the bandage is on the arm) or the toenails (if the bandage is on a leg) look blue, or the casualty says it feels strange.
- If the casualty does not respond to the treatment and the pain is just as bad after 15-20 minutes, or you are unsure about how bad the injury is, then try to get medical help.
- Remember to keep checking the casualty's vital signs and writing down (or remembering) what you found and what you did, so that you can report this to any health worker who takes over from you.

Unit 16: Soft tissue injuries: strains and sprains

Words you need to know

Are there any other words in this unit that you don't understand? Write them down here, and find out what they mean.

At the end of this unit, you should be able to:

- Explain what a fracture is and what a dislocation is
- Recognise a fracture and a dislocation
- Tell the difference between an open fracture, closed fracture and dislocation
- Demonstrate treatment of a fracture
- Explain what can be done to make crossinfection less likely
- Demonstrate correct selection and use of dressings and bandages

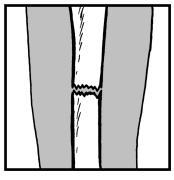
What is a fracture?

A fracture is a break or crack in a bone. A lot of force (strength) is needed to damage a bone, but in an older person or a person suffering with a disease that affects bone, much less force is required.

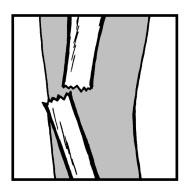
When bone breaks it may do so in many ways. These are:

- Chip or crack.
- Clean break through the bone.
- Twist or split.
- Shatter or crumble.

When a bone breaks, surrounding tissue will also be damaged. In a simple fracture there might be very little damage to surrounding tissue but it is possible that the ends of the bone may stick out through the skin. In very bad fractures the bone ends may damage organs or major blood vessels. A fracture where there is no open wound is called a *closed* fracture. A fracture where there is also an open wound is called an *open* fracture. The bone may or may not stick out through the skin.



Closed fracture



Open fracture

After the break, if the bone ends can move, more damage to surrounding tissue may happen. This is called an *unstable* fracture. In this case, it is very important to try to prevent further damage from happening, by carefully handling and steadying and supporting the injured area.

What is a dislocation?

A dislocation is when the bones in a joint (where bones are joined together) are partly or completely pulled out of position. It happens most often in the shoulder, jaw, or joints in the thumb or fingers. The force that causes the dislocation may also injure the soft tissues around the joint, resulting in a strain or sprain (see Unit 16).

Joint dislocation can cause serious problems, particularly if major nerves are damaged, or if vertebrae (the bones of the spine) are dislocated. The dislocated bones may also fracture during the dislocation.

It is often difficult to tell the difference between a dislocation and fracture. If you are in any doubt (i.e. do not know for sure), treat the injury as a fracture. NEVER move the casualty unless it is safe to do so. We looked at when and how to move a casualty in Unit 13.

What can cause a fracture or a dislocation?

- Being hit by a blow, for example by a car or a fist
- A limb (an arm or a leg) being suddenly twisted (turned) or wrenched (hard twist or pull).

Infection control

Infection control is extremely important when dealing with any open wound, and particularly wounds which may have been contaminated (have dirt or other particles, like glass in them). It is very important that you try to prevent infection of the casualty; but also of yourself. Blood and other body fluids can carry viruses such as HIV and Hepatitis. If possible, before carrying out any First Aid you should put on disposable gloves, or put your hands in plastic bags.

However, if this is not possible, AND IF YOU HAVE NO OPEN SORES ON YOUR HANDS, you should go ahead where life may be at risk. Unbroken skin should keep viruses out.

NOTE: If your skin does come into contact with a large quantity of blood or you are splashed in the eyes or mouth, wash the area well with water and soap, and tell your doctor or health clinic.

You can read about pads, bandages, slings and splints at the end of this unit. You can read about dressings at the end of Unit 8.

How can you tell that someone has a fracture or a dislocation?

He or she may: have had a recent blow or fall have difficulty in moving the area have bad pain and tenderness (the area hurts when it is touched) have a deformity (i.e. something is not the right shape) or swelling or bruising. There may be a sound of snapping from the injury site, in the case of a fracture. There may be shortening, bending or twisting of a limb. There may be signs of shock if the injury is very bad, and especially in the case of a fracture to the thigh bone or pelvis.

You can read about pads, bandages, slings and splints at the end of this unit. You can read about dressings at the end of Unit 8 (see page 74).

In the case of an open fracture, there

will be a wound, possibly with bone

sticking out.

Your actions:

The treatment for a fracture is a very simple process known as steady and support. How you do this will depend on where the fracture is. For an open fracture, you will also need to take care of the wound itself.

- **1** As always, assess D R A B, respond as needed, and treat any more urgent injuries.
- **2** Tell the casualty to keep still.

If the fracture is an open fracture (if not, go to Step 7):

- **3** Put on disposable gloves, if available.
- Ocontrol any bleeding from the fracture site by loosely covering the wound with a clean dressing or cloth, and press on the sides of the wound DO NOT press on any bone that is sticking out.

Your aims:

- Prevent movement at the site of the injury.
- Prevent blood loss and infection, in the case of an open fracture.
- Try to get medical help while continuing to support the injury.



6 Place padding over and around the dressing. If a bone is sticking out, build up pads of clean cloth around the bone, until you can bandage over the pads without pressing the bone.



6 Secure the dressing and the padding with a bandage. Be careful not to bandage too tightly.



For all fractures:

Steady and support the affected area by bandaging it to an unaffected part of the body, making sure that the bandage is tied on the uninjured side (for how to apply slings see the end of this unit):

Action to steady and support

Arm

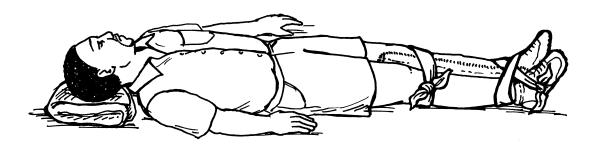
- Place padding around the affected part.
- Make sure the arm cannot move by using an arm or elevation sling.
- Support with a broad-fold bandage around the arm and body avoiding (keeping away from) the affected part.

Collar bone

 Put on an elevation sling, add padding between elbow and body, support with a broad-fold bandage around the arm and body.

Leg

- Give support with your hands above and below the injury.
- Carefully move good leg to bad, place padding between legs, and bandage above and below the fracture site, tying the bandage on the uninjured site.



You might need to use a well-padded splint (eg. a wooden pole or strong stick wrapped in a towel) if the casualty is to be transported a long distance.

Knee

- DO NOT try to straighten the leg.
- Help the casualty to lie down, on a blanket if possible.
- Place soft padding (like a pillow, blanket or coat) under the injured knee to support it in the most comfortable position.



• Keep the casualty in this position until you get medical help.

Jaw

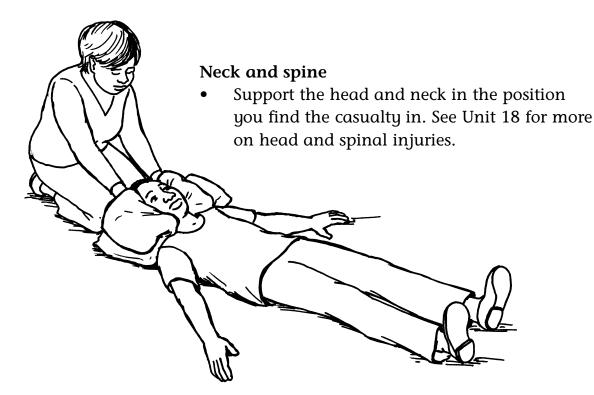
Place a soft pad under the jaw and allow the casualty to support it himself or herself. Sit the casualty with his or her head tilted forwards.





Ribs

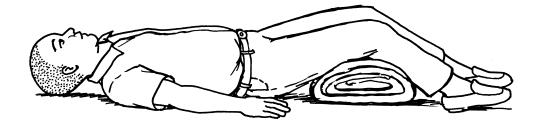
- Sit the casualty down in the most comfortable position for him or her and ask the casualty to support the arm on the injured side.
- Support the arm with an elevation sling.



- 3 Treat for shock if necessary (see Unit 9).
- **9** Remember to keep checking the casualty's vital signs and writing down (or remembering) what you found and what you did, so that you can report this to any health worker who takes over from you.
- Keep checking circulation after the bandage every 10 minutes.

Pelvis

Soft support may be placed under the knees.



- Put the casualty in the most comfortable position for him or her.
- Place padding between legs, and put a broadfold bandage around the legs at the ankles and knee.

DO NOT:

- ✗ Do not move the casualty until you have steadied and supported the injured part, unless he or she is in danger.
- ✗ Do not allow the casualty to eat, drink or smoke.
- ✗ Do not try to put a dislocated bone back into the joint − you may cause further damage.

Many people are worried about moving an unconscious casualty with fractures into the recovery position. However, a person is more likely to die or suffer lasting **disability** from an obstructed airway than from a fracture, even a spinal injury. The golden rule is, if you suspect a fracture in the unconscious casualty, move them very carefully providing as much support as possible to the place where the injury is (see Unit 10, page 86) for more on moving a casualty with a suspected spinal injury into the recovery position).



Words you need to know

Below each word, write it in your own language

Disability – cannot do something eg. move an arm or leg or think properly

Are there any other words in this unit that you don't understand? Write them down here, and find out what they mean.

Pads, bandages and slings

You will use different pads and bandages depending on what kind of fracture or dislocation it is, and where it is on the body.

Pads

A pad could be a thin one made from folded gauze or some other material that will absorb blood from an open wound, but NOT leave any bits in the wound. For an open wound, you can also use clean cotton cloths which have been boiled before use. You will have to burn these after you have used them. Remember that anything used on an open wound should be sterile.

Pads for a closed wound could be made from any available material, such as a jacket or other piece of clothing, a towel or blanket, a pillow, and so on. How thick the pad should be will depend on what you are using it for.

Words you need to know

You should never use cottonwool as

a pad on an open

wound. This is

because bits of the cottonwool could

come loose and

stick to the wound.

Below each word, write it in your own language

Sterile – very, very clean so that there are no germs

Bandages and slings

Bandages can be used:

- to hold a pad or dressing or cold compress or splint in the right place, or
- for support, for example as a sling.

Bandages to hold something in place

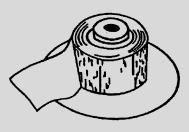
A bandage to hold a pad or dressing or cold compress or splint in place can be a stretchy roller bandage, a strip of material, or some old stockings or a long sock, or you could fold a triangular bandage to make it long and thin. It does not really matter what you use as a bandage as long as it is clean – it is better not to use a bandage at all than to use a wet or dirty bandage for an open wound.

You can buy different kinds of bandages to do different things:

Adhesive plaster, clear plaster and stretch plaster are used for tying on gauze dressings.





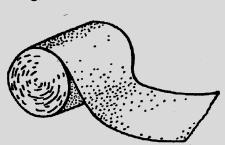


Elastic net bandage is used on the head and face.



Crepe (elastic conforming) bandage is used for

bandaging joints.



A *triangular bandage* can be used to tie on dressings or pads, or to stop movement, or as a sling.



Splints

A splint is something strong and straight that you can tie onto a limb to hold it still. You can use many different things as a splint, for example:

- a straight stick
- a walking stick
- an umbrella
- a broom handle
- a bicycle pump
- a plank from a wooden box
- thickly rolled up newspapers.

Folding a triangular bandage

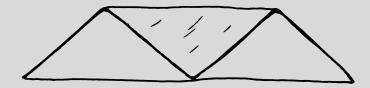
You can fold a triangular bandage so that it is wide (this is called a *broad-fold bandage*) or thin (this is called a *narrow-fold bandage*).

Folding a broad-fold bandage:

1. Open out a triangular bandage and lay it flat on a clean surface:



2. Fold the top point of the bandage to the middle of the bottom of the bandage:

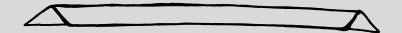


3. Fold the bandage down again, so that the top of the bandage meets the bottom, and you have a wide strip:



Folding a narrow-fold bandage:

Fold a broad-fold bandage once more, so that the bandage is even thinner:



Bandaging techniques (how to wrap a bandage)

Wrap the bandage around the part of the body where the injury and dressing or pad is, so that it keeps the dressing or pad over the wound (if there is an embedded object still in the wound, see page 60). You will need to wrap the bandage differently for different parts of the body.

Bandaging a limb (i.e. the straight part of an arm or a leg)

You would use this on, for example, a forearm.

- 1. The first two rolls of the bandage should be in the same place. This is to hold it in place.
- 2. The next few rolls should wrap around with two-thirds of the bandage overlapping.
- 3. The last two rolls should be in the same place to hold it in place.
- 4. Secure the bandage with a pin or piece of tape.









Always ask the patient if the bandage is too tight. If it feels too tight, it might be stopping blood from flowing into the area. If the bandage is around an arm or a leg, you can check if blood is flowing well by looking at his or her finger or toenails. If the nails look a bit blue, the bandage is too tight. You will need to remove it and reapply it more loosely.

Bandaging an ankle

- 1. The first two rolls of the bandage should be in the same place. This is to hold it in place. You should do this on the ankle.
- 2. Take the bandage across the foot at an angle and around the bottom of the toes, then back across the top of the foot to the ankle, forming a figure of eight.
- 3. Secure the bandage with a pin or piece of tape.

Always ask the patient if the bandage is too tight. If it feels too tight, it might be stopping blood from flowing into the area. If the bandage is around an arm or a leg, you can check if blood is flowing well by looking at his or her finger or toenails. If the nails look a bit blue, the bandage is too tight. You will need to remove it and reapply it more loosely.



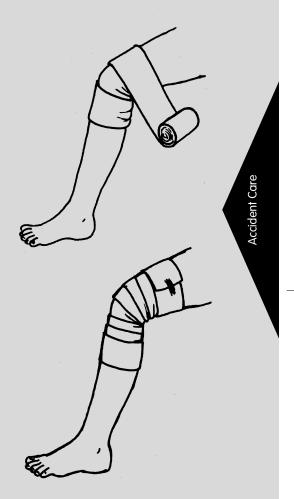


Bandaging elbows and knees

You would use this for example on a bent elbow or knee.

- 1. The first two rolls of the bandage should be in the same place. This is to hold it in place. You should do this over the flexed (bent) joint.
- 2. Roll the bandage below and then above the joint in a figure of eight.
- 3. Continue in this way until you have covered the dressing.
- 4. Secure the bandage with a pin or piece of tape.

Always ask the patient if the bandage is too tight. If it feels too tight, it might be stopping blood from flowing into the area. If the bandage is around an arm or a leg, you can check if blood is flowing well by looking at his or her finger or toenails. If the nails look a bit blue, the bandage is too tight. You will need to remove it and reapply it more loosely.



Bandaging a finger

The most important thing to remember about any injury to a finger is to take off any rings as soon as possible. This is because the finger may swell, and a ring could stop the blood from flowing properly. Taking a ring off also stops any dirt from the ring getting into an open wound. You should put the ring onto another of the casualty's fingers, preferably on the other hand, to keep it safe.

There is a special kind of bandage that can be used to bandage a finger. It is made of gauze, and is a tube. The tube of bandage is fitted over the finger using a special tool (called an applicator). This is the best way to bandage a finger. If you do not have this, use an adhesive dressing, or a small, clean dressing stuck on with a plaster. If you have no other choice, you can bandage the finger with a very thin bandage using the same method as for a limb, starting at the end of the finger closest to the hand.

BE CAREFUL NOT TO MAKE THE DRESSING OR BANDAGE TOO TIGHT.

Slings

It is often very important to support or elevate (lift) an injured arm. This is done using a sling. A sling can be made from a triangular bandage, or you can make a sling from other things that are available, such as a jacket, shirt, or belt.

Arm sling

This is used to support an injured arm.

1. Hold the injured arm, or get the casualty to hold his or her injured arm, so that it is supported. The hand should be slightly lifted.

2. Place the triangular bandage under the injured arm, so that one end of the longer side is at the neck on the other side of the body from the injured arm, and the top end of the bandage is near the elbow of the injured arm.





3. Lift the third end of the bandage up to the other side of the casualty's neck (i.e. the side of the neck where the injured arm is).

4. Tie the bandage using a reef-knot (see below), so that the arm is well-supported. Tuck the ends of the bandage under the knot to pad it. Fold the end of the bandage next to the casualty's elbow to the front, and fasten it to the sling with a safety-pin after tucking in any loose material around the elbow. If you do not have a safety pin, twist the end of the bandage until the material is quite tight around the elbow, and then tuck it into the sling behind the arm.



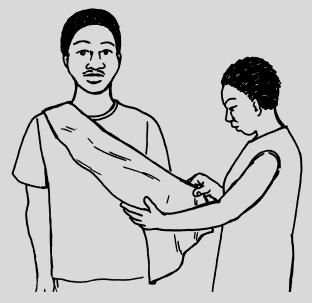


Elevation sling

1. Hold the injured arm, or get the casualty to hold his or her injured arm, so that the fingers of the injured arm rest on the casualty's shoulder and the forearm is lifted.



2. Place the triangular bandage OVER the injured arm, so that one end of the longer side is at the neck on the other side of the body from the injured arm, and the top end of the bandage is near the elbow of the injured arm.



3. Ask the casualty to let go of his arm. Tuck the loose part of the bandage under his or her hand, forearm and elbow.

4. Lift the loose end of the bandage around the casualty's back to meet the other end at his or her shoulder. Tie the ends in a reef-knot in the hollow just in front of the shoulder. Tuck the ends under the knot to pad it.



5. Fold the end of the bandage next to the casualty's elbow, and fasten it to the sling with a safety-pin. If you do not have a safety-pin, twist the end of the bandage closest to the casualty's elbow until the material fits tightly around the elbow, and tuck the end in just above the elbow.

Improvised slings

If you need to support a casualty's injured arm but do not have a triangular bandage, you can improvise (make) a sling by using strong cloth or part of clothing.

Jacket corner

Use the casualty's jacket or someone else's jacket. The casualty needs to put it on. Undo the jacket. Fold the lower part of the jacket on the injured side up over his or her arm. Join the corner of the bottom part of the jacket to the jacket breast with a large safety pin. Tuck and pin any other jacket material closely around the elbow.





Button-up jacket

Undo one button of a jacket or coat (or waistcoat). Place the hand of the injured arm inside the jacket or coat at the hole which is made by the button which is undone (not closed). Tell the casualty to rest his or her wrist on the button just below the hole.



Long-sleeved shirt

Put the injured arm across the casualty's chest. Pin the cuff of the sleeve (the end part of the sleeve) to the opposite breast of the shirt. To improvise an elevation sling, pin the sleeve at the casualty's opposite shoulder, to keep her arm raised.



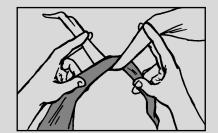
Belt or thin garment

Use a belt, a tie, a scarf, a pair of braces (things to hold trousers up with) or stockings to make a "collar-and cuff" support. Tie the belt or garment to make a loop. Put it over the casualty's head, then twist it once to form a smaller loop at the front. Put the casualty's hand into the loop.

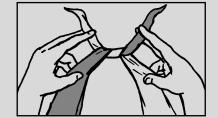
Fastening a bandage

You can fasten the bandage by pinning it in place with a safety-pin, or by tying it, using a reef knot:

1. Pass one end over and under the other end.



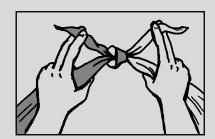
2. Hold up the two ends of the bandage.



3. Pass the other end over and under the first end.



4. Pull the two ends to tighten the knot, and tuck them under the bandage.



It is VERY IMPORTANT that you do not tie the bandage too tightly, because this will stop the blood from flowing to the part of the body after the bandage. You can tell that the bandage is too tight if the part of the body after the bandage changes colour, or the casualty says it feels strange.

Unit 18: Head and spinal injuries

At the end of this unit, you should be able to:

- Identify the basic anatomy of the head and neck
- List possible causes of head and spinal injuries
- List the signs and symptoms of head and spinal injuries
- Demonstrate appropriate treatment for head and spinal injuries
- Recognise that the casualty is getting worse

Words you need to know

Below each word, write it in your own language

Anatomy – how the body is made

What are head and spinal injuries?

The nervous system is made up of the brain and the nerves that run from the brain all over the body. The body cannot work normally without the brain. The brain makes the different parts of our bodies work, but also makes sense of the world around us. For example our vocal chords make sound, but it is the brain that gives these sounds meaning. Our eyes see, but it is the brain that gives what we see meaning.

So the brain makes sense of the messages we receive through our five senses (sight, smell, touch, taste, hearing). Our brain also sends messages to other parts of the body through the nerves. Nerves run from the brain through the spinal cord, which is a hollow tube running through the centre of the bones that make up the spine (although some nerves run straight from the brain to the muscles of the face). Nerves then run from the spinal cord all over the body.

The brain tells our hands to move and to grab when we want to pick something up. The brain tells our eyes to blink when they are a bit dry. The brain tells our lungs to work when we need to take a breath. The brain tells our fingers that something is hot so that we do not damage our skin by holding it. The brain also controls our temperature, appetite (need for food) and thirst.

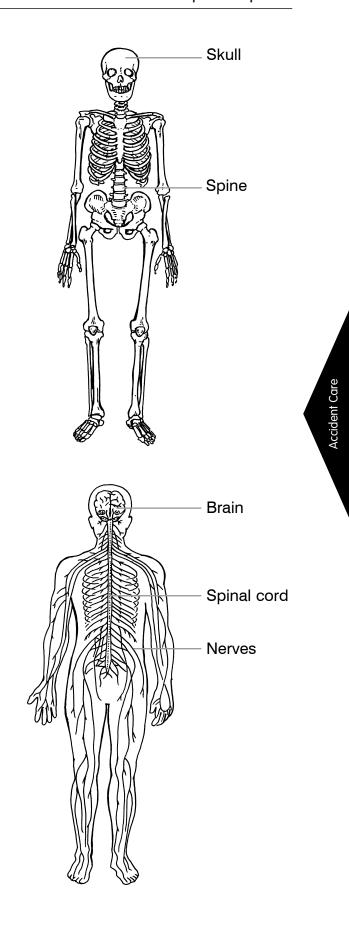
Bones surround the brain and the spinal cord to protect them. The skull protects the brain and the top of the spinal cord. It also supports the eyes and other parts of the face. The brain does not fit tightly in the skull – rather, there is some space to allow the brain to move and expand a little bit.

The spine protects the spinal cord. It also supports the head and helps to support the weight of the body. But to allow us to move more freely, and to bend, the spine needs to be flexible. So the spine is not a single bone – rather it is made up of 33 bones, called vertebrae. Just as other bones join together in joints, so too do the vertebrae. Between each vertebrae are discs of cartilage which:

- prevent the bones from rubbing together,
- make the spine more flexible, and
- protect the spine if it is moved suddenly.

As in other joints, muscles and ligaments are attached to the vertebrae, and keep it straight and control its movements.

Any injury to the head or spine can be extremely dangerous, since the brain or spinal cord may also be damaged. So any injury to the head which may involve the brain, or to the spine, must be taken very seriously; and anyone with such an injury must be referred for medical care.



Head injuries

What are head injuries?

Head injuries which might affect the brain can be divided into three main types. These are:

Concussion

Compression

Skull fracture

Concussion is when the brain is shaken by a blow to the head or a bad fall. This may cause the person to briefly lose consciousness.

Compression is a serious condition where bleeding or swelling causes pressure to be put on the brain. This may cause death.

A skull fracture is a break in the bone of the skull. There could also be concussion or compression. In some cases the casualty may not lose consciousness but may still have a serious skull fracture. A skull fracture may result from a blow to the head, or from a fall in which the casualty falls heavily on their feet, causing a shock wave to travel up the spine and damage the skull.



The possibility of a skull fracture must be considered in any case involving a blow to the head or a heavy fall.

You can read about bleeding from the scalp in Unit 8.

How can you tell that someone has a head injury?

There are important differences in the signs and symptoms of the three major types of head injury:

| Concussion | Compression | Skull fracture |
|--|--|--|
| Concussion History of a blow to the head. Brief loss of consciousness. Dizziness and feeling sick on recovery. Loss of memory of events just before the incident. Headache. | History of a recent blow to the head (this may even have happened a few days earlier). Deterioration accompanied by confusion. Verybad headache. Slow, noisy breathing. Slow strong pulse. Unequal pupils. Hot flushed appearance. | History of a blow to the head or a fall. Wound or bruise to head. Soft area or dent (goes in/like a hole) in the scalp. Lower level of consciousness. Clear or bloodstained fluid coming from the ear or nose. Blood in the white of the eye. The shape of the head or face is |
| | Weakness or paralysis (cannot move) down one side of the body. | unusual. |

NOTE: For bleeding from the head (eg. scalp wounds, nose bleeds, bleeding from nose, bleeding from the mouth or a knocked out tooth), see Unit 8: Wounds and bleeding.

Unit 18: Head and spinal injuries

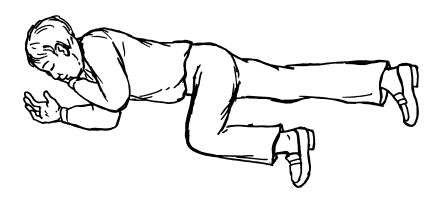
Your aims:

- · Get medical help.
- Keep the airway open, if necessary.



Your actions:

- **1** As always, assess D R A B, respond as needed, and treat any more urgent injuries.
- **2** If the casualty is *unconscious* then place him or her in the recovery position, injured side down.



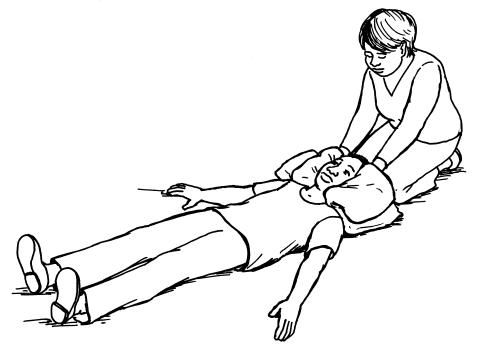
- Monitor levels of consciousness as well as breathing and pulse every ten minutes.

 Remember to keep writing down (or remembering) what you found and what you did, so that you can report this to any health worker who takes over from you.
- 4 If the casualty is *conscious*, or regains consciousness, keep a close watch for signs the casualty is getting worse. If you suspect a skull fracture, lie the casualty down, raise the head and shoulders gently and support them.
- **5** If there is any discharge from the ear, cover with sterile dressing or clean pad. Secure this with a light bandage. Do not put anything into the ear.

- **6** Control any bleeding from the scalp (see Unit 8).
- Protect any area where there is a depression (hollow/sunken) or lump, using a thick soft dressing or clean cloth. Do not press on the injured area if you think there might be a fracture.
- 3 Call for medical help.
- **9** Remember to keep checking the casualty's vital signs and writing down (or remembering) what you found and what you did, so that you can report this to any health worker who takes over from you.

Any injury bad enough to cause loss of consciousness may have caused injury to the neck or spine. When dealing with any head injury you must remember to keep all movement to a minimum. Where movement cannot be avoided support the head and neck as much as possible (see the section on 'spinal injuries' later in this unit).





Spinal injuries

What are spinal injuries?

An injury to the spine may involve the bones (vertebrae), the discs between the vertebrae, the muscles and/or ligaments, or the spinal cord itself. Any suspected injury to the spine must be treated as a possible injury to the spinal cord. If the spine is injured, further damage may be done to the spinal cord if the casualty is moved in any way.

A spinal injury should always be suspected if:
there has been unusual force on the back or the neck
there has been violent forward or backward bending or twisting of the spine
the casualty complains of loss of feeling or movement

What can cause a spinal injury?

- Falling from a height
- Falling during exercise
- Being thrown from a horse
- Being thrown from a motorbike or any other vehicle
- Being in a car that stopped very suddenly
- A heavy object falling on the back
- A head injury

How can you tell that someone has a spinal injury?

He or she may have:pain in the neck or backa change in the normal curve of the spine

tenderness over the spine loss of control over movement, or weak movement, or not be able to move loss of feeling, or strange feelings a feeling of heaviness, stiffness or clumsiness in the limbs passing urine or stools without meaning to

Your actions:

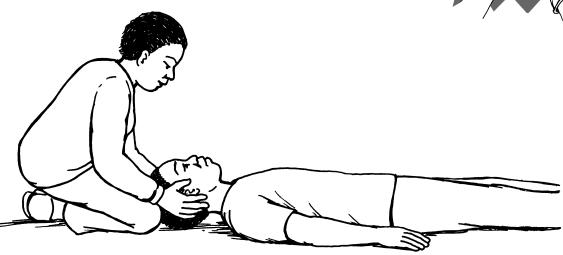
difficulty in breathing.

- **1** As always, assess D R A B, respond as needed, and treat any more urgent injuries.
- **2** If the casualty is *conscious*, ask him or her to keep as still as possible.
- **3** Call for help.
- A Kneel beside the casualty's head. Place your hands on either side of the head, with your hands over the ears (do not cover them completely the casualty must be able to hear you), and hold the head tightly.

Your aims:

- Prevent further injury.
- Try to get urgent medical help.

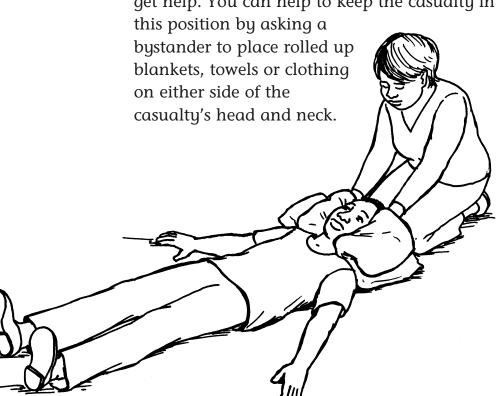




3 Steady and support the head so that the head, neck and spine are straight – do not pull or twist.

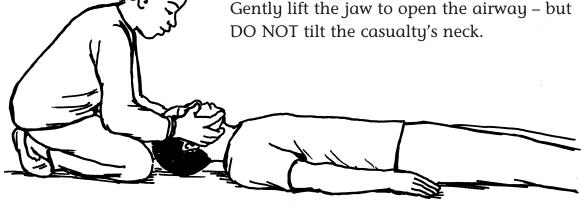
Unit 18: Head and spinal injuries

6 The casualty's head must stay in this position until he or she gets medical help, unless he or she is unconscious and you need to leave to get help. You can help to keep the casualty in



The casualty is *unconscious* use the jaw thrust method: open the airway by placing your hands on each side of the face, with your fingers at the point where his or her jaw begins. CONTINUE TO STEADY AND HOLD THE HEAD STRAIGHT AS YOU DO THIS.

Gentlu lift the jaw to open the airway – but



- **3** If the casualty is breathing, and you are alone and need to go for help, turn the casualty into the recovery position as for spinal injuries (see page 86).
- **9** If the casualty is not breathing, and there are no signs of life, give rescue breaths and CPR as usual.
- Remember to keep checking the casualty's vital signs and writing down (or remembering) what you found and what you did, so that you can report this to any health worker who takes over from you.
- **1** If the casualty needs to be transported to medical help, keep him or her flat and steady and support the head.

Words you need to know

Are there any other words in this unit that you don't understand? Write them down here, and find out what they mean.

Unit 19: Eye injuries

At the end of this unit, you should be able to:

- Explain the basic anatomy of the eye
- Explain different kinds of eye injuries
- List possible causes of each injury
- Recognise signs and symptoms of each injury
- Identify appropriate treatment for each injury
- Explain what can be done to make crossinfection less likely

Words you need to know

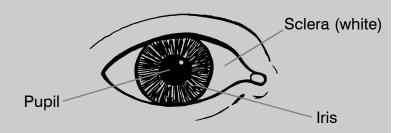
Below each word, write it in your own language

Anatomy – how the body is made

What is an eye injury?

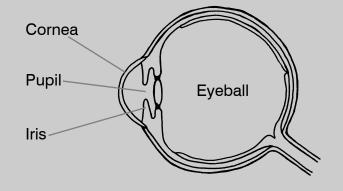
The eye is made up of a number of parts, each of which plays an important role in making us see.

From the front, the eye looks like this:



When you look into someone's eye, you are only seeing the sclera (usually called "the white of the eye"), the iris (the coloured part) and the pupil (the black dot in the centre). The sclera is made of tough tissue and protects the eye. Tiny muscles connect to the sclera around the eye and control the eye's movements. The iris contains the muscles that control the pupil, opening and closing the pupil to allow in more or less light. The iris divides the front of the eye from the back of the eye.

The cornea is over the iris and pupil. The cornea is transparent (see-through), so we cannot see it. From the side, it looks like this:



The cornea is extremely sensitive – it has more nerve endings than any other part of the body. The cornea plays a very important role. It is like a window, protecting the eye and keeping it clean, but it also helps the eye to focus (see clearly). In most cases, damage to the cornea cannot be made better again – the cells will not grow back, or scar tissue may form, affecting sight.

Behind the iris are many other parts to the eye which we need so that we can see – including nerves which connect the eye to the brain. Any object which goes through the surface of the eye is likely to cause damage to these parts.

What can cause an eye injury?

Problems with the eye may be as simple as an eyelash or dust entering the eye, or could involve a foreign object being embedded in the eye or chemical burns to the eye.

IT IS SOMETIMES DANGEROUS TO ATTEMPT TO REMOVE AN OBJECT FROM THE EYE, OR WASH OUT THE EYE.

You always need to look carefully to determine exactly what the problem is, so that you can carry out the appropriate treatment.



Foreign object in the eye

If there is a foreign object in the eye, it is important to find out whether this is loose, or is sticking to or embedded in the eyeball. If this is the case, or if a loose object is on the iris, you should not try to remove it, or you may damage the eye.

How can you tell that someone has a foreign object in his or her eye?

He or she may have:

| pain or the eye may be very uncomfortable |
|---|
| redness, and the eye may water |
| blurred vision (i.e. cannot see clearly). |
| The person may not be able to, or want to, |
| open the eye, and may keep it tightly closed. |

Your aims:

- Prevent the object from injuring the eye.
- Remove the object if it is loose and on the white part of the eye.

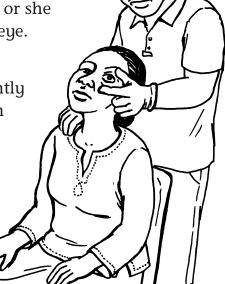


Your actions:

1 As always, assess D R A B, respond as needed, and treat any more urgent injuries.

2 Ask the casualty to sit where you have good light to see by. Make sure he or she does not rub the eye.

Stand behind the casualty, and gently open the eye with your index (pointing) finger and thumb.



- **4** Look closely.
- **5** If you can see a loose foreign object on the white part of the eye, pour very clean water from a glass or cup into the eye (NOTE: make sure the water is clean if necessary, boil it first and allow it to cool. The water must be clean enough to safely drink). The casualty should lean towards the injured side.



IF THE OBJECT IS STUCK TO THE EYE, OR EMBEDDED IN IT, OR IS ON THE COLOURED PART OF THE EYE, DO NOT TRY TO REMOVE IT. Cover both eyes, and try to get medical help.



3 If the object does not wash out of the eye with the water, lift the object off with a clean, wet cloth. If this still does not work, try to get medical help.



Eye injury

How can you tell that someone has an eye injury?

He or she may have:

- intense pain
- redness of the eye
- ☐ blood or other obvious signs of injury
- ☐ fluid or tears leaking from the eye
- ☐ The person may not be able to open the eye.

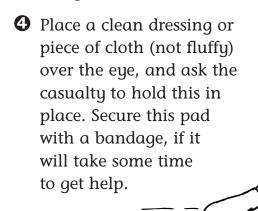
Your aims:

- Prevent further damage.
- Try to get medical help.



Your actions:

- **1** As always, assess D R A B, respond as needed, and treat any more urgent injuries.
- **2** Help the casualty to lie down on his or her back.
- **3** Hold his or her head to keep it as still as possible, and ask the casualty to keep both eyes as still as possible (moving one eye is likely to cause movement in the other).





5 Try to get medical help. If you need to transport the casualty, try to keep him or her in the treatment position.

DO NOT:

- ✗ Do not touch the eye, or allow the casualty to rub it.
- ✗ Do not try to remove anything from the eye, even a contact lens (some people wear these instead of glasses – they are worn in the eye).



Chemical burn to the eye

How can you tell that someone has a chemical burn to the eye?

He or she may have:

| intense | pain |
|---------|------|
| | |

- ☐ fluid or tears leaking from the eye
- redness and swelling.
- The casualty may not be able to open the eye.
- ☐ There may be tins or bottles that had chemicals in them close by.

Your aims:

- Wash out or dilute (make less strong) the chemical in the eye as quickly as possible.
- Try to get medical help.



Your actions:

- As always, assess D R A B, respond as needed, and treat any more urgent injuries.
- 2 Put on disposable gloves or plastic bags over your hands if you can the chemical that has caused the injury may harm your skin.
- If there is clean running water, hold the casualty's eye under this for at least 10 minutes. Otherwise stand behind the casualty, and gently open the eye with your index finger and thumb. Pour clean water from a glass or cup or jug into

the eye.

(NOTE: make sure the water is clean – if necessary, boil it first and allow it to cool. The water must be clean enough to safely drink). Keep refilling and pouring for 10 minutes.

- **4** Try to prevent the water that is coming out of the eye from splashing the casualty's other eye.
- **6** Place a clean dressing or piece of cloth (not fluffy) over the eye, and ask the casualty to hold it in place. Bandage this into place if you think it will be a while before you can get medical help.
- **6** If possible, find out what the chemical was, and write this down or remember it.
- **7** Try to get medical help.
- Remember to keep checking the casualty's vital signs and writing down (or remembering) what you found and what you did, so that you can report this to any health worker who takes over from you.
- **9** Tell the casualty to go to a doctor.

Tear gas

Tear gas irritates the eyes, making them water. The effects usually only last about 15 to 20 minutes, but the eyes may remain red and sore for longer.

How can you tell that someone has got tear gas in his or her eyes?

He or she may have:

| watering and stinging of the eyes | |
|--|--|
| coughing and sneezing, with a feeling like the | |
| nose and throat are burning | |
| chest tightness, and possibly difficulty in | |
| breathing properly. | |

$\overline{}$

Your aims:

 Get the casualty to fresh air as quickly as possible.



Your actions:

- **1** If possible, cover your nose and mouth with a cloth or piece of clothing. Try to get the casualty away from the gas.
- **2** As always, assess D R A B, respond as needed, and treat any more urgent injuries.
- **3** Reassure him or her that the symptoms will not last long. Try to stop him or her from rubbing the eyes.
- Ask the casualty to open the eyes, and fan them with your hand or a piece of paper to make them feel better quicker. DO NOT try to wash the eye out this may make them hurt for longer.
- **5** If the person was very close to the gas, and has breathed in a lot of it, try to get medical help.
- **6** Remember to keep checking the casualty's vital signs and writing down (or remembering) what you found and what you did, so that you can report this to any health worker who takes over from you.

Words you need to know

Are there any other words in this unit that you don't understand? Write them down here, and find out what they mean.

Unit 20: Poisoning

At the end of this unit, you should be able to:

- List different ways poison can get into the body
- Recognise the signs and symptoms of poisoning
- Describe and explain appropriate treatment for poisoning
- Describe how you can prevent poisoning in different contexts

Poison Centre telephone number:

Also write this number inside the front cover of this book so you can find it quickly.

What is poisoning?

A poison is something that can cause harm or even death when enough is taken into the body. Poisons can be taken into the body through the mouth (swallowing), the skin (skin contact, or injection), the nose or mouth (inhaling), or the eye (splashed into the eye). Actions for dealing with a poison depend on how it has entered the body. Once a poison enters the body, it may enter the bloodstream, and be quickly carried to organs and tissues, where it may cause very bad damage.

What can cause poisoning?

Poisoning may be caused by man-made substances like medicines or chemicals, or by poisonous plants, or animals (see Unit 21), or by contaminated food (eg. food poisoning). Many poisons are commonly available, and often found in the home, such as paraffin, household cleaners, bleach, paint thinners, or medicines.

Simple prevention can stop poisoning:

- Keep dangerous chemicals and medicines out of reach
- ✓ Do not transfer poisonous substances from the original container to another, especially old cold drink bottles.

How can you tell that someone has had poison?

Always look for signs in the immediate environment, such as empty containers. History is often the best way of working out what happened. Different poisons result in different signs and symptoms; and the way in which a poison entered the body will also result in different features:

| Way in which the poison entered | Possible signs and symptoms | |
|--|--|--|
| Swallowed | Nausea (feeling sick and wanting to vomit) and vomiting. Pain in the abdomen. Seizures (fits). Irregular, or slow, or fast pulse. | |
| Absorbed through the skin | The person may lose consciousness. Intense, stinging pain. Swelling or blistering or peeling. A rash or redness or other changes in the colour of the skin, or itching. | |
| Inhaled | Difficulty breathing. Headache. Grey-blue skin. Confusion, and may become unconscious. | |
| Injected (eg. a snake bite or bee sting) | Pain, redness in a light-skinned person, and swelling of the place where the poison was injected. Nausea and vomiting. Difficulty breathing. Seizures (fits). The person may have blurred vision, and/or lose consciousness. The person may go into anaphylactic shock (massive allergic reaction – see Unit 29). | |
| Splashed in the eye See Unit 19 for how to treat this. | Pain. The eye may water. The vision may be blurred. | |

Swallowed Poisons

Your aims:

- Maintain (keep) an open airway, breathing and circulation.
- Make sure you and the casualty are safe.
- Get urgent medical help.
- Identify the poison if possible.



Your actions:

- **1** As always, assess D R A B, respond as needed, and treat any more urgent injuries.
- **2** Call for medical help.
- 3 If the casualty is *unconscious* then place him or her in the recovery position, monitor R A B and be prepared to **resuscitate**. If you need to give rescue breaths, use a

facemask if there might be chemicals in or around the casualty's mouth. You could use a plastic bag with a hole made in it for the mouth in an emergency, but this is not completely safe.



If the casualty is *conscious*, place in a comfortable position and attempt to find out what poison has been taken.

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DO NOT TRY TO MAKE THE CASUALTY VOMIT.

- 4 If the casualty has taken a corrosive poison (a poison that burns, like acid) give lots of sips of water, or milk if water is unavailable (you will need to help the casualty sit up to drink). If the casualty needs resuscitation, make sure you use a barrier to protect yourself.
- **5** If the casualty vomits, save a bit and give this to any medical help.
- **6** If possible identify the container/s that held the poison and give it to the medical help.
- Remember to keep checking the casualty's vital signs and writing down (or remembering) what you found and what you did, so that you can report this to any health worker who takes over from you.



Words you need to know

Below each word, write it in your own language

Resuscitate – restart breathing or heart beat by using CPR

List of poisonous plants

| Make a list of poisonous plants that can be found |
|---|
| n your area: |
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Skin Contact

Your aims:

- Maintain (keep) an open airway, breathing and circulation.
- Make sure you and the casualty are safe.
- Get urgent medical help.
- Identify the poison if possible.



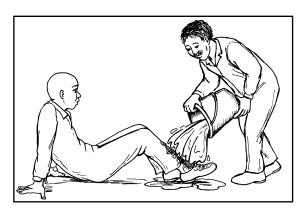
Your actions:

- Make the area around the casualty safe. Make sure the area is as well ventilated as possible (i.e. open windows and doors). If possible, close the container in which the poison was stored. If necessary, remove the casualty.
- Make your initial assessment. If the casualty is unconscious place into the recovery position and monitor R A B. Be prepared to resuscitate. If you need to give rescue breaths, use a facemask if there might be chemicals in or around the casualty's mouth. You could use a plastic bag with a hole made in it for the mouth in an

emergency, but this is not completely safe.



3 Do not touch the affected area with your bare hands. To make sure that you get rid of any chemical on the skin, flood the injured area with running cold water (you could use a jug and bowl, or a bucket, to do this).







Do not reuse the same water. Avoid splashing onto yourself or into the casualty's eyes, mouth and nose. If the poison is causing chemical burning, keep washing the area for at least 20 minutes If the casualty is on the ground, try to make sure the water is not collecting underneath him or her.

- **4** Gently take off any clothing that might have the chemical on it while still flooding the area, where possible and if safe to do so. Try to keep bystanders away.
- **6** Call for help.
- **6** Remember to keep checking the casualty's vital signs and writing down (or remembering) what you found and what you did, so that you can report this to any health worker who takes over from you.

Words you need to know

Below each word, write it in your own language

Resuscitate – restart breathing or heart beat by using CPR

Inhaled poisons

Your aims:

- Maintain (keep) an open airway, breathing and circulation.
- Make sure you and the casualty are safe.
- Get urgent medical help.
- Identify the poison if possible.



Your actions:

- **1** Do not try to help the casualty if you will be putting yourself or others at risk.
- **2** If you will not put yourself in danger, remove the casualty to open air or open windows. If possible stop the poison from coming (eg. turn off the gas, etc).
- **3** As always, assess D R A B, respond as needed, and treat any more urgent injuries.
- If the casualty is breathing but unconscious, place in the recovery position and monitor R A B.
- **5** If the casualty has stopped breathing, start resuscitation.
- **6** Call for medical help.
- Remember to keep checking the casualty's vital signs and writing down (or remembering) what you found and what you did, so that you can report this to any health worker who takes over from you.

Accident Care

Injected Poisons

Your actions:

1 As always, assess D R A B, respond as needed, and treat any more urgent injuries.

If you suspect a snake bite or bee sting, and the casualty is showing signs of shock, or is having trouble breathing, he or she may be having a massive allergic reaction. See Unit 29 and Unit 21.

- **2** Place the casualty in the recovery position, even if he or she is conscious, and monitor R A B. Be prepared to **resuscitate** if necessary.
- **3** If the casualty is conscious, keep him or her as calm and quiet as possible.
- **4** Call for help.
- **5** If possible identify the injected substance. Keep any syringes, needles or samples of the substance for the medical services. Be extremely careful when dealing with syringes, etc, as these may have blood on them and may carry infection like HIV or Hepatitis.
- **6** Remember to keep checking the casualty's vital signs and writing down (or remembering) what you found and what you did, so that you can report this to any health worker who takes over from you.

If you prick yourself with a needle or syringe, squeeze the wound to make it bleed and wash well with soapy water. You should go to a clinic or doctor, and take the syringe with you.

Your aims:

- Maintain (keep) an open airway, breathing and circulation
- Make sure you and the casualty are safe
- Get urgent medical help
- Identify the poison if possible.

Words you need to know

Below each word, write it in your own language

Resuscitate – restart breathing or heart beat by using CPR

Unit 20: Poisoning

Words you need to know

Are there any other words in this unit that you don't understand? Write them down here, and find out what they mean.

Beliefs about poisons

One of the most dangerous beliefs about poisons is that you should try to make the person vomit. **Never** do this. The patient may become unconscious and the vomit could block the airway. Another wrong belief is that you should keep the person awake.

| keep the person awake. |
|---|
| Have you heard of any others? Write them down here. |
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Worksheet 20a: Poisoning



Read the story you have been given, and then answer the questions below:

- 1. What happened to the casualty or casualties?
- 2. How did the poison get into his or her body?
- 3. What signs and symptoms would you expect this person to develop?

4. Do you think the person who helped the casualty treated the casualty properly? Explain your answer.

Unit 21: Bites and stings

At the end of this unit, you should be able to:

- Recognise the signs and symptoms of various bites and stings
- Describe the appropriate treatment for various bites and stings



What are bites and stings?

Any bite is a potential source of infection, especially if the skin is broken. Bites from humans or animals have a particularly high chance of causing infection, because of the bacteria carried in saliva (spit); and bites from wild animals also carry the risk of rabies. Bites from snakes and spiders can be poisonous.

Stings can be painful and upsetting, but may also cause massive allergic reaction (see Unit 29). You will also need to take care to prevent infection.

Animal Bites

When an animal bites, it causes two types of wound:

- Superficial lacerations (i.e. not deep) with crushing of tissue and
- Deep puncture wound.

The puncture wound will cause the greater problem for the casualty, as germs will go deep into the wound. However, any opening in the skin must be treated quickly to prevent infection.

In any bite by an animal or human, the possibility of rabies and tetanus must always be considered (see next page).

Your actions:

- **1** As always, assess D R A B, respond as needed, and treat any more urgent injuries. *If you suspect rabies, see below.*
- **2** Wash the wound using soap and water (put gloves or plastic bags on if you can).
- **3** Pat dry and cover with a clean dressing.
- Tell the casualty to go to a clinic or doctor and check whether anti-tetanus and rabies injections are needed.
- **6** For more serious wounds, control the bleeding with direct pressure.
- **6** Cover with a sterile dressing and take or send the casualty to medical help.
- Remember to keep checking the casualty's vital signs and writing down (or remembering) what you found and what you did, so that you can report this to any health worker who takes over from you.

Rabies

Rabies is a disease spread by a virus. It affects the central nervous system, and is almost always fatal (the person dies) if not treated. Always suspect rabies if the bite is from a wild animal, or from a domestic animal that is behaving strangely.

Be especially careful when providing First Aid to someone you suspect may have been bitten by a rabid animal. Wear gloves, and do not unnecessarily touch the animal or the wound. Be especially careful of the animal – it may be dangerous. If the animal is still alive, ensure that all bystanders are aware of the dangers. If it is possible to catch the animal safely, keep it to be checked for rabies.

Your aims:

- Control bleeding.
- Minimise (keep it down) the risk of infection to yourself and the casualty.
- Try to get medical help.



ccident Care

Snake Bites

What snakes in your area are poisonous?

What are snake bites?

Many different species (kinds) of snakes live in different parts of the world. Only some of these snakes are poisonous, but you should treat all snake bites as poisonous. The bites of a snake can cause

- little or no swelling where the bite happened or
- bad swelling where the bite happened.

These should be treated differently. It is very important that you should, if possible, identify the snake to help with treatment

How can you tell that someone has been bitten by a snake?

He or she may have:

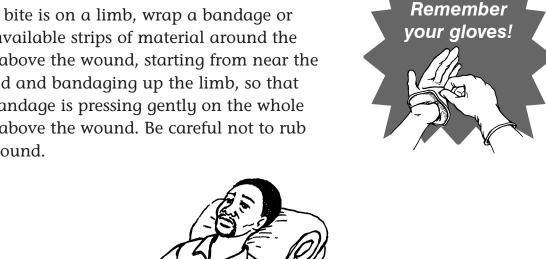
- severe (very bad) pain, redness in a light-skinned person, and swelling
- nausea and vomiting
- ☐ visual disturbances (i.e. he or she cannot see properly)
 - difficulty breathing, and in bad cases, the casualty may stop breathing.

Your actions:

- **1** Help the casualty lie down, with the affected part lower than the heart. It is very, very important to keep the casualty as still as possible - any movement will make the poison spread more quickly.
- **2** Reassure the casualty to make the chance of shock less and slow down the heart rate. If necessary, treat for shock (see Unit 9).
- **3** Gently wash the bite with soap and water if available, and pat dry with a clean swab.
- **4** If the bite is on a limb, wrap a bandage or any available strips of material around the limb above the wound, starting from near the wound and bandaging up the limb, so that the bandage is pressing gently on the whole limb above the wound. Be careful not to rub the wound.

Your aims:

- Reassure the casualty.
- Prevent the spread of poison.
- Try to get urgent medical help.
- Prevent infection.



Unit 21: Bites and stings

Words you need to know

Below each word, write it in your own language

Tourniquet – something which is tied so tightly around a limb that it stops blood from flowing

- **5** Use triangular or broad-fold bandages, and splints if available, to stop the casualty from moving the limb.
- **6** Get medical help as soon as possible.
- Remember to keep checking the casualty's vital signs and writing down (or remembering) what you found and what you did, so that you can report this to any health worker who takes over from you.



DO NOT:

- X Do not cut the wound
- **X** Do not suck the wound
- ✗ Do not use a tourniquet or tight bandage to stop the poison from spreading
- ✗ Do not shock the person with electricity
- Do not apply (put) or inject chemicals or medicines to the wound
- **X** Do not use ice on the wound.

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Spider or scorpion bites or stings

Different parts of the world are home to many different species (kinds) of spider and scorpion, some of them poisonous. You should treat all such bites as poisonous.

Bites in the mouth or on the throat may also cause swelling which affects the airway, and causes breathing difficulties. As with insect bites (see below), these bites may cause massive allergic reaction (see Unit 29).

How can you tell that someone has been bitten or stung by a spider or scorpion?

He or she may have:

- pain, redness in a light-skinned person, and/or swelling
- nausea and vomiting
- headache.

However, different species cause different responses.

Your actions:

- **1** As always, assess D R A B. If the casualty is showing signs of shock, or is having trouble breathing, he or she may be having a massive allergic reaction. See Unit 29.
- **2** Reassure the casualty.
- 3 Help the casualty to sit or lie down.

Your aims:

- Reassure the casualty.
- Relieve pain and swelling.
- Prevent the spread of poison.
- Try to get urgent medical help if necessary.
- Prevent infection.





Unit 21: Bites and stings

A Raise the affected part, if possible, put on a cold compress (something cold which you can use to apply pressure to the wound – like a cloth with ice wrapped in it) to relieve pain and swelling for at least 10 minutes.



Remember to keep checking the casualty's vital signs and writing down (or remembering) what you found and what you did, so that you can report this to any health worker who takes over from you.

If the bite or sting occurs in the mouth, there is a risk of swelling which may affect breathing. Encourage the casualty to suck ice or drink cold water to reduce the swelling. If swelling starts, try to arrange transport to medical help urgently, monitor R A B and reassure the casualty while waiting.

- Relieve pain and swelling.
- · Prevent infection.
- Try to get medical help if necessary.

Insect stings Your aims:

Insect stings on the whole are painful rather than dangerous. However, if the casualty is allergic to them, or the sting occurs in the mouth (where it may cause swelling and thus affect breathing), or there are many stings, emergency action will need to be taken. See Unit 29.

How can you tell that someone has been stung by an insect?

He or she may have:

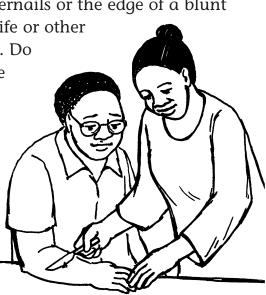
- pain, redness in a light-skinned person or swelling
- itching
- signs of an allergic reaction (see Unit 29).



Your actions:

- **1** As always, assess D R A B. If the casualty is showing signs of shock, or is having trouble breathing, he or she may be having a massive allergic reaction. See Unit 29.
- **2** If you can see the sting, brush or scrape it off with your fingernails or the edge of a blunt

(not sharp) knife or other suitable object. Do not remove the sting with tweezers, since you might squeeze more poison into the wound.







Unit 21: Bites and stings

3 Raise the affected part, if possible, and apply a cold compress (something cold which you can use to apply pressure to the wound – like a cloth with ice wrapped in it) to relieve pain and swelling for at least 10 minutes.



4 Tell the casualty to go to a doctor or clinic if the pain and swelling do not get better over the next day or so.

If the sting occurs in the mouth, there is a risk of swelling which may affect breathing. Encourage the casualty to suck ice or drink cold water to reduce the swelling. If swelling starts, try to arrange transport to medical help urgently, monitor R A B and reassure the casualty while waiting.

If the casualty is a victim of a swarm attack (e.g. a lot of bees), causing many stings, do not go near until it is safe to do so.

- **1** Place the casualty in the most comfortable position.
- **2** Keep the casualty quiet, and reassure him or her.
- **3** Monitor R A B. Be prepared to **resuscitate**.
- **4** Try to get the person to a clinic or hospital as soon as possible.
- Remember to keep checking the casualty's vital signs and writing down (or remembering) what you found and what you did, so that you can report this to any health worker who takes over from you.

Words you need to know

Below each word, write it in your own language

Resuscitate – restart breathing or heart beat by using CPR

| What insects (including spiders and scorpions) do you need to worry about where you live? | |
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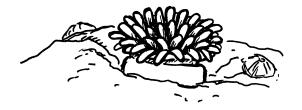
Marine (creatures that live in the sea) injuries

What is a marine injury?

Sea creatures cause injury in two ways:

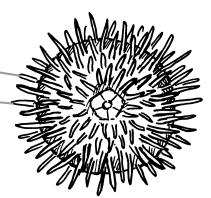
• Stinging cells from creatures such as jelly fish and sea anemones.





 Poisonous spines from sea urchins, for example. These wounds can be deep, and can become infected if the spines are not removed.

Sharp spines pointing out in all directions



There are some marine creatures that have a sting that may be fatal, but most will cause painful wounds with damage only in a small area.

Marine Stings

Your actions:

1 As always, assess D R A B.

If the casualty is showing signs of shock, or is having trouble breathing, he or she may be having a massive allergic reaction. See Unit 29.

- **2** Reassure the casualty, and encourage him or her to sit or lie down.
- **3** If possible, raise the affected part and
- 4 Apply a cold compress (something cold which you can use to apply pressure to the wound like a towel with ice wrapped in it) to relieve pain and swelling for at least 10 minutes.



Your aims:

- Reassure the casualty.
- Stop the poison.
- Relieve pain and discomfort.







Unit 21: Bites and stings

If the injury was caused by a jellyfish,

• Pour vinegar or sea water over the injury for a few minutes.



- **2** Apply a cold compress against the skin for 10 minutes.
- **3** Raise the injured part.
- **4** Try to get medical help as soon as possible.
- Remember to keep checking the casualty's vital signs and writing down (or remembering) what you found and what you did, so that you can report this to any health worker who takes over from you.

Marine Puncture Wounds

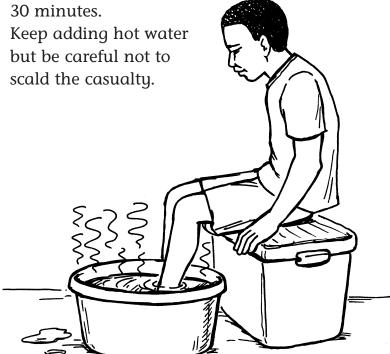
These are caused by, for example, sea urchins (see page 200). The spines puncture the skin, and can be stuck deep in the skin. They also contain poison.

Your actions:

- **1** As always, assess D R A B.

 If the casualty is showing signs of shock, or is having trouble breathing, he or she may be having a massive allergic reaction.

 See Unit 30.
- Place the injury into water as hot as the casualty can bear without scalding (burning) him or her. The injury will need to stay in hot water for at least
 30 minutes



3 Try to arrange transport for the casualty to a clinic or hospital to have the spines removed.

Your aims:

- Stop the poison from working.
- Try to get medical help.



Unit 21: Bites and stings

Words you need to know

Are there any other words in this unit that you don't understand? Write them down here, and find out what they mean.

Have you heard of any other beliefs?
Write them down here.

4 Remember to keep checking the casualty's vital signs and writing down (or remembering) what you found and what you did, so that you can report this to any health worker who takes over from you.

DO NOT:

✗ Do not bandage the wound.

Beliefs about bites and stings

There are many beliefs about bites and stings. THESE ARE WRONG! Some of these include:

- You can get HIV from an insect bite (especially a mosquito bite)
- ★ Treat a snake bite by putting on a tourniquet (tight bandage or something else tied around), lancing (cutting open) the wound and sucking out the poison.
- **X** Put ice onto a snake bite
- **X** Put raw onion onto the wound
- Smash the snake's head and put it onto the wound
- ✗ Use "black stone" to absorb (suck in) the snake's poison
- **X** Put ground charcoal onto the wound to absorb (suck out) the poison
- Put freshly killed raw chicken onto the wound
- ✗ Burn the site with a cigarette once the insect has been removed.

THESE ARE WRONG!! You should not do any of them!

SECTION FOUR:

MEDICAL EMERGENCY CARE

Unit 22: Heart attack and angina

At the end of this unit, you should be able to:

- Explain what angina is and what a heart attack is
- List causes of angina and heart attack
- Recognise signs and symptoms of angina and heart attack, and tell the difference between the two
- Demonstrate appropriate treatment for angina and heart attack
- Demonstrate an appropriate attitude towards the casualty (eg. reassuring, caring, firm)
- List possible ways to prevent angina/heart attack

What is a heart attack and angina?

Oxygen is given to the heart by the blood in four main arteries. These arteries easily become blocked because of cholesterol (contained in fatty foods), which builds up slowly over many years. Heart disease is when an artery carrying blood and oxygen to the heart becomes narrower (thinner/smaller) because of a build up of cholesterol on the walls of the artery, and it is harder for the blood (and the oxygen) to get through to the heart.

Angina is caused by too little oxygen getting to the heart, usually when a person with narrowed arteries uses more effort than he or she normally does, such as by running.

If a blood clot forms in the blood, the narrowed artery is then too thin to allow the clot through, and so very little blood (and oxygen) can get to the heart. The heart can no longer beat properly, and may beat wildly or irregularly or stop altogether. There is also pain. This is a heart attack.

In some cases, someone may have a heart attack even though the artery is not blocked. It is not clear why this happens.

Heart Health

Heart attacks are more common in people who eat too many foods with too much fat in them, who are overweight and do not exercise regularly. Someone who smokes is more likely to have a heart attack.

How can you tell that someone is having a heart attack or angina?

Angina and a heart attack have very similar features, and it may be hard to tell the difference.

With angina, a short rest makes the pain go away. This is what makes the symptoms of angina different from a heart attack. In a heart attack the pain carries on for many minutes or even hours even when the casualty rests.



Angina

- Very bad pain in the centre of the chest possibly spreading into the arm, neck and jaw when the person does something that needs some effort (eg. climbing stairs, walking fast or running etc.). Pain eases with rest.
- Breathlessness or gasping for air.
- Pain or discomfort high in the abdomen. May feel like bad indigestion.
- Feeling very scared.
- Sweating.
- Skin will look grey and feel cold and clammy (sweaty) with blueness of the lips.
- Rapid pulse, becoming weaker and may be fast then slow or change.
- Feeling suddenly faint or giddy.

Heart Attack

- Very bad pain in the centre of the chest possibly spreading into the arm, neck and jaw. The pain does not go away, even when the casualty is resting, or may begin whilst the casualty is at rest.
- Breathlessness or gasping for air.
- Pain or discomfort high in the abdomen. May feel like bad indigestion.
- Feeling very scared.
- Sweating.
- Skin will look grey and feel cold and clammy (sweaty) with blueness of the lips.
- Rapid pulse, becoming weaker and may be fast then slow or change.
- Feeling suddenly faint or giddy.
- The person may have a history of angina, or may have heart medicine on them.
- The casualty may collapse with no breathing or pulse, without warning.

Unit 22: Heart attack and angina

Your aims:

- · Rest the heart.
- Get urgent medical help.
- Help the casualty with any medication



Your actions:

- **1** As always, assess D R A B and respond as needed. If the casualty is gasping for air, begin CPR immediately.
- **2** Make the casualty as comfortable as possible in a half-sitting position with knees bent and head and shoulders well supported.



- 3 Call for help.
- 4 If the casualty is conscious, and has medication for angina, help him or her to take it. Advise him or her to chew one aspirin tablet if there is one available.
- breathing. If the casualty is suffering from angina, the pain should get better within a few minutes. If the casualty is suffering from a heart attack, the heart may stop at any time, so be prepared to resuscitate.
- **6** If the casualty becomes unconscious place them in the recovery position.

Remember to keep checking the casualty's vital signs and writing down (or remembering) what you found and what you did, so that you can report this to any health worker who takes over from you.

Words you need to know

Are there any words in this unit that you don't understand? Write them down here, and find out what they mean.

Unit 23: Stroke

At the end of this unit, you should be able to:

- Explain what a stroke is
- List possible causes of a stroke
- Recognise signs and symptoms of a stroke
- Demonstrate knowledge of appropriate treatment for a stroke
- Demonstrate an appropriate attitude towards the casualty (eg. reassuring, caring, firm)
- List possible ways to make it less likely that a stroke will happen

What is a stroke?

The brain needs to have oxygen all the time and this is brought to the brain by the blood. A stroke happens when a part of the brain is starved of oxygen because a blood vessel bursts or gets blocked by a blood clot. The lack of oxygen causes damage to the brain. In bad cases, a stroke may be fatal (the person may die). In others, the person may recover completely.

Nerve cells cannot grow again, so any loss of brain cells is permanent (forever). However, it is possible for other cells to take over some of the things the dead cells did (like movement, understanding language, speaking, etc.). This means that a person who has had a stroke may be able to do some or all of the things they could do before.

In some cases, medicine can be taken to limit the extent of the damage (i.e. to keep it from getting too bad). For this reason, it is important to try to get medical help as soon as possible.

What can cause a stroke?

Strokes are usually caused by a clot in the blood which stops the blood from flowing to the brain cells. Sometimes blood leaking from arteries in the brain can also cause a stroke. A brain tumour or brain injury may also lead to a stroke. Anything that increases the risk of diseased blood vessels increases the risk of a stroke. This includes high blood pressure (called hypertension), too much cholesterol, and smoking. As we grow older, the chances of having a stroke get bigger because of the general deterioration (getting worse) of the circulation in the brain.

How can you tell if someone is having a stroke?

There are many different signs that someone may be having a stroke, and different people may show very different signs and symptoms.

| He | or she may: |
|----|---|
| | have a sudden and very bad headache |
| | be confused about where he or she is, or what is going on around him or her |
| | feel suddenly angry or sad or very upset |
| | lose consciousness very quickly |
| | Show signs of weakness or paralysis (cannot move) usually on one side of the body |
| | slur (not speak clearly) or not be able to speak |
| | find it hard to swallow |
| | have pupils of different sizes |
| | lose control of his or her bowel or bladder |

Unit 23: Stroke

Your aims:

- Keep the airway open.
- Get medical help quickly to make the chance of brain damage less.

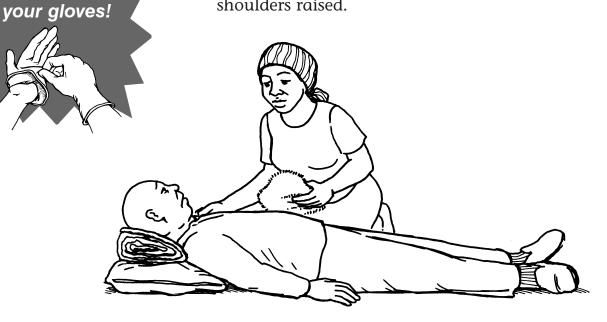
Remember

Your actions:

1 As always, assess D R A B and respond as needed.

If the casualty is conscious,

2 lay him or her down, keeping the head and shoulders raised.



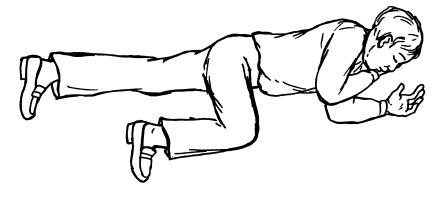
Turn the head to the **affected side** and place a towel or some other material (that will take in water) under the chin if he or she is dribbling (spit that comes out of mouth). This will prevent any spit or vomit from going into the lungs.



- **4** Loosen any tight clothing.
- **5** Talk gently and calmly to the casualty remember that you may not understand the casualty's replies.
- **6** Do not give anything to eat or drink.
- Remember to keep checking the casualty's vital signs and writing down (or remembering) what you found and what you did, so that you can report this to any health worker who takes over from you.

If the casualty is unconscious,

- **2** open the airway and check breathing.
- **3** Be prepared to **resuscitate** if necessary.
- **4** If the casualty is breathing, place in the recovery position and maintain a close check on the airway.



- **5** Try to get medical help as soon as possible.
- **6** Remember to keep checking the casualty's vital signs and writing down (or remembering) what you found and what you did, so that you can report this to any health worker who takes over from you.

Words you need to know

Below each word, write it in your own language

Affected side – side that has been damaged by the stroke

Resuscitate – restart breathing or heart beat by using CPR

Are there any other words in this unit that you don't understand? Write them down here, and find out what they mean.

Unit 24: Fainting

At the end of this unit, you should be able to:

- Explain what fainting is
- List possible causes of fainting
- Recognise signs and symptoms of fainting, and be able to tell the difference between shock and fainting
- Demonstrate appropriate treatment for fainting
- Demonstrate an appropriate attitude towards the casualty (eg. reassuring, caring, firm)

What is fainting?

Fainting is when someone becomes unconscious for a short period of time. Fainting happens because for a short time the brain does not get enough oxygen. Someone who has fainted usually recovers very quickly.

What can cause fainting?

Fainting may result from:

- standing or sitting around for a long time, especially in a hot place
- a sudden shock
- pain
- exhaustion (being very, very tired)
- lack of food
- emotional stress (being very upset).

Fainting may also happen in the early months of pregnancy.

How can you tell if someone has fainted?

He or she will:

☐ collapse and lose consciousness

☐ be pale or grey and have cold, damp skin

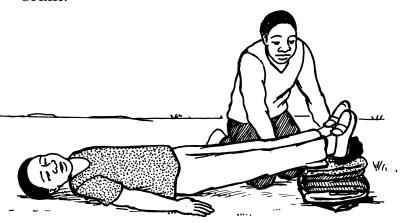
☐ have a slow pulse which will get faster as the casualty gets better.

Aedical Emergency Care

Your actions:

If someone feels faint, advise them to lie down with their legs raised.

- **1** As always, assess D R A B, respond as needed, and treat any more urgent conditions or injuries.
- **2** Lay the casualty down and gently raise and support the legs so more blood flows to the brain.



- **3** Make sure there is fresh air if possible.
- **4** Reassure the casualty and keep bystanders away.
- When the casualty recovers, sit him or her up slowly. If the casualty sits up too quickly he or she may faint again. If the casualty does feel faint, lay him or her down again and raise and support the legs.
- **6** If the casualty does not regain consciousness quickly then reassess R A B, place in the recovery position and call for help.
- Remember to keep checking the casualty's vital signs and writing down (or remembering) what you found and what you did, so that you can report this to any health worker who takes over from you.

Your aims:

- Improve the blood supply to the brain.
- Reassure the casualty and make him or her comfortable.



Words you need to know

Are there any words in this unit that you don't understand? Write them down here, and find out what they mean.

Unit 25: Epileptic seizures

At the end of this unit, you should be able to:

- Explain what epilepsy is
- Demonstrate awareness of local beliefs and misunderstandings about epilepsy
- Recognise signs and symptoms of an epileptic seizure
- Demonstrate knowledge of appropriate treatment for an epileptic seizure
- Demonstrate an appropriate attitude towards the casualty (eg. reassuring, caring, firm)

What is an epileptic seizure?

Seizures, also known as convulsions or fits, are caused by something suddenly going wrong in the brain for a short time. This affects the brain and the messages sent out by the brain. Seizures may be slight (only a little twitching or staring blankly ahead – often called "absence seizures" or minor epileptic fits). Or they may be worse, resulting in unconsciousness and with movements of the muscles that the person cannot control. These are called major epileptic fits. Epilepsy is what happens when you have repeated seizures that start in the brain.

How can you tell that someone is having an epileptic seizure?

In minor epileptic fits, it may not even be apparent that the person is having a seizure (i.e. you may not know). Or he or she may appear distant and unaware of his or her surroundings. There may be twitching, chewing, lip-smacking (lips open and close) or other slight movements that the person cannot control.

In a major epileptic fit the following signs may be present:

| _ | |
|---|--|
| | sudden loss of consciousness |
| | collapse – sometimes letting out a cry |
| | the body becomes rigid (stiff) and the back may bend backwards |
| | the casualty holds his or her breath |
| | the lips may turn greyish blue and the face |

| convulsive movements, i.e. shakes violently |
|---|
| the jaw may be tightly closed and saliva (spit) may appear at the mouth, sometimes with blood in it |
| the person may lose control of his or her bladder and/or bowels (pass urine or stools without meaning to) |
| after a short time the casualty becomes relaxed |
| when the casualty regains consciousness he or she may be confused |

A person about to have an epileptic seizure may have a strange feeling that something is about to happen, or smell a strange smell shortly before the seizure.

the casualty may want to sleep following a

Your actions:

fit.

In the case of a minor fit:

- **1** Help the casualty to sit down in a safe place, privately if possible (i.e. without bystanders).
- **2** Talk to and reassure the casualty. Do not ask questions until he or she is fully recovered.

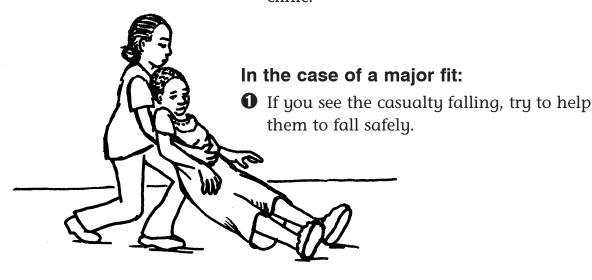


Your aims:

- Protect the person from injury during the fit.
- Provide care for the person when he or she regains consciousness.
- Try to arrange for the casualty to get to hospital if necessary.



3 If the casualty says that he or she has not suffered from this condition before then strongly advise them to go to a doctor or clinic.



- 2 As always, assess D R A B and respond as needed.
- **3** Make space around the casualty, and ask bystanders to move away.
- **4** Try to protect the casualty by removing danger from around them (eg. sharp objects, hot drinks etc.). Only move the casualty from danger if there is nothing else you can do to keep him or her safe.
- **6** Note the time that the seizure started.
- **3** Try to protect the casualty's head by placing something soft underneath the head (eg. a piece of clothing).



edical Emergency Car

- **1** Loosen clothing around his or her neck.
- **3** DO NOT try to put anything in his or her mouth.
- **9** DO NOT try to hold the casualty down.
- When the convulsion has finished, check breathing. If the casualty is not breathing, be prepared to **resuscitate**. If the casualty is breathing, place the person in the recovery position.
- Remember to keep checking the casualty's vital signs and the length of the seizure, and writing down (or remembering) what you found and what you did, so that you can report this to any health worker who takes over from you.

Try to get medical help if:

- The fits are repeated
- The casualty is unconscious for more than ten minutes
- The seizure continues for more than five minutes
- It is the first fit that the person has had
- The casualty gets injured during the seizure and needs hospital treatment



Words you need to know

Below each word, write it in your own language

Resuscitate – restart breathing or heart beat by using CPR

Common beliefs about epilepsy

There are many beliefs about epilepsy. THESE ARE WRONG! Some of the common beliefs are:

- ✗ Epilepsy is contagious (it can be passed onto someone else), so someone with epilepsy must be kept apart from other people so they will not catch it
- ✗ A person can swallow his or her tongue during a seizure
- People with epilepsy are disabled and cannot work
- ✗ People with epilepsy look different
- ✗ Epilepsy is a form of mental illness (the person is not right in the head)
- ✗ Children must not be given eggs before they are three years old or they will get epilepsy.

THESE ARE WRONG!

| Have you heard of any others? | | | | |
|-------------------------------|--|--|--|--|
| Write them down here. | | | | |
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Common beliefs about how to treat epileptic seizures

There are also beliefs about how to treat someone who is having and epileptic seizure:

- 1. You should force something into the mouth of someone having a seizure.
 - You should never force something into the mouth of someone having a seizure. This could result in chipped teeth, damage to the gums, or even a broken jaw.
- 2. You should hold down someone having a seizure.

Never do this. The seizure will run its course and you cannot stop it.

| Have you heard of any others? | |
|-------------------------------|--|
| Write them down here. | |
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Words you need to know

Are there any other words in this unit that you don't understand? Write them down here, and find out what they mean.

Unit 26: Fever

At the end of this unit, you should be able to:

- Explain what fever is
- List causes of fever, and possible effects, including febrile convulsions
- Recognise signs and symptoms of fever and of febrile convulsions
- Demonstrate knowledge of appropriate treatment for fever, and for febrile convulsions
- Demonstrate an appropriate attitude towards the casualty (eg. reassuring, caring, firm)
- List possible ways to prevent febrile convulsions, and relate these to treatment of fever

What is fever?

The normal temperature of an adult is 37°C. A sustained (ongoing) temperature higher than this is called a fever. A moderate fever (above 37°C (98.6°F), but below 40°C (104°F)) is not harmful, but a temperature above 40°C (104°F) should be treated immediately.

What can cause fever?

A fever is usually a sign that the body is fighting a bacterial or viral infection. This may be an infection in only one place (for example, of a wound), or could be an infectious disease, such as:

- Common childhood infectious diseases, such as measles, chickenpox, mumps, etc.
- Malaria
- Typhoid
- Hepatitis
- Pneumonia
- Meningitis.

How can you tell that someone has a fever?

He or she will have:

| a raised temperature – this can be found out |
|--|
| by measuring the temperature with a |
| thermometer. This is the best way. If you do |
| not have a thermometer, compare your own |

temperature with that of the casualty by placing the back of your hand against the casualty's forehead and then against your own forehead.

Initially (in the beginning):

| pale c | r arei | ish | skin |
|--------|--------|-----|------|
| P | - 92 | , | |

the casualty may complain of feeling hot or cold. They may shiver, have goose bumps (tiny bumps on his or her skin) and chattering teeth (i.e. teeth that cannot keep still).

Later:

| not flushed | (reddish) | skin | ın a | light-s | skinn | ea |
|-------------|-----------|------|------|---------|-------|----|
| person | | | | | | |
| armontin a | | | | | | |

- sweating
- headache
- aches and pains all over the body.

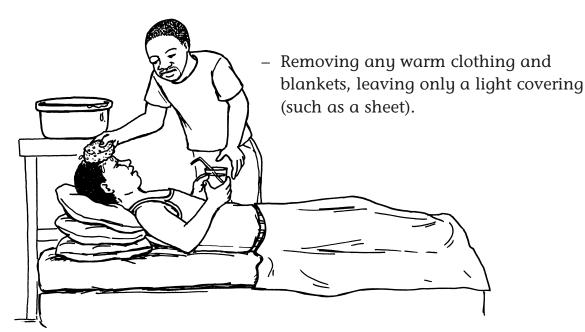
Your actions:

- **1** As always, assess D R A B, respond as needed, and treat any more urgent conditions or injuries.
- **2** Because a fever can be a sign of a serious infection/infectious disease, someone with a high fever needs to be seen by a doctor. For this reason, you should try to arrange that the casualty sees a doctor as soon as possible.
- **3** In the meantime, you should try to lower the temperature of the casualty by:
 - Cooling him or her down by sponging with tepid (slightly warm, NOT cold) water (in hot areas, tap water is fine).

Your aims:

- Bring down the fever.
- Try to get medical help if necessary.





4 Because the casualty is losing water through sweating, he or she needs to drink as much clean water as possible. You could use Salt Sugar Solution (see Unit 28).

Infantile (febrile) convulsions (fits)

Sometimes, a very high temperature can make a baby or very young child have a fit (also called a seizure or convulsion). A fit usually does not last very long, and fits usually do not cause harm. However, if the fit goes on for a long time (more than 20 minutes), the baby or child's brain can be damaged.

How can you tell that someone is having an infantile (febrile) convulsion?

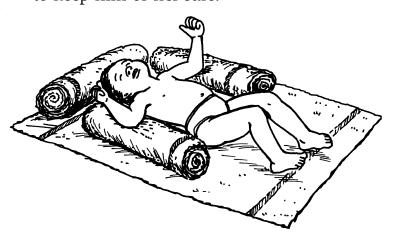
He or she may have:

- twitching or jerking (moving) arms and legs
- clenched (closed tightly) fists.
- ☐ His or her back may bend backwards.

☐ There may be obvious signs of fever. The baby or child may become very pale or greyish, and the eyes may roll back. He or she may hold his or her breath, the face may be swollen and/or twitch, and the baby or child may drool (spit comes out of the mouth). He or she may lose consciousness.

Your actions:

1 Try to protect the casualty by removing danger from around them (eg. sharp objects, hot drinks etc.) and by placing something soft underneath the head (eg. a piece of clothing) and around the baby or child. Only move the casualty from danger if there is no other way to keep him or her safe.



- **2** Note the time that the seizure started.
- **3** Remove any covering or clothes, and make sure there is plenty of fresh air, but do not let the baby or child get too cold.
- Cool the casualty down by wiping him or her with a slightly warm, wet cloth or putting him or her in a slightly warm bath. (NEVER use cold water or ice, because this can make the baby or child shiver and make his or her temperature higher.)

Your aims:

- Protect the baby or child from injury.
- Cool the baby or child.
- Reassure the parents or carer.
- Try to get medical help as soon as possible.



Medical Emergency Care



- **6** DO NOT try to put anything in his or her mouth.
- **6** DO NOT try to hold down the casualty.
- Once the baby or child becomes limp (stops having the fit), check breathing. If he or she begins to breathe normally, and wakes up again, comfort him or her and give something to drink. Reassure the parent/s or carer.
- **3** If the casualty is not breathing, be prepared to **resuscitate**.
- **9** Remember to keep checking the casualty's vital signs and the length of the seizure, and writing down (or remembering) what you found and what you did, so that you can report this to any health worker who takes over from you.
- Always take a baby or child who has had a fit to the doctor or clinic, because it could be a sign of a serious illness.



Beliefs about fever

There are many beliefs about fevers. Many of these are not true, AND COULD BE DANGEROUS.

- 1. A temperature above 40°C (104°F) can cause brain damage in children.
 - Temperatures of 40°C (104°F) are fairly common in children (not in adults). They should be taken seriously, but are unlikely to cause brain damage.
 - Very high temperatures (41°C (106°F) and over), however, can cause brain damage. This is very unusual.

2. A febrile convulsion can cause epilepsy in babies or children.

There is no relationship between febrile convulsions and epilepsy.

- 3. All fevers must be treated.

 In fact, fevers are good, because they help the body fight infection. It is only very high fevers that need treatment.
- 4. Many people think that someone with a fever should be wrapped up warmly.
 THIS IS DANGEROUS. It could raise the temperature of the person. Someone with a high fever needs to be cooled down, not warmed up.
- 5. Put a person with a fever in a cold bath.
 This is also dangerous. It may cool the person down too quickly.
- 6. "Feed a cold, starve a fever"

 Someone with a fever needs to eat as much as he or she is comfortable with. Not having enough food makes it harder for the body to fight infection. It is important to give the casualty fluids.

| here. | you | neara | or any | g otners? | write | tnem | down |
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Words you need to know

Below each word, write it in your own language

Resuscitate – restart breathing or heart beat by using CPR

Are there any other words in this unit that you don't understand? Write them down here, and find out what they mean.

Unit 27: Effects of heat and cold

At the end of this unit, you should be able to, for each of heat exhaustion, heat stroke, hypothermia and frostbite:

- Explain what it is
- List possible causes
- Recognise signs and symptoms
- Describe appropriate treatment
- Demonstrate an appropriate attitude towards the casualty (eg. reassuring, caring, firm)
- List possible ways to prevent it

What are the effects of heat and cold?

Most of the time we are able to maintain a constant body temperature even though the temperature around us may change quite a lot. The body normally keeps its temperature at between $36^{\circ}\text{C} - 38^{\circ}\text{C}$ ($96.8^{\circ}\text{F} - 100.4^{\circ}\text{F}$). It does this by balancing the heat made by or taken into the body and the heat lost by the body.

Heat is made by the body by the changing of food into energy and by muscle activity (either through exercise or shivering). Heat is also taken in from the sun, or by taking hot food and drink, or by contact with hot objects.

Heat is lost through the breath or body surface (if the environment outside is cooler than the body).

The body balances its temperature by saving or losing heat:

| When the outside temperature is hot, the body loses heat by: | When the outside temperature is cold, the body saves heat by: |
|--|--|
| Making the blood vessels near the skin bigger, so more heat can pass out | Making the blood vessels near the skin smaller to keep the heat in |
| Sweating more | Sweating less |
| Breathing more quickly and more deeply | Making the hairs on the body stand up to keep warm air in next to the skin |

Heat

Certain situations make it difficult for the body to lose heat. These are:

- When the temperature outside is very hot (because it becomes more difficult for the body to lose heat by giving off heat)
- When there is high humidity (i.e. moisture in the air) (because the moisture in the air makes it difficult to lose heat by sweating)
- During very hard exercise (because doing the exercise makes so much heat).

When these situations happen (especially if they happen together), the body may not be able to lose heat fast enough, and two general conditions may develop – heat exhaustion or heat stroke.

Cold

In certain situations, the body may not be able to keep enough heat, or make enough heat. Two conditions may develop – hypothermia and frostbite.

Heat exhaustion

What is heat exhaustion?

Heat exhaustion is caused by a loss of salt and water through sweating too much. It usually develops gradually.

What can cause heat exhaustion?

Anything which causes the body to lose a lot of salt and water may result in heat exhaustion. Some of the more common causes are:

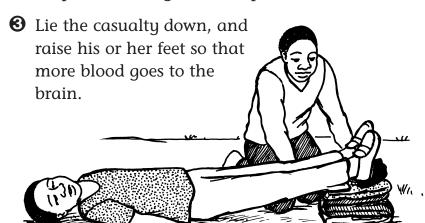
| Not being used to hot, humid conditions (for |
|--|
| example, a person who is visiting a hot, humid area from a cooler, milder climate) |
| Being dehydrated as a result of illness (through vomiting and diarrhoea) |
| Taking drugs which result in very high body temperature, such as Ecstasy. |

How can you tell that someone has heat exhaustion?

| Не | or she may have: |
|----|---|
| | a headache |
| | pale, cold, sweaty skin |
| | a fast, weak pulse |
| | fast, shallow breathing |
| | nausea and may vomit |
| | thirst |
| | muscle cramps. |
| | He or she may feel giddy or dizzy (unsteady) |
| | His or her level of consciousness may get worse, and the casualty may become unconscious. |

Your actions:

- **1** As always, assess D R A B and respond as needed.
- **2** Help the casualty to a cool place.



Your aims:

- Get fluids and salt into the body.
- Cool down the casualty if necessary.
- Try to get medical help if necessary.

Give plenty of water, supporting the casualty's head if necessary. If possible, give a weak salt solution (a half a teaspoon salt to one litre of water).



- **5** If the casualty becomes unconscious place in the recovery position. Be prepared to resuscitate.
- **3** Try to get medical help.
- Remember to keep checking the casualty's vital signs and writing down (or remembering) what you found and what you did, so that you can report this to any health worker who takes over from you.

Words you need to know

Below each word, write it in your own language

Resuscitate – restart breathing or heart beat by using CPR

Heat Stroke

What is heat stroke?

Heat stroke is caused by the failure of the "thermostat" in the brain, and the body overheats rapidly and dangerously, leading to unconsciousness.

What can cause heat stroke?

Being in a very hot place for a very long time, or having a high fever for a long time, can cause the "thermostat" to stop working. Heat stroke can also follow heat exhaustion.

How can you tell if someone has heat stroke?

| He or she may have: | | |
|---------------------|---|--|
| | a flushed (reddish) face in a light-skinned person | |
| | hot, dry skin | |
| | a strong pulse. | |
| He or she may: | | |
| | feel very hot | |
| | complain of a headache | |
| | be restless (not be able to relax or sit still) and confused (not know what is going on). | |
| | He or she man anickly lose consciousness | |

Aedical Emergency Care

Your actions:

- As always, assess D R A B and respond as needed.
- **2** Move the casualty to a cool place as quickly as possible.
- **3** Take off as much clothing as possible.
- **4** Call for medical help.
- **6** Cool down the casualty by sponging with cool water (NOT cold) or by covering in a wet sheet.
- **6** Fan the casualty to assist cooling.
- Once the temperature appears to have returned to normal, cover the casualty in a dry sheet or other light covering and make him or her comfortable, using pillows, clothing or blankets.
- Remember to keep checking the casualty's vital signs and writing down (or remembering) what you found and what you did, so that you can report this to any health worker who takes over from you.
- **9** If the temperature goes up again, repeat the cooling process.
- If the casualty is unconscious, check breathing. Be prepared to give rescue breaths. If the casualty is breathing, place him or her in the recovery position.

Your aims:

- Get the body temperature down as quickly as possible.
- Try to get urgent medical help.

Words you need to know

Below each word, write it in your own language

Thermostat – the part of the brain that works out whether the body needs to lose heat or make it

Hypothermia

What is hypothermia?

Hypothermia develops if the temperature inside the body falls below 35°C (95°F). In this condition the bodily functions slow down and may even stop. Hypothermia can develop quickly or slowly depending on how cold it is outside the body, and how well the body can keep or make heat.

What can cause hypothermia?

Hypothermia may develop if the body is too cold for too long. Babies, the elderly, or people who are thin and weak or ill are more likely to get hypothermia because they cannot keep or make heat as well.

Someone is more likely to get hypothermia outside, especially if there is wind.

Someone who has been completely covered in cold water (for example, in the sea or in a lake) is more likely to get hypothermia, since the body temperature drops quickly. So someone who has almost drowned should be carefully watched in case they have hypothermia.

How can you tell that someone has hypothermia?

He or she may have:

skin that is very cold to touch (underneath the clothing)
a pale or grey face
a slow, weak pulse. In very bad cases the heart may stop.

slow, shallow breathing

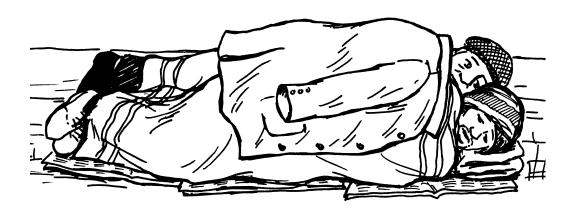
| shivering that he or she cannot stop |
|---|
| difficulty in talking or may say or do strange things. |
| He or she may begin to undress. |
| His or her level of consciousness will get worse and the casualty will become |

Your actions:

- **1** As always, assess D R A B, respond as needed, and treat any more urgent conditions or injuries.
- **2** Get the casualty to shelter if possible.
- **3** Take off wet clothing if other clothing is available.
- **4** Wrap him or her in blankets, if possible with another person (this could be you) so the heat of that person can warm the casualty up. Cover the head (but not the face).

Your aims:

- Prevent the casualty losing more body heat.
- Re-warm the casualty SLOWLY.
- Try to get medical help if necessary.



- **6** If conscious give hot drinks if you can.
- **3** Try to get medical help. This is especially important if the casualty is a baby or an elderly person. However, NEVER leave the casualty alone.

Remember to keep checking the casualty's vital signs and writing down (or remembering) what you found and what you did, so that you can report this to any health worker who takes over from you.



DO NOT:

X Do not give alcohol or apply direct heat.

Frostbite

What is frostbite?

When it is very, very cold outside the body, the body keeps heat in the middle of the body by making the blood vessels near the skin smaller. This means there is less heat towards the outside of the body, and the tissues of the toes and fingers literally freeze and the cells die. This is called frostbite.

How can you tell that someone has frostbite?

He or she may have:
very cold fingers or toes
fingers or toes that become painful and then numb (lose all feeling).
Skin may become hard and stiff and may be pale and waxy.
After a long period fingers or toes become

discoloured (an unusual colour).

Your actions:

- **1** As always, assess D R A B, respond as needed, and treat any more urgent conditions or injuries.
- **2** Move the person to a warm place if possible.
- **3** Take off any clothing, jewellery or shoes from the affected parts.
- Warm the area up slowly by putting the hand or foot in warm water (just above body temperature) or in your armpits or groin. DO NOT rub the affected part.



- **5** Dry carefully and apply a light dressing of gauze bandage.
- **6** Raise and support the affected part to reduce swelling.
- **7** Try to get medical help.

DO NOT:

- ✗ Do not put the affected part near direct heat.
- ✗ Do not allow the casualty to smoke.

Your aims:

- Warm the affected area slowly to prevent further tissue damage.
- Try to get medical help.

Words you need to know

Are there any other words in this unit that you don't understand? Write them down here, and find out what they mean.





Unit 28: Dehydration

At the end of this unit, you should be able to:

- Explain what dehydration is
- List causes of dehydration
- Recognise signs and symptoms of dehydration
- Describe and explain appropriate treatment for dehydration, including how to make and how to give Salt Sugar Solution
- Demonstrate an appropriate attitude towards the casualty (eg. reassuring, caring, firm)
- List possible ways to prevent dehydration

What is dehydration?

Most of the body is made up of water. Dehydration is when the body loses too much water and salt. Dehydration is very dangerous, and can cause death, especially in babies and small children.

What can cause dehydration?

Anything which causes the body to lose too much salt and water may result in dehydration. This includes:

- vomiting
- diarrhoea
- sweating due to high fever, exercise, or an extremely hot environment.

If two or more of these is present at the same time, dehydration is very likely to happen. If a person does not get enough fluids in his or her normal diet, dehydration is more likely to happen. Dehydration can take some time to happen (for example, with a person who is sick and vomiting), or can happen very quickly (for example, a person who has very bad diarrhoea, or has been in a very hot environment without water). Dehydration which happens very quickly is very dangerous. Dehydration happens faster in babies and young children and the elderly.

How can you tell if someone is dehydrated?

He or she may:

feel thirsty and have a dry mouth

Words you need to know

Are there any words in this unit that you don't understand?

have sunken eyes (i.e. the eyes seem too deep in the face) have a fast pulse feel tired and be bad tempered (cross). When you pinch or press the skin, it does not return to normal, or does so only very slowly. In babies, the fontanelle (soft spot in the skull) may go down, so it looks like there is a

Your actions:

hole.

- **1** As always, assess D R A B, respond as needed, and treat any more urgent conditions or injuries.
- 2 It is very important that the person gets fluids as quickly as possible. Water is fine, but if possible, give Sugar Salt Solution (sometimes called Oral Rehydration Solution (ORS)), or energy drinks if available. You can use Coke if nothing else is available. Although you should NOT give fluids in certain cases, for example when you suspect a stroke or a fracture, you should give fluid if you are seriously worried about dehydration.

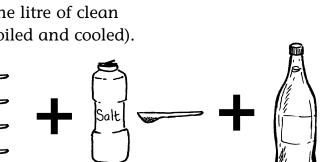
How to make Sugar Salt Solution (SSS) (sometimes called Oral Rehydration Solution (ORS))

Mix eight level (flat) teaspoons of sugar with a half a teaspoon of salt and one litre of clean water (water that has been boiled and cooled).

Your aims:

- Get fluids and salt into the body.
- Try to get medical help if necessary.
- Reassure the casualty.





8 level teaspoons of sugar

½ teaspoon salt

1 litre of water

Sugar

Unit 29: Massive allergic reaction

At the end of this unit, you should be able to:

- Explain what anaphylaxis (massive allergic reaction) is
- List causes of anaphylaxis
- Recognise signs and symptoms of anaphylactic shock
- Identify appropriate treatment for anaphylactic shock
- Demonstrate an appropriate attitude towards the casualty (eg. reassuring, caring, firm)
- List possible ways to prevent anaphylactic shock

What is a massive allergic reaction?

Massive allergic reaction is also called anaphylaxis. In some people, the body is badly affected by something that may have no effect on other people. When their body comes into contact with this thing, the body releases chemicals into the blood which make the airways narrower. So the casualty finds it hard to breathe. The tongue and throat may swell, making it even harder to breathe. At the same time, the blood vessels get wider, and blood pressure falls. As a result, less oxygen goes to the vital organs.

Massive allergic reaction can cause death very quickly. It is very, very important to get medical help as soon as possible if you can.

What can cause a massive allergic reaction?

Anaphylaxis is caused by coming into contact with the thing to which someone has developed an allergy. This is called a "trigger".

The "trigger" may be the bite or sting of an insect (especially a bee); or a food (nuts, peanuts, seeds, shellfish, strawberries); or a medicine (penicillin).

Any contact with the "trigger", like it touching the skin, or being breathed in or eaten, or being injected (eq. a bee sting), can cause anaphylaxis.

How can you tell if a person has a massive allergic reaction?

He or she may:

| be very worried or upset |
|---|
| have a red rash, often in patches rather than all over (you may not be able to see this on a dark-skinned person) |
| have a swollen tongue, throat, face and neck |
| have puffiness (swelling) around the eyes |
| have difficulty with breathing (similar to asthma) |
| show signs of shock (see Unit 9). |

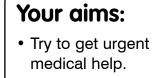
Your actions:

- **1** As always, assess D R A B and respond as needed.
- **2** Call for medical help.
- **3** Check to see whether the casualty is carrying medicine for this. If so, help the casualty take this.

If the casualty is conscious,

help him or her to sit in the position most comfortable for breathing.

5 Treat the casualty for shock, if necessary.



 Try to make breathing easier and shock less until help arrives.

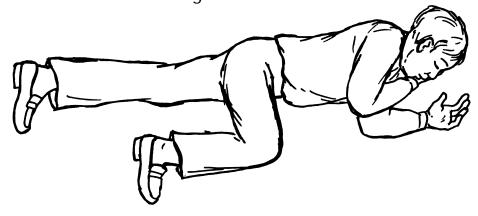


Unit 29: Massive allergic reaction

- **6** Reassure him or her.
- Remember to keep checking the casualty's vital signs and writing down (or remembering) what you found and what you did, so that you can report this to any health worker who takes over from you.

If the casualty is unconscious,

Place in the recovery position, monitor R A B and be prepared to resuscitate. Remember to keep checking the casualty's vital signs and writing down (or remembering) what you found and what you did, so that you can report this to any health worker who takes over from you.



Words you need to know

Below each word, write it in your own language

Resuscitate – restart breathing or heart beat by using CPR

Are there any other words in this unit that you don't understand? Write them down here, and find out what they mean.

Unit 30: Asthma

At the end of this unit, you should be able to:

- Explain what asthma is
- List causes of asthma
- Recognise signs and symptoms of asthma
- Identify appropriate treatment for asthma
- Demonstrate an appropriate attitude towards the casualty (eg. reassuring, caring, firm)

What is asthma?

When someone has an asthma attack, the airways become suddenly narrower, and the person finds it hard to breathe.

What causes asthma?

An asthma attack may be caused by a particular "trigger", such as air pollution, cigarette smoke, pollen, dust, a cold, an allergy (a reaction to certain foods or things) or a particular drug. The body reacts to this "trigger" by making the muscles of the airways tighter, so the airway gets narrower. At the same time, the tissue of the airway walls swells, making the airway even narrower. However, there is sometimes no obvious "trigger". Stress may make it more likely that someone may have an attack.

Someone who has been diagnosed as asthmatic will normally carry medicine in an inhaler, which is used at the first sign of an attack. The medicine relaxes the muscles in the walls of the airways, so that air can get through. If the casualty does not have an inhaler, or it does not work, the casualty may die. For this reason, it is very important to try to get medical help as quickly as possible.

Medical Emergency Care

How can you tell that someone is having an asthma attack?

He or she may:

| | have difficulty in breathing, especially breathing out | | |
|--------------------------------------|--|--|--|
| | make a wheezing sound when he or she breathes out | | |
| | cough | | |
| | have difficulty speaking | | |
| | be upset. | | |
| In a very bad attack, he or she may: | | | |
| | have blue or grey lips and/or nails | | |
| | be very tired, and might become | | |

In a very bad attack, or a first attack, or in the case where an inhaler does not work within five minutes, treat as an emergency and try to get medical help urgently.

Your actions:

unconscious.

- **1** Reassure the casualty
- 2 If the casualty has an inhaler, give this to him or her, and help him or her to use it.



Your aims:

- Make it easier for the casualty to breathe.
- Try to get medical help as soon as possible, if necessary.

3 Help the casualty to sit in a comfortable position. This will probably be leaning slightly forward, leaning on a table, etc.



- **4** Usually, a mild attack will get better within 3 minutes of using an inhaler. If not, the casualty should use the inhaler again.
- **6** If the casualty does not get better after using the inhaler, or does not have an inhaler, or gets worse, call for help urgently.
- **6** If the casualty loses consciousness, open the airway and check breathing. Be prepared to **resuscitate** if necessary.
- **7** If the casualty is breathing, place him or her in the recovery position.
- **3** Remember to keep checking the casualty's vital signs and writing down (or remembering) what you found and what you did, so that you can report this to any health worker who takes over from you.

Words you need to know

Below each word, write it in your own language

Resuscitate – restart breathing or heart beat by using CPR

Are there any other words in this unit that you don't understand? Write them down here, and find out what they mean.

Unit 31: Low blood sugar (Hypoglycaemia)

At the end of this unit, you should be able to:

- Explain what low blood sugar (hypoglycaemia) is
- List causes of low blood sugar (hypoglycaemia)
- Describe and explain appropriate treatment for low blood sugar (hypoglycaemia)
- Recognise signs and symptoms of a diabetic emergency
- Demonstrate knowledge of appropriate treatment for a diabetic emergency
- Demonstrate an appropriate attitude towards the casualty (eg. reassuring, caring, firm)
- List possible ways to prevent the development of Type II diabetes

What is low blood sugar (hypoglycaemia)?

For the body to work normally, the level of sugar in the blood needs to be kept the same. If the level drops, the brain is affected and the person will quickly become unconscious. Low blood sugar is called hypoglycaemia.

What can cause low blood sugar (hypoglycaemia)?

Low blood sugar (hypoglycaemia) happens most often in diabetics, but can also happen when someone has an epileptic seizure, or drinks a large amount of alcohol, or as part of hypothermia or heat exhaustion (see Unit 27). Even healthy people can get hypoglycaemia if they miss meals.

In some people, the body is not able to use the sugar we eat properly. The sugar stays in the blood. This is called diabetes. Some diabetics (people with diabetes) need to take medicine every day to help their bodies use the sugar.

In diabetics the most common cause of low blood sugar is eating too little carbohydrate (so the body uses too much sugar, and leaves too little sugar in the blood).

Exercise will make the problem happen quicker.

Medical Emergency Care

How can you tell that someone has low blood sugar (hypoglycaemia)?

He or she may:

| _ |
|---|
| have diabetes and tell you this |
| be carrying a card or other information saying that he or she is a diabetic |
| be carrying insulin in some form (the medicine diabetics need to take every day) – this might be pills or an injection. |
| recognise that they are about to have a hypoglycaemic attack and tell you this |
| feel weakness, faintness or hunger |
| shake |
| be confused or be angry or shout |
| be sweating and cold when you touch him or her |
| have a strong rapid pulse |
| become unconscious. |

Your actions:

1 As always, assess D R A B and respond as needed.

If the casualty is unconscious,

2 Put him or her into the recovery position.



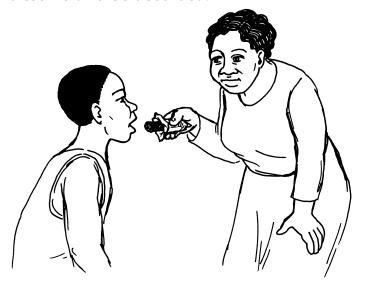
Your aims:

- if the casualty is conscious, to raise the sugar level as quickly as possible.
- if the casualty is unconscious, to try to get medical help as quickly as possible.

- **3** Call for help.
- **4** Be prepared to **resuscitate** if necessary.
- **6** Remember to keep checking the casualty's vital signs and writing down (or remembering) what you found and what you did, so that you can report this to any health worker who takes over from you.

If the casualty is conscious,

- **2** Help him or her to sit down.
- Give a sugary drink or sugary food such as chocolate or glucose (sugar) tablets, or place a small amount of sweet syrup or honey inside the cheek or under the tongue, where it will be absorbed (taken in). You can speed up the absorption by gently rubbing the syrup or honey into the cheek or gums. If you have no syrup or honey, place about half a teaspoon of sugar under the tongue, where it will dissolve and be absorbed.



4 If the casualty gets better give more food or drink and allow the casualty to rest until fully recovered. Advise the casualty to visit a clinic or doctor as soon as possible.

Words you need

Resuscitate – restart breathing or heart beat by using CPR

Are there any other words in this unit that you don't understand? Write them down here, and find out what they mean.

to get medical help as soon as possible.

• Remember to keep checking the casualtu's

5 If the casualty does not get better quickly, try

6 Remember to keep checking the casualty's vital signs and writing down (or remembering) what you found and what you did, so that you can report this to any health worker who takes over from you.

Beliefs about diabetes

Common beliefs about diabetes include:

1. Diabetes is infectious, so someone can "catch" diabetes from someone who is diabetic.

Diabetes is not infectious.

2. Some kinds of diabetes are not as serious as others.

Diabetes is serious and can cause death.

| Have you heard of any others? | |
|-------------------------------|--|
| Write them down here. | |
| | |
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SECTION FIVE:

EMERGENCY CHILDBIRTH

Unit 32: Emergency Childbirth

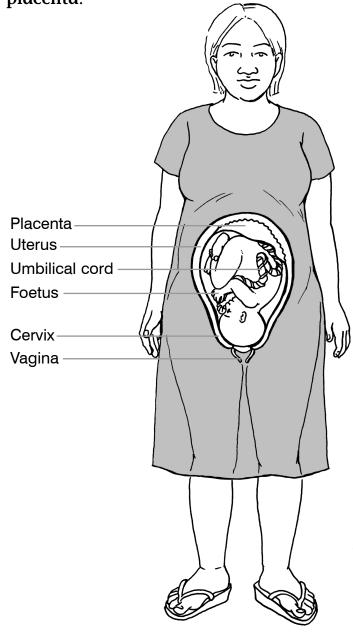
At the end of this unit, you should be able to:

- List the things you need for emergency childbirth
- List the things that could go wrong during labour (the time just before giving birth) and delivery (when the baby comes out)
- Know about the hygiene needed for safe delivery
- Recognise the signs of labour, and the different stages of labour
- Demonstrate an ability to prepare the mother (who is about to give birth) for childbirth
- Demonstrate an appropriate attitude towards the mother (eg. calm, reassuring, caring, firm, respect for privacy)
- Describe and explain the First Aider's role in emergency childbirth
- Demonstrate how to care for the newborn baby
- Recognise signs that a miscarriage is about to happen or is already happening
- Give appropriate treatment
- Demonstrate an appropriate attitude towards the casualty (eg. compassionate, caring, firm, respect for privacy)

What is childbirth?

Childbirth is when a baby is born.

Normally, a baby will grow for 9 months inside his or her mother's **uterus** (also called a womb). The baby grows inside a sac, which has a clear fluid that looks like water inside it. The baby gets everything it needs from its mother's body through the **umbilical cord**, which is connected to the **placenta**.



When a baby is born, it moves from the **uterus**, through the **cervix** into the **vagina**, and then out of the mother's body. When the baby comes out, it is still joined to the **placenta** by the **umbilical cord**, and so these also come out. For birth to happen, changes need to take place in the woman's body – her cervix needs to become bigger to allow the baby through, and her body needs to begin to push the baby out, and, once the baby is out, push the placenta out.

Giving birth is also sometimes called 'labour'. Labour is usually divided into three stages:

Stage 1

This is when the woman's body gets ready for birth. The muscles in her abdomen get tighter for a short time, and then go back to normal, and then get tighter again (called contractions), and this pushes the baby down. The contractions, together with the baby pushing against the cervix, make the cervix get wider. It may take many, many hours for the cervix to become wide enough. The contractions can be extremely painful, and will come more and more quickly. Usually, if this has not already happened, during this time the sac around the baby breaks, and the fluid around the baby comes out of the vagina (we often say 'her waters broke').

Stage 2

This is when the cervix becomes wide enough for the baby to be pushed through. Usually, the mother feels like she wants to push, and she uses her muscles to push the baby down her vagina and out of her body. This can happen very quickly, or may take up to an hour.

Words you need to know

Below each word, write it in your own language

Hygiene – things you have to do to keep yourself and things clean and healthy

Appropriate – correct, right

Reassuring – tell someone everything will be alright

Miscarriage – losing a baby before it is ready to be born

Compassionate -

understand how someone is feeling and care about how they are feeling

Foetus – this is the name given to a baby before it is born

Stage 3

This happens after the baby is born. This is when the placenta, which is still joined to the baby by the umbilical cord, gets pushed out by contractions (these are not as strong or as painful as before). This usually happens quickly after the baby is born. The uterus then contracts, and bleeding gets less.

Birth is a natural **process**, and if there are no problems, it will happen without the First Aider having to do anything. He or she will just need to **comfort** the mother and take care of the newborn baby. However, because there is a chance that something might go wrong, it is very important for women to give birth where there is someone with medical knowledge, if at all possible.

Emergency childbirth

What is emergency childbirth?

Emergency childbirth is when a pregnant woman goes into labour before she can go to/be taken to a clinic or hospital. In this case, you will need to help her to deliver the baby if a trained medical person cannot come quickly enough.

Because the baby will be born in a place that is not normally used to deliver babies, there is a possibility of infection of the baby and/or the mother. It is therefore very important to try to prevent the chance of infection, by:

✓ Trying to make sure as few people as possible are there, BUT do not go against the mother's wishes – if she wants someone to stay with her, you must let this person stay. However, if someone has a sore throat, cold, or any other infection, they should not be allowed near to the mother.

- ✓ Tie a clean cloth/bandage over your nose and mouth so that any germs you may have do not infect the mother or baby.
- ✓ Take off any jacket or coat you may have on, and roll up any long sleeves.
- ✓ Wash your hands carefully (see pages 14-17) before touching the mother or baby.
- ✔ Put on gloves.
- ✓ Only use clean blankets/towels/clothing.
- ✓ Wash your hands carefully again after the baby has come out.

How can you tell that someone is in labour?

| First | stag | e: |
|-------|------|----|
|-------|------|----|

Contractions, getting quicker Blood-stained mucus Clear fluid, in a trickle (a little) or a rush (a lot) – this is the fluid from around the baby

Second stage:

| Mother wants to push |
|--|
| Strong, frequent contractions |
| Stinging or burning feeling in the vagino |
| The baby's head comes out |
| The baby's body comes out (usually very quickly) |

| Thi | rd stage: |
|-----|--------------------------------|
| | Mild (not strong) contractions |
| | The placenta comes out |
| | Some bleeding from the vagin |

Words you need to know

Below each word, write it in your own language

Process – what happens

Comfort - tell her that everything will be alright

Mucus – slimy, slippery (hard to hold) substance

Placenta - what comes out from the mother's body after the baby is

Your aims:

First stage:

- get medical help, or get the mother to a hospital
- reassure the mother and make her comfortable

Second stage:

- make sure the mother is comfortable
- prevent infection of the mother, baby and yourself
- care for the baby during and after delivery

Third stage:

- support the mother while the placenta comes out
- keep the placenta



Your actions:

The actions you take will depend on what stage of labour the mother is in.

First stage:

- Ocall for medical help. This could be a local midwife (someone trained to help with birth), or a doctor or nurse, or an ambulance. Get all the things together that you will need if help does not arrive in time: gloves, something to cover your nose and mouth, a bowl of clean, hot water, clean, dry towels/blankets/clothing, and a bowl or plastic bag to put the placenta in once it comes out.
- **2** Wash your hands carefully, and put on gloves.
- Help the mother to sit or lie on the floor in the position she finds most comfortable. Use pillows, blankets, jackets or anything else you have to support her if necessary.
- Speak calmly to the mother, and ask her to breathe deeply, or shout out, or use any other way she wants to deal with the pain of the contractions. It might help to rub the lower part of her back.

Second stage:

You will know that the baby will probably be born soon once there is less than two minutes between the contractions. However, if the mother says she thinks the baby is coming, believe her. Put something soft and warm underneath the mother, like a towel or blanket or newspaper, to absorb any fluids/blood. Remember that your aim is to help the mother and keep her and the baby

Words you need to know

Below each word, write it in your own language

around the neck

- Strangling very tight
- safe DO NOT interfere with the birth itself let the baby come out by him/herself.
- **2** Help the mother into the position she finds most comfortable – this is often half-sitting, with knees raised. Make sure you support her back and shoulders.
- **3** Check that help has been called.
- **4** Check that the mother has taken off any clothing or underwear that might be in the way of the baby coming out. Cover her with something if she wants this.
- **5** Look for the baby's head each time the mother has a contraction.
- **6** Once the widest part of the baby's head has come out of the vagina, ask the mother to stop pushing. She should take many short, fast breaths.

WARNING: If the umbilical cord is around the baby's neck, check that it is loose, and gently and carefully pull it over the baby's head to stop it from **strangling** him/her. DO NOT pull on the cord.

WARNING: If the first part of the baby that comes out is NOT the head, but the bottom or a leg or an arm, do not try to do anything. Get help as quickly as possible – this is a serious emergency.

If there is anything covering the baby's face that might stop him/her from breathing, gently move it aside. The mother can start pushing again once you are sure the cord is not around the baby's neck.



Unit 32: Emergency Childbirth

- Once the baby's shoulders have come out, the rest of the baby's body will come out very quickly. Be ready to catch him/her.
- **9** Lift the baby very carefully newborn babies are very slippery and can be dropped easily. Support the baby's head. Pass the baby to the mother, lying the baby on his or her stomach. Write down or remember the time the baby was born.
- The baby may start to cry. If he or she does not, check the airway, breathing and circulation. Be prepared to resuscitate if necessary.
- Once the baby is breathing, dry him/her with a clean cloth or blanket, and give him/her to the mother. When the baby lies down, you should make sure he or she lies on his or her side, so mucus or fluid can drain from the mouth or nose. Check vital signs whilst the placenta is being delivered (Third stage).

DO NOT:

- ✗ Do not give the mother anything to eat, even if she asks, because she may vomit. If she is very thirsty, give her small sips of water.
- ✗ Do not pull on the baby's head or shoulders when he/she comes out.
- **✗** Do not pull on or cut the umbilical cord.
- ✗ Do not smack the baby to get him/her to breathe.
- ✗ Do not hang the baby upside down by his or her feet and do not slap him or her.



Emergency Childbirth

Third stage:

• Reassure the mother. The placenta will come out 10 to 30 minutes after the baby is born. Remember to keep this (if possible, in a plastic bag) for the medical person who takes over from you. Keep the placenta at the same height (not higher or lower) as the baby.

DO NOT cut the umbilical cord unless the placenta is clearly bleeding. Leave the baby attached to the placenta until someone with more medical knowledge than you arrives. If no-one with more medical knowledge than you has been able to help 12 hours after the baby was born, you will need to cut the umbilical cord (see below).

If the placenta is bleeding, act quickly:

Tie the umbilical cord with clean thick string (not too thin or it will cut the cord) about one hand's length (from the tip of your longest finger to your wrist) away from the baby, and again about a hand's width after that, so that it is tied in two places.



Be careful that you do not cut through the umbilical cord with the string. Keep the placenta at the same height as the baby. Try to get the baby to a hospital as quickly as possible.

Words you need to know Below each word, write it in your own language Smack – hit Slap – hit

Words you need to know

Below each word, write it in your own language

Anus – opening in the bottom

- It is normal for the mother to bleed a little after the placenta comes out. Gently rub the mother's lower abdomen to help the uterus to contract and the bleeding to stop. Check for any tearing between the vagina and the anus, and if this has happened, put pressure on to control the bleeding.
- **3** Give the mother warm water, towels, clean dry pads and so on, and help her to use them if necessary. Keep reassuring her and do what you can to keep her comfortable.
- Help the mother to try breastfeeding the baby. If no-one with more medical knowledge than you has been able to help 12 hours after the baby was born, you will need to cut the umbilical cord:

Watch the cord to see if there is a pulse. ONLY ONCE THERE IS NO PULSE, tie the umbilical cord with clean thick string (not too thin or it will cut the cord) about one hand's length (from the tip of your longest finger to your wrist) away from the baby, and again about a hand's width after that, so that it is tied in two places.



Be careful that you do not cut through the umbilical cord with the string. Cut the cord between the two places where you have tied it with a pair of scissors or a knife that you have sterilised with bleach or by boiling. After you have cut the cord, keep checking that the cord that is still on the baby is not bleeding. If it is, you must try to stop the bleeding as for any wound.

If the bleeding is very bad, try to get help urgently, and treat for shock (see Unit 10).



- ✗ Do not pull on the umbilical cord while the placenta is coming out.
- Do not cut the umbilical cord, even after the placenta has come out.



Words you need to know

Below each word, write it in your own language

Cramp – very sore contraction of muscle(s)/muscles get tight

Are there any other words in this unit that you don't understand? Write them down here, and find out what they mean.

Miscarriage

What is a miscarriage?

A miscarriage is when a baby is born very early – before the 24th week of pregnancy (before 6 months). In this case, the baby cannot survive and will die. Because the woman may lose a lot of blood, miscarriage can be very dangerous, and should be treated as a medical emergency.

Miscarriage is usually a very terrible thing for a woman, and she will probably be very upset and shocked. You will need to be very sensitive to how she is feeling. If you are a man, try to get a woman to help.

Sometimes, it may seem that a woman will miscarry, because she begins to bleed from the vagina during pregnancy. However, this does not always end with the foetus being miscarried. But any bleeding, or any other signs of miscarriage, must always be taken seriously, and the woman should be seen by a doctor.

How can you tell that someone may miscarry/is miscarrying?

| mis | scarry/is miscarrying? |
|-----|---|
| | Cramp -like pains in the lower abdomen |
| | Bleeding from the vagina – this might be sudden and there might be a lot of blood |
| | Signs of shock (see Unit 9) |
| | A sore back |
| | The foetus or other matter man come on |

Your actions:

Your aims:

- Reassure and comfort the woman.
- · Get medical help.



1 Reassure the woman. Help her to sit or lie

pillows/blankets/jackets to support her body

and legs. If she becomes unconscious, place

down, with her legs bent up. Use

her in the recovery position.



- **2** Use a clean cloth or towel for the bleeding.
- **3** Call for help.
- **4** Monitor and record vital signs. Be prepared to resuscitate if necessary.
- If any matter comes out of the vagina, put it in a clean plastic bag or other container. Give this to any medical person you hand the casualty over to. Do not let the casualty see this, unless she asks.

If the bleeding or pain is very bad, get medical help as quickly as possible. Treat for shock.



ADDITIONAL INFORMATION

At the end of this unit, you should be able to:

- List signs and symptoms of common infectious diseases (including STIs)
- Describe and explain possible complications of each, and when a casualty should be referred to hospital.

There are many, many infectious diseases. Here are some of the most common. We have put some of the more common ones here, in alphabetical order.

There is a lot more information about HIV and AIDS in this book after the other infectious diseases.

We have put in some blank tables at the end of this section that you can use to fill in information about other diseases that are common in your area.

Cholera

| How it is spread | Signs and symptoms | Treatment |
|---|--|--|
| Cholera is caused by a bacterium. It is spread through drinking water that carries the bacterium of people swim bathe or | Very bad diarrhoeavomiting | You should let the Health Department know about anyone who has cholera in your area. |
| wash their clothes in water that has the cholera bacterium, they can get the disease. It is also spread by contact between people if a person who is carrying the disease has | A person who has cholera can lose a lot of water from their bodies because of the diarrhoea and vomiting. This is called dehydration. It can kill people very quickly. | NOTE: If you are caring for someone who has cholera you should always wear gloves when you are likely to come into contact with body fluids. |
| to the toilet. Flies can also spread cholera. | | Because dehydration is very dangerous, a person with cholera must drink a lot. Give the patient Oral Rehydration Solution (see page 239). They should drink small sips as often as possible. |
| | | If you think your patient is badly dehydrated, go to the nearest clinic or doctor as quickly as possible. Keep giving the patient the Oral Rehydration Solution on the way. |

Genital herpes

| Itching or pain in the genital area sometimes a burning feeling during urination after 2-20 days a sore will appear, or a cluster of blister-like sores sometimes there is fever, headache, swollen glands, muscular aches and tiredness sores can come out in the same place at any time in the future. Some people are and | There is no cure for genital herpes. Generally over the years the body controls the virus better and outbreaks of the sores become less common. For people with HIV infection, the herpes sores can happen more often and get bigger as the body gets weaker. Treatment makes the symptoms easier to deal with and can help prevent infection of the sores. |
|--|---|
| r a ce at | come less common. r people with HIV infection, the herpes res can happen more often and get gger as the body gets weaker. Treatment akes the symptoms easier to deal with d can help prevent infection of the sores. |
| ce at | r people with HIV infection, the herpes res can happen more often and get gger as the body gets weaker. Treatment akes the symptoms easier to deal with dran help prevent infection of the sores. |
| | res can happen more often and get gger as the body gets weaker. Treatment akes the symptoms easier to deal with dran halp prevent infection of the sores. |
| | yger as the body gets weaker. Heatillelit akes the symptoms easier to deal with dican help prevent infection of the sores. |
| | dican help prevent infection of the spres |
| | |
| unlucky and the sores come out often. | |
| Other people are lucky and don't get | • The genital area should be kept very clean |
| | and dry. |
| herpes infection without knowing they | Avoid tight fitting pants. |
| have got the infection because they don't $\mid \bullet \mid$ | Warm baths with Epsom salts in the |
| see any problems. They can still pass the $\mid \mid \mid \mid$ | water can help improve the pain. |
| infection on to other people. | Do not use antibacterial creams. |
| • | A good diet and sleep can help prevent |
| Within 26 weeks, the sores heal and form a scab. Although the sore has healed, the | more sores developing. |
| | |
| peoppores heres heres heres heres | • • |

Gonorrhoea

| How it is spread | Signs and symptoms | Treatment |
|---|--|--|
| Gonorrhoea is caused by a bacterium. It is spread through sexual intercourse. Babies can get gonorrhoea when they are born if the mother has the disease. | Half of the people who get gonorrhoea have no symptoms, but it is still possible to pass it on to someone else if they have no symptoms. | A person with gonorrhoea needs to see a doctor. The doctor will prescribe antibiotics. All sexual partners should be told and treated, even if they do not have any |
| Other names for Gonorrhoea: In South Africa, Gonorrhoea is sometimes called 'idrop'. In Ghana in the Twi language, | In men the symptoms are:it is painful to pass urinea green discharge from the penispainful testicles. | symptoms. There should be no sexual intercourse (or use a condom) until all sexual partners have finished their treatment. |
| Gonorrhoea is called 'Babaso'. What is it called in your community? | In women the symptoms are: • it is painful to pass urine • a green discharge from the vagina • bleeding between menstrual periods • excessive (heavy) bleeding during menstruation • painful sexual intercourse • lower abdominal pain. It can also affect the anus, or the eyes, or the throat. | If you are caring for someone with gonorrhoea, both you and the person should wash your hands properly as gonorrhoea can be transmitted to the eyes. |

lepatitis

| How it is spread | Signs and symptoms | Treatment |
|---|--|--|
| There are many different types of hepatitis. The most common types are caused by viruses. | Early symptoms are: • tiredness • nausea, vomiting and diarrhoea • low fever | A doctor or clinic sister will have to do a blood test to confirm if a patient has hepatitis. |
| Drinking or eating something that has the virus spreads some kinds of hepatitis. These kind of hepatitis can be prevented by always washing hands after using the toilet and before eating. | sore muscles and joints tenderness in the upper right abdomen - where the liver is loss of appetite things smell and taste different generally not feeling well. | NOTE: If you are caring for someone who has hepatitis you should always wear gloves when you are likely to come into contact with body fluids. The patient should: |
| Other types are spread by having sex with someone who has the virus or contact with an infected person's saliva or fluid from a wound. | Later on, the symptoms are: • jaundice, which is when the skin and eyes look yellow. • dark urine and light coloured stool. | rest in bed at first, and then start doing things slowly avoid alcohol and other drugs, as well as vitamins. patients with hepatitis might have to stop taking other medicines as well drink fruit juice if possible eat a balanced diet including lots of dairy products, meat, chicken, bread, fruit and vegetables. It might be better to give your patient smaller meals during the day to help them not feel like vomiting. |

Malaria

| How it is spread | Signs and symptoms | Treatment |
|---|---|---|
| Malaria is caused by a parasite that is carried by a kind of mosquito. Only some areas of South Africa have this mosquito. When a mosquito that carries the parasite bites someone, the parasite goes into the blood of that person. The parasite reproduces and damages the red blood cells. If someone is going to an area where there are the mosquitoes which carry the malaria parasite, they should take medicine to stop them from getting the disease. | Early symptoms are: • headache • tiredness • muscle aches. Later on, the symptoms are: • headache • chest pain • joint pain • diarrhoea • high fever • nausea and vomiting. | A doctor will prescribe medicine. All serious cases of malaria should be treated in hospital. |
| | | |

Measles

| How it is spread | Signs and symptoms | Prevention and treatment | When to get help |
|--|---|---|---|
| Measles is caused by a virus. It is spread by kissing, coughing or sharing things you eat with, like | Starts with a cold, fever, cough, pink eyes and tiredness | All children should be immunised against measles. | There can be serious complications such as meningitis, pneumonia, |
| mugs or spoons. | after about three days, a red blotchy rash starts on the face | Keep the room darkened to help sensitive eyes, and wash | encephalitis or croup, so |
| | • the rash spreads to the rest of | eyes gently with a wet, clean | observed carefully. |
| | the body, including the feet | washcloth. | |
| | after about three days of rash, | Put a pan of water in the | You should refer the patient to a |
| | the fever goes down | room to keep the air moist. | health care provider if: |
| | light may hurt the eyes. | This will help the cough. | the fever does not go down |
| | | | headaches do not disappear |
| | | The patient should: | there is earache or hearing |
| | | stay in bed while the fever is | loss |
| | | still there | coughing gets worse |
| | | eat a balanced diet of healthy | there is abdominal pain (in |
| | | food | the stomach area) |
| | | drink plenty of water | the patient is very sleepy |
| | | avoid contact with other | there is nausea and vomiting |
| | | people until the rash begins | the patient has a stiff neck |
| | | to disappear. | the patient has trouble |
| | | | breatning. |
| | | | |

Meningitis

| How it is spread | Signs and symptoms | Treatment | When to get help |
|---|---|---|---|
| Meningitis is an infection of the brain. It can be caused by a virus or a bacterium. It can be | The signs and symptoms of meningitis are often the same as in many other illnesses | If you think someone may have meningitis, they should go to a clinic or doctor as soon as | Anyone with suspected meningitis must be taken to a clinic or doctor as soon as |
| spread from person-to-person, or by insects. | caused by a virus, like a cold. But a stiff neck is a good sign that the illness is meningitis. | possible. If the meningitis is caused by a | possible. |
| Meningitis can often come after someone has had some other | • fever • tiredness | bacteria, the doctor will prescribe antibiotics. | |
| viral sickriess, like measies or even flu. | vorniting feeling irritable headache | A person with meningitis may be put in hospital. | |
| Children can now be immunised against one kind of meningitis (it is called the Hib immunisation). It is not free. | sore throat sometimes there is a purple rash. | | |
| | In very serious cases, the patient may become unconscious, and may have fits. | | |
| | In young babies:very sleepycrying a lotthe fontanelle (the soft spot on the baby's head) bulges. | | |

Polio

| How it is spread | Signs and symptoms | Prevention and treatment | When to get help |
|-----------------------------------|--|--|------------------------------------|
| Polio is caused by a virus. It is | • Fever | All children should be | Polio must be treated by a |
| spread through drinking water | reddening of the throat | immunised against the disease. | doctor, as it can cause |
| that carries the virus. This | nausea and vomiting | | permanent damage and can |
| happens when sanitation | • headache | Because polio is caused by a | result in a patient not being able |
| systems are not good. It is also | a few days of feeling well | virus, there is no medicine to | to walk or breathe. |
| spread by contact between | again | remove the germ from the | |
| people if a person who is | later the patient starts to feel | body. It is up to the body to | All children with weaknesses of |
| carrying the virus has not | a prickling sensation in their | fight the infection. Treatment is | the legs or arms must be taken |
| washed their hands properly | legs. They may even feel | about trying to make the | to the clinic to be tested for |
| after going to the toilet. Most | paralysis (not able to move). | patient feel better. | polio. |
| people with polio infection do | The legs are often completely | Give medicine to bring the | |
| not realise that they have polio, | floppy | fever down | Children with weakness are |
| so the disease is spread around | • in serious cases, the muscles | Give medicine for pain. | usually referred to hospital so |
| a community without people | that are used to breathe can | | that they can be observed. If the |
| knowing it. | be paralysed and the patient | | weakness spreads to the lungs, |
| | can stop breathing. | | then a machine will be used to |
| | | | breathe for the child. |
| | | | |

yphilis

| How it is spread | Signs and symptoms | Treatment |
|--|---|--|
| Syphilis is caused by a bacterium. It is spread through sexual intercourse, or from a mother to an unborn baby. Pregnant women will have a blood test done at the clinic to see if they have syphilis so that they can be treated before the baby is born. A blood test for syphilis will also usually be done if someone has any other STD. | A person with syphilis may have: • painless sores on genitals, rectum, mouth or fingers • swollen glands • skin rash • growths near the private parts • headache • fever • tiredness. | A doctor will prescribe antibiotics. Usually three penicillin injections are used unless the person is allergic to penicillin. |
| | These signs and symptoms will all get better even if no treatment is given. The person can carry the syphilis infection for years and not feel sick. But if syphilis is not treated, it slowly begins to damage the body. When this happens some of the signs might be: • tumours of the skin, bones or liver • heart problems • blindness • mental problems • central nervous system problems | |

Tetanus

| How it is spread | Signs and symptoms | Treatment | When to get help |
|--|--|---|--|
| Tetanus is sometimes called 'lockjaw'. | There will usually be an infected wound. | Tetanus can be prevented by getting a vaccination (either | Anyone who has an infected wound should be seen by a |
| Tetanus is caused by a germ that lives | | as a child or when you have | medical person as soon as |
| in dirt and faeces. So any wound that | The casualty may find it | been wounded), and/or | possible. |
| gets dirty might be infected by tetanus, | difficult and uncomfortable | keeping any wound as clean | |
| especially: | to swallow. | as possible. | |
| animal bites, especially dogs and pigs | | | |
| gunshot and knife wounds | First the jaw gets stiff, then | People can die from tetanus, | |
| holes made with dirty needles | the muscles in the neck and | so someone who is suspected | |
| injuries caused by barbed wire | other parts of the body. | of having tetanus needs to | |
| puncture wounds from thorns, | | get help as soon as possible. | |
| splinters or nails. | The person's jaw may | | |
| | suddenly get tight and sore, | | |
| Any deep wound that may have been | and the whole body may get | | |
| dirtied by soil, dust or animal faeces is | stiff, as if the person were | | |
| at high risk of tetanus infection. | having a fit. Moving or | | |
| | touching the person, or | | |
| A baby whose umbilical cord is cut by | sudden noise or bright light, | | |
| something that is not clean could get | may cause this to happen. | | |
| tetanus. | | | |
| | | | |

Tuberculosis

| How it is spread | Signs and symptoms | Treatment |
|---|--|---|
| Tuberculosis (TB) is caused by a bacterium. It is spread in the air. You can catch TB by breathing in air where someone with TB has coughed or sneezed. TB can also live in the dust if someone has spat or coughed there. When you sweep that area, you can breathe in the TB, even many months later. There are two stages to TB. In the first stage a person becomes infected. In the second stage (active TB) the infection becomes a disease and begins to destroy the organ that it affects. Not everyone who is infected with TB gets active TB. Children under 5 and people who have HIV or AIDS are at greater risk of getting active TB quickly. Many people with AIDS die of TB. A child under five years of age who lives in a house where there is someone with infectious TB should be tested for TB. If they do not have TB, they will be given medicine to prevent them from catching TB. | People who have the TB infection do not have any symptoms. People with active TB could have: • fever • sweating at night • loss of appetite • weight loss • tiredness • weakness. If the patient has TB of the lungs, the most common kind of TB, they: • will have a bad cough that doesn't go away after three weeks • may have blood in the sputum (the fluid which they cough up) • will have chest pain. TB can also affect other organs like the brain or the kidneys. | All children should be immunised against TB. This may not stop them from getting TB, but it will stop them from getting very bad TB. If a child under five or an adult who is weak or has HIV has TB infection, they will be given tablets to prevent active TB from developing. • People with active TB will be given medicine. They will have to take the medicine for two to six months if they are a child, and for six months if they are a child, and for six months if they are a child, and for six months if they are a solut. Adults who get TB again get injections and tablets for another six months. TB of the bone or brain is sometimes treated for longer than six months. When someone has had medicine for two weeks, they cannot spread the TB any more. • It is very important that all the people who have active TB finish their treatment, even if they feel well. If they do not, they will probably get active TB again, and it will be more difficult to treat. • It is important that patients eat a balanced diet and rest. |
| | • will have chest pain. TB can also affect other organs like the brain or the kidneys. | months. When someone has had medicine for two weeks, they cannot spread the TB any more. • It is very important that all the peopl who have active TB finish their treatment, even if they feel well. If the do not, they will probably get active TB again, and it will be more difficult to treat. • It is important that patients eat a balanced diet and rest. |

Fyphoid

| How it is spread | Signs and symptoms | Treatment |
|---|--|--|
| Typhoid is caused by a bacterium. It is spread through drinking water or eating food that carries the bacterium. If people | High temperature (40°C / 104°F), worse in the evening, and higher each day. feeling weak | High temperature (40°C / 104°F), worse in the evening, and higher each day. If you suspect that someone has typhoid, he or she should be taken to a clinic or doctor. A doctor will prescribe antibiotics. |
| swim, bathe or wash their clothes in water that has the typhoid bacterium, they can get the disease. It is also spread by contact between people if a person who is carrying the disease has not washed their hands properly after going to the toilet. | no appetite stomach pain constipation and then diarrhoea with blood in it headache rash there may also be vomiting. | NOTE: If you are caring for someone who has typhoid you should always wear gloves when you are likely to come into contact with body fluids. |
| | | |

Signs and symptoms How it is spread

Name of disease:

Treatment Signs and symptoms How it is spread

Name of disease: _

Common infectious diseases

Treatment Signs and symptoms How it is spread

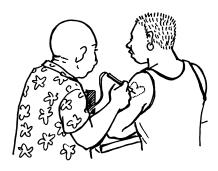
Name of disease: _

At the end of this unit, you should be able to:

 State what HIV and AIDS is, how it is transmitted, and how it can be prevented.







What is HIV and AIDS?

HIV, or Human Immunodeficiency Virus, is a virus that attacks the immune system of people, so that they cannot fight infection. Once someone is no longer able to fight infection, they can easily get diseases (including some cancers) that healthy people do not get, and which can kill them. When someone with HIV can no longer fight infection, they are said to have AIDS.

People do not die of AIDS – they die of one of the diseases that they get because they have AIDS and their immune system cannot fight the disease.

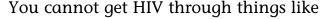
How is HIV and AIDS spread?

Because HIV is a virus, it is infectious. But HIV cannot be spread through the air, and in fact the virus dies very quickly if it dries. So someone who does not have HIV can get the virus from someone who has HIV, but only through their blood or other body fluids like semen. The most usual way in which people get HIV is through sex, although people can also get HIV by using a needle or a blade that has fresh blood with HIV on it (for example for circumcision or scarring or tattoos, or injecting drugs, or even shaving), or through blood with HIV in it that they get in an operation. Babies can also get HIV from their mothers, either before they are born, or during birth. This is called mother-to-child transmission. Babies can also get it after birth through breast

milk (although if babies are only breastfed, and are not given anything except breast milk, they probably will not stay HIV positive).

When someone has HIV in their blood, they are called HIV positive. This does not mean that they have AIDS. A person who has HIV can stay well for many, many years (maybe as long as 15 years), without developing AIDS. Many people who have HIV show no symptoms (sign that there is something wrong). The only way of knowing for sure that someone has HIV is to test their blood for the virus. Usually, a test can only tell for sure about three months after the person became infected.

Babies may test positive for HIV after birth, but this could show that their mothers have HIV, and the baby may not have HIV. After about 15 months, an HIV test will show whether the baby has HIV or not.



- sharing food, plates, cups, knives, forks or spoons
- towels, sheets, or sleeping in the same bed
- sweat
- tears
- kissing
- toilet seats or
- mosquitos.

You cannot get HIV from normal every day contact with someone who is HIV positive at work, in school, or in the community.





What are the signs and symptoms of HIV and AIDS?

When someone is infected with HIV, he or she may show very few, or even no, symptoms. There might be a headache, fever, a general feeling of not being well, or a feeling of having flu. After a short time (maybe a week or a month), these symptoms go away. (Remember that even though there may be no symptoms, the person still has HIV and can pass it on to someone else).

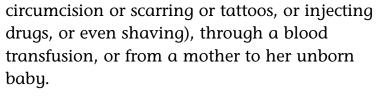
In an adult, it may take many years (maybe as long as ten years) before there are any bad symptoms. In a child, there may be no symptoms for two years. But the HIV virus is still in the body during this time, and gradually weakens the immune system of the person.

| As t | he immune system gets weaker, more |
|---------------------|---|
| sym | ptoms start. One of the first is swollen glands, |
| but | the person may also: |
| | feel tired and weak |
| | have no appetite and lose weight |
| | have fevers often, and sweat a lot |
| | have many skin rashes |
| | have thrush (a kind of disease) in their |
| | mouths or vaginas |
| | forget things a lot. |
| thes dise dem | the person's immune system gets weaker, se symptoms get worse, and the person gets asses like pneumonia, TB, cancer, or may get mentia (a disease in the brain). The person of has AIDS. Other symptoms of AIDS are |
| | coughing and not being able to breathe properly |
| | fits |
| | being confused and forgetting things |

| | fever |
|-------------------------------------|--|
| | bad diarrhoea that does not go away |
| | fever |
| | not being able to see well |
| | bad headaches |
| | nausea and vomiting |
| | losing weight |
| | stomach pains |
| | not being able to swallow |
| | having many lesions (sores on their skin) and pressure sores |
| | sticky eyes |
| | very bad thrush. |
| dear ther beco who TB o | ne people get sicker and sicker until th; others may become very ill, but n recover for some time before oming ill again. People with AIDS o get an infection like can be completely ed of the TB. |
| | |

Preventing HIV and AIDS

As we have seen, HIV cannot be spread through the air, and in fact the virus dies very quickly if it dries. So the virus can only be spread through bodily fluids, such as blood or semen. Preventing HIV and AIDS from spreading is therefore about preventing the bodily fluids of an infected person coming into contact with those of another person through sex, by using a needle or a blade that has fresh blood on it (for example for



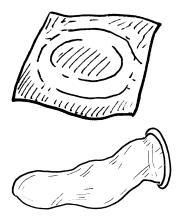
To prevent this from happening because of sex, either there should be no sex (abstinence); or a condom should be used; or two people who have been tested HIV-negative should remain faithful to each other (i.e. not have sex with anybody else). To prevent this from happening through a needle or blade, no one should ever use a needle or blade that has been used by another person. To try to prevent mother-to-child transmission – there are medicines that can be taken to reduce the chances of the baby of an HIV-positive mother getting HIV and AIDS.

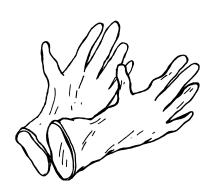
As a First Aider, you may need to give help to someone with HIV. Remember that someone with HIV may look well, and have no symptoms. Without an HIV test it is impossible to tell whether someone has HIV, and so it is best to always be careful.

You should wear gloves whenever you handle any blood (including sheets or clothing with menstrual blood (a female's monthly bleed)) or other body fluid. You should use Jik or some other bleach to clean everything well, using rubber gloves. Hang all clothing or sheets in the sun to dry. The HIV virus is killed by sun and dryness. Burn used dressings.

If you accidentally come into contact with blood of your casualty by stabbing yourself with a needle that has been used by the casualty, you should:

- keep the wound bleeding
- disinfect (clean) the wound
- go to a clinic or doctor as soon as possible.





Living with HIV and AIDS

Because HIV attacks the immune system, it is very important that the immune system of someone who is HIV-positive stays as strong as possible. This is helped by:

- ✓ eating well,
- getting enough rest and enough exercise,
- ✓ not worrying too much and staying busy,
- and by avoiding contact with infectious diseases.

It is extremely important that someone with HIV is not re-exposed to HIV, since this will lead to much quicker damage to the immune system.



| Write down here the name and contact details of any organisations that can help with HIV and AIDS in your area: |
|---|
| Name of organisation: |
| Name of person I can talk to: |
| Address: |
| |
| Telephone number: |

CASUALTY REPORT FORM Casualty's name: _____ Date: _____ Place: First Aider's name: First Aider's contact details: Brief description of incident: Number of casualties: _____ **Primary survey: Secondary survey:** Level of response: Vital signs time taken: _____ level of consciousness: _____ \square A \square V breathing rate: \square_{P} \square_{U} any other comments about breathing: skin temperature: pulse rate: _____ Airway: any other comments about skin: ☐ Clear Shock: Severe bleeding: ☐ Partly blocked ☐ Yes ☐ No Yes No ☐ Completely blocked Head to toe examination head: _____ neck: ____ Breathing: collar-bones: Yes: shoulders/arms/hands: ineffective chest: _____ abdomen: ____ effective pelvis and buttocks: _____ legs/feet: _____ □ No any other comments: First aid given: Casualty handed over to medical help? Yes: Name and position: ______ Time: _____ No: reason:

Use this table to monitor the casualty over a period of time

| | Time | | |
|--------------------------------------|------|--|--|
| EYES | | | |
| open by themselves | | | |
| open when spoken to | | | |
| open when casualty is pinched | | | |
| no response | | | |
| MOVEMENT | | | |
| moves when asked to | | | |
| responds when casualty is pinched | | | |
| no response | | | |
| SPEECH | | | |
| makes sense when answering questions | | | |
| seems confused | | | |
| uses the wrong words | | | |
| makes sounds which do not make sense | | | |
| no response | | | |
| PULSE | | | |
| seems very fast | | | |
| seems very slow | | | |
| seems very weak/faint | | | |
| seems strong | | | |
| beat seems to change suddenly | | | |
| beat seems to stay the same | | | |
| BREATHING | | | |
| over 40 breaths per minute | | | |
| 31-40 breaths per minute | | | |
| 21-30 breaths per minute | | | |
| 11-20 breaths per minute | | | |
| fewer than 11 breaths per minute | | | |
| breathing quiet | | | |
| breathing noisy | | | |
| breathing easy | | | |
| breathing difficult | | | |

| Any other | r comments |); | | |
|-----------|------------|----|--|--|
| • | | | | |
| | | | | |
| | | | | |

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