Vital First Aid
TRAINING SERVICES

Learning to save lives is

VITAL

VITAL FIRST AID
2018

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EMERGENCY PHONE NUMBERS

Fill in the phone numbers for the following services and keep them up to date. In an emergency they could help save someone's life.

Ambulance.....

Children's hospital.....

Dental emergency service.....

Doctor.....

Electricity emergency service.....

Fire brigade.....

Poisons information centre.....

Police.....

In a life-threatening emergency dial 000 for police, ambulance and fire brigade in all capital cities.

INTRODUCTION

First Aid is just that – the immediate attention and treatment given when someone suffers an injury or sudden illness. In some cases the injury or illness will be minor and common sense and basic treatment will be all that are needed. Never forget that staying calm and being sympathetic and reassuring form part of the treatment, even for minor childhood cuts and grazes.

There are, however, accidents and illnesses that are serious, even life-threatening. In these cases you have only a few minutes in which to act to prevent permanent disability, brain damage or even death. Life-saving techniques such as cardiopulmonary resuscitation (CPR) are explained at the beginning of this book, but it is vital that you study these procedures under a qualified instructor, using an approved resuscitation training manikin. Resuscitation techniques can be mastered by everyone, but they are skills for which practice is essential. If you've practiced with an expert instructor you will be able to act instantly, confidently and effectively in an emergency, and this may well mean the difference between life and death for the casualty.

Accidents can be prevented. Because so many accidents occur in the home, we have included a chapter on family safety so that you can make your home safer. And because of the frequency of road accidents, we have also included information on what to do at the scene of a traffic accident. But, once again, prevent accidents by, for example, obeying the speed and alcohol limitations and driving safely. You could save your own life, as well as someone else's.

HOW TO USE THIS First Aid BOOK

Vital First Aid is designed to be as simple and accessible as possible. You will find the step-by-step instructions throughout and the A to Z listing of accidents and sudden illnesses in the second section make it easy to follow, even in an emergency.

The first section of the book (Emergency, First Aid and Safety Procedures) provides essential information on treating medical emergencies, such as unconsciousness, absence of breathing and blood circulation failure. A chapter on **ROAD TRAFFIC ACCIDENTS** is included in this section. The first part of the book also offers information on **FAMILY SAFETY** and on the articles you should have at hand in case of accidents or sudden illnesses and how to apply these (see **FIRST AID KITS**, **DRESSINGS, PADS AND BANDAGES**, **SLINGS**, **SPLINTS**). You should read the first section now so that you know where to find essential information in an emergency and to familiarise yourself with first aid procedures.
The second section of the book (A to Z of Injuries and Illnesses) provides chapters, organised alphabetically for easy reference, on the most common major and minor sudden medical occurrences that you may have to deal with.

EMERGENCY, FIRST AID & SAFETY PROCEDURES

WHAT TO DO BEFORE AN EMERGENCY

- Read carefully all the information on first aid techniques given in this book, now, before an accident or sudden serious illness occurs. Don't wait for an emergency.
- Learn how to apply cardiopulmonary resuscitation (CPR) (see EMERGENCY TECHNIQUES): they are life-saving techniques. It is essential to practise with a trained instructor because only practice will give you the confidence and ability to act instantly and correctly in the vital few minutes that can mean the difference between
life and death.
- Make sure that you have a well-equipped first aid kit at home, in the car and boat, and on holidays (see FIRST AID KITS).

EMERGENCY PRIORITIES

A person's life is in danger if he or she is unconscious. The airway may be blocked, breathing may have stopped and blood circulation may have ceased.
You need to:

- act immediately because brain damage or death can quickly result
- carry out the procedures outlined in the DRSABCD in the order given
- follow the instructions given in the next chapter, EMERGENCY TECHNIQUES, for each of the procedures mentioned in the DRSABCD.

REMEMBER IN AN EMERGENCY

- **Do not** approach a casualty unless it is safe to do so. Check whether there is any danger for you, others or the injured person first.
- Even though you will feel upset, it's important to act as calmly as possible and to reassure any casualties.
- Every minute is vital.
- **Do not** move a casualty unless it is absolutely essential for safety (see MOVING A CASUALTY).
- **Do not** leave a casualty alone. Send someone else for medical aid immediately. However, if you are the only person present in an emergency and help is unlikely to arrive you will have to go for aid yourself as soon as possible. Dial 000 in any capital city or the emergency number listed in the phone book or booth.
- Messages given to the emergency services should be brief: indicate place, nature of the emergency, number of people involved and nature and extent of injuries or illness.
- **Do not** give anything to eat or drink.

DRSABCD – emergency protocol

D **check for Danger. Remove danger or remove patient.**

S ***Send for help***

R **Response. Is the patient conscious or unconscious? side position if unconscious.**

A **Airway. Clear and maintain a clear airway.**

B **Breathing. Is the patient breathing? If not, start……..compressions**

C **CPR. 30 compressions followed by 2 rescue breaths.**

D **Defibrillation.**

EMERGENCY TECHNIQUES

CHECKING FOR UNCONSCIOUSNESS

When the normal activity of the brain is interrupted, a person can become unconscious.
An unconscious person is:

- unable to respond normally to simple questions or touch
- unaware of danger and unable to protect himself or herself
- unable, by coughing or swallowing, to clear the airway of saliva, blood, vomit or foreign matter, which can obstruct the air tubes. The tongue, which becomes floppy, can fall back and also block the throat.

ACTION

1 Assess whether the person is unconscious by asking simple questions or giving simple commands, such as 'What is you name?' or 'Open your eyes', and gently wobbling them to see whether they respond. If there is no response the person is unconscious. DO NOT SHAKE PATIENTS, ESPECIALLY CHILDREN OR BABIES.

2 Place the casualty in the side position and check the airway, breathing and pulse .

3 If the unconscious person is breathing and has a pulse, maintain him or her in the side position, ensuring the airway remains clear and open and frequently checking breathing and pulse until medical aid arrives.

SIDE POSITION

(also known as lateral, recovery or stable side position)

1 Kneel beside the casualty.

2 Place the casualty's far arm straight out, at right angles to the body, and the near arm, bent at the elbow, across the chest, with the fingers close to the far shoulder tip.

3 Bend the near leg up at right angles to the body.

4 Holding the shoulder and hip that are near you, gently roll the casualty onto his or her side. The top leg rests on the ground with its thigh at right angles and calf parallel to the straight leg.

5 Rest the uppermost, bent arm across the elbow of the straight arm.

6 Unless the casualty is less than 1 year in age, gently tilt the head backwards. The face should be turned slightly downwards to allow any fluid to drain from the mouth and the tongue to fall forward, away from the airway.

CLEARING AND OPENING THE AIRWAY

The airway is the passage from the nose and mouth to the lungs, by which air enters and leaves the lungs. If it is blocked breathing will cease. Therefore it is essential to keep the airway clear and open.

ACTION

1 Place the casualty in the side position.

2 Gently check the mouth for vomit, foreign objects or broken teeth and clear these away with your fingers. Remove dentures only if they are broken or loose.

3 Keep the airway open so that breathing can occur: gently tilt the casualty's head back with one of your hands on the forehead and the point of the chin supported with the other.

CHECKING FOR BREATHING

Breathing should be regular, quiet and easy.

ACTION

1 Look for the rise and fall of the lower chest and abdomen.

2 Listen and feel for air escaping from the nose and mouth by placing your cheek close to the casualty's face.

3 If the casualty is not breathing, begin compressions then rescue breaths.

GIVING RESCUE BREATHS

Mouth-to-mouth resuscitation is the easiest, most successful method of rescue breaths. Mouth-to-nose resuscitation is used when there is a serious jaw injury or if the casualty has to be revived in water. Mouth-to-nose resuscitation is used for babies and small children when your mouth can cover both the mouth and the nose. Mouth-to-mask resuscitation used by a person trained in this technique avoids mouth-to-mouth contact if the casualty is thought to be suffering from a disease such as a hepatitis virus or HIV (human immunodeficiency virus) that can be transmitted to another person by blood or other body fluids.

ACTION

Mouth-to-mouth Resuscitation

1 Kneel beside the casualty.

2 Place the casualty on his or her back.

3 Tilt the head back gently, supporting the jaw with your fingers. **Do not** press on the throat. The casualty's mouth should only be partly open.

4 Pinch the casualty's nose. Take a deep breath and place your mouth over the casualty's, sealing off any opening.

5 Keeping the casualty's head tilted, give 2 breaths – enough to slightly raise the chest.

6 Commence compressions at recommended rate.

7 When the casualty is breathing again, place him or her in the lateral position and check the airway, breathing and pulse frequently.

Mouth-to-nose Resuscitation

1 Kneel beside the casualty.
2 Place the casualty on his or her back, with the head tilted back.
3 Supporting the jaw with your fingers, close the casualty's mouth and keep it closed, using your thumb on the lower lip.
4 Take a deep breath. Open your mouth wide and place it over the casualty's nose, without compressing the soft nostrils.
5 Breathe into the casualty's nose.
6 Move your mouth away. Open the casualty's lower lip with your thumb to allow exhalation.
7 Continue as for Mouth-to-mouth Resuscitation.

Mouth-to-mask Resuscitation

1 Kneel at the top of the casualty's head, facing the feet.
2 Place the narrow end of the mask on the bridge of the casualty's nose. Use both of your hands, placed on either side of the jaw, to keep the airway open and to hold the mask firmly in place, creating an airtight seal.
3 Take a deep breath and blow through the mouthpiece of the mask.
4 Remove your mouth to allow exhalation.
5 Continue as for Mouth-to-mouth Resuscitation.

Mouth-and-nose Resuscitation (Babies and Children Under 8)

1 After clearing the airway, lay the child on his or her back, with the head slightly tilted (or horizontal if he or she is under 1), and the jaw supported by your hand.
2 Place your mouth over the child's nose and slightly opened mouth. Puff gently, providing just enough air to make the child's chest rise.
3 Continue as for Mouth-to-mouth Resuscitation.

CARDIOPULMONARY RESUSCITATION (CPR)

If a patient is in Cardiac Arrest it is essential that someone perform CPR on them if they are to have any chance of surviving. It maintains an artificial circulation until expert help arrives.
CPR is very tiring and ideally should be carried out by two people to maintain the correct rhythm.

NB: Please refer to the inside cover of this book for further details relating to CPR. It is recommended that you attend a CPR course to practice CPR techniques; however any attempt at CPR is better than no attempt at all.

CPR Table

	Ratio The number compressions to the number of breaths	***Location on chest***	***Compression method***	***How deep?***	***Number of "Rescue Breaths"***
ADULT & Child	**1 or 2 persons** **30 : 2** At a rate of approx 100-120/min	**Middle of the chest**	**2 hands using only the heel of one hand**	**1/3 depth of chest**	**2**
BABY under 12 months	**1 or 2 persons** **30 : 2** At a rate of approx 100-120/min	**Between the nipples**	**2 fingers**	**1/3 depth of chest**	**2**

CPR Chart

RESUSCITATION CHART

YOUNG CHILDREN SHOULD BE SUPERVISED WHEN USING THIS SWIMMING POOL
POOL GATES MUST BE KEPT CLOSED AT ALL TIMES
KEEP ARTICLES, OBJECTS AND STRUCTURES AT LEAST 900 MILLIMETRES CLEAR OF THE POOL FENCE AT ALL TIMES

Emergency
Call: 000

STOP
DANGER ??

D — **DANGER**
CHECK FOR DANGER TO SELF BYSTANDERS & THE PATIENT

R — **RESPONSE**
CHECK FOR RESPONSE
IF NO RESPONSE PLACE THE PATIENT ON THEIR SIDE & SEND FOR HELP

S — **Send for HELP**

A — **AIRWAY**
CHECK & CLEAR
IF BREATHING LEAVE ON SIDE

B — **BREATHING**
IF NO BREATHING
GIVE 30 COMPRESSIONS
THEN
2 RESCUE BREATHS

C — **CPR**
GIVE 30 COMPRESSIONS
GIVE 2 BREATHS
CONTINUE TILL SIGNS OF LIFE RETURN

D — **DEFIBRILLATION**
IF PATIENT RECEIVING CPR AND A DEFIBRILLATOR IS AVAILABLE—ATTACH AND FOLLOW DIRECTIONS

	Ratio	Where to compress the chest	Compression method	How deep do you push down?	Number of "Rescue Breaths"
ADULT & CHILD	30 : 2	Middle of the chest	2 hands using only the heel of one hand	1/3 depth of chest	2
BABY under 12 months	30 : 2	Between the nipples	2 fingers	1/3 depth of chest	2

VITAL FIRST AID TRAINING SERVICES
This chart has been developed by PARAMEDICS to assist in an emergency. It is not designed to replace accredited training. Vital First Aid is a leading Registered Training Organisation delivering accredited Senior First Aid CPR & Defibrillation training is essential
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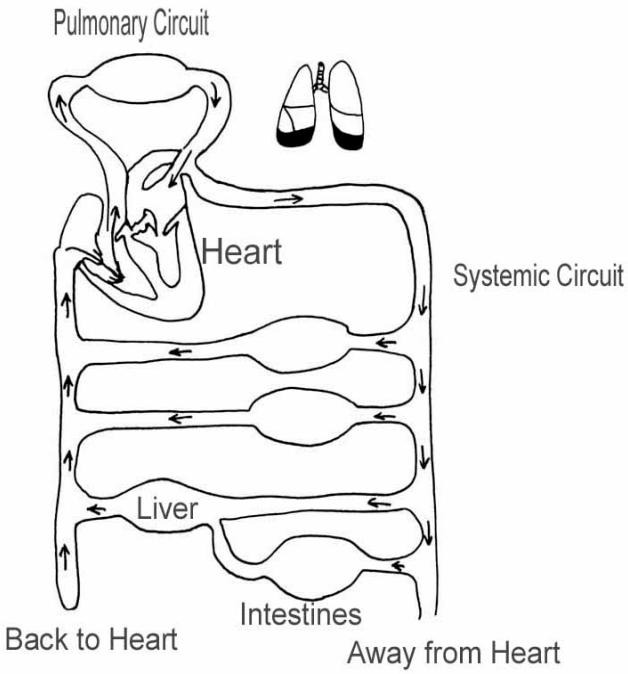
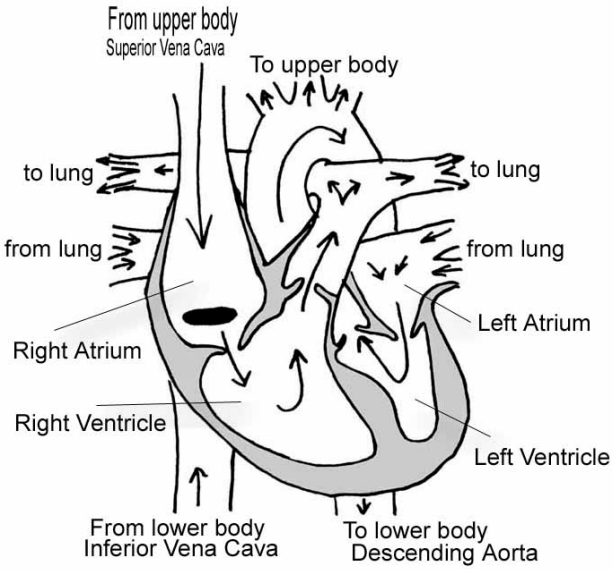
ANATOMY AND PHYSIOLOGY

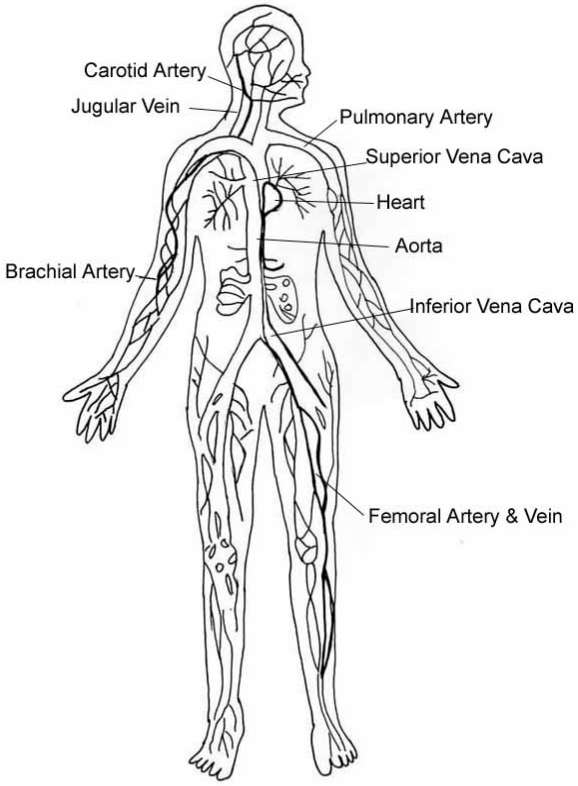
The human body is made up of several 'systems', each of these systems carry out very specialised tasks but rely on all the other systems in order to continue to function at maximum efficiency. Damage to any one system will have an effect on all the other systems in some way. As humans we have 10 systems: nervous,
cardiovascular, respiratory, musculoskeletal, digestive, urinary, endocrine, lymphatic, reproductive and integumentary.

The **nervous system** comprises of the brain, spinal cord and nerves. As the brain regulates body functions, it is easy to see that damage to the brain or the wires (nerves) that carry information to other parts of the body would have an extreme affect. This damage can occur if injury is sustained to areas such as the skull and spinal column.

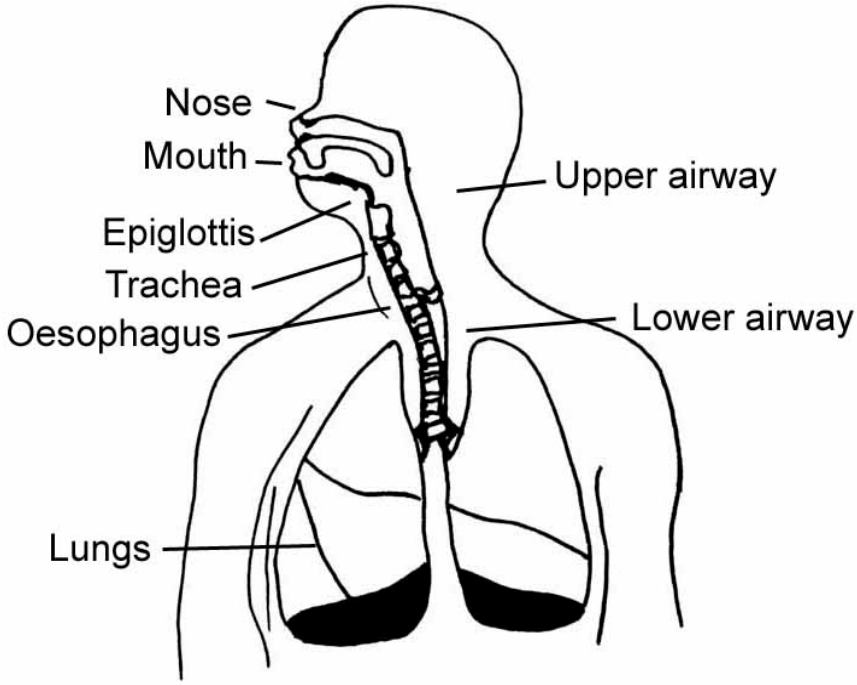


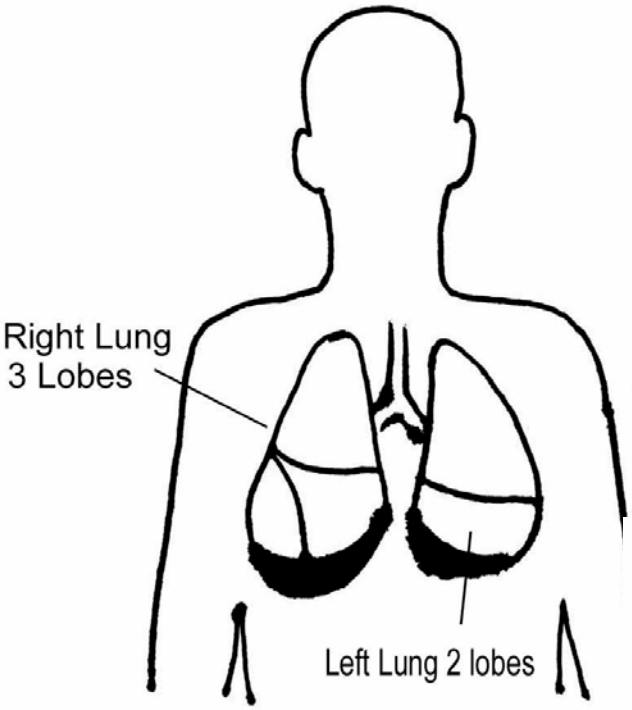
The **cardiovascular system** comprises of the heart, blood vessels and blood. Arteries carry blood that is high in oxygen away from the heart and to other body parts. The blood from an artery is pumped and as such if an artery is cut, the blood will very quickly be lost either internally or externally. Almost our entire blood volume (approx 75 mls per kg) can be pumped through our heart every minute. The pulse of the blood being pumped can be felt in areas such as the neck, wrist and groin – knowledge of these points is essential when assessing our patients. Absence of a pulse will normally mean that the patient's heart is not pumping. Locating a pulse can sometimes be difficult, even for experts, so other factors need to be assessed such as the patient's skin colour and warmth. Veins carry blood back to the heart; this blood is lower in oxygen.

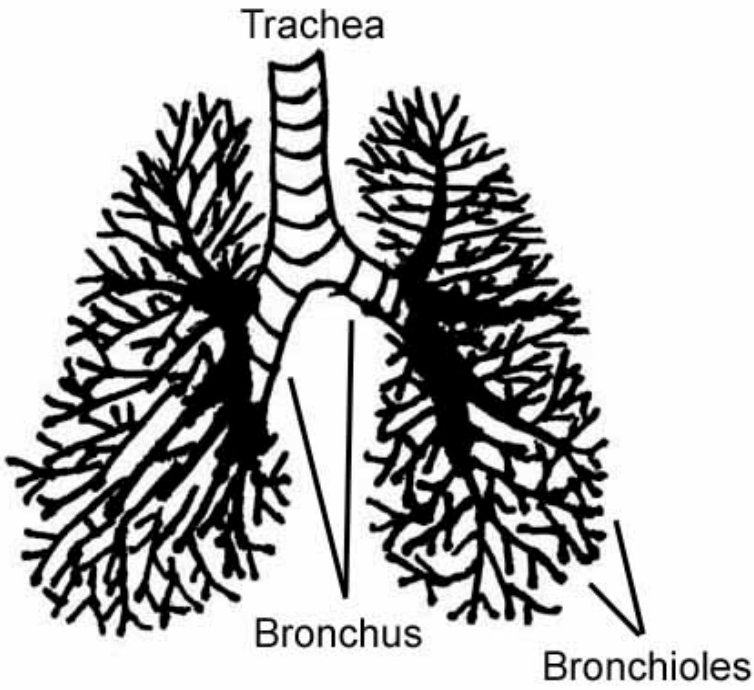




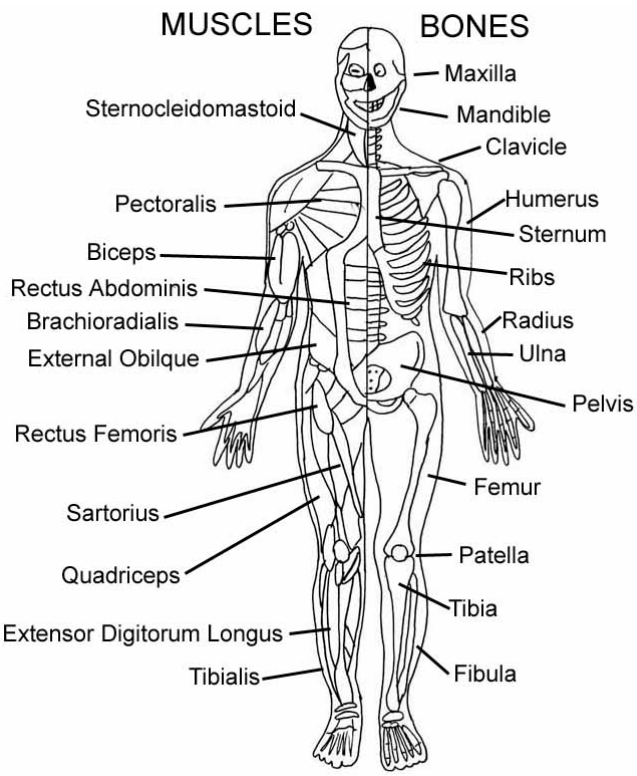
The **respiratory system** comprises of the mouth, nose, trachea, larynx, bronchi, bronchioles and the lungs. The main function of the respiratory system is to deliver essential oxygen to the blood and to remove carbon dioxide (a waste product from cells) from the blood. For this exchange of gases to take place the patient must be breathing and have a clear airway, if this gas exchange does not take place the patient will begin to die.

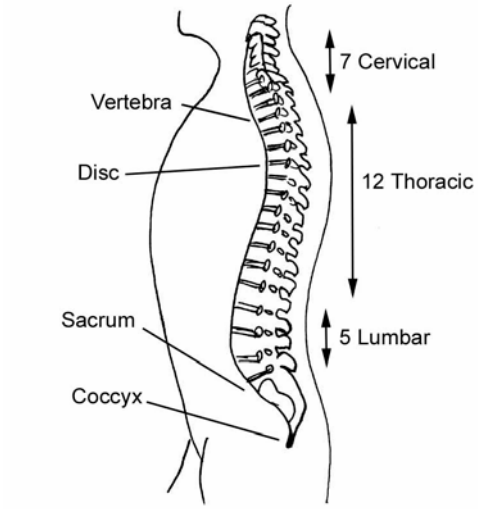


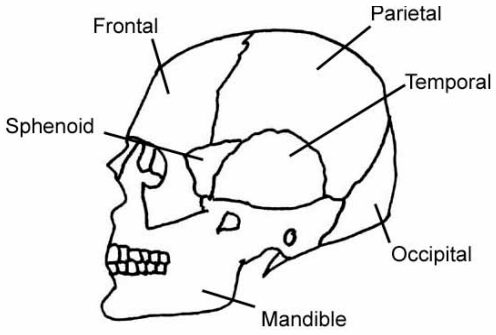




The **musculoskeletal system** comprises of bones, ligaments, tendons and muscles. This system is responsible for support of the body, movement and protection of the internal organs. The spinal column is another part of this system, it provides essential support and protection for the spinal cord. The spines' main function's are to provide support for the upper body and to provide a pathway for nerves to travel. The spinal column is made up of several sections. Statistically injury occurs equally across all sections, however damage to the upper cervical region results in more serious problems such as paraplegia or quadriplegia. Extreme care must be taken with all patients suspected of spinal injuries. The skull is another component of the skeletal system that is essential for protection: protection of the brain.







The **urinary system** comprises of the kidneys, bladder and urinary tract. This system is used to remove waste products suspended in fluid from the body.

The **endocrine system** controls body functions by the use of hormones. An example of this is insulin – without insulin we cannot absorb sugar for use by certain cells.

The **lymphatic system** is like the bodies sewer system; it strains and assists the body to remove toxins such as poisons from various venomous creatures. The flow of lymphatic fluid is very slow and heavily reliant on muscle movement to aid with that flow. In first aid we can apply a pressure immobilisation bandage for certain bites and stings to reduce or even stop the flow of venom through the patients lymphatic system.

The **integumentary** system comprises of the skin, hair, toe and finger nails.

The **reproductive system** is responsible for human reproduction. Immediate, efficient first aid at a road accident is essential. The first few minutes are vital and prompt action can prevent brain damage or loss of life from obstructed breathing, heart failure or severe bleeding.

The **digestive system** comprises of the oesophagus, stomach and intestines. The digestive system is used to digest or absorb food into the body and cells.

ROAD TRAFFIC ACCIDENTS

Immediate, efficient first aid at a road traffic accident is essential. The first few minutes are vital and prompt action can prevent brain damage or loss of life from obstructed breathing, heart failure or severe bleeding.

ACTION
Safety Measures
1 Check it is safe to approach and that everyone on the scene is safe.
2 Avoid danger from oncoming vehicles. Park your car between the accident and traffic if necessary.
3 Turn on your hazard warning lights or flashing lights (and low-beam headlights at night).
4 Place warning triangles and people, if possible, at a reasonable distance either side of the accident to alert oncoming traffic.
5 Turn off the ignition of any car involved, put on the hand brake and, if on a slope, chock the wheels. **Do not** touch a car or casualties if they are in contact with live electric cables: contact the electricity emergency service immediately. **Do not** right an overturned vehicle.
6 Check for flammable liquids, such as petrol, have fire extinguishers handy and **do not** smoke.

First Aid
1 Check if there are any casualties in the wreckage or by the side of the road. Do not smash a car window to get at a trapped casualty unless he or she is protected.
2 Do not move anyone unless he or she is in immediate danger. Try to give a trapped casualty first aid on the spot: slide or tilt the car seat back if the steering wheel or any other heavy object is compressing the chest; tilt the casualty's head back and support the jaw so that the airway remains open. If you must move someone, follow the instructions given in the next chapter, MOVING A CASUALTY.
3 Assess the condition of the casualties. Remember: treat an unconscious person first and immediately check the airway, breathing and circulation (see emergency priorities and emergency techniques), then stop any severe bleeding.
4 Send for help immediately. Remember: do not leave a seriously injured or unconscious casualty, unless help is unlikely to come, and always give clear, brief instructions about the location and nature of the accident (see emergency priorities).

MOVING A CASUALTY

Do not move an injured person unless there is immediate danger from fire, oncoming traffic or toxic fumes, for example. It is best to apply first aid on the spot and wait for medical help to arrive.
However, if you (and others) must move someone, remember to:

- hold the casualty firmly but gently
- take special care always to support the head, neck and spine, especially if the casualty is unconscious.
- carry out the move smoothly, without jerking the casualty.

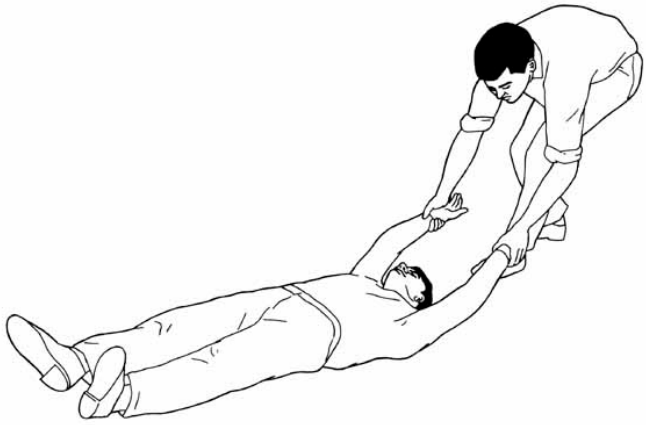
DRAGGING

This technique can be used in an emergency if the casualty is unconscious or seriously injured and you have no help.

ACTION

1 If there are no leg injuries: bend or crouch down at the casualty's feet, grip the ankles firmly, lean backwards and gently begin to drag the casualty from danger. If there are leg injuries: grip the elbows or wrists firmly, lean backwards and gently begin to drag the casualty; do not drag the casualty by the clothing.

2 As you move the casualty backwards, keep his or her body as level with the ground as possible.



HUMAN CRUTCH

This is suitable for an injured adult who can move with some help.

ACTION

1 Stand beside the casualty on his or her injured side, unless the arm, hand or shoulder is injured (in which case stand on the opposite side).

2 Place your arm around the casualty's back and grasp the clothing on the far hip.

3 Bring the casualty's arm around your neck, support him or her with your shoulder and hold the hand (unless it is seriously wounded or bleeding).

4 Move forward slowly with the casualty, both taking the first step with the inside foot.

FIRST AID KITS

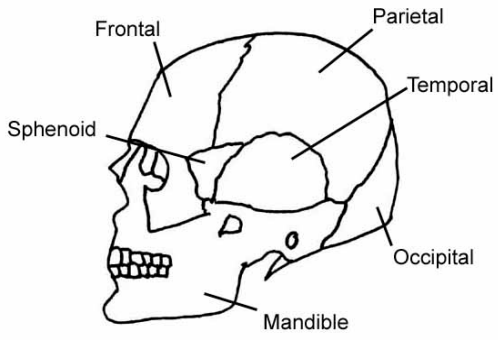
A properly equipped first aid kit can save vital minutes in an emergency. In addition to your first aid kit at home, keep one in your car and boat and take a portable kit on camping trips and holidays. Make sure you:

- label the kit 'First Aid'
- use a container that is childproof and waterproof
- replace items as they are used, do not keep medications for any length of time and safely dispose of a prescribed medicine once the course of treatment is completed
- tape a card, listing emergency phone numbers and the blood group, allergies and special medical problems of family members to the container
- keep the kit handy but beyond the reach of children
- keep this book close by the kit for quick reference.

HOME KIT

A first aid kit for a family should contain the following:

- adhesive dressing strips for minor cuts and grazes
- adhesive tape to hold dressings in place
- paracetamol analgesic tablets for headaches and minor pain
- antihistamine cream for bites and stings
- antiseptic solution
- cotton buds
- disposable latex gloves
- medicine measure
- roller bandages in a range of sizes
- round-ended scissors (use only for first aid)
- safety pins
- splinter forceps or remover
- sterile combine dressing for severe bleeding
- sterile eye pads, wrapped singly
- sterile gauze swabs for cleaning wounds
- sterile non-adherent absorbent dressing for l
- thermometer in a protective case
- triangular bandages
- tubular gauze finger bandage with applicator
- **a full range of quality first aid kits that ha** **Vital First Aid**



CAR KIT

Remember to always keep a copy of Vital First Aid contain a least a selection of the dressings, pads and bandages

DRESSINGS, PADS AND BANDAGES

DRESSINGS

A dressing is a protective cover placed over a wound, before it is bandaged, to help:

- control and absorb bleeding and discharge
- relieve pain
- prevent infection and further injury.

A variety of sterile, non-adhesive dressings can be bought, but any clean, absorbent material that does not stick, such as cotton, linen or gauze, is suitable.

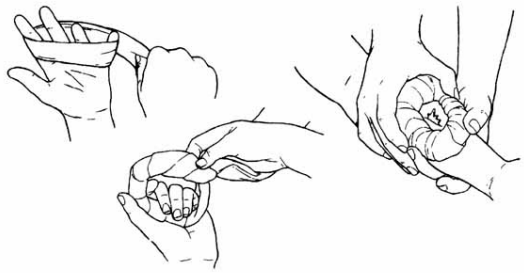
- **Do not** apply cotton wool or fluffy material directly to a wound, because the fibres will stick.
- **Do not** touch the wound or any part of the dressing that will be in contact with the wound.

PADS

Pads, made from layers of cloth, gauze or bandages, are sometimes placed over a dressing to apply pressure, increase the absorption of fluids or help protect skin.

Ring Pad

A ring pad holds a bandage away from a wound if there is an object embedded in the wound or a broken bone protruding through the skin. However, a standard dressing placed around the object has the same effect – but easier.
To make a ring pad: wind one end of a narrow bandage around your fingers to make a loop, then bring the other end through the loop and pass it over and under until a firm ring has been made.



BANDAGES

Bandages are used to:

- control bleeding
- keep dressings and pads in place
- help reduce or prevent swelling
- support a limb or joint, relieving pain
- restrict movement and, when used with splints, immobilise a limb or joint.

Ready-made bandages, usually of calico, crepe or gauze, are available. Modern crepe, elastic or conforming bandages are easy to apply, and they maintain an even pressure because they follow the body's contours. They are available in a variety of widths for different parts of the body. Tubular gauze bandages are also easy to apply because they do not need to be tied and are available in sizes to fit different parts of the body; they are particularly useful for fingers and toes. In an emergency you can, however, improvise, using a sheet, pillowcase, stockings or other materials for bandages.

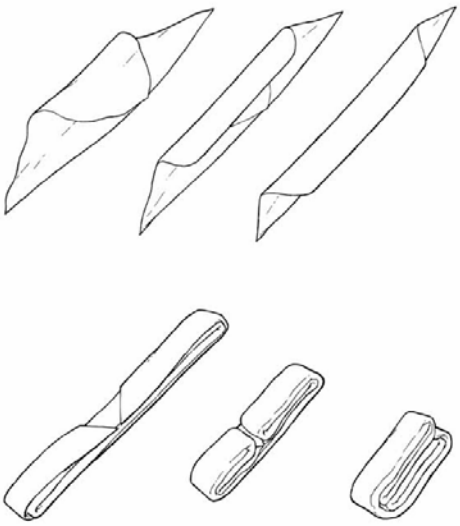
REMEMBER
Always check that bandages are not too tight. Swelling, paleness or blueness of fingers or toes, numbness, 'pins and needles', pain and lack of a pulse in the part of the body below the bandage area are indications that bandages should be loosened. Bandaging must be checked regularly.

Triangular Bandages

These versatile calico or cotton bandages, with two sides approximately 90–100 cm long, can be used to cover a large dressing; as a pad; as slings; to attach splints to limbs; and to protect the scalp, shoulder, hand, chest, foot or back. They can be folded into wide or narrow bandages.

To make a narrow bandage from a triangular bandage: fold the point of the triangle over to meet the base edge, then fold the bandage over again. For a very narrow bandage, fold the bandage one more time.

To make a pad from a folded triangular bandage: turn both ends in to meet at the middle, repeat the process and then fold one half of the layered bandage over the other.



Roller Bandages

Traditionally these have been made of linen, cotton or gauze. They are applied as follows.

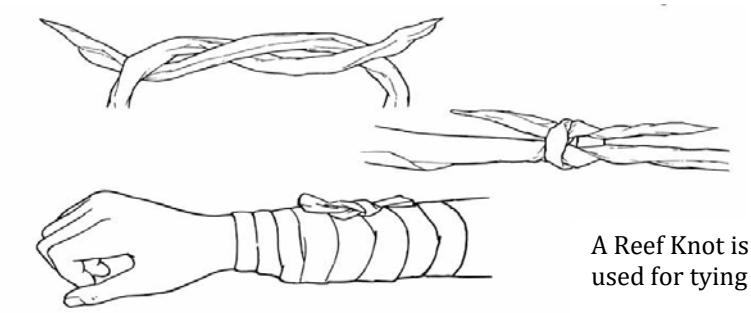
1 Place yourself opposite the casualty.

2 Support the injured limb.

3 Hold the roll in one hand and bandage outwards from the casualty's body, working from below the injury to above it.

4 Overlap each turn by two-thirds and try to maintain even pressure. Finish with two or three turns above the wound.

5 Cut the roll, tuck the end of the bandage under and pin. Alternatively, cut the end into two strips and tie them in a reef knot.



A Reef Knot is commonly used for tying bandages

SLINGS

The purpose of a sling is to support, protect or immobilise an injured limb. Ready-made slings may be bought, but they can also be made from a triangular bandage (see dressings, pads and bandages), a towel, a pillowcase, a scarf or other materials.

ARM SLINGS

An arm sling supports an injured arm (especially one with a splint), such as a fractured forearm or wrist (see fractures).

ACTION

1 Ask the casualty to support the injured arm, holding the wrist and hand a little higher than the elbow, while you place a tri-angular bandage between the arm and the chest, its point beyond the elbow.

2 Take the top end of the triangular bandage over the shoulder on the uninjured side and around the neck.

3 Bring the point of the triangular bandage around the elbow and tuck it between the upper arm and the sling.

4 Take the bottom end of the triangular bandage up over the hand and arm to meet the top end on the inured side. Tie the two ends in a reef knot (see dressings, pads and bandages) in the hollow above the collar bone. Secure the sling at the elbow fold with a safety pin.

5 Keep the casualty's nails free and check them regularly: if they are turning blue or white, loosen the sling a little.

ELEVATION SLING

This sling supports the elbow and prevents the arm from pulling on an injured shoulder. It also supports a bleeding palm (see cuts and wounds), or a fractured hand (see fractures).

ACTION

1 Place the forearm of the casualty's injured arm across the chest, with the fingers close to the shoulder on the injured side.

2 Position a triangular bandage over the forearm and hand, its point towards the bent elbow. Put the top end of the triangular bandage over the casualty's uninjured shoulder and let the base hang down in line with the body.

3 Hold the casualty's hand and the top end of the triangular bandage over the uninjured shoulder and tuck the triangular bandage under the casualty's hand and wrist, with your thumb.

4 With your other hand, tuck the point of the triangular bandage firmly under the casualty's upper arm. Next, sweep the same hand under the part of the triangular bandage still hanging down, and bring it up under the upper arm, tucking in the folds.

5 Bring the end across the casualty's back and tie it and the other end in a reef knot in the hollow above the collar bone on the un-injured side. Secure the elbow fold with a safety pin.

COLLAR-AND-CUFF SLING

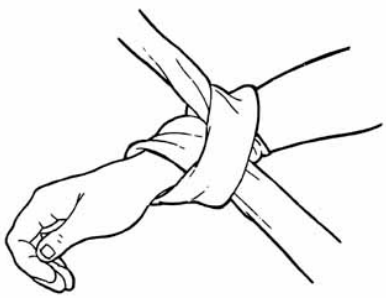
This is a suitable sling if there is an upper arm fracture not close to the elbow or hand (but not wrist) injury (see fractures). A triangular bandage, roller bandage, belt, tie or narrow scarf can be used.

1 Make a clove hitch with the bandage: form two loops, one pointing towards you and one away; bring the two loops together.

2 Slip the clove hitch over the wrist of the injured arm.

3 Gently put the casualty's forearm across the chest, with the fingers pointing to the shoulder in the most comfortable position.

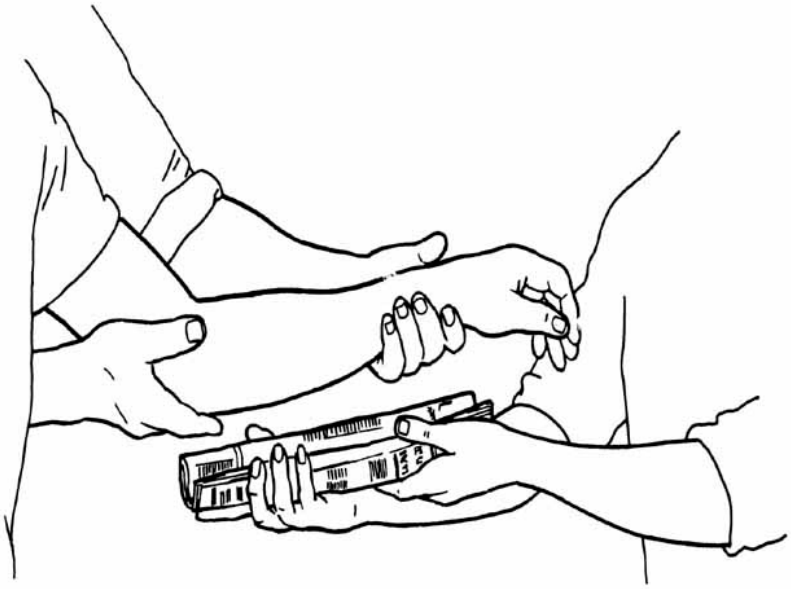
4 Take the ends of the sling around the neck and tie them in a reef knot in the hollow above either collar bone.



SPLINTS

Splints are used to protect wounds from further injury and to support or immobilise limbs in cases of a fractured upper or lower leg if medical aid will be delayed, or a fractured kneecap, upper arm close to the elbow, forearm, wrist or finger (see fractures).

Prepared wooden splints can be bought, but in an emergency you can improvise with a furled umbrella, rolled newspaper or any other rigid article. As well, an uninjured leg can be used as a splint by bandaging the injured leg to it; this method of splinting is used for a fractured neck of a thigh bone, and for a fractured upper or lower leg if medical aid will not be delayed.



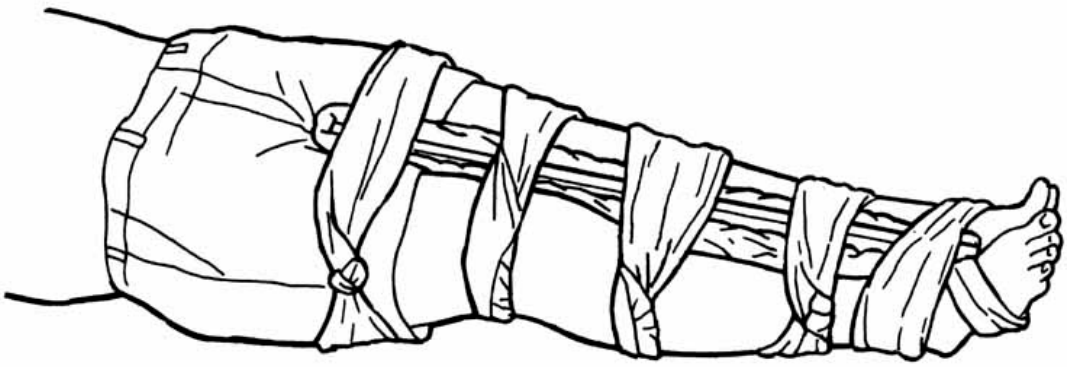
REMEMBER

- Move the injured limb as little as possible while applying the splint.
- The splint should be rigid and long enough to extend beyond the joints on either side of the fracture.
- Check bandages every 15 minutes to ensure blood circulation is not being restricted.
- Commonsense should be used prior to deciding if a limb should be splinted by the rescuer. If advanced medical help is attending the scene and the limb is stable, it may be better that the rescuer waits and allow the advanced medical personnel to manage the application of a splint.

ACTION

1 Pad the splint well using clean material, folded bandages or whatever is at hand. Use extra padding between the splint and the natural hollows and bony areas, such as ankles and wrists.

2 Firmly tie the splint to the limb at the top and the bottom, using bandages. **Do not** bandage directly over fractures.



FAMILY SAFETY

The home is a dangerous place to be. Every year in Australia about 350 children die from accidents at home. Thousands more people, of all ages, are scarred or disabled for life. Elderly people as well as children are particularly prone to accident.
The kitchen is the home's most dangerous room. It is the place where family members usually spend the most time and where the most accidents occur. Children are particularly at risk. They are naturally inquisitive and inclined to touch and try everything and to hang around your knees when you are cooking. The kitchen is a good place to keep your first aid kit (see first aid).

REMEMBER
There are many simple, easy measures you can take that will prevent accidents happening to your family. The following checklists will allow you to check the safety of your home and children and give you ideas for improving family safety.

KITCHEN CHECKLIST

- All appliances and power points are well clear of children's reach. Low power points have dummy plugs inserted.
- The cords of electric appliances do not trail, especially near the sink or stove.
- The plug of the electric kettle is always removed from the power point before the kettle is filled.
- Filled teapots and hot drinks are kept well away from the edge of tables or benches, and hot drinks are never passed over a child's head.
- Knives are stored safely.
- The iron is switched off as soon as it is finished with, and left in a safe place to cool down.
- Matches and lighters are out of the reach of small children, and older children have been taught their dangers and how to use them safely.
- Tablecloths do not extend over the edges of tables if there is a baby or toddler around.
- All cleaning products are kept out of the reach of children, particularly dishwasher detergent, oven cleaner, bleach and corrosive chemicals. Under a sink is a dangerous place to store them if you have children, unless the cupboard is locked at all times.
- Plastic bags are stored well out of the reach of children: suffocation can take place quickly and silently.

COOKING CHECKLIST

- Special care is taken when you are cooking with oil, which can spatter and burn a bystander or catch on fire (nearly half of all house fires start in the kitchen). If a pan catches on fire, cover it with a lid or damp cloth. Leave it where it is until it cools down.
- Water is never poured into hot oil: the burst of steam resulting can easily scald.
- Food spilt on the floor is wiped up immediately to avoid the family slipping on it.
- Pots and pans are placed on the back burners whenever possible and all handles are kept turned inwards. A stove safety guard is a good investment if you have children.
- Children are encouraged to stay well clear of the stove when you are cooking. Take a few minutes, before you start, to give them something to do in a safe area: for example, reading, games or drawing.

BATHROOM CHECKLIST

- All wiring in the bathroom is professionally fitted: water and electricity are a dangerous combination.
- The water's temperature is always double checked before a baby or child is put in the bath. Always put the cold water in first.
- Special care is taken if you use an electric shaver or hair dryer in the bathroom. It is better to use a hair dryer in the bedroom, well away from water.
- A portable heater is not used in the bathroom. Have a safe heater professionally installed.
- No baby or child is every left alone in the bath. If you must answer the phone or door, wrap the child in a towel and take him or her with you.
- Non-skid mats are used in the bath and shower, and there are safety rails for children or elderly people to hold onto.
- Medicines, the first aid kit, cosmetics and perfumes are kept out of the reach of children.
- Scissors, razor blades and electric shavers are also out of the reach of children.
- Everyone in the family know not to touch power points with wet hands: moisture is an excellent conductor of electricity.
- Toilet cleaner's bleach and other cleaners are kept out of the reach of children.

GARDEN CHECKLIST

- Gloves are always worn when you are gardening. Spider bites can bring on severe allergic reactions (and some spiders are deadly). Gloves also help to prevent cuts from glass and rusty metal or nails.
- Poisonous weed-killers and sprays are used as little as possible. There are efficient non-toxic and herbal products available.
- All fertilisers, weed-killers and poisons are correctly labelled and out of the reach of children. **Do not** put chemicals in old food containers or soft drink bottles.
- Garden tools, clippers, secateurs and other sharp items are stored out of the reach of children.
- Shoes (ideally sturdy ones) are worn when you are mowing or using an electric garden appliance, such as clippers.
- Rubbish bins are kept well sealed so that children cannot rummage through them.
- No child is ever left unattended near a swimming pool. Always empty wading pools after use and store them away. **Remember:** a child can drown in centimetres of water.

CHILD SAFETY CHECKLIST

Note that drowning is the most common cause of accidental death in young children. Choking is another common cause of death in children under five. Burns are also one of the most common accidents.

- No child under 3 is given peanuts.
- No baby is left alone with food or drink: a baby can choke and die in minutes.
- A dummy is not put around a baby's neck on a long ribbon, which can easily become entangled and cause strangulation.
- No plastic bags are left lying around. Put them away immediately and teach children that they are not toys to play with.
- All baby equipment is safe and conforms to approved safety standards. Take special care when purchasing cots, high-chairs, playpens, prams and strollers.
- A child in a high-chair is always supervised.
- A safety guard is placed around a fire or radiator.

- A baby capsule or child's car seat, approved by the Standards Association is always used and **always correctly fitted**, and safety harnesses and seat belts are **correctly adjusted every time** you take a baby or child in your car.
- A baby is never kept in a car on a hot day.
- A baby or child is never left unattended in a car.
- Your child has been taught about road safety. Every time you cross the road, hold your child's hand and explain the correct procedure. Whenever possible, cross at a pedestrian crossing or traffic lights.

A TO Z OF INJURIES & ILLNESSES

PATIENT EXAMINATION

A good examination or assessment of a patient is essential if the first aider is going to be able to treat the patient properly. It is very easy to get TUNNEL VISION, seeing the most obvious injury missing the less obvious.
Following is the recommended technique of patient assessment:

- **Check your priorities:** This stage of the assessment is probably the most important. It is essential that prior to performing any type of treatment or assessment, the first aider must ensure a safe working environment – remove danger. The first aider then completes the remainder of the DRSABCD.
- **Look and feel, nose to toes:** starting with the head the first aider slowly and carefully assesses each area of the body checking for cuts, abrasions, swelling, bruising or any other type of injury. If at any stage an injury is found and thought to be life threatening, the assessment should be stopped and the injury treated. This treatment should be kept to a minimum at this stage to enable completion of the assessment. Full treatment of injuries can be completed when the assessment is finished.
- **Use your tools:** at this stage of the assessment the first aider uses additional resources such as bandages, slings pads etc to assist them in the treatment of the patient. Tools that are also used are things such as the first aiders hands to assess the patients basic temperature, the first aiders eyes to assess the patients overall colour – these additional tools are just as important as bandages and slings.
- **Take an ample history:** it is important that a basic medical history be gained, time permitting, in order to be able to treat the patient appropriately. This history can also be passed onto other medical personnel such as the ambulance. Below is a suggested method of remembering how to gain an adequate history.

'Ample' history?

A	*allergies*
M	*medication*
P	*past or present illnesses*
L	*last meal eaten – important for the hospital to know in case surgery is required*
E	*events leading up to the illness or accident*

CHECKING FOR PULSE

Checking for pulse is no longer required when performing CPR but can be used when assessing other aspects of a patient's condition (e.g. possible shock from major blood loss).
The pulse rate is the rate of the heart beat: 60–80 strong, regular beats per minute is normal for adults, up to 100 for a child; and up to 140 for a baby. When the heart stops beating, the blood in the body stops circulating. Breathing will stop and the casualty will be unconscious.

ACTION
Lightly place the tips of your middle two or three fingers on the underside of the casualty's wrist (towards the thumb-side of the wrist). Count how many beats you feel in one minute. If you are having difficulty finding the pulse, carefully move your fingers a little further to either side of the wrist until you do feel the pulse.

ADMINISTRATION OF MEDICATION

As first aiders we should not attempt to prescribe medication to our patients; however we may find times when we are required to assist the patient with medication. Only the patients' medication should be made available to the patient – common-sense should prevail in times of emergency though.

TRIAGE

Triage means to sort. In first aid we use triage to determine which patient or injury we should treat first. Even in very minor emergency situations the first aider will find themselves triaging their patient. The table on the next page shows the type of system that is used by major ambulance services and hospitals.

Cat	Definition	Colour	Treatment	Example
P1	**Life- threatening**	**Red**	**Immediate**	*Tension pneumothorax*
P2	**Urgent**	**Yellow**	**Urgent**	*Fractured femur*
P3	**Minor**	**Green**	**Delayed**	*Sprained ankle*
P4	**Dead**	**White**	**None**	

COMMUNICATION

Communication with emergency services during an emergency is essential, however it should be kept brief and to the point. It should state facts, not what you think could or might have happened, and it should not interfere with the treatment of the patient. Communication should include the injuries found, pulse, skin colour, general condition, conscious state and other relevant information you feel is required. The emergency services are looking for trends in the patient's condition, not minute by minute details.

REMOTE AREA FIRST AID

When venturing into remote areas preparation is the key for survival. A well packed appropriate first aid kit should always be taken even if the trip is only a short one. Preparation for a trip into remote areas should include

- Assessment of predicted weather conditions
- Clothing
- Ability to construct shelter
- Ability to keep warm
- Water supplies
- Communication

These are only a few things that should be considered, contact with National Parks or walking clubs etc should be sort prior to the trip for more detailed suggestions.

DEBRIEF

Traumatic events affect everyone differently. Past life experiences change the way we perceive trauma as individuals and as such the same event can have totally different effects on one person as it does on another. The sooner a first aider gains professional assistance after a traumatic event the more likely it is that they may be able to come to terms with the event. Talking to peers about the traumatic event is one way the first aider can start to 'process' there feelings, but professionals should be sort to ensure it is done safely and effectively.
Remember, 'It is normal to feel abnormal about an abnormal event'.

ASTHMA ATTACK

Asthma is the most common chronic childhood disease in Australia. One in four children and one in ten adults have it. Any person who experiences persistent shortness of breath, wheeziness or cough may potentially have asthma and should see a doctor. During an attack, the muscle surrounding the air tubes goes into spasm, the lining of the tubes becomes swollen and excessive mucus is produced, all of which results in the tubes narrowing, making breathing difficult.
People with asthma should always carry medication to relieve an attack. 'Reliever' medication is usually in the form of a metered-dose, bronchodilator aerosol ('puffer'), such as Ventolin, Bricanyl and Respolin. The delivery of aerosol medications is easier and more effective with a spacer device, particularly for children during an attack.

Signs and Symptoms

- difficulty breathing
- rapid, shallow breaths
- noisy, wheezy breathing
- coughing, particularly at night
- feeling of tightness in the chest
- difficulty speaking, in severe attacks
- blueness of lips and confusion, in very severe cases

WARNING
The seriousness of an attack is difficult to assess and varies, but occasionally asthma is fatal, so prompt action should always be taken.

If the person having an attack is not carrying medication, medical aid should be sought immediately: the quickest way to do this is to call an ambulance and state that a person is having an asthma attack. All ambulances are equipped to deal with asthma in young children and others.

ACTION
1 Sit the person in a quiet, warm place, away from other people and leaning on a table.
2 Have the person take 4 puffs from his or her bronchodilator puffer, one after another (with a spacer if available). Using the recognised 4x4x4 emergency asthma protocol
3 Wait 4 minutes, then if there is no improvement give 4 more puffs.
4 If there is still no improvement or the person's condition suddenly deteriorates, call an ambulance immediately.
5 While waiting for medical help to arrive, continue to administer the puffer as described.
Note that these bronchodilator puffers are completely safe to use and an overdose is very unlikely during an asthma attack.. Oxygen should also be given if an accredited person is there to do so.

BITES AND STINGS

Bites and stings can be poisonous or non-poisonous. Bites and stings from venomous snakes, spiders and marine life need immediate emergency action. Among the most dangerous of Australia's fauna are the Taipan, tiger snake and death adder, the funnel-web and red-back spiders and the blue-ringed octopus, cone shells, stonefish, bullrout, box jellyfish and sting-rays.
Bites and stings from non-poisonous animals can sometimes also need medical attention. Stitches, antibiotics or a tetanus injection may be required after an animal bite. Some people suffer an allergic reaction to what would normally be just a painful bit or sting: in some cases the reaction is severe and must be treated immediately (see Bees and Wasps).

NON-VENOMOUS ANIMALS

ACTION
1 Wash the wound thoroughly with a mild antiseptic or soap and water.
2 Cover the wound with a clean dressing and bandage (see dressings, pads and bandages).
3 Seek medical aid, unless the wound is superficial, because antibiotics or stitches may be required. The sufferer may also require a tetanus injection unless one has recently been administered.

SNAKES

Do not waste time trying to identify the snake. Apply first aid immediately. Unconsciousness and breathing difficulties can develop quickly in a child.

Signs and Symptoms
- puncture marks on the skin may be apparent, but the following other signs and symptoms may take from 15 minutes to 2 hours to appear
- redness and swelling of the bitten area
- nausea and vomiting
- diarrhoea
- headache
- double vision
- faintness
- tightness in the chest and difficulty breathing
- unconsciousness

WARNING
- Do not cut or cauterise the snake bite or attempt to suck out the venom.
- Do not apply a tourniquet or restrictive bandage.
- Do not wash venom off the skin – it can help experts to identify the snake type.

ACTION
1 Lay the casualty down comfortably and try to keep him or her still. Do not elevate a bitten limb.
2 Apply pressure immobilisation .
3 If the casualty becomes unconscious, place him or her in the
lateral position, check the airway, breathing and pulse and begin CPR if necessary (see emergency techniques).
4 Seek medical aid urgently.

PRESSURE IMMOBILISATION

Pressure immobilisation helps prevent venom reaching the bloodstream. It is useful for treating snake bite and most other bites and stings **except** poisoning by red-back, jelly fish stings and venomous fish such as stonefish and bullrout.

1 Apply pressure to the bitten area with your hands.

2 As soon as possible apply a firm bandage: crepe is ideal, but you can improvise with, for example, a stocking. Bandage over the bite then continue the bandage up the limb. For bites to the torso the application of direct pressure to the bite site appears to be the best treatment.

3 Immobilise the limb, using a splint (see splints) if the leg has been bitten or a sling (see SLINGS) if the arm is affected.

4 Rest the casualty, and **do not** move him or her unless absolutely essential. It is preferable to wait for medical help to arrive.

FUNNEL-WEB SPIDER

The funnel-web, found mainly in Sydney and the coastal region of New South Wales, is a large, black or reddish brown, hairy spider. The male is more poisonous than the female and somewhat smaller and more slender, with a body length of about 3 cm. An antivenom is available.

Signs and Symptoms

- intense pain around the bite
- nausea and abdominal pain
- numbness
- weakness
- difficulty breathing
- coughing up of secretions
- watery eyes
- sweating, cold skin
- shivering

ACTION

1 Treat as for bites from Snakes.

2 Seek urgent medical help: this venom is life-threatening.

RED-BACK SPIDER

The red-back is about the size of a pea and usually black with a reddish stripe on the back. Only the female is dangerous. An antivenom is available.

Signs and Symptoms

- immediate, sharp, stinging sensations, sometimes
- pain around the bite
- swelling and sweating around the bite
- SHOCK

WARNING

Do not apply pressure immobilisation.

ACTION

1 Apply an ice pack or cold compress to the bite to ease the pain (see SPRAINS AND LACERATIONS). **Do not** freeze the skin.

2 Seek medical aid urgently.

3 Monitor the casualty for shock.

PARALYSIS (BUSH) TICK

These are most commonly found along the eastern coast of Australia, from Queensland to northern Tasmania. The small (only 0.25–0.5 cm across), oval-shaped, dung-coloured creature buries its head under the victim's skin. The venom can cause paralysis, especially in children, but usually results in skin irritation or nodules. The tick should be removed as soon as possible.

Signs and Symptoms

- irritation at the site of the bite
- weakness of the face and eyelids, then arms
- breathing becomes difficult

ACTION

1 Use the open blades of small scissors or tweezers to lever the tick out. Make sure you remove the head. Do not pinch or squeeze the tick. Do not try to pull the tick off.

2 Check carefully that there are no other ticks in the crevices of the sufferer's body, such as behind the ears, or in the hair.

3 If the symptoms persist or if a child has been bitten, seek medical aid immediately.

BEES AND WASPS

Some people suffer allergic reactions to the stings of bees and wasps.

Signs and Symptoms of Allergic Reaction

- local pain, swelling and itchiness
- itchy rash on the body
- puffy eyelids and face
- constricted throat and difficulty breathing

ACTION

1 If a bee sting is involved, remove the sting by brushing it sideways with your fingernail or a knife blade. **Do not** squeeze the poison sac by pulling out the barb.

2 Wipe the area and apply a cold compress.

3 If there is an allergic reaction, the casualty should immediately take any medication for allergy that he or she may be carrying. If the reaction is severe, apply pressure immobilisation, monitor breathing, begin CPR if necessary (see EMERGENCY TECHNIQUES) and seek medical aid urgently.

BLUE-RINGED OCTOPUS AND CONE SHELLS

Blue-ringed octopus are found in rock pools all along the Australian coastline. They are small (no more than 20 cm from tip to tip when their tentacles are spread out) and their bite is often painless, but the venom is potent and affects the victim rapidly. Because of their size and attractiveness, children may be tempted to pick them up and should be warned not to put their fingers in the crevices of rock pools. No antivenom is available.

The majority of cone shell species are found along the tropical northern Australian coastline, but some are also found in temperate waters. All species are poisonous, and the sting of some is lethal.

Signs and Symptoms

- blurred vision
- numbness of lips and tongue
- difficulty swallowing
- absence of breathing

ACTION

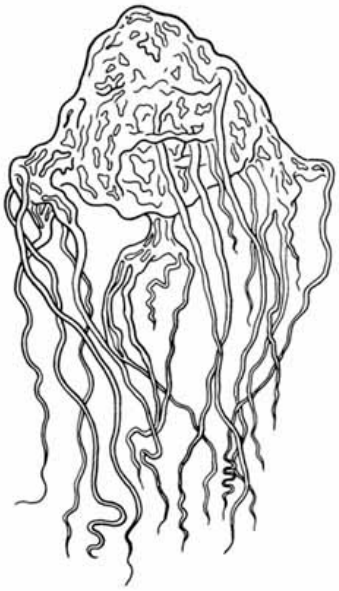
1 Apply pressure immobilisation .

2 Send for urgent medical aid, but **do not** leave the casualty unattended.

3 As soon as breathing is affected, begin CPR (see EMERGENCY TECHNIQUES) and continue until medical help arrives.

BOX JELLYFISH

These are usually found in the waters of tropical northern Australia. The tentacles contain highly poisonous venom. Extensive stinging may cause breathing and circulation failure and can kill within minutes.



Signs and Symptoms

- intense pain
- purplish red welts on the skin and the characteristic 'frosted ladder' pattern may be visible
- irrationality
- difficulty breathing
- unconsciousness
- breathing and circulation failure

WARNING

Always check with local authorities whether it is a safe time to swim before you enter tropical waters.

ACTION

1 If the casualty becomes unconscious, place him or her in the lateral position, check the airway, breathing and pulse and begin CPR if necessary (see EMERGENCY TECHNIQUES). Continue to monitor breathing and circulation.

2 Douse the stung skin with household vinegar, which almost instantly makes the tentacles harmless, or use your fingers to detach any tentacles. **Do not** cease CPR to do this.

Do not rub the area.

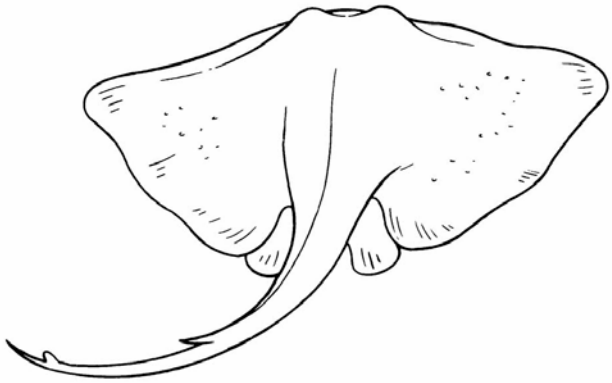
3 Seek medical aid urgently.

STING-RAYS

The sting is attached to the long whip-like tail and can be lethal.

Signs and Symptoms

- immediate, burning pain
- difficulty breathing



ACTION

1 Do not remove the barb.

2 Wash the area with hot, but not scalding, water.

3 Monitor breathing and give CPR if necessary (see EMERGENCY TECHNIQUES).

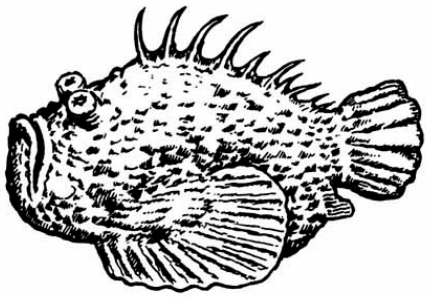
4 Seek medical aid.

STONEFISH AND BULLROUT

These fish are found in tropical inlets, rocky beaches and coral reefs. You should always wear shoes when walking or wading in such places and beware of picking up odd-looking rocks, which may be a camouflaged stonefish.

Signs and Symptoms

- immediate, severe, spreading pain
- the offending spine left in the wound, sometimes
- swelling and discoloration of the area
- sweating
- irrationality
- SHOCK



WARNING
Do not apply pressure immobilisation.

ACTION
1 Seek medical attention urgently.
2 Soak the affected area in hot, but not scalding, water for at least 20 minutes.
3 Remove any spine in the wound if possible.
4 Monitor breathing and begin CPR if necessary (see EMERGENCY TECHNIQUES).

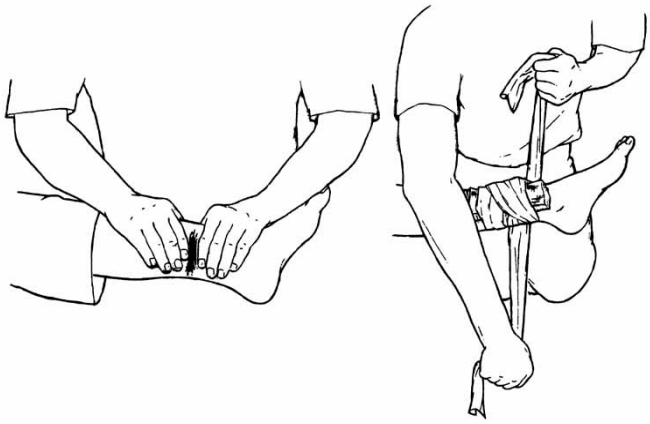
BLEEDING

Severe or continued bleeding, if not controlled, is potentially fatal. It is critical to stop the bleeding as quickly as possible.
Internal bleeding can occur after a serious accident or heavy fall or result from a medical condition, such as a stomach ulcer. Bleeding into the tissues and cavities of the body can be life-threatening and immediate hospital care is essential.

EXTERNAL BLEEDING

Signs and Symptoms

- bleeding from a wound
- SHOCK



ACTION
1 Lay the casualty down (unless there are CHEST INJURIES).
2 Check that the wound does not contain a foreign body or protruding bone (see FRACTURES). If it does, do not disturb it, but apply a ring pad (see DRESSINGS, PADS AND BANDAGES).
3 If the wound is clear of protruding matter, apply direct pressure immediately to it: when no sterile or improvised dressing is available, use your hands to control bleeding until you can add a clean dressing and pad. If the patient is able to apply the pressure himself or herself, this is recommended to reduce the risks of cross-infection.

4 Bandage the wound firmly. If it is on an arm or leg and there are no obvious fractures, raise the limb.
5 If blood seeps through the bandage, leave the dressing in place but replace the pad. **Do not** remove the dressing, pad or bandage when bleeding stops.
6 **Do not** give anything to eat or drink.
7 Monitor the casualty for shock.
8 Seek medical aid urgently.

To stop bleeding from the palm, which can be severe: get the casualty to grip a pad in the palm to apply pressure to the wound; elevate the hand, leaving one end at the base of the thumb, take a bandage around the hand, down over the fist and around and over the thumb and end of bandage: continue bandaging in this way, then tie both ends at the top of the fist; finally, rest the bandaged hand against the shoulder on the uninjured side and support it with an elevation sling (see SLING).

INTERNAL BLEEDING

Signs and Symptoms

- coughing up or vomiting of blood
- passing of black or red faeces
- passing of red or smoky urine
- pain, tenderness and muscle rigidity of the abdomen
- SHOCK

ACTION

1 Lay the casualty down comfortably and loosen any tight clothing.
2 Raise or bend the legs (unless there are suspected FRACTURES).
3 Seek medical aid urgently.
4 Monitor the casualty for shock. **Do not** give any food or drink.

BRUISES

A heavy fall or blow can cause bleeding beneath the skin.

Signs and Symptoms

- pain
- bruise, which turns from red to bluish purple to greenish yellow
- swelling
- tenderness

ACTION

1 Check for injuries, particularly FRACTURES, SPRAINS AND DISLOCATIONS or STRAINS.

2 Rest the casualty, support the injured part and apply a compression bandage. A heavily bruised arm should be supported with a sling (see SLINGS). If the legs or body are bruised, support them with cushions.

3 Apply an ice pack (see SPRAINS AND DISLOCATIONS).

For the treatment of a black eye see EYE INJURIES.

BURNS AND SCALDS

Burns are caused by the dry heat from flames, electricity, lightning, chemicals and radiation (for example, in sunburn). Scalds are caused by moist heat from boiling liquids or steam. Burns and scalds are serious injuries and can result in infection, scarring and, in extreme cases, death.

Signs and Symptoms

- skin looks red and blistered if only the outer layers are affected
- skin looks dark red, blackened or charred if all the layers of skin are burnt
- pain if the burn or scald is superficial, but it may be absent if nerve ends have been damaged
- SHOCK if burns or scalds are extensive.

ACTION

1 Remove the casualty from danger and the source of heat if you can do so without becoming a casualty yourself (see MOVING A CASUALTY).

2 If the casualty's clothes are on fire, protect yourself by holding a blanket or rug in front of yourself as you approach him or her. Wrap the blanket or rug around the casualty to smother the flames, and lay him or her on the ground. If you must use water to put out the flames, **do not** throw it.

3 If the casualty is unconscious, place him or her in the lateral position, check the airway, breathing and pulse and begin CPR if necessary (see EMERGENCY TECHNIQUES).

4 Carefully remove burnt clothing unless it is adhering to the skin.

5 Cool the burnt area with cold, but not icy, water, ideally by placing the burn under gently running water for at least 10 minutes.

6 Cover the burn with a sterile, non-adherent dressing, then lightly apply a bandage (see DRESSINGS, PADS AND BANDAGES). **Do not** apply ointments, lotions or cream.

7 If the casualty is conscious and thirsty, give him or her water to sip slowly. **Do not** give alcohol.

8 Rest the casualty comfortably, supporting any burnt limb.

9 For all except minor burns and scalds, seek medical aid immediately.

CHEST INJURIES

The chest protects the heart, lungs and major blood vessels, so injuries to this can quickly affect breathing and circulation and may result in profuse bleeding.
Sometimes a fractured rib may pierce the lung, causing serious damage, internal bleeding or even the collapse of the lung.
If a fractured rib or a sharp object has penetrated the chest wall, air from outside can be sucked directly into the chest cavity. This air can cause the lung on the injured side to collapse.

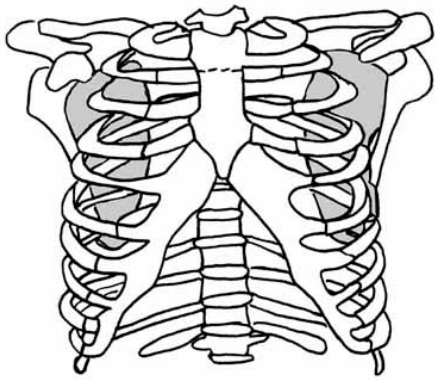
FRACTURED RIBS

Signs and Symptoms

- pain, worsening when the casualty breathes or coughs
- difficulty breathing
- frothy blood coughed up, sometimes
- tenderness in the injury area

The main contents of the chest or thorax are:

- lungs
- heart
- veins/arteries
- nerves
- ribs/sternum
- trachea
- bronchi



This diagram shows the protection to the thorax in the form of the ribs and sternum

ACTION

1 If the casualty is unconscious, place him or her in the lateral position on the injured side, check the airway, breathing and pulse and begin CPR if necessary (see EMERGENCY TECHNIQUES).
2 Rest the conscious casualty in a half-sitting position, leaning downwards on the injured side.
3 Pad the injured side, then bandage the upper arm and padding to the injured side (see DRESSINGS PADS AND BANDAGES).
4 Immobilise the arm with an elevation or collar-and-cuff sling (see SLINGS).
5 Seek medical aid urgently.

SUCKING WOUNDS

Signs and Symptoms

- pain in the area of the injury
- blood bubbling from the wound
- bluish lips
- increasing difficulty breathing
- sucking noise
- unconsciousness

ACTION

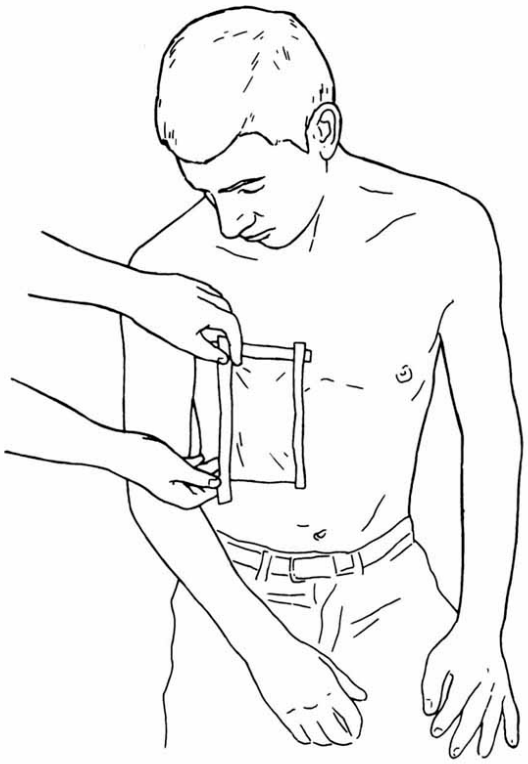
1 If the casualty is unconscious, place him or her in the lateral position on the injured side, check the airway, breathing and pulse and begin CPR if necessary (see EMERGENCY TECHNIQUES).

2 Rest the conscious casualty in a half-sitting position, leaning downwards on the injured side.

3 Quickly remove the clothing around the wound and place your hand over the wound.

4 Cover the wound with a sterile dressing (see DRESSINGS, PADS AND BANDAGES) or an airtight dressing made from plastic or aluminium foil. Tape the covering to the chest on three sides to prevent air entering, but do not tape the bottom edge, leave it open so that air under pressure can escape.

5 Seek medical aid urgently.



CHOKING

A piece of food, fishbone or other object can lodge in the airway, obstructing breathing. Young children can choke on a peanut or a part of a toy. Choking is potentially fatal and immediate first aid is essential.

PARTIALLY BLOCKED AIRWAY

Signs and Symptoms

- coughing
- difficulty breathing
- blueness of the face, neck and extremities
- unconsciousness, sometimes

WARNING

If an adult, child or baby can cough, cry or walk do not slap him or her on the back because this can cause the obstruction to shift and become a total blockage of the airway.

ACTION

1 Place the unconscious, breathing casualty in the lateral position, monitoring the airway, breathing and pulse (see EMERGENCY TECHNIQUES) and seek medical aid urgently.

2 Encourage the conscious casualty to relax and allow him or her to cough. If laboured breathing continues, seek medical aid urgently.

COMPLETELY BLOCKED AIRWAY

Signs and Symptoms

- inability to cough
- inability to breathe
- unconsciousness
- the airway resists air and the chest fails to rise when rescue breaths are given

ACTION

1 Position the casualty so that the head is slightly lower than the chest. Support a baby's chest and body across your knees. Place a child head down across your knee, with the chest supported by one hand.
2 Give 3–4 sharp slaps between the shoulder blades with your hand.
3 If there is no improvement, give CPR (see EMERGENCY TECHNIQUES).
4 Seek medical aid urgently.

CONCUSSION

A severe fall or blow to the head or face can shake the brain and cause concussion.

Signs and Symptoms

- pale, clammy skin
- shallow breathing
- nausea, vomiting
- dizziness
- loss of consciousness, sometimes only momentary
- loss of short-term memory
- double vision
- headache
- SHOCK

ACTION

1 Lay the casualty down in a comfortable position. Do not give any food or drink.
2 Apply a cold compress to the knocked area.
3 Watch for any worsening of the condition.
4 If the casualty loses consciousness, place him or her in the lateral position, check the airway, breathing and pulse and begin CPR if necessary (see EMERGENCY TECHNIQUES).
5 Seek medical advice: anyone who has lost consciousness because of a blow, even if only briefly, should see a doctor.

See also HEAD INJURIES.

CONVULSIONS (OR FITTING)

A convulsion is an episode in which normal brain activity becomes disturbed. It can be caused by a serious accident, DRUG OVERDOSE, fever or epilepsy.
Babies and young children, between the ages of 6 months and 6 years, can suffer seizure known as feverish convulsions. Feverish convulsions without complications do not cause damage or result in epilepsy.
Epilepsy is a disorder that takes the form of recurring seizures. The seizures occur as a result of a brief disturbance of electrochemical activity in the brain. There are many types of seizures. Major generalised (tonic-clonic) seizure is one common type of epileptic seizure. Usually epileptic seizures are brief – lasting only a few seconds or minutes – and stop of their own accord. Most involve a change in consciousness. However, some seizures, such as the absence seizure, which is a brief staring episode, are subtle and may go undiagnosed for years.

FEVERISH CONVULSIONS (Febrile Convulsions)

Signs and Symptoms
The convulsion usually lasts only a few minutes and may involve:

- jerking or twitching of the body
- limpness of the body
- difficulty breathing
- Unconsciousness.

ACTION
1 Protect the child from injury by removing any dangerous objects, but do not forcibly restrain him or her.
2 During the seizure, place the child in the lateral position and keep the airway clear (see EMERGENCY TECHNIQUES).
3 Remove all the surplus clothing and allow air to reach the child's skin. Do not try to cool him or her with cold or tepid water because this can cause the fever to last longer.
4 Seek medical aid before the TEMPERATURE rises again.
5 The doctor may recommend giving the child a medicine, such as paracetamol to reduce the fever.
6 Cover the child lightly once the temperature has been reduced.

EPILEPSY

Signs and Symptoms of Major Generalised Seizure

- person suddenly falls, rigid and unconscious, to the ground
- body convulses or shakes
- altered breathing pattern
- frothing at the mouth, sometimes
- loss of bladder control, sometimes
- blood on the lips, sometimes, if the tongue has been bitten
- temporary confusion on recovering
- need to sleep, afterwards
- temporary confusion on wakening

ACTION

1 Stay calm and protect the person from injury by removing any dangerous objects but do not forcibly restrain him or her.

2 Place something soft under the person's head to protect it, and loosen any tight clothing.

3 As the convulsions pass, place the person in the lateral position and keep the airway clear (see EMERGENCY TECHNIQUES) but do not force anything into the mouth.

4 Reassure the person as consciousness returns (usually after a few minutes), and help him or her to somewhere nearby where he or she can rest or sleep.

5 Seek medical aid if the seizure lasts longer than 10 minutes, there are further seizures; or you feel unsure in the situation and it is possibly the first seizure the person has experienced.

CRAMP

Cramp is a sudden and prolonged muscle contraction causing sharp pain. It may be caused by lack of body fluid (for example, after heavy vomiting or diarrhoea), poor circulation or strenuous exercise in extremely hot or cold conditions.

ACTION

1 Gently stretch and straighten the cramped muscle: for hand cramp, get the sufferer to straighten the fingers and press down on the tips; for foot or calf cramp, have the sufferer stand, pushing down on the heel and toes; for thigh cramp, seat the person, straighten the leg, lift the toes with one of your hands and press down on the knee with your other one.

2 If the cramp is due to loss of fluid, administer tepid water to which glucose or sugar has been added.

CUTS AND WOUNDS

Minor cuts, scratches and abrasions do not usually require medical attention.
Abrasions, such as gravel rash, may have dirt embedded in the wound and are likely to become infected.
A stab or penetrating wound is caused by a sharp object, such as a knife, bullet, scissors, blade or nail. Although the surface cut may be small, such objects can penetrate deeply and harm internal organs. These objects may also carry dirt deep inside, increasing the risk of infection.

CUTS AND ABRASIONS

ACTION

1 Wash your hands thoroughly before treating the wound.

2 Gently brush away any surface foreign object, such as gravel.

3 Clean the wound and surrounding area, wiping away from the wound, using sterile swabs, warm sterile water and a little mild antiseptic. Pat the skin around the wound dry.

4 Apply a sterile, non-adherent dressing if necessary (see DRESSINGS, PADS AND BANDAGES).

5 If the wound is dirty or caused by a rusty object, a tetanus injection may be needed.

STAB WOUNDS

ACTION
1 Stop any BLEEDING by applying direct pressure.
2 Cut away or remove the clothing around the wound.
3 Carefully cleanse the wound if it is not bleeding and apply a sterile dressing (see DRESSINGS, PADS AND BANDAGES).
4 Seek medical aid.

WOUND WITH EMBEDDED OBJECT

ACTION
1 Do not attempt to remove the object. Apply a ring pad (see DRESSINGS, PADS AND BANDAGES) or pad around the wound and apply a clean dressing.
2 Apply pressure around the object to stop BLEEDING, but do not apply pressure to the object
3 Seek medical aid urgently.

SEVERED LIMBS

It may be possible to save a severed limb, finger or toe if you act quickly. Your first priority, however, is to save the casualty's life.

WARNING
Do not attempt to bandage a severed limb in position. You will cause further distress and pain to the casualty and damage delicate tissues, hampering possible micro-surgery.

ACTION
1 Lay the casualty down, with the injured part of the body supported in a raised position.
2 Firmly press a large piece of gauze or clean cloth against the stump or raw area to stop BLEEDING. Bandage the dressing in place.
3 Seek urgent medical aid.
4 Encourage the casualty to stay as still as possible. Watch closely for any signs of SHOCK, which can be caused by the loss of blood.
5 Find the severed limb. Do not wash it. Place it in a watertight container, such as an inflated and sealed plastic bag. Put the container in water to which, if possible, ice has been added, but do not allow the part to have direct contact with the ice. Send the container to hospital with the casualty.

DIABETES

A person with diabetes has no insulin or insufficient amounts of insulin, produced by the pancreas, to maintain a balanced blood sugar level. Diabetes can be treated by a special diet, by a special diet and oral hypoglycaemic agents (tablets), or by a special diet and insulin therapy.
If a person with diabetes receives too much insulin or insufficient food while taking insulin, he or she can suffer from low blood sugar (hypoglycaemia) and become unconscious. If too little insulin is obtained, a high blood sugar level (hyperglycaemia) can cause a diabetic coma. However, a medical emergency is more likely to involve low blood sugar because high blood sugar usually develops over a greater length of time, so the person has more warning.

LOW BLOOD SUGAR - hypoglycaemia

Signs and Symptoms

- faintness, giddiness
- hunger
- pale, sweating skin
- tingling around the mouth
- rapid pulse
- slurred speech
- mental confusion and perhaps aggressive behaviour
- weakness
- unconsciousness

ACTION

1 If the person is unconscious do not give anything by mouth; place him or her in the lateral position and check the airway, breathing and pulse (see EMERGENCY TECHNIQUES).
2 Seek medical help immediately.
3 If the person is conscious, give him or her glucose in the form of, for example, lemonade, orange juice, a glass of water with at least 2 teaspoons of sugar in it.
4 Once the person feels better (usually a few minutes after having the glucose), give him or her some complex carbohydrates, such as fruit or a sandwich.
5 Make sure the person discusses the possible causes of the hypoglycaemic episode with his or her doctor so that it may be avoided in the future.

HIGH BLOOD SUGAR

Signs and Symptoms

- extreme thirst
- need to urinate frequently
- tiredness, sleepiness
- dry, flushed skin
- rapid pulse
- blurred vision
- nausea, vomiting, abdominal pain
- breath has a sweetish acetone odour
- unconsciousness

ACTION
1 If the person is unconscious place him or her in the lateral position, check the airway, breathing and pulse and begin CPR if necessary (see EMERGENCY TECHNIQUES).
2 Seek medical aid urgently.

DROWNING

As a person struggles to stay afloat, water can enter the airway, blocking the air supply. If breathing stops and the oxygen supply to the brain is cut off, permanent brain damage or death can result.
It is therefore vital to start rescue breaths as quickly as possible – as the person is being taken from the water if it is safe to do so.
Prevent drowning by:

- learning to swim
- teaching your children to swim
- not leaving children alone at a swimming pool or beach
- learning basic rescue and resuscitation procedures.

WARNING
Do not attempt to rescue anyone in deep water if you are an inexperienced swimmer. Instead, call for help immediately.

ACTION
1 Check the airway, clearing it of vomit or any other obstruction, and begin mouth-to-nose (see EMERGENCY TECHNIQUES) while coming ashore in shallow water if it is safe to do so. Do not attempt resuscitation in deep water unless you have been trained to do so and have a flotation device.
2 When the casualty is on firm ground, place him or her in the lateral position and check the airway again.
3 Start or resume CPR.
4 When the casualty starts breathing again, maintain him or her in the lateral position, covered with a towel or blanket.
5 Seek medical aid immediately. Any person who has lost consciousness or been resuscitated must go to hospital.
6 Monitor the casualty's breathing and pulse closely until medical help arrives because relapses often occur.

DRUG OVERDOSE

This may involve accidental overdose of a prescription medicine or a potentially lethal dose of narcotics. Urgent medical aid is needed.

Signs and Symptoms

- dizziness, faintness
- convulsions
- weak pulse
- difficulty breathing
- vomiting
- loss of consciousness

Note that signs and symptoms vary depending on the type and quantity of drug taken.

ACTION

1 If the casualty is unconscious, place him or her in the lateral position, check the airway, breathing and pulse and begin CPR if necessary (see EMERGENCY TECHNIQUES). If breathing and pulse are satisfactory, maintain the unconscious person in the lateral position and continue to monitor breathing and pulse.

2 If the casualty is conscious, treat as for POISONING, but do not induce vomiting unless instructed to do so by you Poisons Information Centre or a doctor.

3 Try to establish which drug was taken, and send any containers, tablets or syringes to the hospital with the casualty. Also send a sample of vomit, in a covered jar.

4 Seek medical aid urgently.

EAR INJURIES

BLEEDING

Bleeding from the ear can indicate a serious head injury, such as a fractured skull, which can be life-threatening.

ACTION

1 Place the person in the lateral position (see EMERGENCY TECHNIQUES), with the injured ear tilted downwards on a clean dressing to help the fluid drain. Do not plug the ear or give drops.

2 Seek medical help urgently.

PERFORATED EARDRUM

The eardrum is a membrane, across the passage between the middle and outer ear, essential to hearing. A ruptured eardrum can be caused by pressure changes, a blow, explosions, a foreign agent or an infection.

Signs and Symptoms

- severe pain
- loss of hearing
- blood or fluid flow

ACTION

As for Bleeding under EAR INJURIES.

FOREIGN OBJECT

Small objects, such as beads or insects, can enter the ear.

ACTION

1 Do not probe the ear. Do not attempt to remove the object unless it is an insect. If the object is an insect, tilt the person's head away from you and administer a drop of warm oil or water to the ear, then tilt the head towards you so that the insect can float out.

2 Seek medical help for any foreign object other than a trapped insect. If a trapped insect does not float out, also seek medical aid.

ELECTRIC SHOCK

An electric shock can cause a mild 'pins and needles' sensation or can stop breathing and cause heart failure, resulting in death.

Frayed or faulty wires, defective appliances and appliances used near water are common but preventable causes of electric shock in the home.

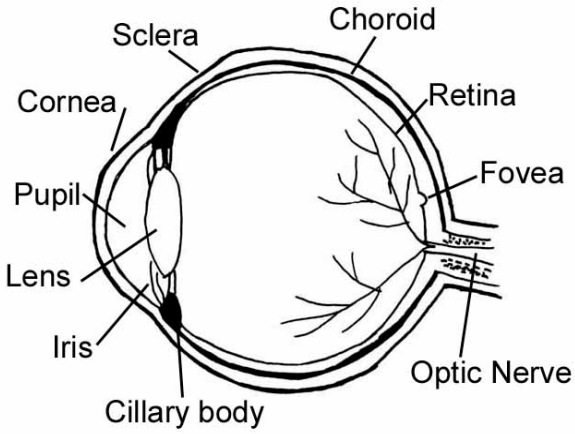
WARNING
Before touching the victim make sure you are safe. Immediately turn off the current at the mains or power point and, if the accident involves an appliance, pull out the plug.

In the case of high-voltage electricity, involving, for example, electric train lines or heavy machinery, stay well clear, call for emergency help urgently and wait for trained personnel to disconnect the power.

ACTION
1 If you cannot turn off the power, move the casualty away from the source of electricity, using something dry and non-conducting, such as a wooden broom handle, a wooden chair or a rolled newspaper. Stand on a non-conducting surface, (for example a dry rubber mat or a newspaper) while you do this.
2 When the casualty is clear, smother the flames of any burning clothing (see BURNS AND SCALDS).
3 If the casualty is conscious, place him or her in the lateral position, check the airway, breathing and pulse and begin rescue breaths or CPR if necessary (see EMERGENCY TECHNIQUES).
4 Treat any burns.
5 Seek medical aid.

EYE INJURIES

The eye is extremely sensitive, delicate and susceptible to infection, so all injuries are potentially serious. Medical help should be sought as soon as possible to prevent permanent damage.

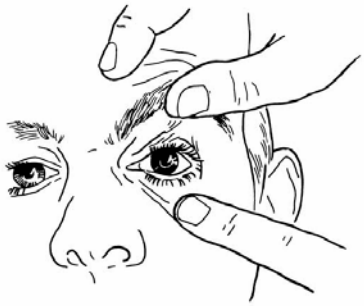


CHEMICAL AND HEAT BURNS

First aid treatment is needed immediately for burns from chemicals, such as acids and caustic soda.

Signs and Symptoms

- pain
- sensitivity to light
- severe weeping of the eye
- reddened eyeballs
- swelling eyelids



ACTION

1 Open the casualty's eyelids gently with your fingers.
2 Flush the eye with gently running cool water for at least 20 minutes.
3 Apply a light, sterile dressing or eye pad to the eye.
4 Seek medical aid immediately.

FLASH BURNS

These can be caused by the flash from an arc welder.

Signs and Symptoms

- as for Chemical and Heat Burns
- a sensation of grit under the eyelids, which may be delayed

ACTION

1 Do not flush with water; instead, apply a clean dressing or eye pad.
2 Seek medical aid.

SURFACE FOREIGN BODIES

An eyelash or speck of dust or other small particle can cause considerable discomfort.

Signs and Symptoms

- gritty feeling
- pain and irritation
- water, red eye
- partially or completely closed eye
- sensitivity to light
- twitching eyelid

WARNING

Do not attempt to remove a surface object from any part of the eye other than the white or eyelids. Do not attempt to remove the object if it is embedded in the eye.

ACTION

1 Stop the sufferer from rubbing the eye.
2 Have the person look up. Gently hold the eyelids apart and try to remove the object, if visible, with the corner of a clean, moistened cloth.
3 If the object is not visible, have the sufferer look down. Gently take hold of the lashes of the upper lid and pull the lid down and over the lower lid.
4 If this does not rid the eye of the object, hold the eyelids apart and flush the eye gently with clean water.

WOUNDS AND EMBEDDED FOREIGN BODIES

WARNING
Do not attempt to examine the eye.
Do not allow the sufferer to touch the eye.
Do not attempt to remove any object embedded in any part of the eye.

ACTION
1 Lay the person down.
2 Place thick padding above and below the injured eye, as shown on page 95, then add a dressing. Do not allow the covering to press on the injured eye.
3 Seek medical aid urgently.

BLACK EYE

A severe blow to the eye area may cause BRUISES and internal bleeding.

ACTION
1 Check to see that the eye itself is not injured.
2 Apply an ice pack to the affected area (see SPRAINS AND DISLOCATIONS). Do not apply ice directly to the eye.
3 If the eye swells and closes, seek medical advice.

FAINTING

A person may lose consciousness if there is a temporary drop in the blood supply to the brain. Fainting may be caused by standing still for too long, especially in a hot, stuffy room or on a hot day. It can also be caused by lack of food, exhaustion or an emotional shock.

Signs and Symptoms
- unsteadiness
- pale, cold and clammy skin
- yawning
- slow, weak pulse
- blurred vision
- loss of consciousness

WARNING
A person who does not regain consciousness quickly may be suffering from a more serious illness, such as STROKE or a heart condition (see HEART ATTACK and HEART FAILURE). Emergency first aid may be needed and medical help must be sought immediately.

ACTION
1 Lay the person down, with the feet raised.
2 Loosen any tight clothing and make sure there is adequate fresh air. Check that breathing and pulse are normal (see EMERGENCY TECHNIQUES).
3 Check for any injury or illness.
4 Encourage the person to rest for a while before moving, once consciousness has returned.

FISH HOOK INJURY

An embedded fish hook should be removed by a doctor but, if you are too far from medical help and it is a single-barbed hook just under the skin, you can with care remove it.

ACTION

1 Do not try to pull the hook out the way it went in. Push the hook out through the skin until the barb can be seen.

2 Cut off the barb.

3 Pull the shank of the hook out through the point of entry. (Alternatively, cut the shank off and pull the hook out by the barb).

4 Apply a sterile pad to the wound and bandage firmly (see DRESSINGS, PADS AND BANDAGES).

5 A tetanus injection may need to be administered.

FRACTURES

A fracture is a broken or cracked bone. When the bone pierces the skin it is called a compound or open fracture. This fracture is very susceptible to infection and can result in considerable loss of blood.

When the skin has not been broken it is called a closed fracture (though there may be internal bleeding and damage).

In young children the bones, which are still flexible, may not break completely. These incomplete breaks are called greenstick fractures.

If you suspect someone has a fracture, seek medical aid immediately.

Signs and Symptoms

- the sound or feel of a bone breaking
- intense pain around the break
- deformity of the limb or an inability to move it naturally
- tenderness when light pressure is applied
- swelling
- the sound of bone ends grating against each other

WARNING

Do not move the broken bone if possible.

Do not shift the casualty, unless essential to safety, if there is a suspected back or neck fracture (see NECK AND SPINAL INJURIES) because the spinal cord can be damaged by movement.

Do not administer any food or drink because a general anaesthetic may be needed.

ACTION

1 If there is an open wound, control BLEEDING and cover the wound with a sterile dressing; if the bone is protruding, use a ring pad (see DRESSINGS, PADS AND BANDAGES). Then apply a bandage, making sure it is not directly over the fracture.

2 Support the fractured limb in the most comfortable position. Raise and rest a fractured foot or ankle on pillows or folded
blankets.

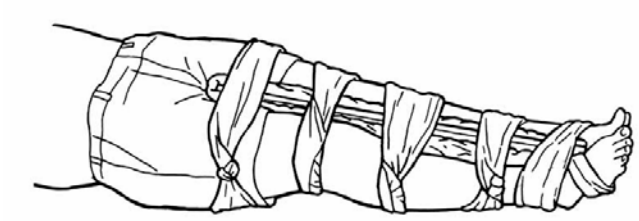
3 Immobilise the fractured limb, using a splint or sling (see SPLINTS and SLINGS for information on the splints and slings appropriate to different fractures). Do not attempt to straighten the fractured limb.

4 Check regularly that the bandages are not too tight, affecting circulation.

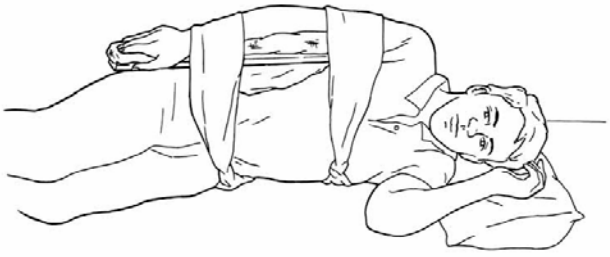
5 Watch for signs of SHOCK.

6 Seek medical aid immediately.

For the treatment of fractured ribs see CHEST INJURIES.



Fractured leg: pad well between the legs and use a splint if possible and the uninjured limb for support; secure the legs with bandages around the ankles and knees; also bandage above and below the fracture site and around the thighs if help is likely to be delayed.



Fractured elbow if the arm is straight: lay the person down on the uninjured side, place the injured arm on a padded splint, along the side of the body, without bending the elbow, and secure the arm to the body (above and below the injury) with broad bandages tied on the un-injured side.

Fractured upper or lower arm: to reduce movement and pain, the casualty may choose to support the injured arm with the other arm, gently holding the elbow as shown.

HEAD AND FACIAL INJURIES

HEAD INJURY

All injuries and blows to the head should be treated seriously. There may be no outward sign of injury or brain damage, but complications can develop. Internal bleeding in the skull can place increasing pressure on the brain and affect consciousness, breathing, pulse and blood pressure. In some cases loss of consciousness does not occur until sometime after the accident. Any casualty who has been even briefly unconscious must receive medical attention.

Signs and Symptoms
Note that some of the following symptoms and signs may not show immediately:

- headache and blurred vision
- loss of memory (especially of the accident itself)
- confusion and abnormal responses to touch and commands
- bleeding or a flow of clear fluid from the nose or ears
- congested face
- one pupil larger than the other.
- nausea and vomiting
- weakness on one side of the body
- noisy breathing
- Convulsions (or fitting)
- wounds to the head or face

ACTION
1 Treat the casualty as if unconscious: place him or her in the lateral position, check the airway, breathing and give CPR if necessary (see EMERGENCY TECHNIQUES). Do not move the casualty, unless it is essential for safety, because there may be a spinal injury (see NECK AND SPINAL INJURIES). If you must move the casualty, support the head and neck and move gently (see MOVING A CASUALTY).
2 If the face is badly injured, keep the airway open with your fingers.
3 Control EXTERNAL BLEEDING. Do not apply pressure to the scalp if a fracture is suspected (see FRACTURES). If blood or fluid is coming from the ear, position the person as directed in EAR INJURIES. Lightly cover any EYE INJURIES with a clean dressing.

FRACTURED JAW

Signs and Symptoms

- swelling, pain or tenderness around the jaw
- misalignment of the jaw and teeth
- difficulty in closing the teeth
- drooling of saliva

ACTION
1 If the casualty is unconscious, place him or her in the lateral position, check the airway, breathing and pulse and begin CPR
if necessary (see EMERGENCY TECHNIQUES), supporting the jaw with your hand.
2 If the casualty is conscious and able to help, have him or her sit in the most comfortable position, supporting the jaw with a hand. Do not try to apply a jaw bandage.
3 Seek medical help immediately.

Signs and Symptoms As for a Fractured Jaw

ACTION
1 Remove any dentures.
2 Support the jaw.
3 Seek medical help.
See also CONCUSSION; TEETH INJURIES.

HEART ATTACK

A heart attack occurs when the blood supply to the heart is blocked by a blood clot in a coronary artery. Prompt first aid and immediate specialised medical attention could save a person's life.

Signs and Symptoms
- severe pain in the centre of the chest, which can spread to the arms (especially the left one), neck and jaw – the pain is sometimes mistaken for indigestion
- nausea and vomiting
- shortness of breath
- pale, cold, clammy skin
- confusion or distress
- SHOCK, collapse, leading to loss of pulse

ACTION
1 If the person is unconscious, place him or her in the lateral position, check the airway, breathing and pulse and begin CPR if necessary (see EMERGENCY TECHNIQUES).
2 If the person is conscious, sit him or her up and loosen clothing.
3 Call for an ambulance immediately. Make sure you inform the service that the casualty may have suffered a heart attack.

HEART FAILURE

The heart's ability to pump blood to the body may be impaired after a HEART ATTACK or because of heart disease or advanced age. Brain damage or death can quickly result from acute heart failure, so prompt first aid and medical attention are urgently required.

Signs and Symptoms
- severe shortage of breath
- noisy breathing
- neck veins become swollen
- blood-stained mucus coughed up
- chest pain
- rapid, weak pulse
- swollen legs and ankles
- bluish lips and extremities

ACTION
1 If the person is unconscious, place him or her in the lateral position, check the airway, breathing and pulse and begin CPR if necessary (see EMERGENCY TECHNIQUES).
2 If the casualty is conscious, sit him or her up and loosen clothing.
3 Seek medical aid urgently.

HEAT EXHAUSTION AND HEAT STROKE

Hyperthermia is the general term for heat exhaustion and heat stroke. Heat exhaustion is the result of excessive loss of body fluid through perspiration. Heat stroke is more unusual and more dangerous than heat exhaustion. It occurs when the body's heat-regulating mechanism fails completely. Early recognition and medical attention are essential.
Heat exhaustion and heat stroke are most likely to occur in hot, humid conditions, particularly if prolonged exercise is involved. The young and the old are the most susceptible because their bodies are the least efficient at regulating body temperature. Never leave a baby in a closed car on a hot day.

HEAT EXHAUSTION

Signs and Symptoms

- feeling of being hot and exhausted
- headache
- faintness and giddiness
- thirst
- nausea
- muscle cramps and weakness
- pale, cold, clammy skin
- heavy sweating
- rapid pulse and breathing
- lack of coordination
- confusion and irritability

ACTION

1 Move the sufferer to a cool place with fresh air.
2 Lay the person down. Loosen his or her clothing and remove any articles that are not needed.
3 Sponge the sufferer with cool water.
4 Encourage the person slowly to drink water, to which a small amount of sugar or glucose may be added.
5 Apply ice packs to the cramped muscles (see SPRAINS AND DISLOCATIONS).
6 If the person does not recover quickly or vomits, seek medical aid immediately.

HEAT STROKE

Signs and Symptoms

- hot, flushed, dry skin
- headache
- dizziness
- rise in body TEMPERATURE to 40°C or more
- rapid, pounding pulse
- nausea and vomiting
- confusion and irritability
- loss of consciousness

ACTION

1 If the casualty is unconscious, place him or her in the lateral position, check the airway, breathing and pulse and begin CPR if necessary (see EMERGENCY TECHNIQUES).

2 Move the casualty to a cool place.

3 Loosen his or her clothing and remove any articles that are not needed.

4 Cool the casualty as quickly as possible: apply ice packs to the neck, groin and armpits (see SPRAINS AND DISLOCATIONS). Then wrap the person in a cool, wet sheet. Fan the casualty to increase the cooling process.

5 Seek medical aid immediately.

6 Check the casualty's temperature every 5 minutes. As soon as the skin feels cool, stop the cooling process.

7 When the casualty is conscious, give small frequent sips of liquid as for Heat Exhaustion.

NECK AND SPINAL INJURIES

Neck and spinal injuries must always be treated as serious. The casualty must be handled with the utmost care to prevent further damage that could result in permanent paralysis or even breathing and circulation failure.

Injury to the spine must always be suspected if the casualty is unconscious from a head injury (see HEAD AND FACIAL INJURIES).

Signs and Symptoms

- intense pain at or below the injury
- tenderness at the site of the injury
- tingling sensations in the hands and feet
- loss of movement or feeling at or below the injury
- In cases of damage to the spinal cord, there may also be:
- loss of bowel and bladder control
- breathing difficulty
- SHOCK

WARNING

Never move a person with suspected spinal injuries unless essential to safety, for example if unconscious. Leave moving a casualty to ambulance officers. If you must move the casualty, support the neck, head and spine (see MOVING A CASUALTY).

Do not twist or bend an injured spine.

ACTION

1 If the casualty is unconscious, place him or her in the lateral position, carefully supporting the head and neck with your hand, check the airway, breathing and pulse and begin CPR if necessary (see EMERGENCY TECHNIQUES).

2 If the casualty is conscious, cover and keep him or her as still as possible. Do not attempt to raise the head or give anything to eat or drink. Loosen any tight clothing.

3 If the neck has been injured, and particularly if the person is trapped in an upright position, support the head and neck with your hands.

4 Seek medical aid urgently.

NOSE BLEED

A nosebleed can be cause by a heavy knock, blowing the nose too hard or high blood pressure. Sometimes it occurs for no apparent reason. Nosebleeds are quite common among children.

WARNING
Unconsciousness and a flow of pale fluid mixed with blood can indicate a head injury (see HEAD AND FACIAL INJURIES). This can be serious, even life-threatening, so emergency first aid (see EMERGENCY TECHNIQUES) may be required and medical aid should be sought immediately.

ACTION

1 Tell the person not to blow his or her nose and to breathe through the mouth.
2 Have the person sit down, lean slightly forward and hold his or her nostrils together for about 10 minutes.
3 Loosen the clothing around the neck, chest and waist.
4 If the nose continues to bleed, repeat the procedure. The person should not blow the nose for several hours after bleeding has stopped. If bleeding persists, seek medical advice.

HYPOTHERMIA

Prolonged exposure to cold conditions particularly wet and windy weather or immersion in cold water can cause the body's heat-regulating mechanism to fail, with severe, even fatal, results. Alcohol and drugs also decrease the functioning of the body's heat-regulating mechanism.
Hypothermia is the extreme cooling of the body, often caused by protracted immersion in cold water. After the loss of the body's surface heat, there is a cooling of deep tissues and organs.
As with over-exposure to heat, the young and the old are the most susceptible because their bodies are the least efficient at regulating body temperature. However, even young, fit adults can be seriously affected if they are exposed to extreme cold without adequate protection.
Prolonged exposure of the extremities to severe cold can result in frostbite: the small blood vessels constrict and cut the blood supply to the ears, nose, fingers or toes. In extreme cases, gangrene may develop and amputation may be necessary.

MILD TO MODERATE OVER-EXPOSURE

Signs and Symptoms

- shivering and a feeling of being cold
- extreme fatigue, drowsiness
- cramps
- blurred vision
- slowing of mental and physical alertness
- slurred speech and confusion
- stumbling, uncoordinated movement

WARNING
Do not attempt to warm the victim quickly by using an electric blanket or hot-water bottle or by placing the person close to a fire or heater.

ACTION

1 If the person is unconscious, place him or her in the lateral position, check the airway, breathing and pulse and begin CPR if necessary (see EMERGENCY TECHNIQUES).

2 Move the person to a sheltered, dry spot. Replace wet clothes with warm, dry clothing, blankets or sleeping bag to prevent further heat loss. If it is available, use windproof material, such as aluminium foil or plastic, for further protection. The body heat from another person is also a valuable aid: have someone, stripped to his or her underwear, share the blankets or sleeping bag with the sufferer.

3 If the person is conscious, give him or her warm drinks. Do not give alcohol.

4 Seek medical aid.

EXTREME OVER-EXPOSURE (HYPOTHERMIA)

Signs and Symptoms

- skin is cold to the touch
- slow and shallow breathing
- slow pulse
- a baby becomes quiet and refuses food
- Unconsciousness, particularly of the old or infirm.

WARNING

- The warming process must be gradual: sudden heating could cause SHOCK.
- Do not place anyone suffering from hypothermia in a bath.
- Do not apply an electric blanket or hot-water bottle or warm the victim by a fire or heater.

ACTION

1 Proceed as for Mild to Moderate Over-exposure, steps 1–3.

2 Seek medical aid urgently and remain with the casualty until it is at hand.

FROSTBITE

Signs and Symptoms

- affected part is tingling or numb
- skin is waxy, white and firm to touch
- pain is not felt until the area becomes warm again
- blisters

WARNING

- Do not rub or massage the affected part.
- Do not apply direct heat, cold water or snow.
- Do not give alcohol.

ACTION

1 Move the casualty to a warm, dry shelter if possible.

2 Warm the affected area slowly, using body heat. For example, cup your hands around the affected part or have the sufferer put the part inside his or her clothing or under an armpit.

3 Cover any blisters with dry, sterile dressings.

4 Seek medical aid.

POISONING

Poisons can be swallowed, inhaled, absorbed or injected. Food, medicines and household and industrial products can all be poisonous.

REMEMBER
In many cases, accidental poisoning is avoidable (see FAMILY SAFETY).

Signs and Symptoms
Depending on the nature of the poison, signs and symptoms can include:

- pain, from the mouth to the abdomen
- nausea
- vomiting
- drowsiness
- faintness
- tight chest and difficulty breathing
- ringing ears
- headache
- odour of fumes
- sweating
- change of skin colour
- breath odour
- burns around and inside the mouth
- unconsciousness

For specific information on a poison, phone the **Poisons Information Centre on 13 11 26**. This number can be called from any town in Australia.

GENERAL ACTION
1 If the casualty is unconscious, place him or her in the lateral position, check the airway, breathing and pulse and begin CPR if necessary (see EMERGENCY TECHNIQUES). If CPR is required, make sure you wipe any poisonous substance from the casualty's mouth first.
2 If the casualty is conscious, treat him or her according to the poison taken. It is also important to establish what the drug or poison was because this may be of help in the medical treatment of the casualty.
3 Call for urgent medical aid.

CORROSIVE, PETROL-BASED OR UNKNOWN SUBSTANCES

Corrosives are substances, such as battery acid, dishwasher detergent, toilet cleaner and caustic soda, that burn tissues.

WARNING
Do not induce vomiting because it could cause further damage to the tissues and the lungs.

ACTION
1 Wash the casualty's mouth and face clean of the substance.
Do not give anything by mouth.
2 Seek medical aid urgently.

MEDICINAL AND GENERAL SUBSTANCES

General substances include plants, such as some mushrooms, and detergent.

WARNING
Do not attempt to induce vomiting if the casualty is unconscious or lying on his or her back.

ACTION
If the Poisons Information Centre or doctor tells you to do so, give syrup of ipecac, following the bottle's instructions, to induce vomiting. Do not use salted or soapy water to cause vomiting.

INHALED POISONS

Industrial gases, carbon monoxide (in car exhaust fumes) or the fumes from polyurethane foam can all cause poisoning.

ACTION
1 Take care not to breathe any toxic fumes or gas yourself. Cover your mouth and nose with a wet handkerchief. Ventilate the area thoroughly or move the casualty to fresh air if necessary.
2 If the casualty is unconscious, place him or her in the lateral position, check the airway, breathing and pulse and begin CPR if necessary (see EMERGENCY TECHNIQUES).
3 Loosen any tight clothing.
4 Seek medical aid urgently.

ABSORBED POISONS

Toxic chemicals, such as pesticides, can be absorbed through the skin. It may take some time before the symptoms become evident. Check whether the casualty has been in contact with any poison from, for example, crop spraying.

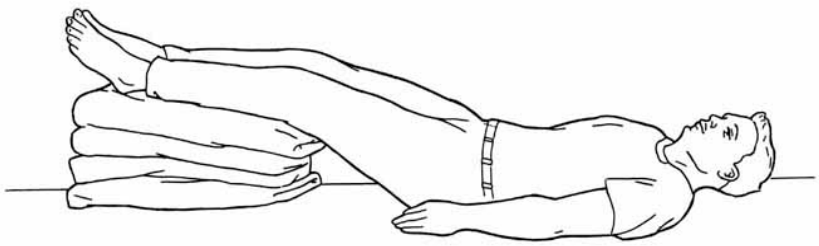
ACTION
1 Get the casualty to remove the contaminated clothing and footwear. If you help, wear rubber gloves.
2 Wash the contaminated skin thoroughly with soap and water (and later wash the contaminated clothes separately from other articles).
3 Seek medical aid if any of the signs or symptoms of poisoning occur. If you know the name of the chemical, let the doctor or hospital staff know.
4 If the casualty becomes unconscious, place him or her in the lateral position, check the airway, breathing and pulse and begin CPR if necessary (see EMERGENCY TECHNIQUES)

See also BITES AND STINGS; VOMITING AND DIARRHOEA.

SHOCK

Clinical shock can occur when there is extreme pain, severe bleeding or heavy loss of fluid after, for example, major injury, vomiting, diarrhoea or burns.
Clinical shock is a serious, life-threatening condition. It occurs progressively, so watch closely for any signs, particularly deterioration in a casualty's condition after an accident or sudden illness.

Signs and Symptoms



- pale, cold, clammy skin
- weak, rapid pulse
- rapid breathing
- faintness, dizziness
- nausea
- thirst
- restlessness
- drowsiness and confusion, leading eventually to unconsciousness

ACTION

1 If the casualty becomes unconscious, place him or her in the lateral position, check the airway, breathing and pulse and begin CPR if necessary (see EMERGENCY TECHNIQUES).
2 If the casualty is conscious, lay him or her down and, if possible, raise the legs (unless there are fractures) and keep the head low to help the blood flow to the brain.
3 Because shock is brought on by major injury or illness you need to identify and treat its cause. (The casualty may, for example, be BLEEDING heavily, have serious BURNS AND SCALDS or have suffered a HEART ATTACK).
4 Seek medical aid urgently.
5 Loosen any tight clothing. Try to maintain the body temperature, but do not over-heat the casualty.
6 Do not give anything to eat or drink. If the casualty is thirsty, moisten the lips.
7 Monitor the airway, breathing and pulse regularly.

SPLINTERS

Even a tiny fragment of wood or glass or a thorn can cause an infection if not removed. Large splinters deeply embedded are best removed by a doctor.

ACTION

1 Sterilise splinter forceps, tweezers or splinter remover by burning the ends over a flame or by boiling them in water for 5 minutes.
2 Wash the area surrounding the splinter.
3 Grip the splinter, as close to the skin as possible, with the splinter forceps and pull it out. If the splinter is too difficult to remove with forceps, use a splinter remover to expose the splinter then pull the splinter out.
4 Wash the wound with soapy water or mild antiseptic, dry it and, if necessary, cover it with an adhesive strip dressing.
5 If the wound becomes infected or swollen, seek medical advice.

SPRAINS AND DISLOCATIONS

When a joint is forced beyond it's normal range of movement the ligaments that hold it together become sprained (that is, stretched or torn); the joint becomes dislocated if its bones are pushed out of contact with each other.
Sprains and dislocations are often associated with FRACTURES and have the same symptoms. If you are unsure, treat such an injury as a fracture and seek medical aid immediately.
The most common dislocations involve the shoulder, elbow, finger and jaw. Sprains often occur to ankles, but also affect wrists, elbows, knees, hips and shoulders.

SPRAINS

Signs and Symptoms

- pain and tenderness around the joint
- restricted movement of the joint
- swelling and bruising

WARNING
Do not move the joint if you suspect it is fractured.

ACTION
1 Apply a compression bandage that extends well beyond the site (see DRESSINGS, PADS AND BANDAGES).
2 Rest the joint in the most comfortable position and apply ice packs to ease the pain and swelling.
3 Seek medical aid.

DISLOCATIONS

Signs and Symptoms

- intense pain
- deformity
- inability to move the joint
- swelling and bruising

WARNING
Do not move the joint if you suspect it is fractured.
Do not attempt to push the joint bones back into position.

ACTION
1 Support and rest the joint in the most comfortable position.
2 Apply ice packs
3 Seek medical aid immediately.

For the treatment of a dislocated jaw see HEAD AND FACIAL INJURIES.

APPLYING ICE PACKS

1 Wrap ice in cloth. Do not apply ice directly to bare skin.
2 Apply ice packs for 10-20 minutes every 2 hours for the first 24 hours then every 4 hours for a further 24 hours.

STRAINS

A strain results from a muscle or tendons being over-stretched during, for example, sport or a fall.

Signs and Symptoms

- sharp, sudden pain
- pain increase with movement
- tenderness around the muscle area
- loss of power

ACTION

1 Place the person in a comfortable position, supporting the injured limb.
2 Apply ice packs to the injured area as for SPRAINS AND DISLOCATIONS.
3 Do not massage the injured limb. Bandage it firmly (see DRESSINGS, PADS AND BANDAGES).
4 Getting the sufferer to gently exercise may help ease painful spasm.
5 Seek medical advice if the pain persists.

STROKE

Stroke refers to the brain damage caused by a blocked or ruptured artery in the brain. Elderly people with high blood pressure are particularly susceptible to stroke.

Signs and Symptoms

- severe headache
- difficulty swallowing
- pounding pulse
- red face
- difficulty speaking
- seizures, sometimes
- weakness or paralysis on one side of the body
- confusion
- unconsciousness

Ask the person three questions: can you raise your arms and keep them up?; can you smile?; can you speak a simple sentence? If the person has difficulty with any of these tasks, it's likely they've had a stroke.

ACTION

1 If the casualty is unconscious, place him or her in the lateral position, check the airway, breathing and pulse and begin CPR if necessary (see EMERGENCY TECHNIQUES).
2 Seek medical aid urgently.
3 If the casualty is conscious, prop him or her on pillows and loosen any tight clothing. Keep the person warm and wipe away any dribbled secretions.

SUNBURN

Over-exposure to strong sun, particularly in the middle of the day, can cause redness, inflammation, swelling and blistered skin, which will eventually dry out and flake off. In the long term over-exposure can lead to freckling, blotchy skin and even skin cancer. Children are especially vulnerable and need maximum protection.

REMEMBER
The best cure is prevention. Stay out of the sun in the heat of the day, wear adequate clothing, a hat and a total block-out lotion.

ACTION
1 Move the person inside or into the shade.
2 Reduce the pain with a cool shower, bath or compress to the affected part, but do not chill the person. Be careful not to break any blisters.
3 Give plenty of cool fluids.
4 The sufferer should cover the sunburn if going out in the sun.
5 Seek medical aid if a person blisters or a young child is involved.

See also HEAT EXHAUSTION AND HEAT STROKE.

SWALLOWED OBJECTS

Swallowed objects are a common occurrence, especially with young children. Very small, smooth objects may not be a problem, but sharp, jagged objects such as bones, nails or glass, can be dangerous. Always check children's and babies' toys to make sure there are no loose, small or sharp parts that could easily be swallowed.

ACTION
1 Do not give anything to eat or drink.
2 Take the child to hospital immediately.

See also CHOKING

TEETH INJURIES

A tooth that has been knocked out of the mouth can be saved if you act quickly. Baby or first teeth, however, should not be replaced. Anyone who has damaged his or her teeth should see a dentist as soon as possible.

ACTION
1 Clean the tooth that has been knocked out, by having the casualty suck it. If this is not possible, use saliva or milk that has not been warmed. If there is no other option, wash the tooth under tap water.
2 Place the tooth in its original socket and hold it there for 2 minutes.

3 Mould a piece of aluminium foil over it and the two teeth on either side to form a temporary splint. The casualty should bite down to keep this in place.
4 If the tooth cannot be replaced in the mouth immediately, keep it moist in saliva or milk.
5 Seek dental aid immediately.

TEMPERATURE

The body's temperature can vary during the day and can be affected by hot weather, physical exertion or hot food or drink; the normal range is 36.1°C to 37.1°C.
Lowered or raised temperature can indicate illness or major injury. For example, low temperature can indicate SHOCK, heavy BLEEDING or hypothermia; high temperature can indicate severe infection or heat stroke (see HEAT EXHAUSTION AND HEAT STROKE).
A mercury thermometer is the most common and accurate clinical thermometer.

TAKING THE TEMPERATURE

1 Wash and dry the thermometer, then shake the mercury column down until the reading is below 36°C.
2 Place the thermometer bulb under the tongue, under the arm or in the groin. Leave it there for 3 minutes before taking the reading. Babies and small children should have their temperature taken under the arm because they cannot hold the thermometer properly in their mouth and may also bite it.

VOMITING AND DIARRHOEA

Stomach pains, vomiting and diarrhoea can have many different causes including food poisoning and viral infections, so it is important to see your doctor if the symptoms persist. Vomiting and diarrhoea are common in young children and are often caused by gastroenteritis, a viral infection of the bowel, but they can also be caused but other infections.
Food poisoning often results from eating food contaminated by bacteria. Bacteria can breed in foods, such as fish, chicken, ham and dairy products that are not properly stored. Food should always be well cooked and eaten immediately, or refrigerated as soon as it is bought. If food is reheated always bring it to boiling point. Food poisoning can also result from naturally occurring toxins in some plants and fish (see POISONING).
Vomiting and diarrhoea can cause dehydration – loss of the fluids required for the normal functioning of the body – particularly in babies and small children, so it is important that sufferers drink lots of fluid.

GASTROENTERITIS IN BABIES AND YOUNG CHILDREN

Signs and Symptoms
In addition to vomiting and the passing of frequent watery stools there may be the following signs and symptoms of dehydration:

- decrease in urine passed or number of wet nappies
- tiredness and listlessness
- refusal of food and drink
- dry mouth and tongue
- pale and thin appearance

- sunken-looking eyes
- cold hands and feet
- child is difficult to wake

ACTION

1 Stop solid food and cow's milk (but continue breast milk if the child is breast fed) and give rehydration fluid to drink: 1 cup (150–200 ml) every time the child vomits or passes a watery stool. If vomiting is frequent, give smaller amounts more often: 50 ml every 15 minutes. A suitable rehydration fluid is Gastrolyte, which can be bought at a chemist; it should be made up carefully according to the instructions on the container. You can also give: sugar (1 level teaspoon to 120 ml water); cordial that is not low calorie (1 part to 6 parts water); natural fruit juice (1 part to 4 parts water); or lemonade that is not low calorie (1 part to 4 parts water). Remember to dilute these liquids as described here; if they are given undiluted they may make the diarrhoea worse. Do not stop solid food and milk for more than 24 hours.

2 After the first 24 hours continue to give rehydration fluid between meals, but reintroduce solid food and cow's milk. Start with cooked vegetables and cereals, including bread, and then add dairy products, eggs and meat.

3 Seek medical aid if: the child has a lot of diarrhoea (8–10 watery stools or 2–3 very large stools a day); vomiting persists and little fluid is kept down; there are signs of dehydration; the child develops severe stomach pain; vomiting and/or diarrhoea persists in a baby or child for more than 24 hours; or you are worried.

Quick Self-Assessment quiz on CPR

1. What is the correct acronym
    a) DRABCD
    b) DRSABCD
    c) ABCD

2. What is the CPR ratio?
    a) 2:15
    b) 1:5
    c) 30:2

3. How many compressions per minute for CPR ?
    a) 80
    b) 100-120
    c) 60

4. What is the correct hand position for compressions
    a) Top of chest
    b) Middle of chest
    c) Bottom of chest

5. To call an ambulance you dial ?
    a) 999
    b) 911
    c) 000 or 112

6. Would you do CPR on a breathing patient ?
    a) Yes
    b) No

7. If you have a defibrillator available, should you try and use it in a cardiac arrest ?
    a) YES
    b) No

8. To do CPR the patient must be….
    a) Unconscious and absent breathing
    b) Breathing very slowly
    c) Conscious with chest pain

IF ONLY I HAD KNOWN WHAT TO DO!

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- Resuscitation techniques
- What to do in a traffic accident
- Making the home safe
- Applying bandages, slings and splints
- The most common accidents and illnesses, and how to deal with them
- Treating burns, bites and injuries

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