

## **UNIT 12**

### **EMERGENCY ACTIONS AND FIRST AID**

# 1

## FIRST AID

First aid is the **provision of initial care for an illness or injury**. It is usually performed by non-expert, but trained personnel to a sick or injured person until definitive medical treatment can be accessed.

Certain self-limiting illnesses or minor injuries may not require further medical care past the first aid intervention.

It generally consists of **a series of simple, and in some cases, potentially life-saving techniques that an individual can be trained to perform with minimal equipment**.

Every year many people die, or are seriously injured in accidents. Many of these deaths could be prevented if first aid was given at the scene of the accident before emergency services arrive.

# 2

## GENERAL PRINCIPLES IN THE EVENT OF AN ACCIDENT

### 2.1 FIRST AID STEPS

IF SOMEONE IS INJURED IN AN ACCIDENT:

- First check that you and the casualty are not in any danger. If you are, make the situation safe.
- When it is safe to do so, dial 112 for an ambulance, if necessary.
- Carry out basic first aid.



While giving first aid it is important to remember the following principles:

- Keep calm.
- Act swiftly.
- Reassure the casualty and keep them calm.
- Do not move the casualty - unless it is necessary to make the situation safe.
- Cover the casualty to avoid them getting cold.
- Do not give the casualty anything to drink.
- Do not leave the casualty alone.

### EXAMPLE 1



A worker in a wastewater treatment plant notices that his workmate is lying on the floor due to a sulphuric gas emission.

According to the first aid steps, what actions must be carried out by this worker?

#### Solution:

Before assisting the casualty, the worker will **protect himself** by wearing a mask and then will **protect the casualty** by taking him away from the hazardous area. The next step is to **call the emergency services (112)** and report where the accident took place, the type of accident and the number of people injured. The worker must identify himself and must be the last to hang up in case it is necessary to repeat any information.

Eventually, the worker will **assist the casualty** by first monitoring their vital signs and then providing any other assistance deemed appropriate..

## 2.2 TRIAGE

Simple triage is usually used at the scene of an accident or “mass-casualty incident” (MCI), in order to sort patients into those who need critical attention and immediate transport to hospital and those with less serious injuries.

This step can be started before transportation becomes available.

Upon completion of the initial assessment by medical or paramedical personnel, each patient may be labelled in order to identify the patient, display assessment findings, and identify the priority of the patient’s need for medical treatment and transport from the emergency scene.

At its most primitive, patients may be simply marked with colour flagging tape or with marker pens. Pre-printed cards for this purpose are known as a triage tag.

The four colors of triage:

|               |           |                                  |
|---------------|-----------|----------------------------------|
| <b>Black</b>  | Expectant | Pain medication only until death |
| <b>Red</b>    | Immediate | Life threatening injuries        |
| <b>Yellow</b> | Delayed   | Non-life threatening injuries    |
| <b>Green</b>  | Minimal   | Minor injuries                   |



| RED TAG                     | YELLOW TAG                   | GREEN TAG               | BLACK TAG           |
|-----------------------------|------------------------------|-------------------------|---------------------|
| Asphyxia                    | Patients in coma             | Fracture of a long bone | Deceased casualties |
| Major bleeding with shock   | Respiratory control problems | Muscular injury         | Fatal injuries      |
| Penetrating wound in thorax | Wounds in thorax             | Contusions              | Multi organ failure |
| Cardiopulmonary arrest      | Brain injury                 | Minor burns             |                     |

### 3 FIRST-AID KIT

Businesses with more than 50 workers or, a business where the labour authority has determined that work activities involve high hazards, must have a first-aid room.

All businesses must have a first-aid box in the workplace. The decision on what to provide will be influenced by the findings of the first-aid needs assessment.



What should a first-aid box in the workplace contain?

As a guide, where work activities involve low hazards, a minimum stock of first-aid items might be:



|                    |   |
|--------------------|---|
| Basic equipment    | <ul style="list-style-type: none"> <li>• Scissors &amp; tweezers</li> </ul>   |
| Dressing material  | <ul style="list-style-type: none"> <li>• 20 individually wrapped sterile plasters (assorted sizes) in individual bags</li> <li>• 6 sterile eye pads</li> <li>• 6 individually wrapped triangular bandages, preferably sterile</li> <li>• Large and small sterile gauze in individual bags</li> <li>• Cotton wool, adhesive tape and bandages</li> </ul> |
| Auxiliary material | <ul style="list-style-type: none"> <li>• Disposable gloves</li> <li>• Thermal insulator blanket</li> <li>• Cardiopulmonary resuscitation face-mask</li> </ul>   |
| Other items        | <ul style="list-style-type: none"> <li>• Synthetic ice packs</li> <li>• Water or saline solution</li> <li>• Alcohol-based cleaning pads</li> <li>• Waste bags for used and contaminated material</li> </ul>   |

This is only a suggested contents list.

Other items that may be important include: antihistamines, painkillers and anti-inflammatory medications.

A good First-Aid Kit should be checked and restocked periodically.

# 4

## BASIC LIFE SUPPORT



Basic life support (BLS) is the level of medical care which is used for victims of life-threatening illnesses or injuries until they can be given full medical care at a hospital.

When a person experiences cardiac arrest - whether due to heart failure in adults and the elderly or an injury such as near drowning, electrocution or severe trauma in a child - the heart goes from a normal beat to an arrhythmic pattern called ventricular fibrillation, and eventually ceases to beat altogether.

This prevents oxygen from circulating throughout the body, rapidly killing cells and tissue. In essence, **Cardio** (heart) **Pulmonary** (lung) **Resuscitation** (revive, revitalize) serves as an artificial heartbeat and an artificial respirator.



### CPR TIMELINE

0-4 mins. brain damage unlikely

4-6 mins. brain damage possible

6-10 mins. brain damage probable

over 10 mins. probable brain death

It is during those critical minutes that CPR can provide oxygenated blood to the victim's brain and the heart, dramatically increasing his chance of survival.

Let's begin by emphasizing the very first step of Basic Life Support

It is critical to remember that dialing 112 may be the most important step you can take to save a life.



### Provide operator with:

- 1 Your location
- 2 Your phone number
- 3 Type of emergency
- 4 Victim's condition





If someone besides you is present, they should dial 112 immediately. If you're alone with the victim, try to call for help **prior to starting CPR on an adult and after a minute on a child**. Before we learn what to do in an emergency, we must first emphasize what not to do:

- DO NOT leave the victim alone.
- DO NOT try make the victim drink water.
- DO NOT throw water on the victim's face.
- DO NOT prompt the victim into a sitting position.
- DO NOT try to revive the victim by slapping their face.

## ADULT CPR



Always remember to exercise solid common sense!

When faced with an emergency situation we may act impulsively and place ourselves in harm's way. Although time should not be wasted, only approach the victim after determining that the scene is safe: **always check for any potential hazards before** attempting to perform CPR.

Before you start any rescue efforts, you must remember to check the victim for **responsiveness**.

If you suspect that the victim has sustained spinal or neck injury, do not move or shake him. Otherwise, shake the victim gently and shout "Are you okay?" to see if there is any response. If the victim is someone you know, call out his name as you shake him. If there is no response, immediately dial 112 and check the victim for **circulation**.

## CIRCULATION



Carotid artery

**"C"** is for CIRCULATION. In order to determine if the victim's heart is beating, place two fingertips on his carotid artery, located in the depression between the windpipe and the neck muscles, and apply slight pressure for several seconds.

If there is no pulse then the victim's heart is not beating, and you will have to perform chest **compressions**.

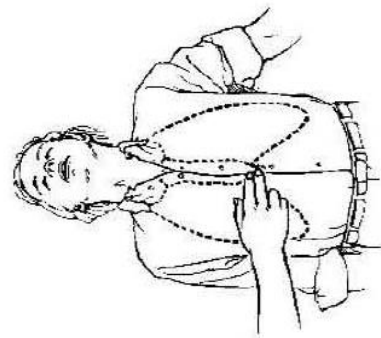
## COMPRESSIONS

When performing chest compressions, proper hand placement is very important. To locate the correct hand position place two fingers at the sternum (the spot where the lower ribs meet) then put the heel of your other hand next to your fingers (Figure 1).

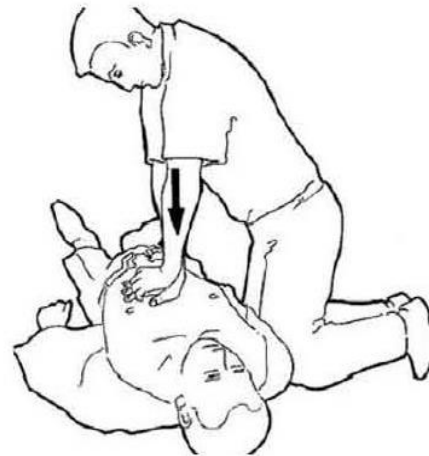
Place one hand on top of the other and interlace the fingers (Figure 2). Lock your elbows and using your body's weight, compress the victim's chest. The depth of compressions should be at least 5,08 cm. Remember: **2 hands, 5.08 cm** (Figure 3).

Count aloud as you compress 30 times at the rate of about 3 compressions for every 2 seconds or approximately **100 compressions per minute**.

Chest compressions will supply blood flow to the heart and the brain but if victim remains unresponsive you will need to check their **airway**.



1. Locate sternum



2. Proper hand placement

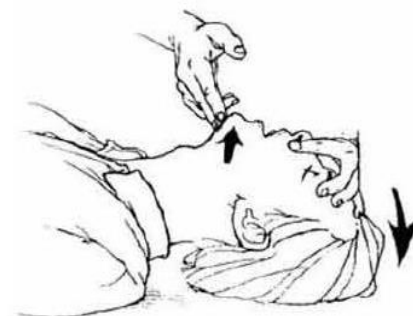


3. Two hands, 5.08 cm

## AIRWAY

**"A"** is for AIRWAY. If the victim is unconscious and is unresponsive, you need to make sure that his airway is clear of any obstructions. If you determine that the victim is not breathing, then something may be blocking his air passage. The tongue is the most common airway obstruction in an unconscious person.

With the victim lying flat on his back, place your hand on his forehead and your other hand under the tip of the chin (Figure 1). Gently tilt the victim's head backward.



1. Tilt head





2. Open airway

In this position the weight of the tongue will force it to shift away from the back of the throat, opening the airway (Figure 2).

If the person is still not breathing on his own after the airway has been cleared, you will have to assist him **breathing**.

## BREATHING

*Note: you may skip this step if performing "compression only" CPR.*

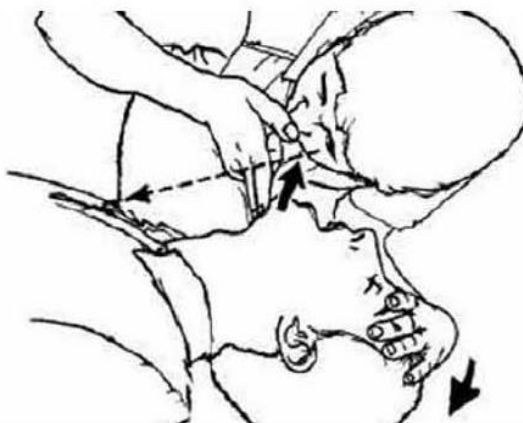
**"B"** is for BREATHING. With the victim's airway clear of any obstructions, gently support his chin so as to keep it lifted up and the head tilted back. Pinch his nose with your fingertips to prevent air from escaping once you begin to ventilate and place your mouth over the victim's, creating a tight seal (Figure 1).

As you assist the person in breathing, keep an eye on his chest. Try not to over-inflate the victim's lungs as this may force air into the stomach, causing him to vomit. If this happens, turn the person's head to the side and sweep any obstructions out of the mouth before proceeding.

Give **two** full breaths. Between each breath allow the victim's lungs to relax - place your ear near his mouth and listen for air to escape and watch the chest fall as the victim exhales (Figure 2).



1. Give two breaths



2. Let victim exhale



## ADULT CPR QUIZ

**YOU SHOULD CHECK THE VICTIM FOR RESPONSIVENESS BY:**

- ☐ Using smelling salts.
- ☐ Shaking him and shouting, "Are you okay?"
- ☐ Pouring cold water on his face.
- ☐ All of the above.

**IF THE VICTIM REMAINS UNRESPONSIVE, YOU SHOULD:**

- ☐ Dial 1-1-2 before starting CPR.
- ☐ Start CPR before dialing 1-1-2.
- ☐ Wait to see if the victim regains consciousness.
- ☐ None of the above.

**TO CHECK IF THE VICTIM IS BREATHING, YOU SHOULD:**

- ☐ Listen for exhaled air.
- ☐ Watch for his chest to rise and fall.
- ☐ Feel for exhaled air.
- ☐ All of the above.

**THE MOST COMMON AIRWAY OBSTRUCTION IS:**

- ☐ Dentures.
- ☐ Food.
- ☐ The tongue.
- ☐ None of the above.

**THE TECHNIQUE USED TO CLEAR THE VICTIM'S AIRWAY IS:**

- ☐ Lift chin up, tilt head back.
- ☐ Push chin down, tilt head forward.
- ☐ Lift chin up, turn head sideways.
- ☐ None of the above.

**CHECK FOR CIRCULATION BY FEELING FOR PULSE AT THE:**

- ☐ Jugular vein.
- ☐ Heart.
- ☐ Carotid artery.
- ☐ None of the above.

**WHEN ASSISTING THE VICTIM WITH BREATHING:**

- ☐ Pinch the victim's nose closed.
- ☐ Do not over-inflate the victim's lungs.
- ☐ Allow the victim exhale on his own.
- ☐ All of the above.

**WHEN ADMINISTERING CHEST COMPRESSIONS:**

- ☐ Position your hands on the sternum.
- ☐ Give 2 breaths after 30 compressions.
- ☐ Apply the "2 hands, 5.08 cm rule."
- ☐ All of the above.

In 2010, the **American Heart Association** and **International Liaison Committee on Resuscitation** updated their CPR guidelines.

The importance of high quality CPR (sufficient rate and depth without excessively ventilating) was emphasized.

The order of interventions was changed for all age groups except newborns from airway, breathing, chest compressions (ABC) to chest compressions, airway, breathing (CAB). An exception to this recommendation is for those believed to be in a respiratory arrest (drowning, etc.).

The most important aspects of CPR are: **few interruptions of chest compressions, a sufficient speed and depth of compressions, completely relaxing pressure between compressions, and not ventilating too much.**

[www.mayoclinic.org/first-aid/first-aid-cpr/basics/art-20056600](http://www.mayoclinic.org/first-aid/first-aid-cpr/basics/art-20056600)

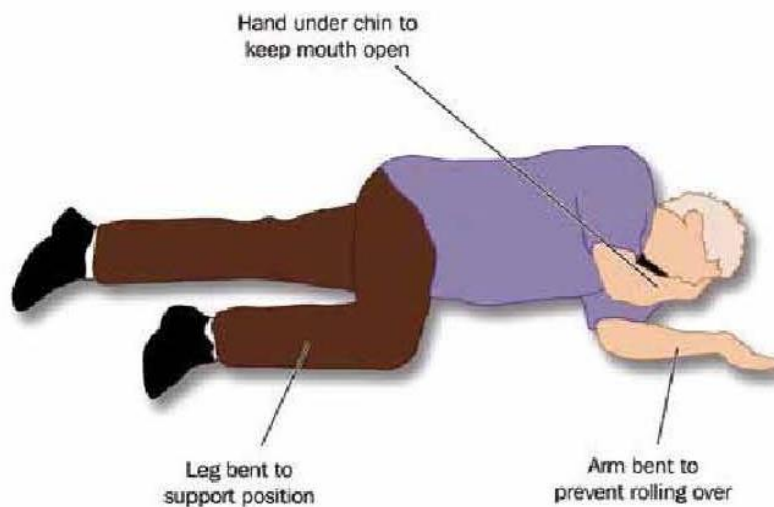
[www.firstaidweb.com/adult1.php](http://www.firstaidweb.com/adult1.php)

#### CPR REVIEW

|                                 | <b>ADULT</b><br>(over the age of approximately 10 to 14 years) | <b>CHILD</b><br>(from about 1 to about 10 or 14 years of age) | <b>INFANT</b><br>(under the age of 12 months except for newborns) |
|---------------------------------|--|---|---|
| <b>Check For Responsiveness</b> | By shaking and shouting  | By shaking and shouting                                       | By patting feet and chest   |
| <b>Dial 1 1 2</b>               | If unresponsive  | After 1 to 2 minutes of CPR                                   | After 1 to 2 minutes of CPR                                       |
| <b>Pulse Location</b>           | Carotid artery (neck)  | Carotid artery (neck)   | Brachial artery (arm)   |
| <b>Circulation</b>              | 2 hands, at least 5.08 cm; 30 compressions                     | 1 hand, about 5.08 cm; 30 compressions                        | 2 fingers, ½ chest depth; 30 compressions                         |
| <b>Airway</b>                   | Lift the neck and tilt the head back                           | Lift the neck and tilt the head back                          | Slightly tilt the head into "sniffer's position"                  |
| <b>Breathing</b>                | Pinch the nose; give 2 breaths                                 | Pinch the nose; give 2 breaths                                | Mouth over mouth & nose; give 2 gentle puffs                      |



So, the priorities when dealing with a casualty can be remembered as **CAB**.



### THE RECOVERY POSITION

If a person is **unconscious but is breathing** and has no other life-threatening conditions, they should be placed in the recovery position.

Putting someone in the recovery position will ensure their airway remains clear and open. It also ensures that any vomit or fluid will not cause them to choke.

#### To place someone in the recovery position:

- Roll a person on their side with their arms and upper leg at right angles to the body to support them.
- Tuck their upper hand under the side of their head so that their head is on the back of the hand.
- Open their airway by tilting the head back and lifting the chin.
- Monitor their breathing continuously.
- If their injuries allow you to, turn the person onto their other side after 30 minutes.

## EXAMPLE 2



A male worker in a company suffered an electric shock while repairing broken machinery. After switching off the power supply and calling 112 for an ambulance, his workmates checked his vital signs. Once assessed, the casualty appeared unresponsive, not responding to any stimulus or to any voice, so his workmates started giving mouth-to-mouth resuscitation.

Is this course of action correct?

#### Solution:

No it is not correct. After confirming that the casualty is unconscious and is unresponsive it is necessary to check him for **circulation**. If there is no pulse then the victim's heart is not beating, and his workmates will have to perform chest compressions.

If the casualty remains unresponsive his workmates will need to check his **airway**. After making sure that his airway is clear of any obstructions and if he is still not breathing his workmates will have to assist him **breathing**.



### EXAMPLE 3

A worker doing formwork tasks on a construction site was buried by a landslide. Once the worker was rescued it was deemed that the worker was unconscious and was not breathing. A workmate who had been trained in first-aid employed CPR. Can you explain how this technique must be carried out?

#### Solution:

First, lay the casualty gently on their back over a hard surface.

Secondly, the workmate must place their hands on the centre of the casualty's chest and, with the heel of the hand; he must press down by 5-6 cm at a steady rate, up to two compressions a second.

After every 30 chest compressions, two breaths must be given.

For the rescue breaths, the workmate must tilt the casualty's head gently and lift the chin up with two fingers. Pinch the victim's nose. The workmate must immediately seal their mouth over the casualty's mouth and blow steadily and firmly into it. Check that their chest rises. Give two rescue breaths, each lasting one second.

Continue with cycles of 30 chest compressions and two rescue breaths until they begin breathing or emergency help arrives

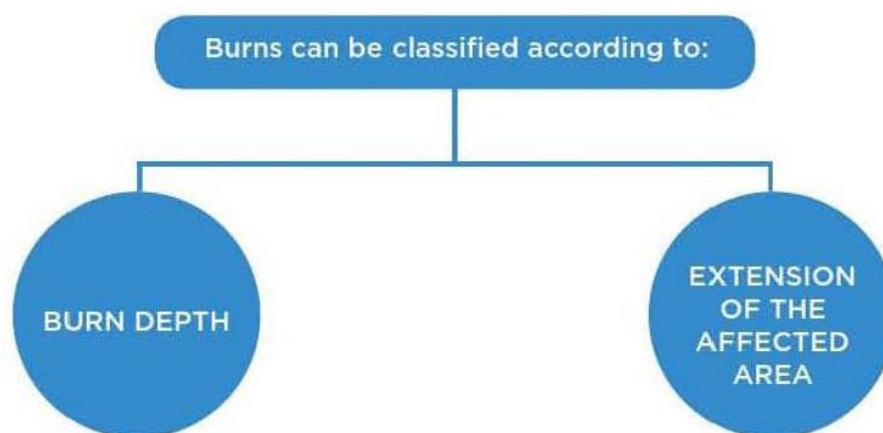
## 5

## FIRST AID TECHNIQUES IN RESPONSE TO THE MOST COMMON ACCIDENTS

### 5.1 BURNS AND SCALDS

A burn is the coagulative destruction of the skin or mucous membrane caused by heat, a chemical or irradiation.

Thermal damage occurs above 48 °C.



## BURN DEPTH

The skin's ability to repair depends on the depth of the burn.

### Burns can be classified as

#### First degree (superficial burns)

- Only epidermis is involved.
- Burn is painful and sensitive.
- Redness of the skin.

#### Second degree (partial thickness burns)

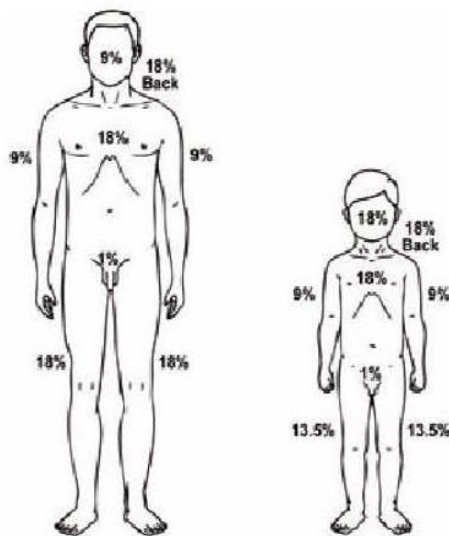
- Epidermis is lost with varying degrees of dermis.
- Results in red serum filled blisters
- Variable degrees of reduced sensation may be present.

#### Third degree (full-thickness burns)

- Both epidermis and dermis are destroyed.
- Destruction of muscles and blood vessels.
- Skin is very dry and appears brown in colour.
- Sensation is absent.

## EXTENSION OF THE AFFECTED AREA

**Wallace's Rule of Nines** is a way of approximating the area of skin affected by burns. It divides the body into areas divisible by nine.



Used for the assessment of surface area in burns. In adults:

- head and neck, 9%;
- arm, 9%;
- trunk anterior, 18%;
- back and buttocks, 18%;
- each leg, 18% (back of leg 9% and front 9%);
- genitalia, 1%;

**According to Wallace's Rule of Nines there are different types of burns:**

#### Mild burn

The extension of the affected area is less than 10% and the depth is no more than a second degree burn.

#### Severe burn

The extension affected is between 10%-30% of the body, no matter what the depth is. Burns to the hands, feet, face, eyes and genitals are considered severe in any case.



### Very severe burn (serious)

The extension affected is between 30%-50% of the body.

### Fatal burns

The extension affected is more than 50% of the body.



#### In the event of a burn or scald:

- Cool the burn as quickly as possible with cold (but not ice-cold) running water for a minimum of 10 minutes or until the pain is relieved.
- Call 112 or seek medical help if necessary.
- While cooling the burn, carefully remove any clothing or jewellery, unless it is attached to the skin.
- Keep the person warm using a blanket or layers of clothing (avoiding the injured area) to prevent hypothermia. This is a risk if you are cooling a large burnt area, particularly in babies, children and elderly people.
- Cover the burn lengthways with strips of cling film or a clean plastic bag if the burn is on a hand or foot. If plastic film is not available, use a sterile dressing or non-fluffy material.
- Do not put creams, lotions or sprays on the burn.
- If appropriate, raise the limb to reduce the swelling and offer pain relief.



#### For chemical burns:

- Wear protective gloves, remove any clothing affected. If the chemical is a powder, brush the chemical off the skin and rinse the burn with cold running water for a minimum of 20 minutes.
- If possible, determine what has caused the injury.
- Be careful not to injure yourself, and wear protective clothing if necessary. Call 112 and arrange immediate medical attention.

## 5.2 BLEEDING

Bleeding is the escape of blood from an injured vessel, due to a cut, injury, etc.

### BLEEDING MAY OCCUR:

- Inside the body when blood leaks from blood vessels or organs (**internally**).
- Outside the body when blood flows through a natural opening (such as the vagina, mouth, or rectum) or when blood moves through a break in the skin (**externally**).

What are the three types of bleeding?

- 1 **Arterial**- Blood is bright red and will spurt with each heart beat.
- 2 **Venous**- Blood is dark red and flows in a steady stream.
- 3 **Capillary**- Blood oozes from the wound.



If someone has **severe bleeding**, the main aim is to prevent further loss of blood and minimise the effects of shock.

- 1 First, dial 112 and ask for an ambulance as soon as possible.

If you have disposable gloves, then use them to reduce the risk of any infection being passed on.

- 2 Second, check that there is nothing embedded in the wound.

#### IF THERE IS SOMETHING EMBEDDED:

- Take care not to press down on the object. Instead, press firmly on either side of the object and build up padding around it before bandaging to avoid putting pressure on the object itself.

#### IF THERE IS NOTHING EMBEDDED:

- Apply and maintain pressure to the wound with your hand, using a clean pad if possible.
- Use a clean dressing to bandage the wound firmly.
- If the wound is on a limb and there are no fractures, raise the limb to decrease the flow of blood.

Always seek medical help for the bleeding unless it is minor.

#### TO STOP A NOSEBLEED:

- Sit down and firmly pinch the soft part of the nasal cavity, just above your nostrils, for 10 minutes.
- Lean forward and breathe through your mouth; this will drain blood down your nose instead of down the back of your throat.

If someone has a nosebleed that has not stopped after 20 minutes, go to the nearest hospital's accident and emergency department.



#### DO NOT apply a tourniquet to control bleeding,

except as a last resort. Doing so may cause more harm than good. A tourniquet should be used only in a life-threatening situation and should be applied by an experienced person.

## 5.3 BONE FRACTURES

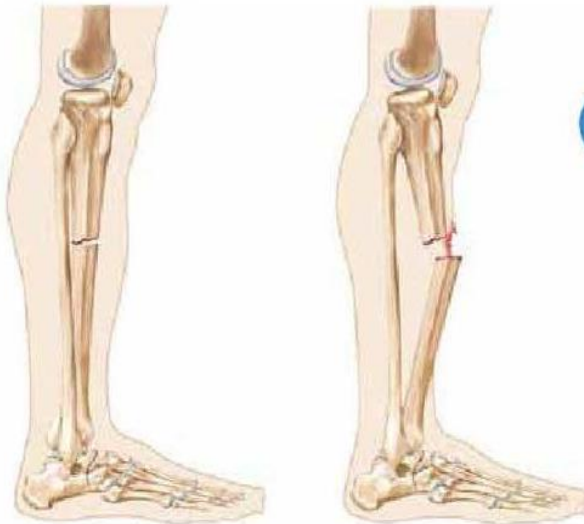
A bone fracture is a medical condition in which there is a break in the continuity of the bone.

All fractures can be broadly described as:

**CLOSED (SIMPLE) FRACTURES**  
are those in which the skin is intact.

**OPEN (COMPOUND) FRACTURES**  
involves wounds that communicate with the fracture, or where a fracture haematoma is exposed, and thus, may expose bone to contamination. Open injuries carry a higher risk of infection.





The symptoms of a fracture depend on the particular bone and the severity of the injury, but may include:

- Pain
- Swelling
- Bruising
- Deformity
- Inability to use the limb



If you suspect a bone fracture, you should:

- Keep the person still – do not move them unless there is an immediate danger, especially if you suspect a fracture of the skull, spine, ribs, pelvis or upper leg.
- Attend to any bleeding wounds first.
- Never try to straighten broken bones.
- For a limb fracture, provide support and comfort such as a pillow under the lower leg or forearm. However, do not cause further pain or unnecessary movement of the broken bone.
- Apply a splint to support the limb. Splints do not have to be professionally manufactured. Items like wooden boards and folded magazines can work for some fractures. You should immobilise the limb above and below the fracture.
- Use a sling to support an arm or collarbone fracture.
- Raise the fractured area if possible and apply a cold pack to reduce swelling and pain.
- Stop the person from eating or drinking anything until they are seen by a doctor, in case they will need surgery.

## 5.4 SPRAINS

A sprain occurs when the ligaments around a joint are overstretched or torn. This is often due to a sudden wrench or twist which causes the bones of a joint to separate unduly. Sprains of the ankle, knee and wrists are common.



The symptoms of a sprain are:

- Intense pain
- Deformity of the area
- Bruising or redness of joint area
- Difficulty moving





When treating a sprain, immobilise the area and apply ice.

## 5.4 LUXATIONS

A joint dislocation or luxation occurs when there is an abnormal separation in the joint, where two or more bones meet.



**The following symptoms are common with any type of dislocation:**

- Intense pain
- Joint instability
- Deformity of the joint area
- Reduced muscle strength
- Bruising or redness of joint area
- Difficulty moving joint

A dislocated joint usually can only be successfully 'reduced' into its normal position by a trained medical professional.

Trying to reduce a joint without any training could result in making the injury substantially worse.



Immobilize the affected area and wait for a trained professional.

## 5.6 CHOKING

Choking is a partial or total obstruction of the airway.



**If the airway is only partially blocked:**

the person will usually be able to speak, cry, cough or breathe. In situations like this, a person will usually be able to clear the blockage themselves.



**If the choking is mild:**

- Encourage the person to continue coughing to try to clear the blockage.
- Remove any obvious obstruction from the mouth using your first two fingers and thumb



**If the obstruction is severe and the person is struggling to breathe:**

- Give up to five back blows (between the shoulder blades) upwards, using the heel of your hand.
- Carefully check the mouth and, if possible, remove any obstruction after every blow.
- If this does not clear the obstruction, perform abdominal thrusts (Heimlich maneuver) by following the steps below. This technique should not be used on babies under one year old, pregnant women or people who are obese.



#### HEIMLICH MANEUVER

- Stand behind the person who is choking.
- Place your arms around their waist and bend them forward.
- Clench one fist and place it just above the person's belly button and below the breast-bone.
- Place your other hand on top, then pull sharply inwards and upwards.
- Repeat this up to five times until the object stuck in their throat comes out of their mouth. Then alternate between five back blows and five abdominal thrusts until the blockage is dislodged. This is called "5 and 5 method".

## 5.7 WOUND

A wound is a type of injury in which skin is torn, cut, or punctured (an open wound).



#### Treatment of a wound involves:

- Cleaning hands with soap and water
- Applying an antiseptic
- Cleaning the wound with a sterilized gauze pad

## 5.8 LOSS OF CONSCIOUSNESS

**FAINTING** is a brief loss of consciousness due to a drop in blood flow to the brain. The episode lasts less than a couple of minutes and you recover from it quickly and completely. The medical name for fainting is syncope.



#### You can take immediate treatment steps when someone has fainted:

- Check the person's airway and breathing. If necessary, call 112 and begin rescue breathing and CPR.
- Loosen tight clothing around the neck.
- Raise the person's feet above the level of the heart (about 30 cm).
- If the person has vomited, turn onto his or her side to prevent choking.
- Keep the person lying down for at least 10 to 15 minutes, preferably in a cool and quiet space. If this is not possible, sit the person forward with their head between their knees.

**EPILEPSY** is a brain disorder that causes people to have recurring seizures. The seizures happen when clusters of nerve cells, or neurons, in the brain send out the wrong signals. They may have violent muscle spasms or lose consciousness. The tongue may be bitten at either the tip or on the sides during a seizure.





#### The action protocol in case of epilepsy is:

- Keep the patient away from any hazardous objects.
- To slide a blanket or a cloth under the patient to cushion their body from hits.
- Place a piece of wood between the teeth to prevent the person from biting their tongue.

## 6

### TRANSPORT OF CASUALTIES

When dealing with a wounded or unconscious person, it is crucial to examine them in the same place where they were found, **without moving or transporting the victim** until first aid care has been provided. Otherwise, there is a risk of aggravating the situation and causing new wounds.

Only in extreme situations (fire, electrocution, asphyxia, flooding, etc.) should the victim be transported, with the maximum care, to the closest place where first aid can be provided.

When transporting the patient, or the accident victim, take into account that the body should be moved as little as possible.

#### TRANSPORT WITHOUT STRETCHER

This is required when the accident victim must be moved quickly away from the place where he/she is, or when it is not possible to reach the scene with a stretcher.

##### 1 Transport of an accident victim with a single assistant



For the initial transport (unless other resources are available) turn the victim backwards, tying their wrists together with a handkerchief or cloth.

The lifeguard should kneel astride the victim, and place his head under the tied wrists. He should then creep forward, sliding the accident victim across the floor.

Creeping method

The evacuation may also be done on the back of the lifeguard or carrying the victim on his shoulders.



Fireman method



## 2 Transport of an accident victim with several assistants



When there are two or more lifeguards, they should make a settee with two hands, carrying the victim on it.

Each lifeguard holds the accident victim with an arm under the thighs, holding each other's wrists; the other pair of hands will provide support for the back. The «three hand settee» may also be used.

Two hand settee



Three hand settee



A chair may be used as a stretcher in case of emergency. The victim may also be transported in a similar position without the chair.

Transport with chair

**All these methods will be used only when there is no suspicion of a lesion in the spinal column** (unless there is a life threatening situation).

## FOR THE TRANSPORT OF AN INJURED PATIENT ON A STRETCHER

The following rules must be taken into account:

- 1 **Carry the stretcher to the place where the accident victim is**, and not vice versa.
- 2 **Place the injured victim with paramount care**, always respecting the block (head-neck-trunk-legs):



Place the stretcher on the floor. Lift the victim as smoothly as possible until he/she is placed on it. The "bridge method" may be used).

Bridge method.

## IMPROVISED STRETCHERS

May be used when other resources are not available: using a door, ironing board or a wide wooden board; a hand ladder; two paddles held together with ropes, blankets or clothes with long sleeves, etc.