FIRST AID:

**First AID-** is the initial care or treatment given to a person in case of sudden illness/ injury before he/she is taken to hospital.

**AIMS OF FIRST AID**

1. To safe life
2. To prevent a condition from worsening
3. To promote recovery

**First Aider**- is someone who has been trained and satisfied by an international recognized institution e.g.

* St. johns ambulance
* Red cross

**QUALITIES OF A GOOD AIDER**

1. Must be obedient

2. Must be resourceful

3. Must be empathetic

4. Must appear neat and smart

5. Must be disciplined

6. Must have a good communication skills

6. Must always use common sense

7. Must be calm but firm.

**Responsibilities of a good first Aider**

* To access all the casualties and give appropriate care starting from the most critically injured
* To sermon help immediately from other people
* To prevent cross infection between himself and the casualties.
* To arrange for urgent removal to the hospital for those casualties who have been critically injured
* To prevent casualties and others from possible dangers.
* To take care of casualty’s belongings and items

**SCENE MANAGEMENT**

**Scene-** a place where an accident has occurred

1. You must approach the scene with a lot of authority and firmness
2. Observe the five points of action plan which is

**A**ssess the situation first to ensure safety

**M**ake the area safe for you and the casualty

**E**mergency Aid

**G**et help from other

**A**ftermath

1. Remove the branches used on the road
2. Refer a casualty to the hospital
3. Write a report

**Reasons for putting patients to a recovery position**

1. Prevents the casualty from inhaling the gastric content incase of vomiting.
2. It is easy for the drainage of saliva and other fluids in the mouth
3. It maintains the airway
4. It is a comfortable position for the casualty.

**RESUSCITATION**

It means to restore, revive or bring back to life.

**OXYGEN**

For life to continue, the body requires adequate supply of oxygen to enter the lungs and body tissues.

If the brain does not get oxygen, it will die after 3 to 4 minutes.

**Composition of Air**

* Air is a mixture of gases of which 79% is Nitrogen and 21% is Oxygen.
* Only 5% of oxygen is used up by respiration and so the air that we breathe out contains 16% of oxygen and small amounts of CO2
* This means that the air that we breathe out is enough to oxygenate another person during mouth to mouth breathing.

**Elements of getting oxygen into the brain**

1. Airway must be open
2. Breathing must take place
3. Circulation must take place

**Chain of survival**

1. Early access
2. Early CPR- if oxygenated blood is restored, the brain by means of chest compression and artificial ventilation.
3. Early defibrillation- if a defibrillator machine is used in time
4. Early advanced care- if the casualty is taken immediately to the hospital for advanced care.

**Cardio Pulmonary Resuscitation (CPR)**

* It is the sequence of techniques used to sustain life in the absence of the spontaneous breathing and heartbeat.
* It is achieved by performing 30 chest compressions at a rate of 100 per minute alternating with 2 artificial ventilations.

**CIRCULATION DISODERS**

* The heart and blood vessels forms the circulatory system.
* The blood runs round the body constantly pumped by the rhythmic contraction and relaxation of the heart muscle.
* The force exerted by the flow of blood along the blood vessels is called **Blood Pressure.**
* The force varies with the strength of the heart, the elasticity of arterial walls, volume and thickness of blood.

1. **SHOCK**

* Occurs when the circulatory system fails to supply adequate blood to the vital organs e.g. brain
* If shock is not managed in due time, the vital organs will fail and death will result.

**Causes of shock**

* Heart failure
* Severe bleeding
* Loss of plasma in severe burns
* Loss of body fluids e.g. through vomiting
* Severe infection
* Emotional stress/bad news.
* Injuries to the spine.

**Signs of shock**

* Rapid weak pulse
* Sweating and cold extremities
* Cold dummy skin
* Thirsty
* Weakness and giddiness
* May loss consciousness
* Confusion

**Management of shock**

1. Lay the casual down on a blanket keeping his head low
2. Observe DRABC
3. Re assure the casualty
4. Treat the obvious causes of shock
5. Loosen the tight clothing
6. Raise and support the legs to improve blood supply to the brain
7. Cover the casualty with a blanket to combat shock
8. Check breathing, pulse, level of response and be prepared to resuscitate if necessary
9. **FAINTING**

* A brief loss of consciousness that is caused by a temporary deduction of oxygen supply to the brain
* Unlike shock, the pulse become slow and recovery for fainting is usually rapid and complete

**Causes of fainting**

1. A fright
2. A horrifying sight
3. Emotional stress
4. Exhaustion or lack of food
5. Severe pain
6. Standard still in a warm atmosphere. It causes the blood to pool the lower part of the body leaving less oxygen going to the brain.

**Signs of fainting**

* Slow pulse
* Sweating and cold skin
* Weakness and dizziness
* Cold cramming skin.
* Sudden loss of consciousness and casualty falls down.

**Management of fainting**

1. Support the casualty to ease falling
2. Lay the casualty on the ground keeping his/her head low.
3. Reassure the casualty
4. Make sure the casualty has plenty fresh air e.g. open nearby windows and do mechanical fanning
5. Raise and support the legs to improve oxygen supply to the brain
6. Check breathing, pulse and level of response
7. Help the casualty to sit up gradually
8. **ANAPHYLACTIC SHOCK**

* It is a major allergic reaction which occurs to some individuals within minutes.
* It is a fatal condition which if not managed may cause death

**Causes**

* Injection of a specific drug e.g. penicillin
* A sting of an insect e.g. bee or wasp
* Eating a particular food e.g. peanut
* In allergic reaction the body produces chemical substances which dilate the blood vessels and constrict the air passages
* The oxygen reaching the vital organs is severely reduced and the blood pressure drops immediately

**Signs**

* Rapid weak pulse
* Blotchy red skin
* Difficulty in breathing
* Itching
* Skin patches
* Anxiety
* Confusion
* Weakness and giddiness.

**TREATMENT**

1. A casualtywith anaphylactic shock need oxygen urgently and a life saving injection of adrenaline.
2. Reassure the casualty
3. Put the casualty in a sitting up position to reduce breathing difficulty
4. Check breathing, pulse, level of response and be prepared to resuscitate if necessary
5. Arrange for urgent removal to the hospital

**THE HEART**

* A specialized pump which beats throughout our lives in a smooth way coordinated by a central nervous system.
* The heart muscle which is the myocardium has its own blood supply provided by the coronary artery
* These arteries may be narrowed or blocked and prevent the blood from reaching the heart

1. **ANGINA PECTORIS**

* The term describes the pain that the person experiences on the chest when the narrow coronary are unable to deliver sufficient blood to the heart muscles.
* Over exertion or excitement bring on the pain which spreads the left jaw, shoulder and down to the arm.

**Signs of Angina Pectoris**

* Chest pain spreading to the left jaw, shoulder and down the arm
* Rapid weak pulse
* Blueness of the lips
* Shortness of breath
* Weakness, anxiety and dizziness
* Blue pale skin.
* Pain which stops when the casualty is at rest.

**NB- The pain stops when the person is at rest**

**MANAGEMENT**

Aims:

1. To reduce the strain on the heart.
2. Re-assure the casualty.
3. Arrange for removal to hospital if necessary.
4. Encourage the casualty to rest, to reduce the work of the heart
5. Reassure the casualty
6. Keep away by standers
7. If the casualty has medicine, assist him/ her to take.
8. Put the casualty in the most comfortable position (sitting up position) to release strain of the heart, the pain will stop after a few minutes. If the pain persist, suspect heart attack
9. **HEART ATTACK**

* It occurs when blood supply to the part of the heart muscle is suddenly obstructed e.g. by the blood clot in one of the coronary arteries (coronary thrombosis)

**Signs of heart attack**

* Chest pain spreading to the left jaw, shoulder and down the arm
* Rapid weak pulse which may stop.
* Pain in the upper abdomen as indigestion
* Breathlessness
* Cyanosis- lack of enough oxygen in the blood
* Blueness of the lips
* Anxiety
* Weakness and faintness
* A sense of impending doom

**Management**

**Aims:**

* Reduce the work of heart.
* Arrange for urgent removal to hospital.
* Reassure the casualty
* Encourage the casualty to rest to reduce the work of the heart
* Put the casualty in the most comfortable position- half sitting position with the casualty his head and shoulder well supported & his/ her knees bend.
* Check breathing, pulse and level of response & prepare to resuscitate if necessary
* Arrange for urgent removal to the hospital
* Give one tablet of aspirin to chew slowly while waiting for the ambulance (this tries to dissolve the blood clot).

**CARDIAC ARREST**

Stoppage of the heart

**Causes of cardiac arrest**

1. Heart attack
2. Severe blood loss
3. Poisoning
4. Anaphylactic shock
5. Drug overdose
6. Heart failure
7. Severe shock
8. Hypothermia- Excessive cold throughout the normal temp.

**Signs**

* Absence of pulse
* Absence of breathing

**Management**

* Arrange for urgent removal to hospital
* Attempt CPR

**SEVERE EXTERNALBLEEDING**

* It is dangerous because the casualty may lose a lot of blood and make the heart to stop.

**Management**

* Reassure the casualty.
* Remove off or cut the clothing to expose the site of injury
* Put on disposable gloves
* Apply a clean dress on a wound then apply pressure using palm and fingers of your hand
* Lay the casualty down on the ground
* Secure the dressing with a bandage or strapping
* Raise the injured part above the level of heart to reduce bleeding.
* Check for the signs of shock and treat accordingly
* Check circulation beyond the dressing

**NB:** If blood comes from the dressing, apply another dressing on top of it

If blood still comes, remove all the dressings and apply another afresh.

**INTERNAL BLEEDING**

This is the bleeding within body cavities

**Causes**

1. RTAs- Road Traffic Accidents
2. Bleeding ulcers
3. Rapture of the main arteries
4. Penetrating injuries e.g. bullets
5. A fall from a height
6. Head injuries
7. Fracture skull
8. Post operative bleeding

**Signs**

* Rapid weak pulse.
* Swelling.
* Abdominal distention
* Bleeding of openings
* Blueness of the lips
* Pale blue skin.
* Sweating and cold skin.
* Cold dummy skin.
* Weakness and giddiness.
* Anxiety.
* Unconsciousness.

**Management**

* Treat as for shock
* Arrange for urgent removal to hospital
* Do not give anything by mouth- because the casualty may be taken to theatre

**NOSE BLEEDING**

* Bleeding from the nostrils
* Happens when the tiny vessels in the nostrils raptures

**Causes**

* A blow on the face.
* Change of atmospheric pressure
* Infection e.g. common cold
* Persistence sneezing
* HBP

**Management**

* Reassure the casualty
* Let the casualty sit and slightly bend the head forward
* Apply pressure by pitching the soft part of the nose for 10 minutes
* Advice the casualty not to cough, swallow, talk and sneeze
* Advice the casualty to breathe through the mouth.
* Remove the pressure after 10 minutes and check whether there is still nose bleeding
* In case it persist, apply pressure for further 10 minutes
* If it stops, clean the area with warm water using a clean handkerchief
* In case it persist, refer the casualty to the hospital

**BURNS**

**Causes**

1. Hot liquids
2. Hot metals
3. Steam
4. Chemicals
5. Electricals
6. Sun
7. Naked fire
8. Extreme cold

**Classification of Burns:**

1. Superficial Burns: - involves the outermost layer of the skin i.e. Epidermis.
2. Partial Thickness: - involves epidermis and part of the dermis. Skin is red and blistered.
3. Full Thickness Burns: -involves all skin layers damaged; structures underneath are also damaged e.g. muscles, blood vessels and nerves. No blisters and low pain.

**Management of burns:**

**Aims:**

* Reduce pain and swelling.
* Prevent infection.
* Rx for shock.
* Arrange for removal to hospital
* Put on disposable gloves.
* Reassure the casualty
* Remove or cut the clothing to expose the burn
* Cool the area with cold running water for 10 minutes but if it is chemical burn, cool the area for 20 minutes
* Do not apply any cream, ointment on the wound but a clean dressing to protect the wound or burn from bacterial contamination.
* Check the signs of shock and Rx accordingly
* Refer the casualty to the hospital.

**Signs of burns**

1. Swelling
2. Redness of the skin
3. Blistering
4. Pain

**CHOCKING**

* Occurs when a foreign object is stuck at the back of the throat

**Causes**

* Swallowing hurriedly
* Talking while eating
* Dull swallowing reflexes

**Signs**

* Difficulty in breathing
* Difficulty in coughing
* Difficulty in talking
* Swelling of the neck
* Tears from the eyes
* Protruding eyes
* Profuse sweating
* Anxiety

**Management**

* Let the casualty stand away from you and slightly bend for a while
* Reassure the casualty and ask him/ her to cough, if there is no coughing go to step 1

1. While the casualty is bending forward, hold his/ her chest with your hand

Give 5 sharp back slaps between the shoulder blades

Ask the casualty to cough, if nothing comes out, go to step 2

1. While the casualty is bending forward, put your arms around his/ her abdomen and make a fist.

Put the fist between the navel and breast bone

Give 5 abdominal thrust by pushing your fist inwards and upwards

Ask the casualty to cough

If there is no improvements refer the casualty to hospital mean while check for breathing, pulse and resuscitate if necessary.

**ASTHMA**

The muscles of the air passage in the lungs go into spasms and the lining of the airways becomes narrow which make breathing difficult.

**Causes**

* allergy
* cold
* a particular drug

**Recognition features**

Difficulty in breathing

Wheezing as the casualty breaths out

Difficulty in speaking or whispering

Sings of hypoxia -grey blue limbs

Distress an anxiety

**Treatments/ aims**

To ease the breathing

To obtain medical help if necessary

**Actual treatment**

1. Reassure and get her a puff of her inhaler and let breath slowly and deeply
2. put her in sitting position
3. if no improvement dial 999 for ambulance
4. if the casualty looses consciousness, open airway, check breathing and be prepared to resuscitate if necessary

**DROWNING**

Death by drowning occurs when air cannot get in to the lungs because water has already blocked the lungs

**Aims of management**

* To restore adequate breathing
* To keep the casualty warm
* To arrange for urgent removal to hospital if necessary

**Actual management**

1. Keep the casualties head lower than the rest of the body when you are removing him from water to reduce risk of him inhaling water
2. Lay her on the back an open the airway, check breathing and be prepared to resuscitate if necessary
3. If there is breathing, put the casualty on recovery position
4. Treat the casualty for hypothermia e.g. remove wet clothing and cover her with a dry warm blanket
5. In case he gains consciousness give her a warm drink
6. Dial 999 if necessary

**POISONING**

Swallowed chemicals may harm the digestive duct and damage others parts of the body

**Swallowed Poisoning:**

* It can be accidental or intentionally.
* It may harm the digestive tract and damage other organs.

**Recognition features**

It depends on the portion taken but there may be:

1. Vomiting sometimes blood stains
2. Impaired consciousness
3. Abdominal pain and burning intestine.
4. Empty containers in the vicinity
5. History of taking the chemical or exposure
6. Sweating.
7. Drowsiness.
8. Written notice.
9. Confusion.

**Management**

**Aims:**

* To maintain airway and breathing
* Identify the portion
* Arrange for urgent removal to the hospital
* Re-assure the casualty.
* Remove him/her from the contact if necessary.
* Check breathing, level of response and prepare to resuscitate if necessary.
* If the chemical is corrosive do not attempt vomiting.
* If there are burns on the casualty’s lips, give sips of cold water or milk.
* Arrange for urgent removal to hospital.

**WARNING! Do not attempt to induce vomiting if the casualty becomes unconscious. Open the airway, check breathing**

* Use a face shield to cover the mouth of a casualty

**SEIZURE IN ADULT**

Also called a conversion or feet consist of involuntary contractions of many muscles in the body

**Causes**

Epilepsy

Head injury

Shortage of oxygen or glucose in the brain

Poison such as alcohol

Epileptic feet are due to recurrent major disturbances of the brain

Convulsive movement

Sudden unconsciousness

Falls unconsciously letting out a cry

Becomes rigid

Breathing may cease

Jaw may be clenched and silvar may appear in the mouth with blood stains

May act in an usual manner but unaware of his action afterwards

May feel tired and fall into a deep sleep

**Treatment aims**

To protect from injury

To give care when consciousness is regain

To arrange for removal to the hospital if necessary

**Management**

1. In case you see the patient falling, try to support him to ease the fall, keep way bye standards, remove dangerous objects
2. If possible protect the casualty head by placing soft bandings underneath
3. When the fit has stopped open air and check breathing and be prepare to resuscitate
4. in case he is breathing put him into a recovery position

**SEIZURES IN CHILDREN**

In children seizures are called fits or conversions

**Causes**

Raised body temperature associated with throat or ear infection

This is a reaction of the brain to high body temperature

Epilepsy

**Signs**

Violent muscle twitching with clenched feet

Fever or sweating

Twitching of the face with squiting fixed eyes

Loss of consciousness

**Treatment**

* protect the child from injuiry
* to cool the child
* to reassure the parents
* to arrange for removal if neccesary

**Management**

* position pillows or soft badding around the child to avoid injury
* remove any covering or clothing
* ensure a good supply of cool fresh air
* sponge the child skin with tepid water to help cooling
* start for the head and work downwards his body
* when feet stop, keep the airway open by putting the child on recovery position
* reassure the child and the parents

**FRACTURE**

* A break or a crack in a bone

**Causes**

1. Direct force
2. Infections

**Types of fractures**

1. Open fracture
2. Closed fracture

**Recognition features**

1. Deformity/bruising/swelling.
2. Pain in the affected area
3. Shortening of the affected limb
4. Inability to walk
5. Signs of shock
6. A wound possible with a bone and protruding
7. **Open fracture**

* In an open fracture one of the broken bones ends may pierce the skin surface or there may be a wound on the fracture site.
* It carriers high risk of infection

1. **Closed fracture**

* In closed fracture the skin above the structure is intact
* The broken bones may damage the internal tissues and may cause internal bleeding

**Management for Closed Fracture:**

**Aims:**

1. To prevent movement at the injury side.
2. To arrange removal to hospital with comfortable support
3. Rx for shock.

* Lay the casualty keep still and support the injured part with your hands or ask someone to support them until immobilized
* Bandage the injured part to uninjured part of the body make sure the bandage is tied on uninjured site
* Arrange for removal to hospital and treat for shock if necessary
* Check circulation beyond a bandage, if circulation is impaired loosen the bandage

**NB- Don’t move the casualty until the injured part is immobilized**

**Don’t allow the casualty to eat, smoke, and drink as general anesthesia may be needed**

**Management of open fracture**

**Aims:**

* To prevent blood loss, movement and infections at the site of injury

1. Put on the disposable gloves
2. Cover the wound with a clean dressing
3. Apply pressure to control bleeding but do not press on a protruding bone.
4. Secure the dressing with a bandage but do not do so tightly to impair circulation
5. Immobilize the injured part as cross fracture and arrange for removal to hospital
6. Treat for shock if necessary and check circulation beyond bandage

**Head injury**

* They are usually serious and require proper assessment because may result to loss of consciousness and damage to brain tissue.
* Head injury can produce the following conditions:-

1. Cerebral compression
2. Skull fracture
3. Concussion
4. **Concussion**

Shaking of the brain

**Causes**

* Traffic accidents
* Sports injuries e.g. boxing
* Falls or blows

**Recognition features**

* Brief loss of consciousness following a blow to the head
* Dizziness and nausea on recovery
* Loss of memory of events
* Mild headache

**Management**

* Treat for unconsciousness if necessary
* Monitor vital signs- level of response, pulse and breathing
* Put him in the care of a responsible person and do not allow him to continue with sports after recovery or before obtaining the medical advice
* Advice him to go to the hospital if he later develop headache, nausea or vomiting

1. **Cerebral compression**

* Compression of the brain
* It occurs when the accumulation of blood within the skull or swelling of the brain tissue

**Causes**

1. Head injuries
2. Stroke
3. Infections
4. Tumors

**Recognition features**

* May become unconscious
* Severe headache
* Noisy breathing
* Slow pulse
* Raised temperature
* Drowsiness

**Management**

* Reassure the casualty if conscious.
* Monitor and record vital signs.
* Arrange for urgent removal to hospital.

**NB- N.P.O**

**c) Skull fracture**

- Any wound on the head may alert you for possible skull structure. Skull structure is serious because the brain may be damaged and a clear watery blood discharge may leak from the ear or nose

**Recognition features**

* A wound or a bruise on the head
* A soft area or depression on the skull
* A clear fluid or watery blood coming from the nose
* Blood in the white of the eye
* Progressive deterioration in the level of response

**Aims**

1. Maintain an open airway
2. Arrange for urgent removal of the casualty to the hospital

**Management**

1. Control bleeding if any.
2. Maintain the airway if unconsciousness.
3. Monitor vital sign.
4. Arrange for urgent removal to hospital.

**Abdominal Wound:**

This is wound in the abdomen which is dangerous because it can damage internal organs and cause internal bleeding.

**Causes:**

1. Bullet shot.
2. Road Traffic Accidents.
3. Staph wounds.
4. Penetrating wounds.

**Mnx:**

* Lay the casualty down on his back.
* Apply a polythene paper or a kitchen film on the wound to prevent it from drying.
* Do not force the protruding organs.
* Apply a large sterile dressing in the wound and secure it with adhesive tape.
* Raise the knees of the casualty to reduce strain on the wound.
* Check for signs of shock and Rx accordingly.
* Arrange for urgent removal to hospital.

**Penetrating chest wound:**

**Causes:**

1. Penetrating injuries.
2. Bullet shot.

**Signs:**

1. Difficulty in breathing.
2. Frothy red blood coming out.
3. Sucking wound.
4. Bubbling of blood.
5. Cyanosis.
6. Blue grey skin.

**Mnx:**

* Lay the casualty down and lean towards the affected side.
* Seal the wound with his/her hand.
* Cover the wound with a dressing pad.
* Apply a kitchen film/polythene paper on the wound.
* Secure it with adhesive tape covering only three corners.
* Check for signs of shock and Rx.
* Arrange for urgent removal to hospital.

**Airway Obstruction:**

**Types:**

1. **Mild:**

Signs:

* Coughing.
* Difficulty in breathing.
* Sweating.

1. **Complete:**

Signs:

* No coughing.
* No talking.
* Difficulty in breathing (severe)
* Swollen neck.
* Anxiety.
* Swelling and protruding eyes.

**Soft Tissue Injuries:**

* These are injuries to ligaments, muscles and tendons.

1. **Strain: -** it is overstretching of muscles or ligaments at joints.
2. **Sprain:** - tearing of ligaments and muscles at a joint.
3. **Dislocation:** -displacement of a bone at a joint.

**Causes:**

1. Direct force.
2. Falls.
3. Overstepping.

**Signs:**

1. Pain.
2. Deformity.
3. Swelling.

**Mnx:**

* Strains and Sprains are usually Mnx by RICE procedure.

**R – Rest** the injured part

**I – Ice pack** to injured part to reduce swelling and pain.

**C – Compress** the injured part to immobilize and reduce swelling.

**E – Elevate** the injured part to prevent bruising and swelling.

**Stings and Bites:**

1. **Insect Stings:**

* They are usually painful rather than being dangerous.
* Multiple insect stings can produce a serious reaction.
* A sting in the mouth can obstruct airway.

**Recognition:**

1. Pain at the site of injury.
2. Swellings and redness.

**Mnx:**

Aims:

1. To arrange removal to hospital.
2. To minimize swelling and pain.

* Assess DRABC.
* Re – assure the casualty.
* If you can see the sting, thrush it or scrape it off with your fingernails or edge of a blunt knife.
* Raise the affected part and apply ice packs to reduce pain and swelling.
* If the sting has occurred to the mouth, encourage the casualty to suck ice or cold water to reduce swelling.

1. **Snake Bites:**

* Not all snakes are poisonous but you should Rx all snakes as poisonous.
* It is frightening so the re – assurance is vital.

**Recognition Features:**

1. A pair of puncture mark.
2. Severe pain and swelling.
3. Nausea and vomiting.
4. Disturbed vision.
5. Increased salivation and sweating.
6. Labored breathing.

**Mnx:**

* Lay the casualty down, with the affected part lower than the heart.
* Keep the casualty still, any movement will make the poison spread more.
* Re – assure the casualty.
* Wash the bite with soap and water and dry it with dry swab.
* Slightly compress the limp above the wound with a roller bandage to immobilize the affected limb.
* Get medical help as soon as possible.

**Warning!**

* Do not suck the wound.
* Do not use a tourniquet or tight bandage.
* Do not acquire ice on the wound.

**By Juma Dorothy**