

**Pathfinder**

***FIRST AID***

**Specialty**

**March 1995**

**Resource Material**

# **FIRST AID**

## **Specialty Activities**

+ This activity has a camp out activity component.

- A1 Be familiar with the principles and practices of first aid and know 'The Sequence' to follow for patient care.
- A2 Know how to recognise and treat an unconscious patient and know the principles of E.A.R.
- A3 + Have a basic knowledge of the anatomy/physiology of the Cardiovascular and Respiratory systems. Through this knowledge understand the principles of E.C.M. and be able to perform effective C.P.R.
- A4 + Know and be able to use the following bandages:
- triangular arm sling
  - St John's sling
  - collar and cuff sling
  - triangular bandage to the head
  - triangular bandage to the hand
  - triangular bandage to the foot
  - simple spiral bandage to a limb
  - reverse spiral bandage to a limb
  - simple spiral bandage to a finger
  - figure eight bandage to the hand/wrist
  - figure eight bandage to the foot/ankle
  - compression bandage for stings and bites
- A5 + Be able to recognise and provide first aid for the following fractures:
- femur (upper leg)
  - lower leg
  - humerus (upper arm)
  - forearm/wrist
  - clavicle (collarbone)
  - rib/s
- A6 Be able to recognise and provide first aid for:
- fits
  - poisoning
  - foreign body in the ear
  - foreign body in the eye
  - foreign body in the nose

A7 + Be able to provide effective first aid for the following problems:

- strains
- sprains
- cuts and abrasions
- blisters
- bites and stings

A8 Be able to provide effective first aid for the following problems:

- hyperventilation
- fainting
- shock

A9 Design your own personal first aid kit and be familiar with the contents of the Club first aid kit.

A10 Discuss the importance of knowing the medical history of your group. Make a medical profile of one other person in your group.

# ACTIVITY A1

Be familiar with the principles and practices of first aid and know 'The Sequence' to follow for patient care.

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## OUTLINE

Discuss with the Pathfinders what the role of the first aider is and then discuss the sequence to follow for patient care.

## *RESOURCE MATERIAL*

First aid is based on current medical and surgical principles. It begins immediately the First Aider arrives on the scene and continues until the casualty is attended by a doctor, removed to hospital, home, or has fully recovered.

It enables persons trained in first aid to give assistance as will -

Preserve Life

Promote Recovery

Prevent the Injury or Illness from becoming Worse.

First aid is limited to assistance at the time of the emergency and does not include redressing of injuries.

The First Aider must co-operate with either First Aiders, use bystanders and be ready to help with medical aid if required.

Individuals react differently to injury and illness. The First Aider, must be prepared to appreciate these variations and adapt his handling to the conditions encountered.

**MEDICAL AID IS TREATMENT BY A DOCTOR ON THE SPOT, IN THE HOME, OR IN HOSPITAL.**

## GOLDEN RULES OF FIRST AID

\* Rapidly assess the whole situation.

- \* Remove the cause if still active or remove the casualty from the source of danger.
- \* Act with quiet confidence.
- \* Check the pulse.
- \* Check the breathing.
- \* Control any haemorrhage.
- \* Assess the state of consciousness.
- \* Give injuries priority according to severity.
- \* Reassure the casualty.
- \* Handle the casualty gently.
- \* Remove clothing only if necessary.
- \* Arrange for the disposal of the casualty.

## THE SCOPE OF FIRST AID

- \* To make a diagnosis.
- \* To decide the nature and extent of the treatment required, and commence treatment promptly.
- \* To arrange for the disposal of the casualty.

## DIAGNOSIS

The First Aider must consider the HISTORY, SYMPTOMS and SIGNS from which he/she will diagnose the case.

### **HISTORY**

The history is the story of an accident or an illness that may be obtained from -

The casualty.

Witnesses.

The evidence of the surroundings.

It could indicate that a person is subject to a particular disease, or the surroundings may

suggest the cause, eg. a crash scene.

## **SYMPTOMS**

Symptoms are the sensations the casualty describes, eg. pain, faintness, nausea, thirst.

## **SIGNS**

The signs are differences from normal which can be detected by the First Aider, eg. pallor, raised temperature, rapid pulse.

## **TREATMENT**

Remove the cause if still active, or remove the casualty from the source of danger.

Commence treatment necessary to -

- Sustain life by restoring circulation, restoring respiration.
- Control bleeding.
- Lessen shock.

Prevent the conditions from being aggravated by -

- Covering wounds.
- Immobilising fractures.
- Posturing the casualty in the best position.

Promote recovery by -

- Reassurance.
- Relief of pain.
- Gentle handling.
- Protection from the weather.

**IMPROVISE IF NECESSARY.**

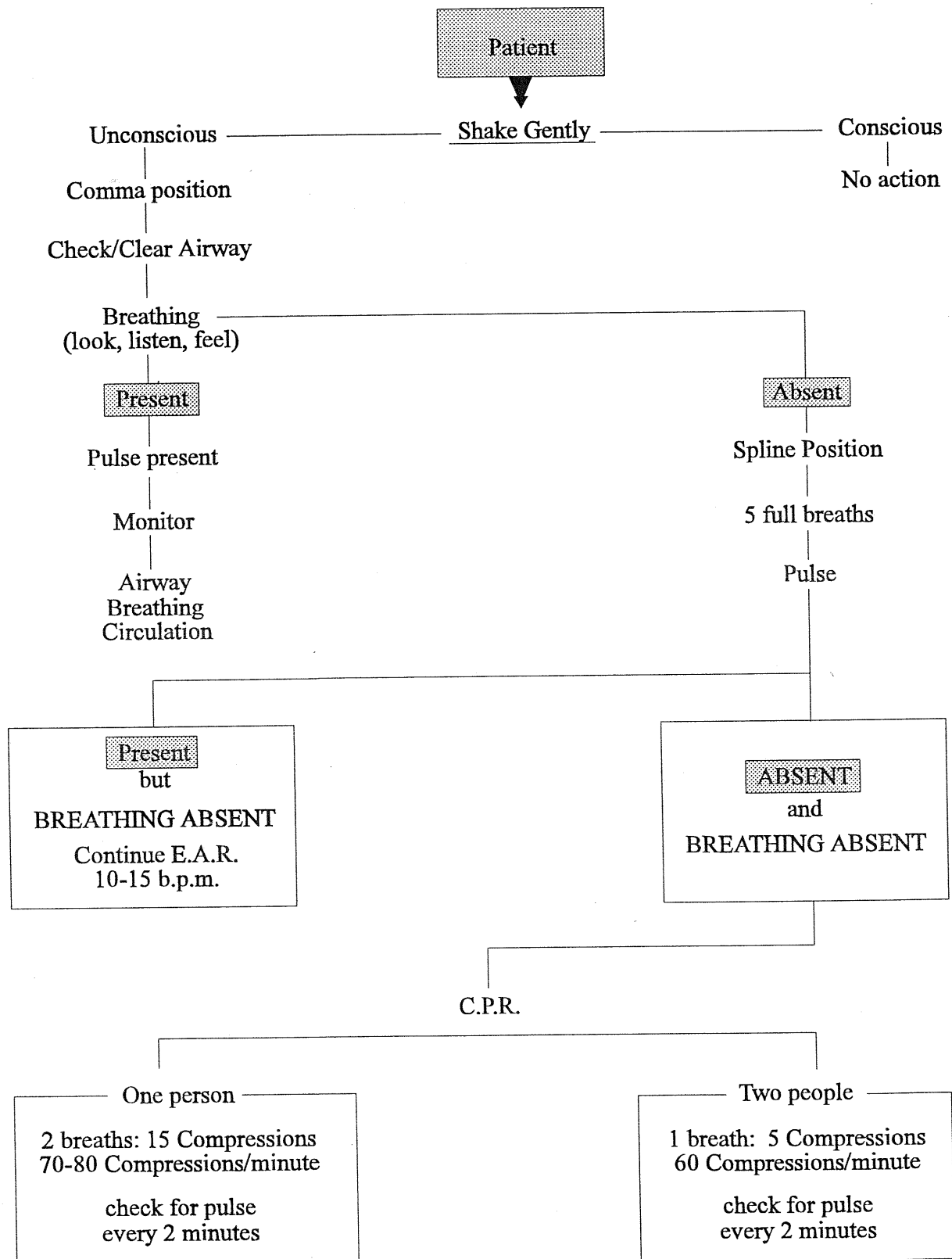
## **DISPOSAL**

The First Aider must arrange the transport of the casualty to medical aid, to hospital or to home.

# FIRST AID

## Hand-out 1

### 'The Sequence'



# ACTIVITY A2

Know how to recognise and treat an unconscious patient and know the principles of E.A.R.

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## OUTLINE

Prior to the session have one of the Pathfinders 'become unconscious'. Let the group members try to arouse him/her. Discuss the results and introduce the topic of unconsciousness. Present the basic information of unconsciousness and E.A.R. contained in the notes. Have the relevant part of 'The Sequence' recorded on a black/white board. Demonstrate the correct technique for estimating consciousness, placing a person in the coma position and performing E.A.R.

## RESOURCE MATERIAL

Ask your group what 'unconsciousness' means and how do you know when someone is unconscious?

You will soon discover that it means many different things to many people. However most descriptions have one thing in common - the patient is unrousable.

When you come across a person collapsed, how can you tell if the person is asleep or unconscious?

For our purpose a person is unconscious if he/she fails to respond to the following test.

Unconsciousness Test - gently shake the shoulder and ask 'are you all right?' If the person does not rouse, talk sensibly and remain awake, he/she should be considered unconscious. (Note Well: violent shaking may compound injuries that you have not found.)

It is worth looking at some of the causes of unconsciousness and recognising that attempting to rouse some apparently 'unconscious' people needs to be done carefully with self-preservation in mind.

A = Alcohol consumption - abusive

E = Epilepsy (esp. after fit) - disorientated

I = Insulin dependent diabetics - disorientated when ill

O = Overdose - there are many different drugs available with many varied reactions.

Not all overdoses are intentional, some prescribed medications can interact.

U = Unknown 'body chemistry' disorders - some kidney and liver diseases

T = Traumatic head injuries

I = Infections

P = Psychiatric disorders - various reactions, so always take care if suspected

S = Strokes

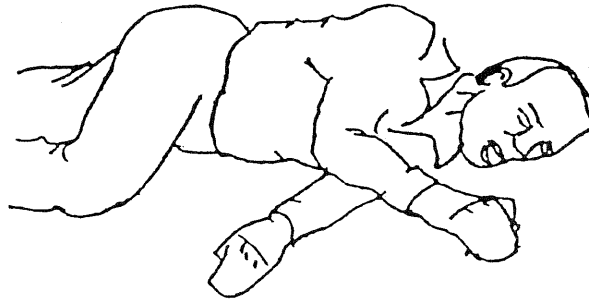


Having established that the person is unconscious according to our test, we must bear in mind the following rules;

1. Assume all unconscious patients have a neck/spinal injury. (unless you know that the cause of unconsciousness was not a trauma)
2. Assume all patients have an obstructed airway until proven otherwise. Remember any noisy breathing means an obstructed airway, and it must be corrected.

The following action should be performed to protect an unconscious patient from further harm;

1. Start calling for help - DO NOT LEAVE THE PATIENT ALONE.
2. Gently roll the patient into the coma position. Remember the assumed neck and spine injury - have an assistant support the head and neck as you roll.



Coma position

3. Check the airway - open the mouth and look. If mouth/throat is obstructed by vomit/food/etc use your fingers to scoop it out in a sweeping movement - from back of mouth/throat, towards the front.
4. Gently tilt the head back to open the airway.



Tilting head

5. Check to see if the patient is breathing,  
Look: at chest/abdomen for any movement  
Listen: next to the patients mouth for any sound of air movement  
Feel: the patient breath on your hand or cheek
  6. Continually check the patient's  
The A B C D of patient care
- Airway  
Breathing  
Circulation (pulse)  
Degree of conscious

### **Expired Air Resuscitation - E.A.R.**

Let us assume that you have checked your patients breathing by LOOK, LISTEN and FEEL, and found that he/she is not breathing. Alternatively you have found that they are not breathing well enough to support life, ie hypoventilating (under-breathing). This patient will require E.A.R.

A person is hypoventilating if he/she; a) respiratory rate is too slow (range 12-20 b.p.m., average 15 b.p.m. is normal), and/or b) air intake is too low - check by looking and feeling for adequate chest expansion on breathing in.

### **E.A.R. Action**

1. Remember you have already treated the patient for unconsciousness.
2. Place the patient on his/her back (preferably on a firm surface)
3. Open the airway by lifting the jaw upwards, at the point of the chin and tilting the head back.



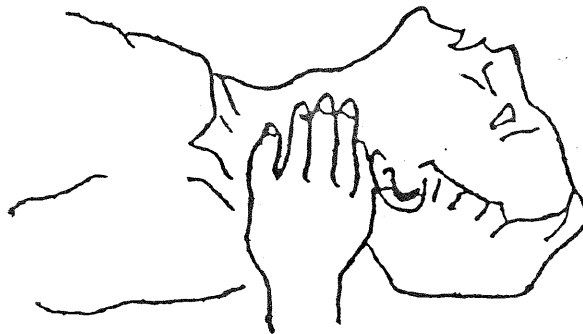
Opening the Airway

4. Keep one hand on the jaw (lifting upwards) and use the other hand to pinch the nose and maintain the head tilt.
5. Seal your mouth over the patients mouth and give five full breaths, ensuring that the chest rises each time. (if it does not rise, try more head tilt and jaw lift).



E.A.R. Position

6. Check the pulse in the neck. (Usually found either side of the adams apple - do not use your thumb)



Pulse

7. If breathing commences place the patient back into the coma position
8. If breathing does not commence continue E.A.R. giving 10-15 b.p.m. (20 b.p.m. for infants and small children)

# FIRST AID

## Hand-out 2.

### E.A.R. ACTION

1. Remember you have already treated the patient for unconsciousness.
2. Place the patient on his/her back (preferably on a firm surface)
3. Open the airway by lifting the jaw upwards, at the point of the chin and tilting the head back.

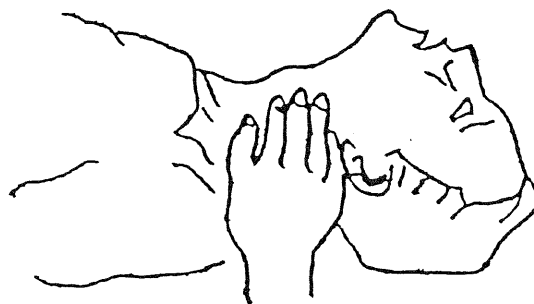


Opening the Airway



E.A.R. Position

4. Keep one hand on the jaw (lifting upwards) and use the other hand to pinch the nose and maintain the head tilt.
5. Seal your mouth over the patients mouth and give five full breaths, ensuring that the chest rises each time. (if it does not rise, try more head tilt and jaw lift).
6. Check the pulse in the neck. (Usually found either side of the adams apple - do not use your thumb)



Pulse

7. If breathing commences place the patient back into the coma position
8. If breathing does not commence continue E.A.R. giving 10-15 b.p.m. (20 b.p.m. for infants and small children)

# ACTIVITY A3

Have a basic knowledge of the anatomy/physiology of the Cardiovascular and Respiratory systems. Through this knowledge understand the principles of E.C.M. and be able to perform effective C.P.R.

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## OUTLINE

With the aid of diagrams explain the anatomy and physiology of the Cardiovascular and Respiratory systems. Utilise these diagrams to explain why E.C.M. and C.P.R. work. Present basic information on E.C.M. contained in these notes. Use the illustrations supplied and have the relevant part of 'The Sequence' recorded on a black/white board. Demonstrate the correct techniques for checking the pulse, measuring the sternum, the hand grip and the depth of compression in the adult manikin. Present the basic information on 'one and two person C.P.R.' contained in the notes. Use the illustrations supplied and have the relevant part of 'The Sequence' recorded on a black/white board.

## RESOURCE MATERIAL

### The Cardiovascular System

The cardiovascular system is a complex arrangement of tubes. Through these tubes, blood is circulated throughout the entire body under pressure supplied by a dual-action pump, the heart. Blood flows outward from the left side of the heart through large arteries. The arteries become smaller until the blood finally passes into and through small capillaries. The flow back to the heart goes from the capillaries into small veins, which become larger the nearer they are to the heart, which pumps it into the lungs and then returns it to the left side of the heart, completing the circulatory system.

### Blood

Blood is composed of plasma, red cells, white cells and platelets. Plasma carries the cells and transports nutrition to all tissues. It also transports waste products to the organs of excretion. Red cells give colour to the blood and carry oxygen. White cells play a role in the body's defence against infection. Platelets are essential to the formation of blood clots, which are necessary to stop any bleeding from blood vessels.

### The Heart

The heart (see hand-out sheet 3) is a hollow muscular organ approximately the size of a man's clenched fist. A wall (septum) divides the heart cavity down the middle into right and left sides. Each side of the heart is divided again into an upper chamber (atrium) and a lower chamber (ventricle).

The heart has two pumps. The right pump (right heart) collects blood from the veins of the body and pumps it to the lungs. The left pump (left heart) receives blood full of oxygen

from the lungs and pumps this fresh blood through the arteries to all parts of the body. There are two openings in each heart chamber, guarded by one-way valves. The valves prevent the backflow of blood and keep it moving through the arteries and veins in the proper direction. When one valve is open the other is shut. Blood is forced from the ventricle out into the artery (pulmonary artery, or aorta). At the end of the contraction, the ventricle relaxes. The valve to the artery closes, the valve to the atrium opens, and blood flows from the atrium to fill the ventricle. When the ventricle is stimulated to contract, the cycle then repeats itself.

### **Arteries**

The aorta is the major artery leaving the left side of the heart and it carries freshly oxygenated blood to the body. This blood vessel is found just in front of the spine going through the chest cage and abdominal cavity.

### **Capillaries and Cells**

In the body there are billions of cells and capillaries. Oxygen, carbon dioxide, and other substances pass between the cells and the capillaries, actually going through the cell walls and the capillary walls. Blood in the arteries is bright red because it is rich in oxygen; blood in the veins is bluish-red in colour because it is low in oxygen.

### **Veins**

Blood from the capillary system returns to the heart through the veins. The veins of the entire body join to form two major veins, the superior vena cava and the inferior vena cava (see hand-out sheet 3)

Blood returning from the neck, shoulders, and upper extremities goes through the superior vena cava. Blood from the abdomen, pelvis, and lower extremities goes through the inferior vena cava. Both the superior and inferior vena cava empty into the right atrium on the right side of the heart. The right ventricle takes the blood from the right atrium and pumps it into the lungs through the pulmonary arteries.

### **Circulation in the Lungs**

The general plan of circulation through the lungs (see hand-out sheet 3) is essentially the same as that in the rest of the body. Blood vessels from the right side of the heart branch and rebranch, finally forming capillaries. The capillaries are closely related to the alveoli (air sacs) of the lungs, and an exchange of oxygen and carbon dioxide occurs between the alveoli and the capillaries. The oxygenated blood from the lungs then returns to the heart and enters the left atrium.

### **The Pulse**

The pulse, which is felt most clearly at the neck, wrist, and groin, is created by the forceful pumping of the blood out of the heart chambers by the heart muscle into the major arteries. The carotid artery pulse can be felt in the neck below the angle of the jaw; the radial artery pulse is felt at the wrist just above the thumb; the femoral artery pulse is felt in the groin.

### **Respiratory System**

Human tissues cells must have oxygen to survive. The respiratory system has primary responsibility for supplying this vital element.

When man inhales through his nose, air is pulled in. As the air enters the nasal cavity, it passes tiny hairs which act as filters to keep out foreign particles. Air is moistened and warmed to body temperature as it passes the mucous membrane lining the nose and upper respiratory tract. Next, air enters the nasopharynx, the upper portion of the throat, then it goes into the pharynx which becomes a common cavity with the posterior portion of the mouth. As it is drawn downward, air enters the larynx, the organ of the voice. Here are found the vocal cords. From the larynx, air passes down the trachea (windpipe) towards the lungs. Near the end of the 10.5cm long and 2.5cm wide trachea, it divides into two smaller tubes the right and left main stem bronchi, which conduct inspired air into the right and left lungs.

The right lung has three lobes (sections) and the left has two. Each lung is connected to the heart by arteries and veins and has its own nerve enclosed within a two-layered membranous sac, the pleura.

### **Mechanism of Respiration**

In the process of inhaling, the lungs are expanded. Air is brought into the nose and conducted through the passageway previously outlined. All the blood in the body continuously passes through the small vessels (capillaries) in the lungs. As this does so, blood passes the thin, semi-permeable membrane which separates the tiny vessels from the air sacs. The vital exchange of gases takes place by diffusion through this membrane. Venous blood gives up much of the carbon dioxide present in the air sacs. After the exchange, the blood is oxygenated and its colour changes from bluish-red to bright red. Oxygenated blood returns to the heart where it is then pumped to all cells of the body.

In effect then, there is a two-way exchange of two gases in two locations:

1. Across tissue cell membranes all over the body.
2. Across air sac membranes in the lungs. Carbon dioxide, a by-product of metabolism, is formed in tissue cells. Carbon dioxide crosses the cell membrane and enters the bloodstream as blood gives up its oxygen supply to the cell. Carbon dioxide is carried in the blood stream back to the lungs where it crosses the membrane of the air sac in exchange for oxygen, and the cycle begins again.

In the process of exhaling, the lungs are compressed, carbon dioxide is forced out of the air sacs and upward through the bronchi, trachea, and out of the nose or mouth. About 600ml of water is lost daily in the process of breathing. Consequently, the respiratory system plays a role in body temperature regulation and control of the water content of the body.

### **Summary**

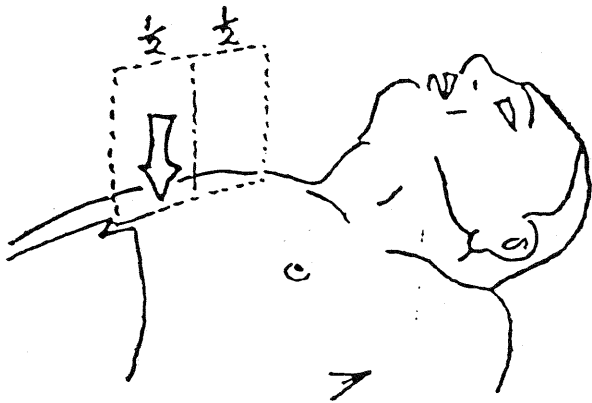
The respiratory system is primarily responsible for bringing vital oxygen into the lungs where it is exchanged for carbon dioxide by diffusion across a semi-permeable membrane. The respiratory system also plays a secondary role in body temperature regulation. Major structures of the respiratory system are the nose, nasopharynx, trachea, bronchi and lungs.

## **E.C.M. and C.P.R.**

Cardio Pulmonary Resuscitation (C.P.R.) is used to aid the unconscious, non-breathing, pulseless patient. This patient is dying and the first two to four minutes after collapse, are critical to the patient. Failure to act within that time significantly reduces the chance of recovery.

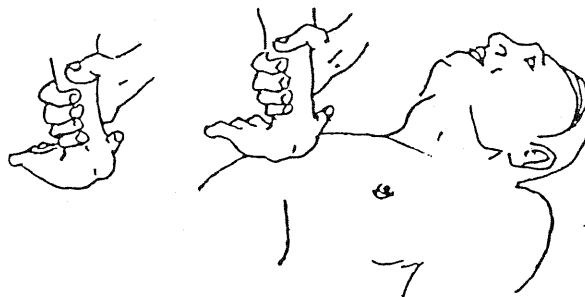
### External Cardiac Massage E.C.M.

You have already treated the patient for absent breathing and have checked the pulse and found it to be absent.



1. Hand Position: the hands should be placed in the middle of lower half of the sternum. The positioning of the hands on the sternum is very important. If the hands are too low there is the possibility of snapping the small xiphoid -'diving board' and damaging the liver. If the hands are too high fractures of the ribs are almost certain to occur, especially in the elderly.

2. Hand Grip: grasp the wrist of one hand and place that hand on the sternum. Placing one hand on top of the other, without using a grip, is not recommended as the hands will slip when sweaty. Intertwining the fingers of both hands is not recommended as this is tiring and quite painful if used for long periods.



3. Depth of Compression: compress the chest 40-50 mm for an adult. Each compression should produce a palpable pulse in the neck. If this does not occur check your hand position and/or gently increase the force and depth of compression.

### One person Cardio Pulmonary Resuscitation - C.P.R

1. 5 full breaths



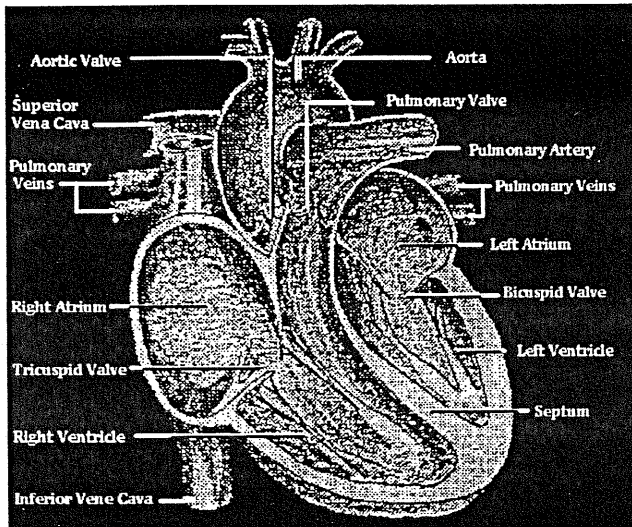
2. Check for pulse if absent proceed
3. 15 compressions
4. 2 breaths then 15 compressions
5. Continue this sequence (2:15) at a rate of 75-80 compressions per minute (adult)
6. Stop every two minutes and check for the return of the pulse. Do not stop longer than five seconds to check the pulse.

#### Two Person Cardio Pulmonary Resuscitation

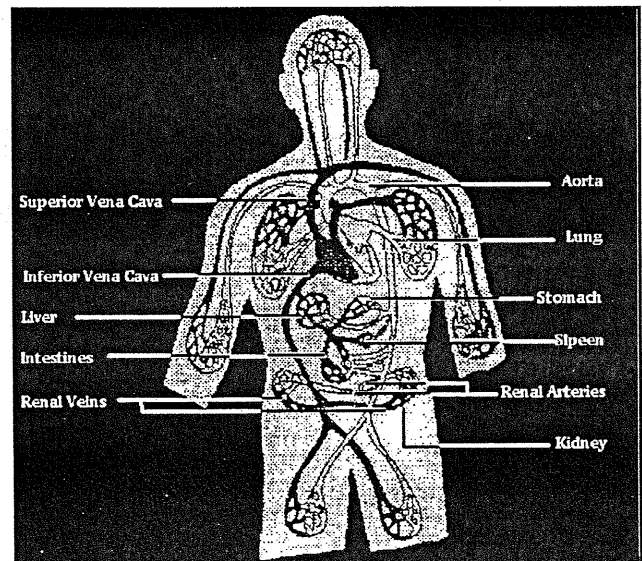
1. Position yourselves on opposite sides of the patient
2. 5 full breaths
3. Check for pulse - if absent proceed
4. 5 compressions
5. 1 breath then 5 compressions
6. Continue this ratio (1:5) at a rate of 60 compressions per minute (adult)
7. Stop and check every two minutes for the return of the pulse. Do not stop for longer than five seconds to check for pulse.

# FIRST AID

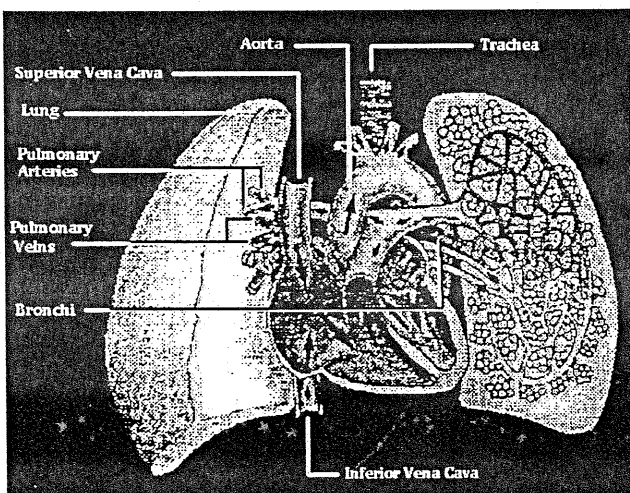
## Hand-out 3.



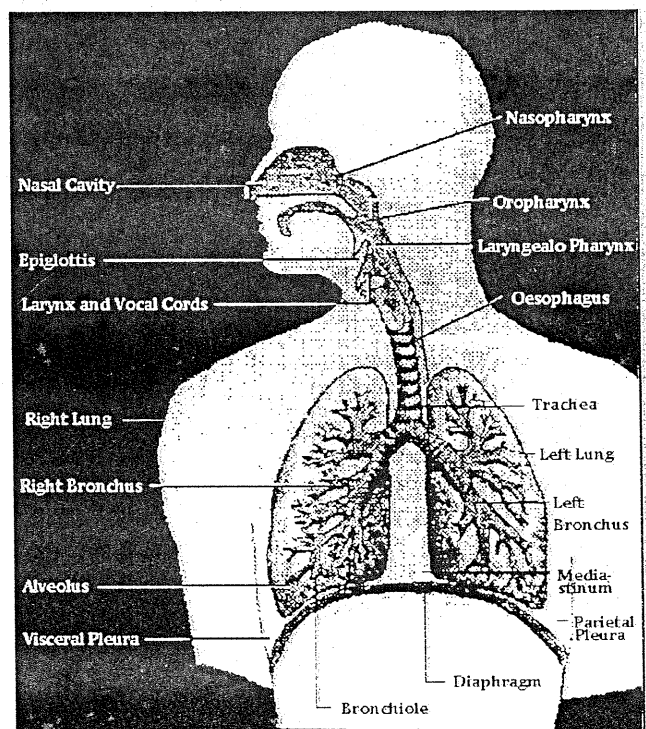
The Heart



The Systemic Circulation



Pulmonary Circulation



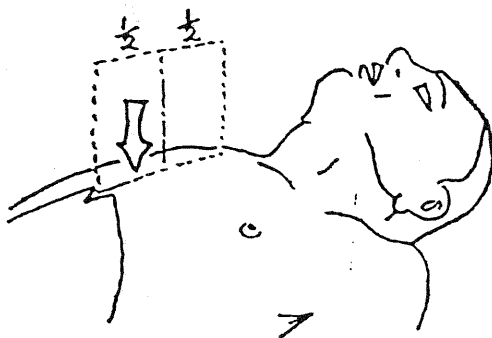
Respiratory System

# FIRST AID

## Hand-out 4.

### External Cardiac Massage E.C.M.

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2. Hand Grip: grasp the wrist of one hand and place that hand on the sternum. Placing one hand on top of the other, without using a grip, is not recommended as the hands will slip when sweaty. Intertwining the fingers of both hands is not recommended as this is tiring and quite painful if used for long periods.



3. Depth of Compression: compress the chest 40-50 mm for an adult. Each compression should produce a palpable pulse in the neck. If this does not occur check your hand position and/or gently increase the force and depth of compression.

# FIRST AID

## Hand-out 5

### Cardio Pulmonary Resuscitation C.P.R.

#### One person Cardio Pulmonary Resuscitation - C.P.R

1. 5 full breaths
2. Check for pulse if absent proceed
3. 15 compressions
4. 2 breaths then 15 compressions
5. Continue this sequence (2:15) at a rate of 75-80 compressions per minute (adult)
6. Stop every two minutes and check for the return of the pulse. Do not stop longer than five seconds to check the pulse.

#### Two Person Cardio Pulmonary Resuscitation

1. Position yourselves on opposite sides of the patient
2. 5 full breaths
3. Check for pulse - if absent proceed
4. 5 compressions
5. 1 breath then 5 compressions
6. Continue this ratio (1:5) at a rate of 60 compressions per minute (adult)
7. Stop and check every two minutes for the return of the pulse. Do not stop for longer than five seconds to check for pulse.

# FIRST AID

## Hand-out 6

### Enigma Code Breaker

During World War II the British broke German secret codes using a system that was code named ENIGMA. Here is a code for you to break. Perhaps you too can become an Enigma code breaker. The letters of the alphabet have been scrambled to produce the code. We have used this code to write the following message to you. With a little thought and unit co-operation the code can be broken.

#### U.I.K. - VORMV BERMV

BERMV OKM BHVP QOEBX VEDIBX SMUOWVM DOFX  
IMHIBM QH FHP AFHT TGOP PH QH EF OF  
MDMKNMFUX. THKBQ - TEQM JENWKMV VGHT PGOP  
DOFX DHKM BERMV UHWBQ SM VORMQ EJ IMHIBM  
THWBQ BMOKF U.I.K. XHW GORM SMMF POWNGP  
VAEBBV PGOP UOF VORM O BEJM. XHW FHT AFHT  
M.O.K., M.U.D. OFQ U.I.K. QHF'P JHKNMP PGMVM  
VAEBBV - VHBMHFMV BEJM DOX QMIMFQ HF XHW.

If you are stuck here is a clue; GMKM EV TEVQHD. BMP GED PGOP GOPG  
WFGMKVPOFQEFN UHWFP. Revelation 13:18(a)

# ACTIVITY A4

Know and be able to use the following bandages:

- triangular arm sling
- St John's sling
- collar and cuff sling
- triangular bandage to the head
- triangular bandage to the hand
- triangular bandage to the foot
- simple spiral bandage to a limb
- reverse spiral bandage to a limb
- simple spiral bandage to a finger
- figure eight bandage to the hand/wrist
- figure eight bandage to the foot/ankle
- compression bandage for stings and bites

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## OUTLINE

Sufficient triangular bandages, (share one between two) and sufficient narrow and broad bandages, (share one between two) will be required for this activity. Only one hall activity session is allocated for this activity, however time is to be spent on this activity in camp out time. Start with this activity session start with the slings and the triangular bandages, then revise and continue the rest on the camp out. Learning thoroughly is more important than learning hurriedly.

## ***RESOURCE MATERIAL***

Bandages are of two types - triangular and roller.

### THE TRIANGULAR BANDAGE

Triangular bandages are used to 1) hold dressings in position, 2) control bleeding by direct pressure when used as a broad or narrow folded bandage, 3) support and immobilise injured limbs, joints, sprains, etc.

The recommended material for use as triangular bandages are linen or calico, 900-1000 mm square, cut diagonally into two bandages.

See Hand-out 7 for information on folding triangular bandages.

#### Applications of the Triangular Bandage

*Broad and narrow fold bandages;* are used to control bleeding by direct pressure and are secured by the use of a reef knot. The knot must under no circumstances be tied directly

over the wound. After the knot is tied, the ends should be tucked out of the way to prevent 'catching'.

Slings -            Triangular Arm Sling; used to support forearm and hand.  
                      St. John's sling; used to support the hand in a raised position.  
                      Collar and Cuff; used to support the wrist in a raised position.

Dressing Supports - for head hand and foot injuries.

## SLINGS

### *Arm Sling*

- a) Place the open bandage across the chest, with the apex towards the elbow and one side well tucked under the injured arm.
- b) Take the upper end over and around the shoulder. Bring the lower end up and over the injured arm, (palm to chest if possible).
- c) Secure the ends, in the hollow above the collarbone, on the injured side using a reef knot.
- d) Tuck the slack of the bandage behind the elbow and bring the apex forward. Secure with a clip. Check circulation, (ie colour of fingertips).
- e) When correctly applied the base should be positioned so that all the fingernails are exposed.

### *St. John's Sling*

- a) Place the patients arm across the chest with the fingers touching the opposite shoulder.
- b) Place the open bandage over the forearm with the apex just beyond the elbow and upper end over the uninjured shoulder.
- c) Tuck the base under the forearm and carry the lower end across the back to the uninjured shoulder.
- d) Gently adjust the sling and secure on the uninjured side, in the hollow above the collarbone, using a reef knot. Fold the slack of the apex in front of the arm and secure with a clip.

### *Collar and Cuff Sling*

- a) Place the patients arm across the chest with the fingertips touching the opposite shoulder of injury.
- b) Take a narrow folded bandage, make a clove hitch\* and pass it over the hand and around the wrist. (The clove hitch must be upper most)
- c) Secure the ends, in the hollow above the collarbone, using a reef knot, (may be secured on either side).
- d) Check circulation.

\* To make a Clove Hitch.

- a) Take a narrow folded bandage and make a loop.
- b) Make a second loop and place it on top of the first.
- c) Place the top loop behind the first loop without turning either loop.

## DRESSING SUPPORTS

*Dressing supports for head injuries.*

- a) Stand behind the patient. Fold a hem, inwards, along the base of the open bandage and apply it to the head so that the hem lies on the forehead just above the eyebrow (the apex hangs down the back of the head).
- b) Carry the ends around the head, above the ears crossing at the nape of the neck. Continue forward and secure with a reef knot in the centre of the forehead.
- c) Steady the patients head with one hand gently draw the apex to tighten the dressing. Turn up the apex and secure it to the top of the head with a clip.

*Dressing support for hand injuries.*

- a) Place injured surface uppermost.
- b) Fold hem, inwards, along the base of the open bandage and then place it under the hand so that the hemline is level with the wrist.
- c) Carry the apex down over the hand, towards the wrist.



- d) Pass the ends around the wrist, cross them and secure on the injured side with a reef knot.
- e) Carry the tail of apex over the reef knot and secure, using a clip, over the hand (do not secure over the injury).

#### *Dressing supports for foot injuries.*

- a) Place the foot in the centre of an open bandage, with the base at the back of the foot.
- b) Carry apex over the top of the foot towards the ankle.
- c) Cross the ends over the top of the foot and pass around the ankle, securing in front with a reef knot.
- d) Carry the tail of the apex over the reef knot and secure, using a clip, over the foot (do not secure over the injury).

## THE ROLLER BANDAGE

Roller bandages are used to 1) hold dressings in position, 2) control bleeding by direct pressure, 3) support and restrict the movement of injured limbs, joints and sprains, 4) apply compression to an envenomated limb.

The recommended material for use as roller bandages is crepe, because 1) it has some elastic qualities making it easier to apply even tension when bandaging, 2) good quality crepe bandages cling to themselves thus aiding inexperienced people in applying an effective bandage.

Crepe bandages come in various lengths and widths, often being supplied with their own prepacked safety clip. The following guide shows the commonly available widths and some of their applications:

2.5 to 5.0 cm	- finger
5.0 cm	- head and arm
7.5 cm	- leg (including feet)
10.0 cm	- torso

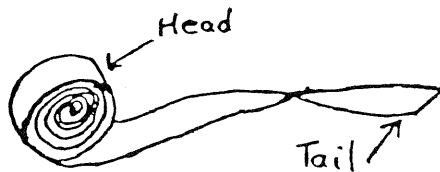
#### Types of roller bandaging and specific applications.

**Simple Spiral** - used when the injured part is of a uniform thickness. eg forearm - child, fingers, etc. This bandage has a tendency to loosen/slip where the limb is not of

uniform thickness.

**Reverse Spiral** - used where the limb is not of uniform thickness as it resists slipping/loosening. eg. arms, legs, etc.

**Figure Eight** - used at or near joints such as the knee, elbow and ankle as its design resists loosening and slipping in these awkward areas.



Parts of a roller bandage.

There are two parts to a roller bandage 1) the roll or the head, 2) the free end or the tail.

General principles for applying roller bandages

- 1) Stand/sit opposite the patient and support the injured part correctly before bandaging.
- 2) Hold the bandage with the head uppermost and apply the outer surface of the tail to the injured part.
- 3) Always bandage from within, outwards and then from below, upwards over the limb. Cover two-thirds of the previous turn.
- 4) Maintain an even tension throughout by unrolling only a few centimetres of bandage at a time.
- 5) Finish each bandage with a straight turn ending on the upper surface of the limb. Fold the end of the tail under and fasten with a clip.
- 6) The bandage will need to be loosened if 1) the limb swells below the bandage, 2) the limb becomes bluish or pale below the bandage, 3) the limb becomes numb or painful at or below the bandage.

## SPIRAL BANDAGE

### *Simple Spiral Bandage to a Limb*

- 1) Place the patient into the correct position.
- 2) With the head uppermost make the 'fixing' turns around the limb, working from within, out.
- 3) Work up the limb, each turn covering two-thirds of the previous turn.
- 4) Finish with two 'fixing' turns, ending on the upper surface of the limb and secure with a clip.

- 5) Check circulation below the bandage.

#### *Reverse Spiral Bandage to a Limb*

- 1) Place the patient in the correct position.
- 2) With the head uppermost make two 'fixing' turns around the limb, working from within, out.
- 3) The upper edge of the spiral turn is fixed by the thumb in the upper mid line of the limb.
- 4) Reverse the bandage, bringing it downward around the limb and covering with each turn two-thirds of the previous spiral.
- 5) Repeat until injury is covered and finish with two 'fixing' turns, ending on the upper surface of the limb.
- 6) Check the circulation below the bandage.

#### *Simple Spiral Bandage to the Finger*

- 1) Place the hand palm down.
- 2) With the head uppermost make two 'fixing' turns around the wrist, leaving part of the tail free for tying off at completion.
- 3) Carry the bandage over the back of the hand to the base of the finger to be bandaged.
- 4) Using one spiral turn proceed from the base of the finger to the base of the fingernail, then work back down the finger using simple spiral turns.
- 5) Proceed across the back of the hand to the wrist.
- 6) If more than one finger is involved do not tie off at this point. Repeat the process for the other fingers and then tie to tail on completion.
- 7) Check circulation (ie colour of fingertips).

#### *Figure of Eight Bandage to the Hand/Wrist*

- 1) Place the hand palm down.
- 2) With the head uppermost make two 'fixing' turns around the wrist, working from

within, out.

- 3) Pass the bandage across the back of the hand to the base of the little finger.
- 4) Proceed around the palm and encircle the fingers with a 'fixing' turn at the base of the little fingernail.
- 5) Pass the bandage across the back of the hand to the wrist.
- 6) Repeat the figure eight turns, covering two-thirds of each previous turn, until the hand is covered.
- 7) Finish with two 'fixing' turns around the wrist and secure on the upper surface with a clip.
- 8) Check circulation (colour of fingertips).

#### *Figure of Eight Bandage to the Foot/Ankle*

- 1) Place patient in correct position.
- 2) With the head uppermost make two 'fixing' turns around the ankle, working from within, out.
- 3) Take the bandage across the foot to the base of the little toe and make one fixed turn around the foot.
- 4) Proceed back over the foot and make a turn around the ankle just above the heel.
- 5) Repeat the figure of eight turns, covering two-thirds of each previous turn, until the foot is covered.
- 6) Finish with two 'fixing' turns around the ankle and secure on the upper surface with a clip.
- 7) Check circulation (colour of toes).

#### *Compression Bandage for Envenomation* (snake, spider and sea creature bites)

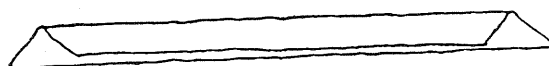
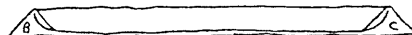
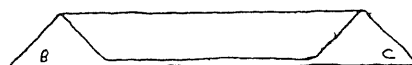
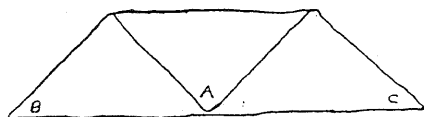
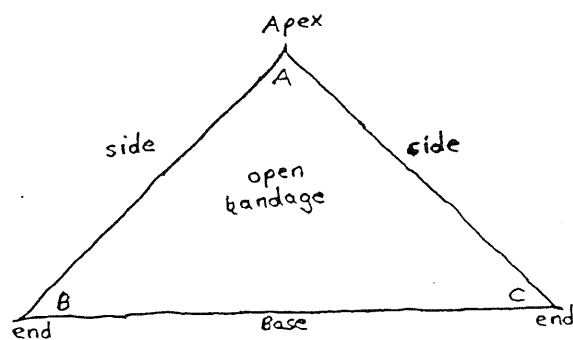
- 1) Place the patient at complete rest.
- 2) Using a broad crepe bandage with the head uppermost, make two 'fixing' turns over the bite or sting.

- 3) Continue the bandage towards the extremities using simple spirals. Use the same tension as for a 'sprain'.
- 4) Continue back up the limb as far as possible, overlapping each previous spiral by two-thirds (a second bandage may be necessary to complete the entire limb).
- 5) Finish with two 'fixing' turns, ending on the upper surface of the limb, (check the tension, check the circulation, THIS IS NOT A TOURNIQUET).

# FIRST AID

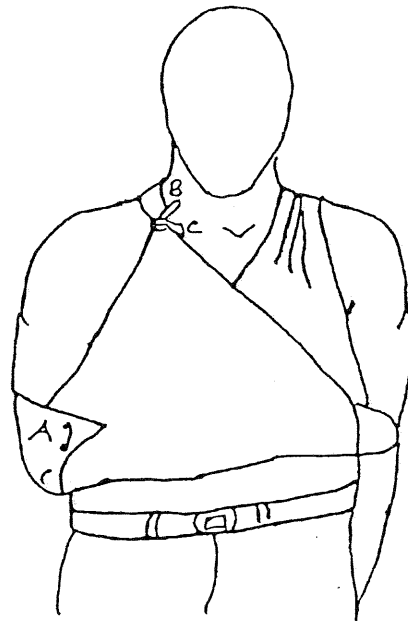
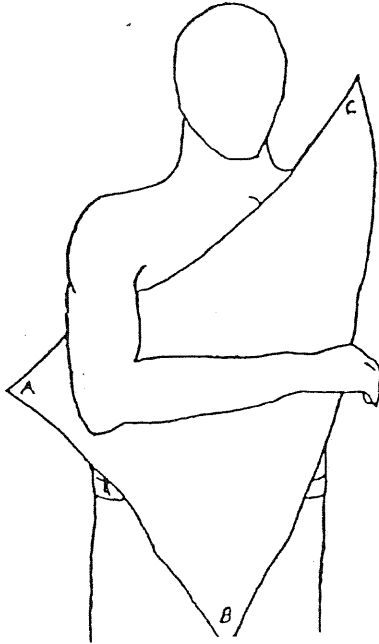
Hand-out 7.

## Folding Triangular Bandages

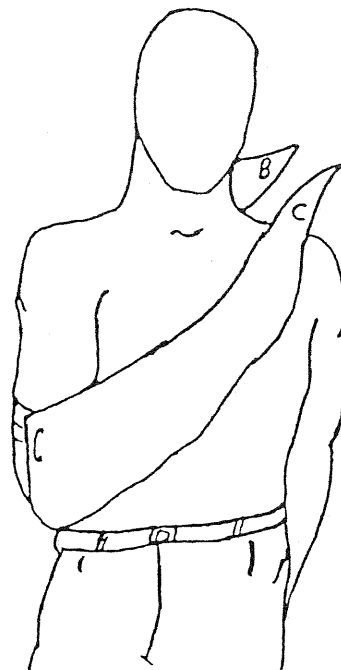
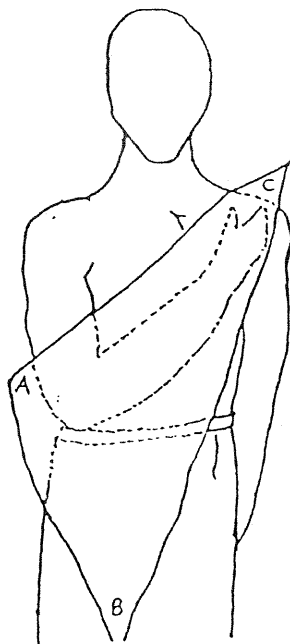


# FIRST AID

Hand-out 8.



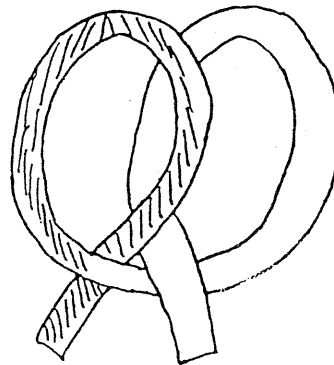
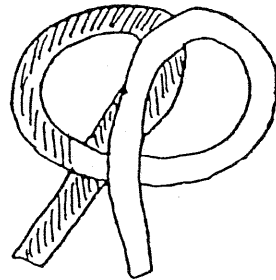
Arm Sling



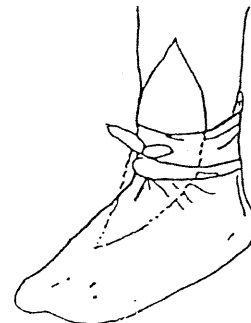
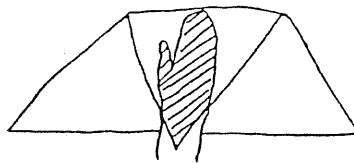
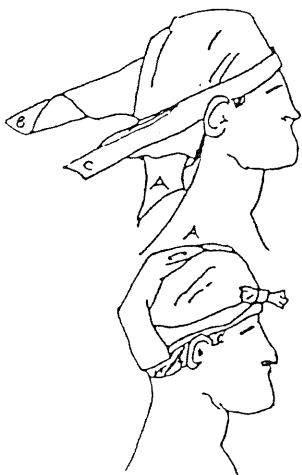
St. Johns Sling

# FIRST AID

Hand-out 9.



## Collar and Cuff Sling



Head

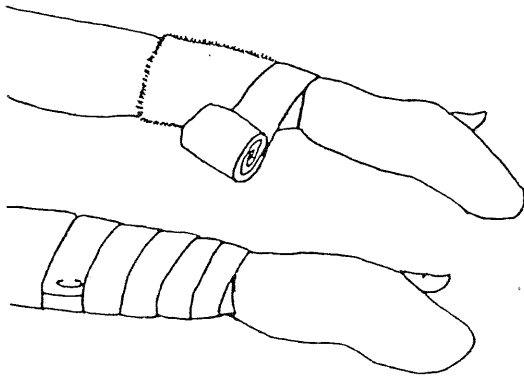
Hand

Foot

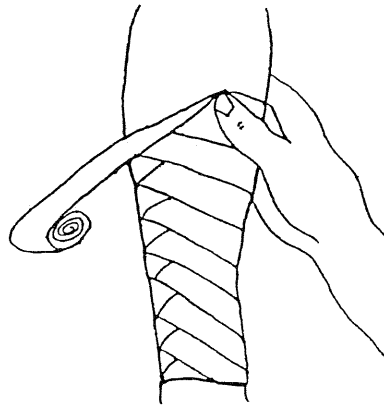


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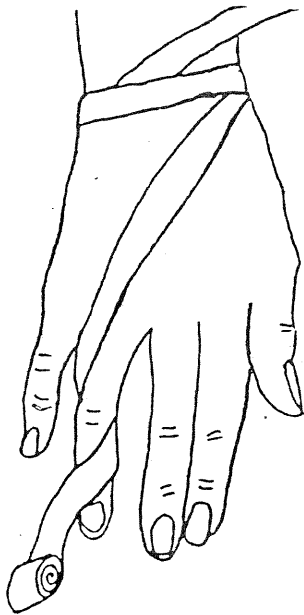
Hand-out 10.



Simple Spiral



Reverse Spiral



Finger Bandage



Hand/Wrist Bandage.

# FIRST AID

Hand-out 11.

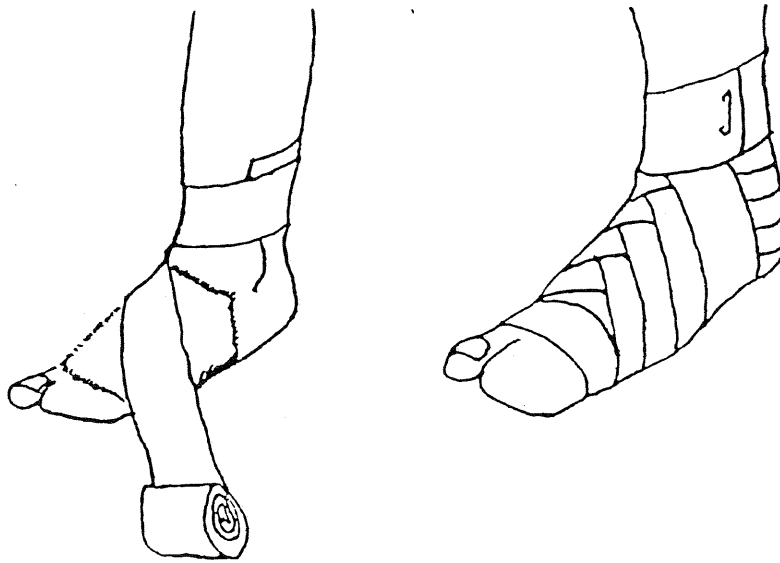
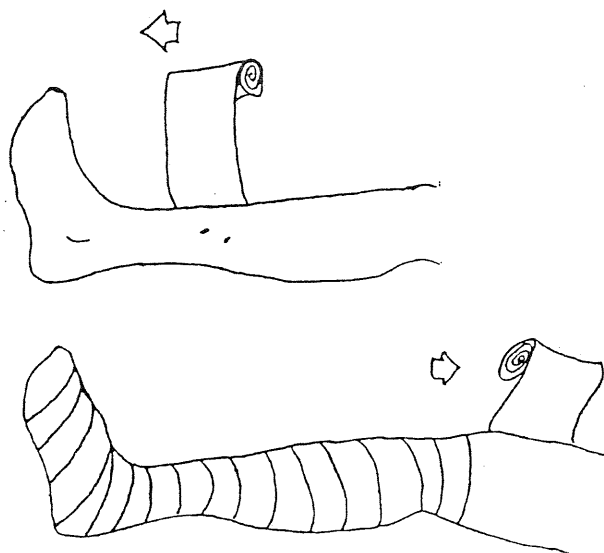


Figure 8 Bandage to Foot/Ankle



Compression Bandage.

# ACTIVITY A5

Be able to recognise and provide first aid for the following fractures:

femur (upper leg)  
lower leg  
humerus (upper arm)  
forearm/wrist  
clavicle (collarbone)  
rib/s

---

## OUTLINE

Discuss with the Pathfinders a) the definition of fracture, b) types of fractures, c) general signs and symptoms of fractures, d) principles of treatment of fractures, and e) splints and immobilisation. If time permits be prepared to demonstrate and to have the Pathfinders start to practice fracture treatment. Additional time will be required on camp out to complete practising the fracture treatments.

## RESOURCE MATERIAL

### Definition of a Fracture

A lot of people do not know what a fracture is. Some think it is a 'chip' out of the bone while others think that it is when a child 'bends' a bone, but it is not really broken. Still others think that it is a 'small break', whatever that might be!

The truth is that all of these ideas are right and wrong at the same time.

A fracture is defined in the medical dictionary as being *the breaking of a bone, rupturing a bone, the separation of a fragment of bone from the whole, the incomplete breaking of a bone with distortion*. The main idea that comes through in the dictionary is that a fracture is a broken bone.

### Types of Fractures

Although there are well over fifty different types of fractures with names as exotic as 'Ping-pong', 'Potts' and 'Silver Fork' we will confine ourselves to the two types of fractures that can be clearly identified by the first aider.

*Simple or Closed Fracture:* The bone is fractured without producing an open wound in the skin.

*Compound or Open Fractures:* The bone is fractured and has produced an open wound that leads from the skin surface to the bone. A way is now open for dirt/germ/infection to enter as well as a route for external bleeding.

## General Signs/Symptoms of Fractures

<b>D</b> eformity	ie the limb does not look right. eg Is at an odd angle.
<b>A</b> bnormal Mobility	of the bone with crepitus (noise made by pieces of bone grating together. Abnormal mobility is usually seen at the fracture site.
<b>T</b> enderness/Pain	around the site of injury.
<b>E</b> xternal Wounds	and/or bleeding if a compound fracture is present.
<b>S</b> welling/Bruising	at the site of the fracture.

***IMPORTANT NOTE:** If you are unsure as to whether a limb is fractured, treat as though a fracture is present.*

## Principles of Fracture Treatment

- 1) Splint the Limb to reduce pain and prevent further damage from abnormal mobility.
- 2) Cover open wounds with a dressing to control bleeding and to reduce the possibility of infection.
- 3) Elevate the limb to control/reduce the amount of swelling that occurs due to internal bleeding.

### Splints

A suitable splint is any material that is firm, long and wide enough to prevent movement of the joints above and below the fracture. It must be padded to prevent trauma to the bony protrusions and also provide support in the natural hollows of the limb. Splinting and padding materials can be improvised from things such as timber or thick curved bark, lined with grass.

## FRACTURES

### Fracture of the Femur (upper leg)

### ***Specific Signs/Symptoms***

- 1) Loss of power to the limb.
- 2) A very painful fracture and is usually difficult to miss!
- 3) The limb is often badly deformed and compound fractures are not uncommon.
- 4) The patient can lose a considerable amount of blood (1500 mls or more) into the tissue of the leg. Therefore shock is quit common.

### ***Action***

- 1) Apply even traction to the foot. Have an assistant support under the fracture site, with his/her hands, whilst the leg is gently moved along side the unaffected limb.
- 2) Place a suitable padded split between the legs - from groin to ankle - and tie the ankle/feet together using a figure eight narrow bandage.
- 3) Pass three narrow folded bandages under the patients:-
  - a) chest - just below the armpits
  - b) pelvis - at the hip joint
  - c) the ankles
- 4) Place a suitable padded splint along the outside of the fractured leg - from armpit to feet - secure with the three bandages.
- 5) Pass four narrow folded bandages under the patient:-
  - a) just above the fracture
  - b) just below the fracture
  - c) at the knees
  - d) at the calves
- 6) Tie off the bandages in the order as listed, in the centre of the long wooden splint.
- 7) Check circulation.

## **Fracture of the Lower Leg**

### ***Specific Signs/Symptoms***

- 1) Loss of power to the limb.
- 2) These fractures are very painful and compound injuries are not uncommon.

- 3) The limb may not be deformed if only one bone is broken, but the patient is not able (and should not try) to bear weight.

### ***Action***

- 1) Apply even traction to the foot. Have an assistant support the fracture site, with his/her hands, whilst the leg is gently moved along side the unaffected limb.
- 2) Place a suitable padded splint between the legs - from the groin to the ankle - and tie the ankle/feet together using a figure eight narrow folded bandage.
- 3) Pass four folded bandages under the patients:-
  - a) thighs - near the top of the splint.
  - b) knees
  - c) just above the fracture site
  - d) just below the fracture site
- 4) Tie off the side of the unaffected limb. Elevate the leg and check circulation.

## **Fracture of the Humerus (Upper Arm)**

### ***Specific Signs/Symptoms***

- 1) Loss of power in the affected limb
- 2) Patient often found holding the affected arm in area of fracture.

### ***Action***

- 1) Apply a collar and cuff sling
- 2) Place padding between lower arm and chest
- 3) Secure upper arm to chest with a:-
  - a) broad/narrow folded bandage above the fracture
  - b) broad/narrow folded bandage below the fracture
- 4) Tie bandages off on unaffected side and check circulation.

## **Fracture of the Forearm and Wrist**

### ***Specific Signs/Symptoms***

- 1) Loss of power in the limb often involving fixation of the wrist.
- 2) Patient often cradles forearm to chest, supported by the unaffected arm.

### ***Action***

- 1) Apply a suitable padded splint - from elbow to fingertips.
- 2) Secure the arm to the splint with broad/narrow folded bandages:-
  - a) on the elbow side of the fracture
  - b) on the wrist side of the fracture
  - c) around the hand
- 3) Tie off the bandages in a position that is comfortable to the patient.
- 4) Apply a triangular arm sling and check the circulation.

## **Fracture of the Clavicle (Collar Bone)**

### ***Specific Signs/Symptoms***

- 1) Loss of power in the arm on the affected side.
- 2) Patients head often inclines to the affected side.
- 3) Unless supported the arm and shoulder sag on the affected side.

### ***Action***

- 1) Remove/loosen restrictive clothing, etc around the neck/shoulder on the affected side.
- 2) Place padding between the arm and the chest wall.

- 3) Secure upper arm with a broad folded bandage, over the arm and around the chest, tying off on the unaffected side.
- 4) Apply a St. John's sling and check the circulation.

## **Fracture of the Rib/s**

### ***Specific Signs/Symptoms***

- 1) Pain is worse on deep breathing or coughing.
- 2) Patient is short of breath.
- 3) Watch for abnormal chest movement - if more than one rib is broken and/or underlying damage to lungs has occurred, breathing may be mechanically different.

### ***Action***

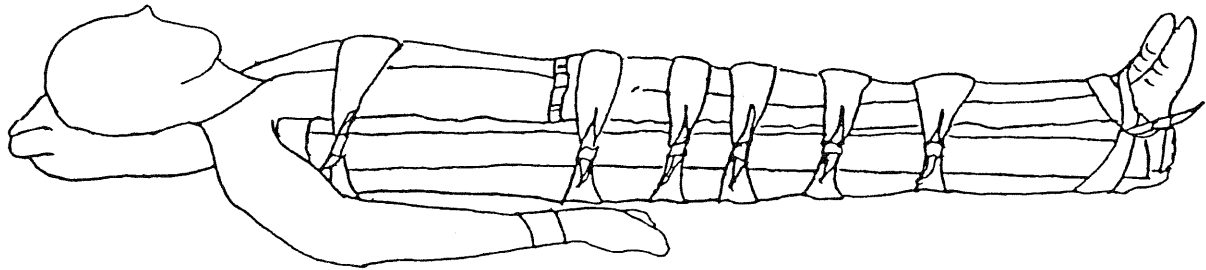
The splinting of a single rib fracture is not recommended as it - a) tends to encourage complications, (pneumonia for one), that are entirely attributed to splinting. b) Limits the physical movement of the intact areas of the chest - causing distress to an already upset and breathless patient.

- 1) The patient should hold his/her own arm against the injured side of the chest to support the rib/s.
- 2) The patient should travel in a sitting/semi-sitting position as laying will make the patient feel more breathless.

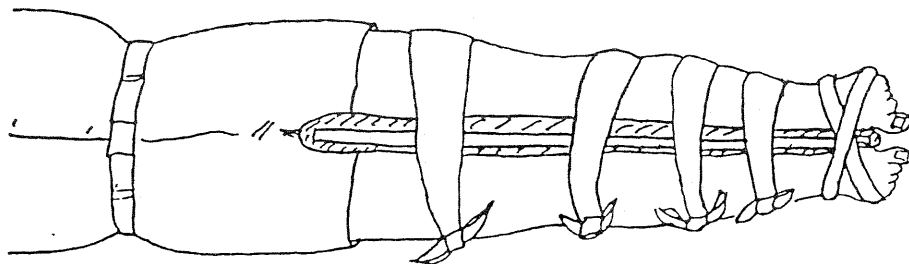


# FIRST AID

## Hand-out 12



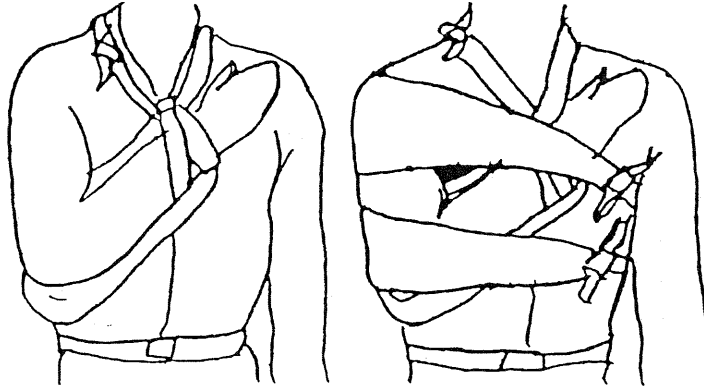
Fracture of the Femur



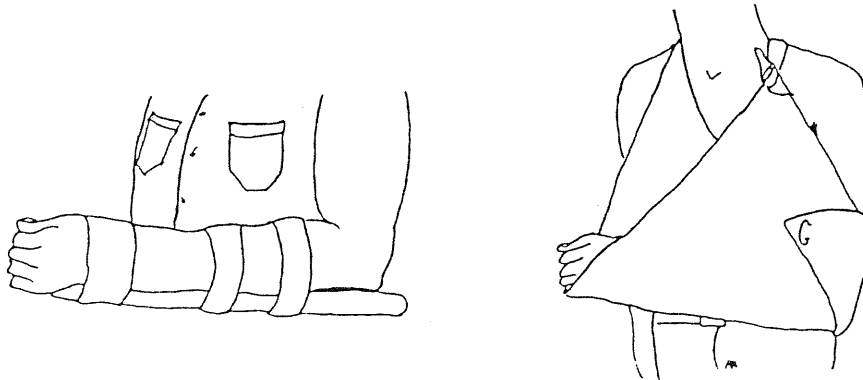
Fracture of the Lower Leg

# FIRST AID

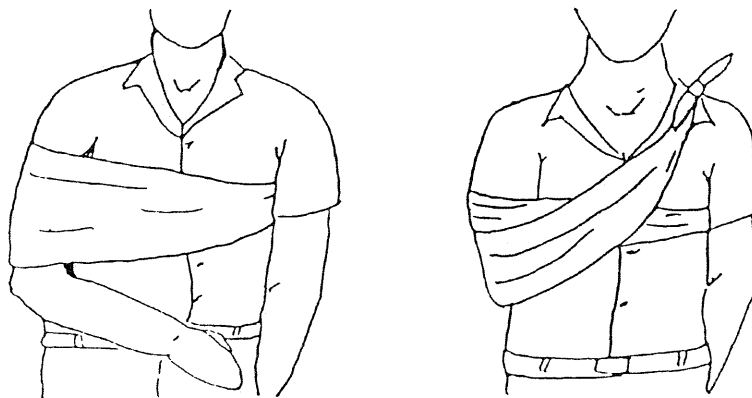
## Hand-out 13.



Fracture of the Humerus



Fracture of the Forearm and Wrist



Fracture of the Clavicle

# ACTIVITY A6

Be able to recognise and provide first aid for:

- a) fits
  - b) poisoning
  - c) foreign body in the ear
  - d) foreign body in the eye
  - e) foreign body in the nose
- 

## OUTLINE

Try contacting the local branch of the Epilepsy Association. They may have a person available to come and talk to the Pathfinders about Epilepsy/fits and what the latest first aid treatment is. The Pathfinders will appreciate being able to ask questions of a person who knows the problem first hand.

## RESOURCE MATERIAL

### FITS

**What is a Fit?** In simple terms it is a "short circuit" of the brain's wiring system. The nerve cells (neurons) are firing off at once and the result is unconsciousness and widespread muscular contractions.

**What does a fit look like?** One of the first descriptions of a classical fit is found in the Bible - Mark 9:17-20 NIV

Vs 17 'Teacher I brought you my son, who is possessed by a spirit that has robbed him of speech;'

Vs 18 'whenever it seizes him it throws him to the ground. He foams at the mouth, gnashes his teeth, and becomes rigid,'

Vs 20 '.... he fell on the ground and rolled around, foaming at the mouth.'

Although the cause in this case was demonic rather than medical, the description is still quite accurate.

Have your class pick out the main features from Mark's description.

- a) falls to the ground unconscious.
- b) foams at the mouth
- c) teeth clenched - unable to open (often guttural/stenorous breathing)

- d) becomes rigid - limbs shaking, and/or rolling about.

Other features of fits not mentioned;

- e) face and neck become flush (sometimes blue if breathing is inadequate or absent)
- f) loss of bladder/bowel control
- g) people who are known epileptics sometimes sense that they are about to have a fit.
- h) a period of unconsciousness and disorientation follows lasting up to twenty minutes or more after which the person usually is not fully aware of their surroundings and feels tired, sleepy and 'sore in the muscles'.

### **When is fitting a problem?**

- 1) When the patient has never had a fit before - has no previous history.
- 2) When the patient is in status epilepticus.

### **What is status epilepticus?**

Status epilepticus is a medical emergency requiring urgent medical care. A person is considered to be in status epilepticus when he/she has a) a fit lasting for more than 10 minutes, b) repetitive fits without intervening periods of consciousness, c) three or more fits in any one hour period.

### ***Action***

- 1) Remove the patient from any danger (eg move away from a fireplace) or remove the danger from the patient (eg remove the broken glass that the patient has dropped.)
- 2) Do not forcefully restrain the patient - it serves no purpose.
- 3) Roll the patient onto their side and gently hold them there. This protects the airway by allowing the tongue to move away from the back of the mouth.
- 4) After fitting stops, place the patient into the full coma position. This is usually not possible during the fit. Watch the patient closely for at least four hours
- 5) If status epilepticus develops and/or the patient has no previous history of fitting - medical attention must be sought immediately.

*Note: There still seems to be a preoccupation with getting something into their mouth to 'stop them from biting off their tongue or swallowing it'. Try to swallow your own tongue - it is hard is not it! That's because it is anchored to the floor of the mouth. Unless you have a tongue like a lizard you will never 'swallow' it. Likewise, Ambulance Officers have reported finding pegs, scissors, parts of fingers and a crow bar (yes a crow bar!!) in peoples mouth. The patients were treated for cut lips, gum and broken teeth. Not one had bitten off their own tongue.*

## **POISONING**

Incidents involving poisons are a regular occurrence, and the first responder needs to be aware of the complications which can arise in these situations and how to deal with them.

A poison is any substance solid, liquid, or gas which when taken into the body, may damage or destroy life.

Poison may be taken accidentally or intentionally in the following ways:

1. Inhalation: fumes, gasses.
2. Ingestion: by mouth; liquids, solids.
3. Injection: Hypodermic, animal and insect bites.
4. Absorption: Through the skin; pesticides, herbicides etc

### **First Aid Priorities**

1. Airway
2. Breathing
3. Circulation

**Remember:** Self protection always first!

## **HISTORY**

Identification of offending agent is of great importance. Sometimes it is easy to identify and at other times requires a lot of skill. The history should include the following:

### **1. WHAT WAS TAKEN?**

If not known, find out by investigating the area around the casualty or movements immediately prior to poisoning, eg. was the child in the garden (poisonous plants etc.)

### **2. HOW MUCH WAS TAKEN?**

Note if the informant is certain, reasonably certain, or uncertain of the amount.

### **3. WHAT WAS THE ROUTE OF ADMINISTRATION?**

How quickly symptoms come on is determined by the amount and by the route of administration. I.V. drug users frequently have tattoos to cover up the needle marks.

### **4. WHEN DID THE POISONING/OVERDOSE OCCUR?**

This will help you in establishing the severity of the problem. If deeply comatose one hour after administration of pills a serious O.D. has occurred. If still alert four hours after, the dose was minimal. This is however, a general statement and there are exceptions.

#### **5. WHAT WAS THE CASUALTY'S MENTAL STATE PRIOR TO THE POISONING/OVERDOSE?**

Was the casualty depressed? Is the casualty seeing a psychiatrist? Does the casualty take medication for nerves? Has the casualty a history of previous suicide attempts?

- a) If the casualty is conscious ..... **ask!**
- b) If the casualty is unconscious ..... **ask others!**

### **INGESTED POISONS**

- 1. Non corrosive.
- 2. Corrosive.
- 3. Others.

#### **CORROSIVE**

Acids or alkalis cause burns to mouth, oesophagus, stomach, - pH 1.5 (drain cleaners, bleach).

#### **Indications of Corrosive Poisoning**

- 1. Lips and mouth show signs of corrosion (burning).
- 2. Severe pain in the mouth and painful swallowing.
- 3. Difficulty in talking due to swelling of mucous membrane.
- 4. Retching, followed by vomiting.
- 5. Odours on breath.

#### **Rules for Treatment of Corrosive Poisoning**

- 1. Protect yourself.
- 2. Do not induce vomiting (although you may not be able to prevent it).
- 3. Ascertain what was taken, the time and quantity.
- 4. Dilute by giving water or milk to drink (only if casualty is not having convulsions).
- 5. Collect sample of substance taken for identification, and give to the Ambulance Officer.
- 6. Maintain constant observation.
- 7. If casualty becomes unconscious, ensure an open airway.
- 8. Wait for the ambulance to arrive and report the history and your treatment.

#### **If the Casualty is Unconscious**

- 1. Ensure a clear airway.
- 2. Put casualty in lateral position.
- 3. If breathing stops, resuscitate!

Do NOT induce emesis in an unconscious casualty.

Maintain casualty on left side; it may slow down absorption because pylorus is on right side. Most poisons absorbed via small bowel.

#### **NON-CORROSIVE**

Aspirin and barbiturates are the most common.

#### **General Treatment**

##### **1. Conscious:**

- a) Induce emesis
- b) Preserve vomitus

Give syrup of Ipecac(dosage on bottle) to induce emesis. Give activated charcoal after vomiting! Repeat in 20 minutes if unsuccessful

##### **2. Unconscious:**

- a) Give nil by mouth.
- b) Airway management or resuscitation.
- c) Preserve vomitus.

Do not induce emesis in the following cases:

- a) Where a casualty is drowsy/unconscious.
- b) Where a corrosive substance has been taken.
- c) Where a foaming or petroleum substance has been taken.
- d) Where a depressant drug has been taken ie. sedatives.

#### **OTHERS**

1. Foaming detergents may foam into lungs and cause respiratory distress.
2. Kero, petrol, turps, fly-spray or polish can cause pneumonitis due to inhalation. (Lethal in children. Do not induce emesis).

#### **Treatment**

Olive oil (oil slick) and wait for ambulance to arrive and report the history and your treatment to the Ambulance Officer.

#### **INHALED POISONS**

Carbon Monoxide most common.

##### **Danger:**

Fume inhalation by rescuer.

##### **Signs:**

Cherry-pink mucosa.

##### **Symptoms:**

Giddiness, nausea, vomiting, collapse state.

**Treatment**

1. A.B.C.
2. Wait for the ambulance to arrive and report the history and your treatment to the Ambulance Officer.

**INJECTED POISONS (DRUGS OR BITES)**

1. Support collapsed state.
2. Collect evidence.
3. Monitor casualty.
4. Wait for the ambulance to arrive and report the history and your treatment to the Ambulance Officer.

**ABSORBED POISONS**

Pesticides are the most common chemical absorbed through the skin.

**Signs**

1. Excessive salivation.
2. Warm, dry skin.
3. Visual problems.
4. Slow heart.
5. Hypotension and pupillary constriction.

**Treatment**

1. Remove contaminated clothing.
2. Wash skin.
3. Monitor casualty.
4. Wait for the ambulance to arrive and report the history and your treatment to the Ambulance Officer.

**ACCIDENTAL POISONING IN THE VERY YOUNG/OLD****1. Children**

Common age group 1- 5 years. Occurs: prior to meal times when mother is busy.

**2. Adult**

Old people forget that they have taken their tablets or pills and so take another dose.

**DELIBERATE POISONING IN TEENS TO OLD AGE****1. Suicide:**

Will inevitably succeed.

**2. Attempted suicide:**

A call for help and may require psychological assistance.

**3. Homicide:**

Rarely with poison, but if suspected preserve evidence, watch for dangers!



## FOOD POISONING

Food poisoning is an 'acute inflammation of the stomach and intestines, caused by certain bacteria. These bacteria have contaminated the hands and/or food of the patient and have subsequently been ingested.

### *Signs/Symptoms*

- 1) Sudden onset of frequent, large bowel motions followed by very frequent watery diarrhoea.
- 2) Abdominal cramps, nausea and vomiting.
- 3) Head ache and fever.

*Note: The term 'food poisoning' is also used by people to describe acute diarrhoea and cramping which is directly attributable to some irritating substance that they have ingested. eg unripe fruit. This is not true food poisoning but the first aid treatment will be the same for our purpose.*

### *Action*

- 1) Restrict food intake until abdominal pain subsides.
- 2) Clear fluids such as water or water with cordial added should be offered. (dehydration can occur quickly if symptoms are severe)
- 3) Give about 12 gms of activated charcoal (from first aid kit) in sufficient water to make a thick soupy consistency - relieves diarrhoea. If activated charcoal is not available try blackened toast, about 2-3 slices every 2-3 hours.
- 4) Codeine tablets often relieve diarrhoea as well as pain. Do not administer if charcoal has been given recently as the charcoal will absorb it.
- 5) If the patients condition is severe or the patient has failed to improve within 8-12 hours, medical aid must be sought.

## NON-PENETRATING FOREIGN BODY IN THE EYE

Foreign bodies such as eye lashes, insects and dirt are among the most common eye irritants. The patient experiences irritation and pain in bright sunlight. The eye becomes red and tears are readily formed.

### *Action*

- 1) Use the corner of a clean handkerchief moistened with cold water.
- 2) Have the patient look up. Gently draw the lower lid down and away from the eye - gently wipe the foreign body away if seen.
- 3) Have the patient look down. Gently hold the eyelashes of the upper lid and pull the eyelid down and forward over the lower - this may remove the foreign body.
- 4) If this action does not work - try irrigating the eye with water, (roll upper eyelid back using a match stick), which may wash the foreign body out of the eye or into view.
- 5) All penetrating foreign bodies need urgent medical care. Tape the affected eye open and cover with a bandage to protect from sunlight and further damage. Moisten the eye frequently to prevent drying.

## **FOREIGN BODY IN THE EAR (insects)**

### *Action*

- 1) Never place pins, wire or match sticks in the ear canal to remove foreign objects - damage to the ear drum can easily occur.
- 2) Some warm water or oil poured onto the ear may float the object out.
- 3) Foreign bodies other than insects or those that do not float out must be removed under medical supervision.

## **FOREIGN BODY IN THE NOSE**

### *Action*

Foreign bodies that cannot be removed by blowing the nose or by manual pressure, (pushing from bridge of nose downwards on the affected side) must be removed under medical supervision.

# FOOD POISONING

Food poisoning is an 'acute inflammation of the stomach and intestines, caused by certain bacteria. These bacteria have contaminated the hands and/or food of the patient and have subsequently been ingested.

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- 2) Some warm water or oil poured onto the ear may float the object out.
- 3) Foreign bodies other than insects or those that do not float out must be removed under medical supervision.

## **FOREIGN BODY IN THE NOSE**

### ***Action***

Foreign bodies that cannot be removed by blowing the nose or by manual pressure, (pushing from bridge of nose downwards on the affected side) must be removed under medical supervision.

# ACTIVITY A7

Be able to provide effect first aid for the following problems:

strains  
sprains  
cuts and abrasions  
blisters  
bites and stings

---

## OUTLINE

Make this a practical activity by asking the Pathfinder to do the bandaging for the above problems. Time will need to be spent on this activity on camp out so in this activity time spend some time on the cuts and abrasions on different parts of the body so that the Pathfinder can become familiar with the bandaging on different parts. Some ideas could be cuts to the arm, foot, palm, scalp etc. Bandages are described in activity A4. Some good make-up can add a lot to this activity.

## RESOURCE MATERIAL

### STRAIN

A strain is the over stretching of a muscle or tendon.

#### *Signs/Symptoms*

- 1) Pain in the region, usually of sudden onset and sharp in nature.
- 2) Loss of power.
- 3) Pain on movement.
- 4) Tenderness over the muscle.
- 5) Pain if the muscle is stretched.

#### *Action*

Prevent further damage and treat by:

- 1) Controlling haemorrhage and reduce swelling by applying an ice pack.
- 2) Prevent further over stretching and damage.
- 3) Support the injured muscle with a pressure bandage.
- 4) Encourage gentle exercise to reduce painful spasm and shortening.
- 5) Avoid all massage.

## **SPRAINS**

Sprains and dislocations are injuries caused when the ligament which binds the opposing bony surface together are forced beyond their normal range, leading to stretching or tearing and the displacement of joint surfaces.

### *Signs/Symptoms*

- 1) Whether sprained or dislocated, an injured joint is very painful and cannot be moved without increasing the discomfort.
- 2) Swelling is usually marked and discolouration, due to haemorrhage beneath the skin, develops quickly.

*Remember that sprains and dislocations are often associated with fractures of adjacent bones.*

### *Action*

- 1) Elevate the limb and cool with a cold compress as soon as possible to reduce the swelling.
- 2) Apply a firm roller/crepe bandage to the affected joint.
- 3) In all doubtful cases treat as a fracture.
- 4) If the ankle is sprained it may be better not to remove the shoe.

## **CUTS AND ABRASIONS**

Cuts and abrasions are breaks in the continuity of the tissue of the body. They can lead to haemorrhage and to the risk of infection.

## CUTS

### *Action*

- 1) Small cuts may be treated with a band-aid or similar dressing.
- 2) Control the bleeding with direct pressure.
- 3) Apply a clean sterile dressing. Never use cotton wool.
- 4) Secure the dressing in place with a bandage.

## ABRASIONS

With abrasions, the outer protective layers of the skin are damaged, usually over bony prominences as a result of skidding falls onto hard surfaces. Some bleeding occurs but the raw area oozes mainly serum (blood component). Dirt is often embedded in the wound. Infection often follows.

### *Action*

- 1) Cleanse the wound thoroughly with sterile gauze soaked in sterile water or mild antiseptic and apply a sterile dressing.

## BLISTERS

Blisters are the bushmans curse, and commonly occur because of ill-fitting or inappropriate footwear, or foreign matter in the soaks. 'Hot-spots' on the foot are a sure indicator of a developing blister.

### *Action*

- 1) *Prevention is better than cure:* As soon as you feel a 'hot-spot' developing cover it with a large piece of smooth finish sticking plaster such as 'waterproof leukoplast'.
- 2) *If the blister has formed:* Do not burst it (unless it is obvious that normal wear and tear will do so). Use several pieces of smooth finish sticking plaster, with holes cut in them, to protect and relieve the pressure on and around the blister.
- 3) *If a blister has torn or needs to be burst:* Clean your hands thoroughly. Clean the skin thoroughly. Sterilise a needle by flame and prick the edge of the blister. Squeeze out the fluid. Great care should be taken to ensure cleanliness during this procedure. Apply an antiseptic cream (or powder) and then cover with sticking plaster. Ensure that the plaster does not stick to the blister.

# **BITES and STINGS**

## **Poisonous Spiders**

### **Redback Spider**

At least 300 cases per year but no deaths have occurred since antivenene became available.

#### **SIGNS & SYMPTOMS**

1. The bite felt as a sharp transient sting.
2. Localised pain which becomes generalised.
3. Profuse sweating and vomiting.
4. Dizziness/faintness.
5. Muscular weakness and spasm.
6. Swelling around bite site.
7. Painful and swollen lymph nodes.

#### **TREATMENT**

1. Apply ice and water mixture to the bite site but be careful to avoid skin damage from direct application of ice to unprotected skin.
2. Administer a small amount of water to replace water lost in sweating and also minimise renal damage as venom is excreted via the kidneys.
3. Reassure the casualty.
4. Monitor, record and report any changes.
5. Call for an ambulance.
6. Wait for the ambulance to arrive and report the history and your treatment to the Ambulance Officer.

### **Funnel Web Spider**

The male is five times more toxic than the female but both sexes are aggressive. Children have died within 2 hours of being bitten, whilst adults have died with 12 hours.

#### **SIGNS & SYMPTOMS**

1. Intense pain at bite site followed by numbness.
2. Nausea/vomiting and abdominal pain.
3. Profuse sweating, brisk salivation and lacrimation.
4. Dyspnoea due to pulmonary oedema.
5. Hypothermia may occur.
6. Muscular weakness/spasm.

#### **TREATMENT**

1. Immediately apply firm pressure over the bite site.
2. Apply a firm crepe bandage over the site and bandage beyond the site to the finger tips and/or toes and then back along the limb to include the joint above the bite.
3. Immobilise the limb by the use of a sling or splint.
4. Do not elevate the affected limb.



5. Pressure bandage should be kept in place until the arrival of the Intensive Care Unit and then only removed by a Doctor.
6. Reassure and transport.
7. Ensure supportive treatment; ABC as required.
8. Monitor, record and report any changes.
9. Call for an ambulance.
10. Wait for the ambulance to arrive and report the history and your treatment to the Ambulance Officer.

### **Snake Bite**

Many bites do not result in poisoning, but full precautions should be taken just in case. There need not be any visible signs of the bite. Pain and swelling are frequently minimal.

The first responder should endeavour to identify the snake so as the correct antivenene can be administered.

### **Appearance of the Bite**

There is no set bite pattern, due to possible missing or broken fangs, and may only present as scratch marks.

### **SIGN & SYMPTOMS**

The onset of symptoms usually appear within 15 minutes to 2 hours after the bite:

1. Double or blurred vision.
2. Drowsiness.
3. Nausea and vomiting.
4. Faintness.
5. Sweating.
6. Diarrhoea.
7. Headache.
8. Pains in chest/abdomen.
9. Hypoxia due to paralysis of respiratory muscles.
10. Circulatory collapse.

### **TREATMENT OF SNAKE BITE**

#### **GENERAL PRINCIPLES**

1. There is no place for use of arterial tourniquets.
2. Close observation of the casualty is necessary and if breathing or circulation fails, basic life support must be commenced.

#### **SPECIFIC FIRST AID TREATMENT**

1. Immediately apply firm pressure over the bite site.
2. Apply a firm bandage over the site and bandage beyond the site to the finger tips(or toes) and then back along the limb to include the joint above the bite.
3. Immobilise the limb by the use of a sling or splint.

4. Do not elevate the affected limb.
5. Pressure bandage should be kept in place until antivenene is available.
6. Do not wash venom off the skin as this will assist in later identification.
7. If following release of the pressure bandage by a doctor any signs of toxicity occur, steps 1, 2 and 3 should be repeated.

### **Bee Stings**

Bee stings are very painful, however are not dangerous except in rare circumstances where the person is allergic to the venom. Such people will require immediate medical attention.

### **Blue Ringed Octopus**

The blue-ringed octopus is a shy creature inhabiting the coastline and is particularly common during the summer months. Its beak-like biting apparatus can inflict a potentially lethal bite.

### **Scorpions and Centipedes**

Australia has several species of both, none of which has cause death.

### **Blue Bottles**

There has never been a verified death due to the blue bottle, but the effects may be severe.

### **SIGNS & SYMPTOMS**

1. Intense and immediate pain.
2. Multiple scattered weals.
3. Some difficulty in breathing may occur in sensitive persons.

### **TREATMENT**

1. **DO NOT** rub with sand or towel.
2. Apply ice packs to reduce skin pain.
3. **NOW** rub with sand or towel to remove remaining tentacles.
4. Stings to inside of mouth and throat may cause excessive swelling and cause breathing difficulties if so, institute E.A.R.
5. All other jellyfish, use domestic vinegar.
6. Call for an ambulance if condition deteriorates.

### **Ticks**

Tick bites may be very dangerous if the tick is undiscovered for several days. Deaths used to occur in children but now a serum has been developed for serious cases.

### **SIGNS & SYMPTOMS**

1. Headache.
2. Inability to focus eyes.
3. Gradual paralysis of limbs.
4. Paralysis of respiratory muscles.

### **TREATMENT**

1. Remove the tick immediately by sliding the open blades of a pair of sharp pointed scissors, one on each side of the tick and lever the tick outwards.
2. Do not squeeze the tick as this forces more venom into the tissues.
3. It is recommended that children be transported to hospital immediately due to their susceptibility to tick venom.

# **FIRST AID**

Hand-out 14.

## **SPRAINS**

Sprains and dislocations are injuries caused when the ligament which binds the opposing bony surface together are forced beyond their normal range, leading to stretching or tearing and the displacement of joint surfaces.

## **STRAIN**

A strain is the over stretching of a muscle or tendon.

# ACTIVITY A8

Be able to provide effect first aid for the following problems:

hyperventilation  
fainting  
shock

---

## OUTLINE

In there turn discuss with the Pathfinders signs and symptoms for each of the following problems. Have one of the Pathfinders act out the problem while the others take the first aid action.

## RESOURCE MATERIAL

### Hyperventilation - 'Over breathing'

Hyperventilation is rapid deep breathing which lowers the carbon dioxide levels in the blood to a level that produces the physical signs/symptoms described below.

#### *Signs/Symptoms*

- 1) Respiratory rate rises to 30-40 breaths per minute.
- 2) Patients are often hysterical, feel as though they cannot breath and believe that they are dying.
- 3) As the hyperventilation continues the patient becomes pale and sweaty. The patient may develop a tight feeling in the chest, tingling and spasms in the hands and feet. Many patients finally sit down close their eyes and will not communicate sensibly unless dealt with firmly but gently.

#### *Action*

- 1) Have the patient place a paper bag over their mouth and nose. Do not place it over the patients whole head.
- 2) The patient must re-breath their expired air until all the signs and symptoms - disappear, to return the carbon dioxide level in the blood to normal.

- 3) Place a cool washer on the patients forehead for symptomatic relief.
- 4) Have the patient open their eyes during the treatment. They may refuse to do so but in a firm gentle way insist that they do so. Experience has shown that whilst ever the patient keeps their eyes closed and does not come to terms with their environment, (and reality), they will continue to hyperventilate.
- 5) Instruct the patient to slow their breathing down but do become frustrated if they don't - some simply cannot - just persist with the paper bag and reassurance until the signs/symptoms are relieved.

*Note: always make sure that it is hyperventilation that you are dealing with and not some other pre-existing medical condition.*

## **Fainting**

Fainting is due to temporary disturbance of the nervous control of the blood vessels. The arterioles dilate and blood pools in the tissues. Insufficient blood reaches the brain and consciousness is lost.

It often results from -

- \* a nervous shock
- \* some injury, often minor
- \* standing still for a long time, particularly in a hot, stuffy room
- \* sudden postural change

### ***Signs/Symptoms***

- 1) Yawning
- 2) Pale, cold and clammy skin
- 3) Giddiness and blurred vision
- 4) Weakness and loss of consciousness
- 5) Shallow breathing
- 6) Slow weak pulse

### ***Action***

- 1) Loosen clothing around the neck, chest and waist.

- 2) Lie the patient down with their legs raised and head lowered.
- 3) If the patient is in the sitting position and cannot lie flat, push the head between the knees.
- 4) Ensure a liberal supply of fresh air and encourage deep breathing if conscious.
- 5) Check for any other injury or illness.

## **Shock**

Shock is a reduced circulating blood volume. It accompanies many different injuries and conditions. Its effect ranges from negligible to being the principle cause of death.

Shock will be present where:

- \* Blood is lost internally/externally
- \* Blood 'pools' in the limbs - overdose, poisoning, blood poisoning, - 'septic shock'
- \* Fluid and body salts are lost through severe burns, diarrhoea, vomiting and dehydration.

### ***Signs/Symptoms***

- 1) Skin is pale, cold and clammy, sometimes associated with profuse sweating.
- 2) The pulse becomes rapid and hard to detect as shock progresses.
- 3) The patient may feel weak, dizzy, cold, nauseous and sleepy.
- 4) In severe shock the patient's level of consciousness will deteriorate.

### ***Action***

- 1) Ensure that the patient has a good airway and that breathing is maintained.
- 2) Ensure that external bleeding is controlled.
- 3) Elevate the legs.

- 4) Cover the patient with a blanket if shivering/cold but do not overheat as this exacerbates the problem by diverting blood away from the essential organs to the skin.
- 5) Seek medical aid immediately.



# **FIRST AID**

**Hand-out 15.**

## **SHOCK**

### *Action*

- 1) Ensure that the patient has a good airway and that breathing is maintained.
- 2) Ensure that external bleeding is controlled.
- 3) Elevate the legs.
- 4) Cover the patient with a blanket if shivering/cold but do not overheat as this exacerbates the problem by diverting blood away from the essential organs to the skin.
- 5) Seek medical aid immediately.

# ACTIVITY A9

Design your own personal first aid kit and be familiar with the contents of the club first aid kit.

---

## OUTLINE

Ask the Pathfinders to list the equipment that they would take as part of their first aid kit and then compare their list with the one that is recommended following. It would be good to have all the items mentioned ready for display. Following this have the Pathfinders compare their personal first aid kits to the contents of the club kit, and be sure to explain why they are different.

## RESOURCE MATERIAL

The things to look for in items for a first aid kit:

- \* Practical - equipment for likely problems
- \* Portable - light weight and compact
- \* Comprehensive - item have more than one use
- \* Compatible - can be used/integrated with other kits if necessary to treat more serious injuries.

### Personal First Aid Kit

It should be pointed out that a personal first aid kits are a matter of personal needs and preference and should be tailored to suit the activity that the person is undertaking. ie a personal first aid kit for a day at the beach would be different than a first aid kit for a day at grandmas' or in the mountains etc. Therefore the following listed personal first aid kit is only a guide but would be suitable for general Pathfinder activities.

- 1 100mm elasticised bandage
- 1 50mm crepe roller bandage
- 1 25mm roll 'waterproof leukoplast' adhesive plaster
- 2 sterile non-adhesive pads
- 12 bandaids
- 12 soluble 'aspirin'
- 12 'codeine/panadine' tablets for pain relief
- antiseptic powder or cream
- safety pins
- blunt pointed 125mm scissors
- tweezers
- UV-blockout
- anti-histamine ('stingose')

### Club First Aid Kit

The club first aid kit is to compliment the basic personal first aid kits taken by the group. It contains additional items that may be required for emergency situations. It is held by the group leader.

- 3 100mm elasticised bandages
- 2 50mm elasticised bandages
- 2 75mm crepe roller bandages
- 2 50mm crepe roller bandages
- 3 triangular bandages
- 15g pkt sterile gauze
- 2 25mm waterproof leukoplast adhesive plaster
- 1 foil rescue blanket
- 6 sachets sterile eye wash
- scissors
- tweezers
- clinical thermometer
- assorted sterile dressings
- antiseptic powder or cream
- 'codeine/panadine' for pain relief
- antacid
- spirit of ammonia - smelling salts
- anti-histamine cream
- mild laxative

# FIRST AID

Hand-out 16.

## Personal First Aid Kit

- 1 100mm elasticised bandage
- 1 50mm crepe roller bandage
- 1 25mm roll 'waterproof leukoplast' adhesive plaster
- 2 sterile non-adhesive pads
- 12 bandaids
- 12 soluble 'aspirin'
- 12 'codeine/panadine' tablets for pain relief
- antiseptic powder or cream
- safety pins
- blunt pointed 125mm scissors
- tweezers
- UV-blockout
- anti-histamine ('stingose')

# ACTIVITY A10

Discuss the importance of knowing the medical history of your group. Make a medical profile of one other person in your group.

---

## OUTLINE

Discuss the importance of knowing the medical history of your group and how it can help in determining what might be the problem in a medical emergency. Have the Pathfinders complete a medical profile of another Pathfinder using the attached form to make them aware of the type of information that is required.

## RESOURCE MATERIAL

While at a Pathfinder parade, young Alice suddenly and unexpectedly falls to the ground. Her skin is cold, clammy and she starts to sweat, she has shallow breathing, her lips are starting to turn blue and she becomes unconscious. These symptoms can be caused by several different problems, problems that the first aider must treat in different ways. It could be anything from a faint to an epileptic fit, diabetic coma or a heart and lung condition. No matter what the problem is the first aider must follow the proper first aid procedure, which is the A. B. C. of first aid. However if the first aider on the scene knew that Alice was a diabetic then signs can be looked for so that a diabetic coma can be confirmed or denied so that special procedures may be followed.

It is also important to know the medical history of the group so that the group leader knows if any of the group has any medication. This is important firstly to ensure that the medication is taken while under the charge of the leader, and so that reliable information may be given in a hospital situation where additional medication (like anaesthetic) might be required.

It is important to remember that some Pathfinders may have medical conditions (eg epilepsy, diabetes) that they are embarrassed about. During the discussion reinforce the point that if we have a medical condition, we don't need to be embarrassed or ashamed with our friends, and that people with medical conditions are just like us and that to a true friend it would make no difference.

*(If you suspect that a Pathfinder might be embarrassed about a medical condition when giving a profile, for this exercise it might be just as well to get the Pathfinders to give a false profile.)*

# FIRST AID

Hand-out 17.

## Medical Profile Form

Name \_\_\_\_\_

Age \_\_\_\_\_ Sex \_\_\_\_\_ Date of Birth \_\_\_\_/\_\_\_\_/\_\_\_\_

Home Address \_\_\_\_\_

Name of Next of Kin \_\_\_\_\_

Telephone Number \_\_\_\_\_

Doctor \_\_\_\_\_ Telephone \_\_\_\_\_

### History (Circle if applicable)

Frequent sore throats, Sinusitis, abscessed ear, Bronchitis,

Fainting, Stomach upsets, Constipation, Kidney trouble,

Convulsions, Epilepsy, Sleep-walking, Athlete's foot,

Heart trouble, Asthma, Diabetes, Haemophilia.

Other \_\_\_\_\_

Current Medication \_\_\_\_\_

Allergic: Drugs \_\_\_\_\_

Plants \_\_\_\_\_

Food \_\_\_\_\_

Bee sting \_\_\_\_\_

Other \_\_\_\_\_

Known Physical Abnormality \_\_\_\_\_

Last Tetanus Injection \_\_\_\_\_

Signature \_\_\_\_\_