

LECTURE NOTES

First Aid Management and Accident Prevention

For Health Extension Workers



**Ethiopia Public Health
Training Initiative**

Desta Workneh

Jimma University

In collaboration with the Ethiopia Public Health Training Initiative, The Carter Center,
the Ethiopia Ministry of Health, and the Ethiopia Ministry of Education

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Table of Contents

Content Topics	Pages
Acknowledgments	i
Table of contents	ii
List of figures	vi
Introduction	1
UNIT ONE:	
Learning objectives	3
General objectives.....	3
Specific objectives.....	3
Purpose of first aid treatment	4
What does first aid knowledge and skill mean?	4
Steps during giving emergency care	4
UNIT TWO: Respiratory Emergencies	
Common causes of respiratory failure.....	9
First aid management of respiratory problem.....	10
Choking	15
UNIT THREE: Drowning	
First aid management	18

UNIT FOUR: Wound

Classification of wound..... 19
Common causes 19

UNIT FIVE: Bleeding

Types of bleeding 21
Methods of controlling bleeding externally 21

UNIT SIX: Shock

Symptoms of shock 24
First aid management of shock 25

UNIT SEVEN: Unconsciousness

Cause of unconsciousness 26
Level of unconsciousness 27
Treatment of unconscious patient 27
Bandaging and Dressing 28
The common types of bandages 28

UNIT EIGHT: Fracture

Possible cause 30
Signs and symptoms of fracture 32
General first aid management of fracture 33

UNIT NINE: Dislocation

Cause 34
Sign and symptoms 34

UNIT TEN: Strain and Sprain

Strain36
signs and symptoms36
Sprain37

UNIT ELEVEN: Burn of the Body

Causes of burns39
Classification of burns40
First-aid measures.....41
Measure to prevent burns44

UNIT TWELVE: Poison

Types of poisons46
General signs and symptoms.....47
Steps to treatment of poison47

UNIT THIRTEEN: Bites

A Snake Bite.....49
B Dog bite.....51

UNIT FOURTEEN: Fit

Signs and symptoms53

UNIT FIFTEEN: Eye, Ear and Nose Injury

Injury to the eye54
Problems with ear.....56

Bleeding from the nose	56
------------------------------	----

UNIT SIXTEEN: Diarrhea

Causes of diarrhea and/or vomiting	59
First-aid measures.....	60
Measures to be taken after first-aid assistance.....	62
Preventive Measures.....	63

UNIT SEVENTEEN: Disease Characterized by Fever

Common diseases that precipitate fever	64
Emerging adverse consequences of febrile diseases	64
First-aid measures for febrile cases in general	65
Preventive measures	66
First-aid measures.....	68

Management of Abortion	69
-------------------------------------	-----------

Glossary	73
-----------------------	-----------

Reference	75
------------------------	-----------

Review Questions	76
-------------------------------	-----------

List of Figures

Figure 1	12
Figure 2	14
Figure 3	15
Figure 4	16
Figure 5	23
Figure 6 Recovery position of unconscious patient.....	28
Figure 7 Types of fracture	31
Figure 8 Immobilization of an injured part with bandage..	33
Figure 9 Elbow dislocation	35
Figure 10 Bandaging of sprain ankle.....	38
Figure 11 Snake bite	51
Figure 12 First aid treatment of chemical burn.....	55
Figure 13 How to stop a nose bleed.....	57
Figure 14 Foreign body in the nose	58

INTRODUCTION

In our daily life we may see that people have been suffered and died due to the cause of various accident and health related problems. Accident is one of the leading causes of mortality and morbidity in the developing country especially in Africa particularly in Ethiopia due to different factors.

Ethiopia has got the high coverage accident Episode, therefore, this lecture note outlines the most practically managing victims with different types of accident which should be carried out at community level to save life until the victim is referred to the health center or Hospital.

In our daily life, we may see that people have been suffered and died due the cause of various accident.

First aid is the initial treatment or help given to sick particularly injured individual before professional medical care becomes available with the materials at hand. Such intervention aims in reducing the situations that threaten the victim until a professional arrives or the sick individual is brought to health facility.

In short this lecture note is designed to develop the capacity of health extension students and enable them to manage and prevent accident at community level and refer when necessary so that morbidity and mortality rate be reduced and controlled.



UNIT ONE

Learning Objective

General Objectives: The aim of the first-aid treatment or management of Health Extension Package is to give life saving treatment and to prevent accident as well as emergency illness at community setting or environment.

Specific objectives

At the end of each topic the health extension package students will be able to:

- Describe first aid and the role of first aide
- Describe the purpose of emergency care.
- Out line steps of emergency care.
- Provide first aid for the causality and suddenly ill individuals.
- Identify the emergency situations.
- Differentiate problems of pregnant woman and every labor mgt.
- Use appropriate, knowledge skill and materials while helping the causality
- Equipping the HEPW with basic knowledge, and skill.
- Differentiate between emergency situation and other use.

- Practice how to transport the casualty.
- Give first aid treatment for diarrheal problems.
- Provide first aid management for fever related disease.
- Give first aid management for patient who is suffering with Epilepsy.

Purpose of first aid treatment

- To keep the injured or ill person alive
- To prevent the injured condition from becoming worse
- To help him/her to recover
- To sustains life

What does first aid knowledge & skill mean?

- The difference between life and death
- The difference between temporary and permanent disability
- The difference between rapid recovery and hospitalization

Steps in giving emergency care:

Look at the general situation of the causality quickly

Decide what is wrong and how severe or dangerous the injury is

Give the appropriate first aid

Notify your senior and arrange transport to hospital or health center
Give follow up care during Journey.

Simple and basic question for first aider working in the community

Who will do first aid for casualty who is in emergency condition?

Any first aider who is equipped with principle of first aid management

Why? To save life

When? At any time when injury occurs

Where? Any where or place

To whom it is applied? **To all who needs to be helped**

What is first aid?

First aid is the treatment given when an accident or sudden illness occurs or immediate care given to a person who has been injured until he / she is taken to health facilities.

Characteristic of a first aider

Must be a good observant: -

Resourceful; - she/he may use to the best advantage who ever and what ever is at hand to prevent further damage

Tactful: - She/he may, with out the ought less questions, learn the symptoms and history of the case, and secure the confidence of the causality, and the bystanders in the treatment of the causality.

Dexterous; - that she/he may handle a causality without causing unnecessary pain and use appliances efficiently, quickly and neatly

Explicit; - that he/she may give clear instructions to the causality and for the by standers how best to assist him

Persevering; - that she/or may continue his efforts, though not at first successful, until relieved by a superior medical authority, or death of the causality is undoubted

Discriminating: - that she/he may decide which of several causalities and injuries should be treated first and where modification of the correct treatment as the result of commonsense, may be necessary.

Sympathetic: - that she/he may give real comfort and encouragement to the suffering, always remembering the first principles of humanity.

The scope of first aid tretement:

- Assessing the situation
- Diagnosing the problems
- Giving immediate treatment
- Referring of the causality to higher health institutions

A. By observation:

- Check for any external bleeding and determine whether the bleeding is severe or not
- Check for breathing pattern and determine whether there is respiratory problem or not.

Note: Bleeding and respiratory problems are the top urgent emergency conditions that need fast decision and action.

B. Brief Examination of patient

First check:

- Breathing (Listen and look at rise and fall of the chest)
- Color of skin (darks skin due to shortage of oxygen)
- Circulation of blood (by taking pulse and blood pressure)
- Pupils of the eye (large, small, altered with light)

C. Check parts of the body:

Look carefully and quickly of each part of the body in the following order or steps:

- Head
- Back
- Neck
- Arms, hands, fingers
- Chest

- legs, feet, toes
- Abdomen

D. Look for:

- Signs of internal damage to organ
- Burns
- Dislocation (broken bone)
- Wounds
- Dislocation (bone put out of place)
- Fracture
- Sprain
- Strain



UNIT TWO

Respiratory Emergencies

Definition: A respiratory emergency is one in which normal breathing stops or in which breathing is so reduced that oxygen intake is insufficient to support life.

N.B. Artificial respiration: is a procedure for using air to flow in to and out of persons. Lungs when natural breathing is inadequate or stops.

Common causes of respiratory failure (problems)

- Obstruction of the air way by tongue is dropping back
- Inhalation of a small amount of food, smoke, irritation, foreign objects, carbon monoxide, etc.
- Compression of the neck
 - Respiratory disease
 - Drowning
 - Strangulation
 - Combustible gases

Signs and symptoms

- Un able to breath
- Loss of consciousness
- General pallor (paleness)
- Difficult in breathing
- May be no visible breathing

First Aid management of Respiratory problem

- Shout for help (depend on the condition)
- Determine the consciousness of the causality by tapping the victim on the shoulder and asking loudly “Are you oky!”
- Assess and ensure that patient air way is clear
- Place the patient flat on his back with the head turned to one side
- Remove any thing which is preventing the taking in of air (Remove constraints from the neck)
- Kneel beside the patient’s head place one hand under his neck and the other hand under his lower Jaw extend his head and neck gently back ward. This prevents the tongue from falling back in to the throat.
- Place your cheek and ear close to the victim’s mouth and Nose. Look at the victim’s chest to see if it rises, falls, and listen and fell for air to be exhaled for about 5 seconds.
- If there is no breathing pinch the victim’s nostrils shut with thumb and index finger of your hand that is pressing on the victim’s forehead. This action prevents leakage of air when the lungs are inflated through the mouth.
- Take very deep breath and hold it.

- Fit your mouth tightly over the patients open mouth and forcibly in to the lungs
- While carrying out respiration, check the patient's pulse every 2 or 3 minutes to ensure the heart has not stopped.
- Continue the breathing procedure at the rate 12 to 18 breaths per minute until the chest is seen to rise and the patient is breathing for him self or until is certain his is dead.
- If a patient is child, our mouth should cover both his nose and mouth. Very gentle breathing should be used and the younger the child, the gentler this should continues at a rate of 25 breaths per minute.

Once the patient can breathe by him self/her self place him/her in what is called the recovery position.

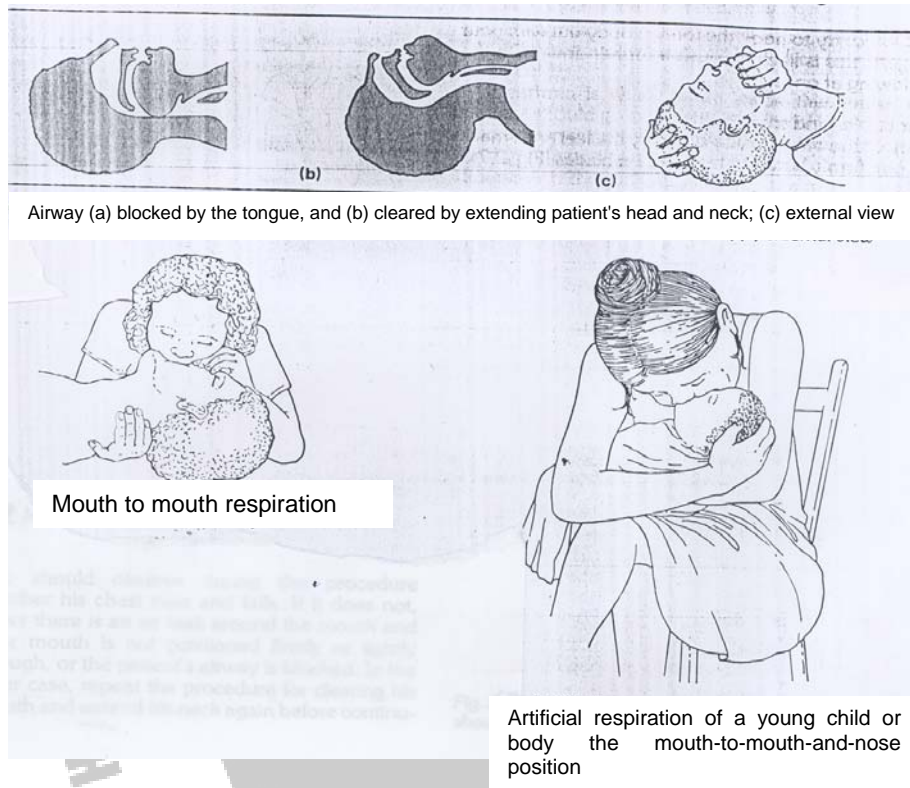


Fig. 1 .How to give artificial respiration and positioning of casualty

- If mouth to mouth is failed and no pulse cardiopulmonary resuscitation is followed. Cardiopulmonary resuscitation (CPR) or heart lung resuscitation is a combined effort to maintain circulation and breathing.
- Is an emergency procedure applied when heart and lung actions have stopped.

- During CPR you will have to perform procedures to:
 - Maintain an open airway to maintain circulation
 - Breathe for the patient and force the patients blood to circulate.

Procedure

If one First Aider

1. Establish unresponsiveness and alert for emergency medical service and
Position the casualty.
2. Establish an open airway.
3. Look, Listening, and feel for breathing (3-5 seconds).
4. Ventilate twice (1 to 2 seconds) per breath.
5. If no pulse (5-10 seconds)
6. Locate Compression site
7. Position your hands
8. Began compressions
9. Ventilate twice
10. Recheck pulse after 4cycles of ventilation, then every few minutes.

If two first aider rescuer CPR

1. Determine unresponsiveness
2. Open the air way, look, listen, (feel 3-5 seconds)
3. Ventilate twice (1 -2 seconds per breath).

4. Determine no pulse and locate CPR compression site
5. Say "No pulse." Begin compressions
6. Ventilate once (1-2 seconds) Stop mouth-to-mouth ventilation.
7. Continue with one ventilation every five compressions.
8. After 10 cycles, reassess breathing and pulse. No pulse says, "Continue CPR." Pulse- says, "Stop CPR."

NOTE: Assess for spontaneous breathing and pulse for 5 seconds at the end of the first minute, then every few minutes there after.

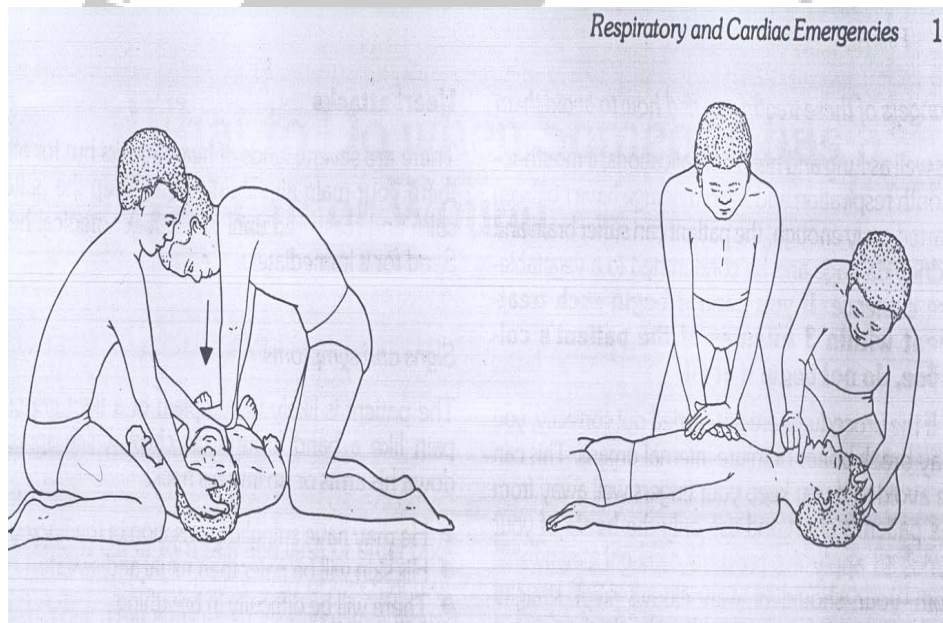


Fig. 2. Cardio pulmonary resuscitation by two first aider

Choking

When small piece of food or foreign body may be inhaled in to the windpipe when eating in which some times help is needed

First aid management

N.B. Do not try to hook the foreign body out with your fingers. This is likely to push it further down.

For babies and small children:

Hold the baby upside-down by the feet and beet him/her timely between the shoulder blades.

Lie the child face down over your knee or arm and beet them sharply between the shoulder blades.

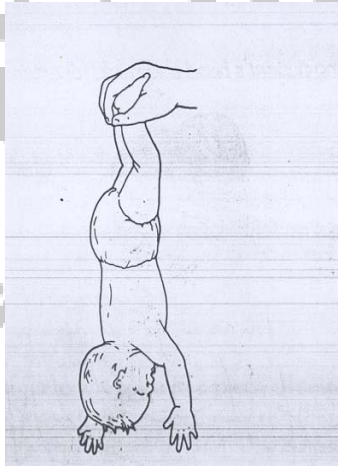


Fig. 3 Removal of inhaled foreign body in a baby

For adults: there are two methods depending up on your knowledge and practice

“Methods A” stand behind the patient and hold around the chest just under the chest bone

Give a short sharp hear hug

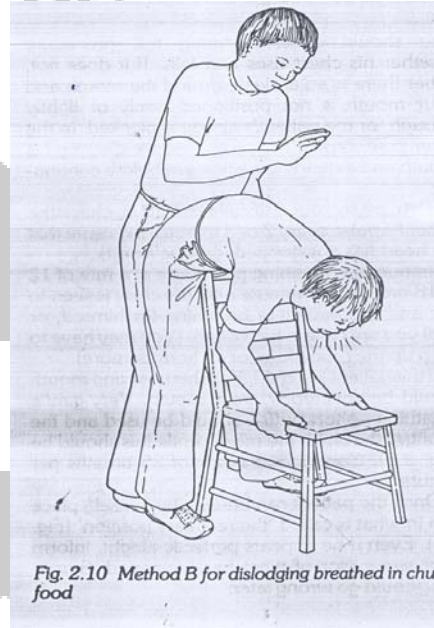
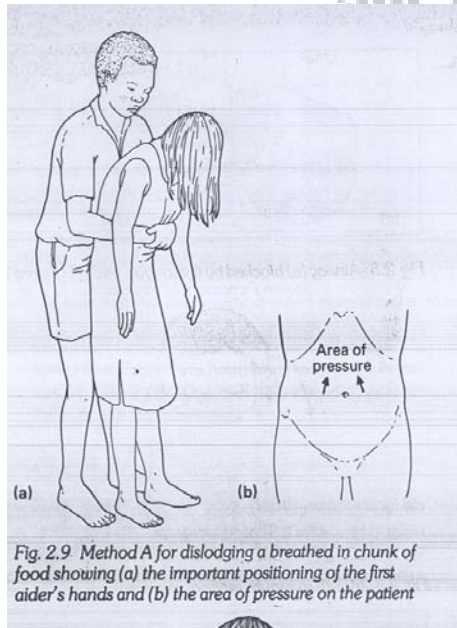


Fig.4.1. Method A removal of inhaled foreign body in adult

Fig. 4.2.Method B

- “Method B” Tell the patient to lean over the back of a chair holding on to the seat and the tenanting him/her sharply 3 to 4 times between his shoulder blades which ever the method you use the foreign body should be coughed out

- If the breathing has stopped begin mouth to- mouth respiration
- After you have done the above, refer to the nearest hospital or health the Center



UNIT THREE

Drowning

Definition

Death caused by water reaching the lungs and either causing lung tissue damage or spasms of the air way that prevents the inhalation of air.

Drowning can happen in many different places, Lake, swamp and spring, rivers etc

First aid Management:

- You should begin artificial respiration as soon as possible
- Do not wait to get water out of the patient's chest first
- If you can not get air into his/her lungs, quickly turn the patient on his/her side, putting his head lower than the leg and push the body
- Then give mouth-to-mouth artificial respiration.
- If the condition of the victim is not improving refer the victim to the next health facility.

UNIT FOUR

Wound

Definition: **Wound** is breaking in continuity to tissue of body, either internal or External.

Classification of Wound

1. **Open:** An open Wound is a break in the skin or mucous membrane
2. **Closed:** A closed wound involves injury to underlying tissue with out a break in the skin or mucous membrane.

Types of Wounds

- Abrasions
- Incisions
- Lacerated
- Punctures
- Avulsions

Common Causes

Cause or resulting in open wounds from:

- Motor accidents
- Fall
- Mishandling of sharp objects, tools and machineries

The main aims when dealing with wound

- To control the wound stop bleeding
- To treat and prevent shock
- To protect the wound from contamination and infection
- To prevent complication
- Obtain medical attention

Prevention of contamination and infection

- Hand washing before and after wound care (when possible)
- By avoiding contaminants
- By using lean materials as much as possible
E.g. cotton gauze, towels etc...
- Wash in and around the victim's wound to remove bacteria and other foreign matters
- Wash the wound thoroughly by flushing with clean water, preferable running tap water
- Apply a dry sterile bandage or clean dressing and secure it firmly in place
- Small wounds even can be taken care at home
- If there is infection refer the victim to the health center

UNIT FIVE

Bleeding

Definition: Defusing or oozing of blood from blood vessels (Hemorrhage)

Types of bleeding

- Arterial bleeding- bright red in color, flow from the wound inside
- Blood loss
- Venous bleeding – dark red in color, flow is steady
- Capillary bleeding –oozing from bed of capillaries, red in color, usually less bright than arterial blood with slow flow.

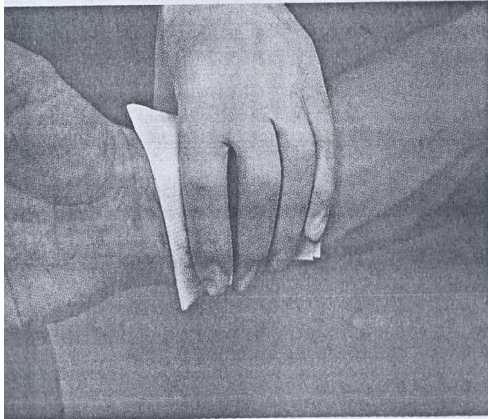
Methods of controlling bleeding externally

- Direct pressure- using compresses
 - Pressure bandage can be placed to hold pads of cloth.
 - Put a thick pad of cloth held between the hand and wound .
- Elevation
The injured part of the body should be raised about the victim's heart
- Applying pressure on the supplying artery specially on brachial artery in severe bleeding,

- Apply tourniquet in sever bleeding



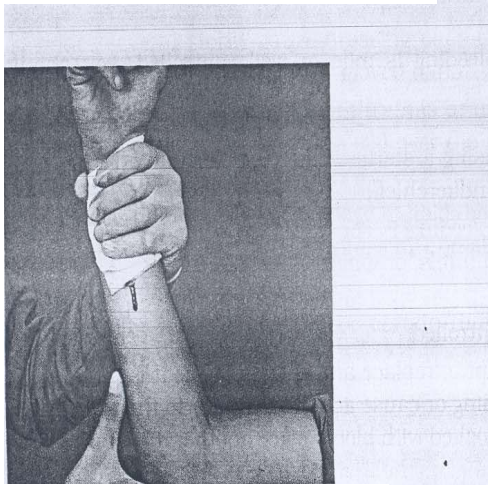
Methods of Controlling Bleed



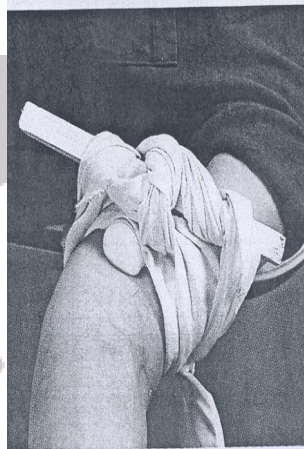
Direct Pressure



Pressure point: arm



Direct pressure and elevation



Tourniquet

Fig .5. Methods of controlling Bleeding

UNIT SIX

Shock

Definition: The reaction of the body to the failure of the circulatory system to provide enough blood to all the vital organs of the body.

Cause:-

- Trauma
- Heart failures
- Severe bleeding
- Loss of plasma – in burns or crushing injuries
- Allergy
- Loss of body fluid- recurrent vomiting from any cause

Symptoms of shock

- General body weakness – the most significant symptoms
- Nausea with possible vomiting
- Thirst
- Dizziness
- Restlessness, and fear /sign of shock/
- Fast breathing and shallow
- pulse – rapid and weak
- 8. Pupils - dilated
- Face – pale

- Lips-blue
- Restlessness, become unresponsive
- Skin- cool and clammy- eyes- lack luster
- Breathing – rapid and shallow

First aid management of shock

- Have the patient lie down and stay at rest
- Keep the air way open and preventing the forward tilting of the head
- Control External bleeding
- Keep the patient warm by covering with blanket or sheet
- Properly position the patient
- Open air way and alert for vomiting

If there is no spinal injuries use one of the following positions

- Elevate the lower extremities, place patient flat, face up, and elevate the legs 8 to 12 inches
- Do not tilt the patient's body
- Don not elevate any fractured limb unless they have been properly splinted
- Do not elevate the leg if there are fractures to the pelvic
- Nothing by mouth (NPO)
- Monitor the patient vital signs
- Refer the patient to Hospital

UNIT SEVEN

Unconsciousness

Definition: victim is said to be unconscious when the patient is asleep, he/she cannot speak and has no control over his movement. Victim also cannot respond to place, people and time (PPT)

Cause of unconsciousness

- Head injury (bleeding)
- Fainting
- Heart attacks
- Asphyxia
- Poisoning
- Shock
- Epilepsy
- Diabetes

Aim of giving first aid

1. To find out the cause of the condition and manage it as quickly as possible
2. To refer to Hospital

Level of unconsciousness

- Alertness: the patient can speak, answers, questions and feels pain
- Lethargy :the patient is awake but answers questions slowly- he may be confused about what is happening and where he is
- Drowsiness: the patient is sleep of ht is unable to concentrate on what we are saying
- Semi-consciousness: the patient is very sleep of and has great difficulty in speaking and in answering your questions
- Unconsciousness: the patient is sleepy we can not speak and has no control his movements

Treatment of unconscious Patient

During treatment of unconscious patient follow principles of A,B,C,D, i.e.

- Assessing air way
- check breathing
- check circulation using or by taking Vital sign
- check for any bleeding and attempt to stop bleeding
- If the victim is improving place in Recovery position
- Do not give to an unconscious victim any thing by mouth
- Establish level of responsiveness, check pulse, breathing rate and record any observations
- Give priority to respiratory problems and hert beat.

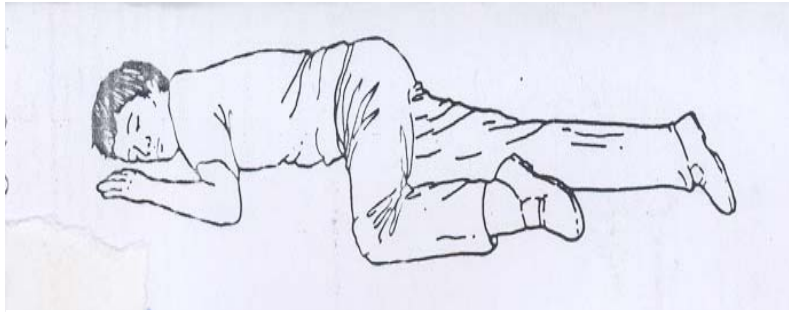


Fig .6. Recovery position of unconscious patient.

Bandaging and Dressing

Made from flannel, elastic net or special paper cotton cloth

- Bandages are used-

- To hold splint in proper place
- To maintain direct pressure over dressing to control bleeding.
- To retain dressings and splints in position
- To prevent or reduce swellings
- To restrict movement etc

-Bandage should never be used directly over a wound

-Bandaging a wound should be applied firmly enough to keep dressing and splints in position

The common types of bandages

- Triangular bandages
- Roller gauze bandage
- Elastic bandage

- T- blinder bandage
- Many tailed abdominal bandage
 - Bandage should not be tight, may cause injury to the part or impair circulation of blood
 - Loose bandage is also useless

Dressings

A dressing – is protective covering applied to a wound to:

- Prevent infection
 - Absorb discharge
 - Control bleeding
 - Avoid further injury
- An efficient dressing should be sterile (germ free) with high degree of porosity and allow for oozing of discharge of fluid.

UNIT EIGHT

Fracture

Fracture:

Description: Is a breakage of bone tissue or discontinuation of bone tissue due to different causes or accidents.

Possible cause:

1. accident / trauma
2. pathological due to bone infection
3. tumor of the bone

Types of Fracture

- closed
- open
- compound/complicated

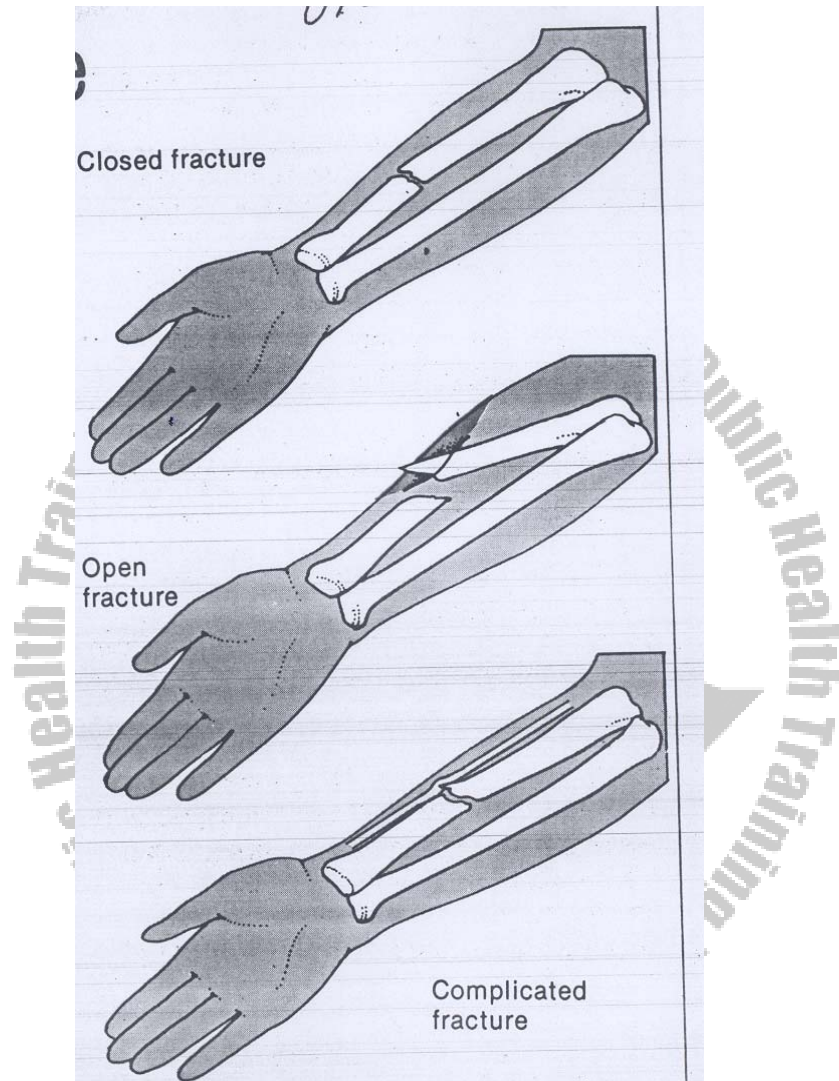


Fig.7. Types of fracture.

Sings and symptoms of fracture:

- Pain
- Swelling
- Deformity
- Numbness or tingling sensation
- Discoloration
- protruding of the parts
- mispositions
- Unable to function
- Patient may shout due to severe pain

Complications

Immediate complications

- Hemorrhage/ bleeding
- Severe pain
- Hypotension (shock) due to bleeding

Late complications

- Disability
- Disfiguring
- Deformity
- Malunion
- Delay in union

General First aid management of Fracture

- Assess carefully but by fast
- Check respiratory condition
- Check bleeding / hemorrhage
- Consider the amount of loss
- Determine and arrange referral
- Asphyxia, bleeding, and severe wounds must be dealt with before treating any fracture
- Support the injured part with supporting device, immobilize the fracture, bandaging and use splints
- Refer the patient to hospital urgently

NB: Proper immobilization is important to prevent further trauma, pain and complications.

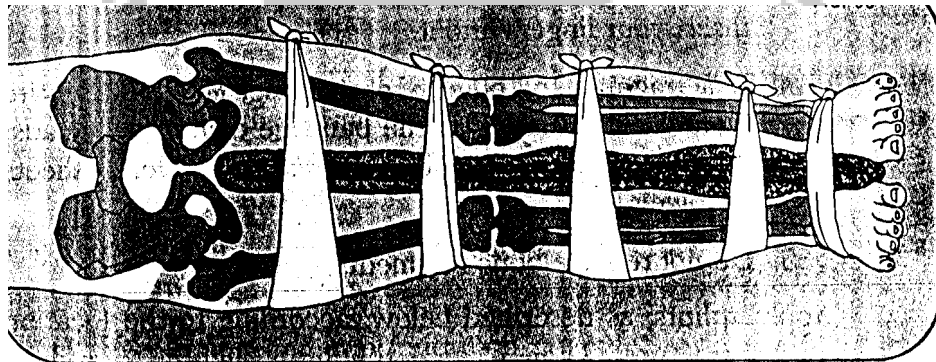


Fig.8. Immobilization of an injured part with bandage.

UNIT NINE

Dislocation

Definition:- When bone is no more in an anatomical position or the displacement of one or more bone at a joint.

Cause:-

- Strong force acts directly or indirectly on a joint
- Sudden muscular contraction

N.B:- Joints which are most frequently dislocated are

- shoulder, elbow, thumb, finger, Jaw

Signs and symptoms

- Pain, near the joint, victim can not move it, deformity- abnormal appearance, swelling and brusy are usually present

First aid and manage:-

- support and secure the part in most comfortable position
- obtain medical aid at once
- Do not attempt to replace the bones to normal position

Note: - The causes,

- the signs and symptoms

- First aid management, quite similar to fracture.

NB. Do not delay to refer patient with fracture or dislocation since proper investigation and management is done at hospital

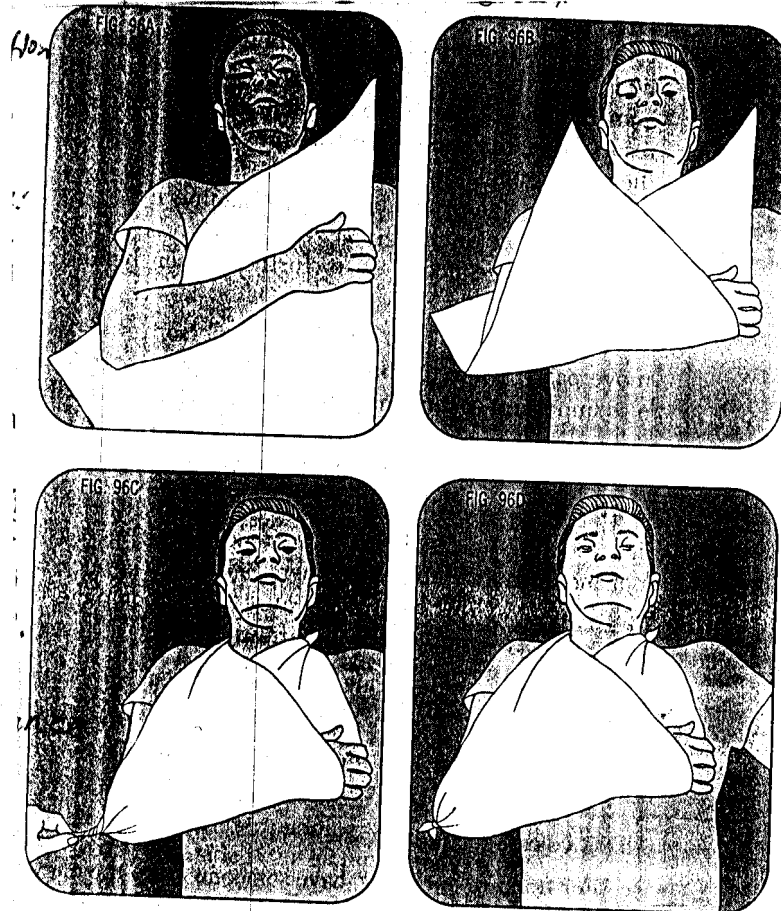


Fig.9. Elbow dislocation

UNIT TEN

Strain And Sprain

Strain

Definition: over stretching of muscles due to over pulling of muscles.

Causes:

- Lack of pre- exercise before doing sport activity
- Lifting of heavy loads
- Lifting of heavy weight
- The most common one is back strain.

Signs and symptoms

- Pain (sudden sharp pain at the site of the injury)
- Stiffness of muscles
- Difficulty in moving the affected parts

Management and First Aid

- Place the victim in the most comfortable position
- Cold compress during fracture phase Warm compress (physiotherapy)
- Ant pain support and elevate the inured part or limb and give antipain
- If not improved refer the victim

- In case of back strain use a hard board under the bed or lay the victim down on a firm surface

Sprain

Definition: An injury which occurs at a joints when the ligaments and tissue around particular joints are suddenly twisting or torn.

- Sprain is more severe than strain
- It usually happens or occurs at joint especially at ankle joint.
- It might involve bone (broken)
- Sprain is also tearing of ligaments

Signs and symptoms

- Pain specially on movement
- Swelling
- Loss of movement

Treatment:

- Raise the limb
- Put on a cold compress
- Renew the compresses when they get warm and dry
- Support the joint in most comfortable position with bandage
- Bandage firmly with figure of eight bandage
- Refer for further treatment

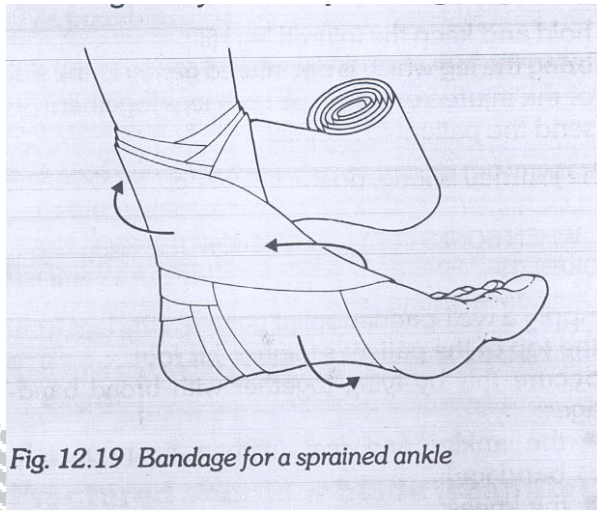
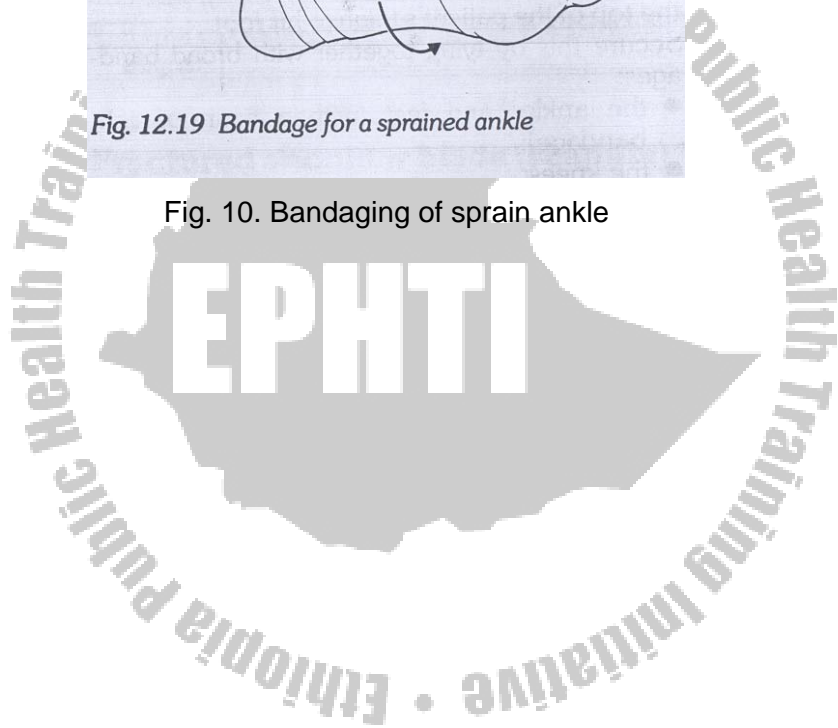


Fig. 12.19 Bandage for a sprained ankle

Fig. 10. Bandaging of sprain ankle



UNIT ELEVEN

Burn of the Body

Fire is an accident that causes great damage to life and properties. Children are the most vulnerable to burn. Burns that occur around the mouth and nose and in general in the face are more dangerous and can cause death.

Causes of burns:

- Fire, boiled water, steam, boiled oil and milk etc;
- Sun-rays;
- Electric and thunder accidents; and
- Different chemicals;

Effects/hazards of the burn accident:-

Immediate effects/hazards:-

- Burns and wounds of the body;
- Severe pain;
- Oozing and reduction of body fluid from the wound;
- Difficulty in breathing because of suffocation from smoke, severe burns around the throat and face; and
- Drowsiness, restlessness and unconsciousness.

Delayed effects/hazards:

- Infections of the wound, septicemia, and high fever;
- Disability;
- Scar;
- Contracture; and
- Tetanus infection

Classification of burns:

Burns are usually classified in three levels based on the depth or degree of skin damage. These are:-

- First degree burn;
- Second degree burn, and
- Third degree burn.

1st degree burn:

- Redness or discoloration;
- Mild swelling and pain; and
- Rapid healing.

2nd degree burn:

- Greater depth than first degree burns;
- Redness and mottled appearance;
- Blisters;
- Severe pain;
- Swelling; and
- Prone to infection.

3rd degree burn:

- Deep tissue distraction;
- White appearance;
- No pain and blisters; and
- Complete loss of all layers of skin.

This type of burn results in severe disability and/or death.

First-aid measures:

- If the victim is burned with fire apply cold applications, immerse the burned area in cold water roll the burned person on the ground, or cover with water soaked thick cloth or blanket and put out the fire. If the accident is of electric source, quickly

disconnect at the electric meter or check point, or use rope wooden stick, dried cloth etc. to disconnect;

- Move the victim from the accident place to avoid further injury;
- Loosen and/or remove burned dresses and lay down the victim on his/her back and let him/her breathe fresh air and ensure that no foreign objects have entered and blocked the passage of the respiratory system;
 - If the victim is not breathing properly, initiate mouth to mouth artificial respiration;
 - Thoroughly check the wound to determine the size, and the degree of burn;

Measures for 1st degree burn:

- Apply cold water application or submerge the burned area in cold water;
- If the wound is minor and small, clean daily the area with boiled cold water cover it with clean cloth to prevent contact with flies, if the wound located is in a joint, immobilize the joint area until the wound is cured;
- If the wound is from boiled water, chemical (acid), take out his/her dress and cover it with clean cloth.

2nd and 3rd degree burn:-

- Cover the wound with clean cloth;
- If the victim is conscious, his/her respiratory parts such as mouth, nose and throat are free from burn injury and give him/her frequently plenty of liquid such as ORS or similar solution (prepare the solution from eight tea spoons of sugar, one spoon salt in one liter of boiled cold water). If the victim is a child below two years old give it one spoon every two minutes and if the child is over two years give it with a cup or glass in small amount every two minutes;
- Advise the victim or his family to get tetanus toxoid vaccine;
- Refer the victim to the nearest health facility.
- **Take immediately to a nearby health facility burn victims with the following signs:**
 - First degree burn with sizeable area;
 - 2nd and 3rd degree burns;
 - If the victim is drowsy, restless and has breathing problem;
 - If the victim has burns on his face, eye, extremities, joints and around genital organs;

- If the source of the burn is electrical, chemical or thunder;
 - If the patient has chronic disease such as epilepsy, diabetes etc.; and
 - If the burn accident is on elderly persons or children,
- **Follow up and education on preventive measures:**
- Educating on the consequence of severe burns and the importance of referring the victim to a nearby health facility;
 - Education to prevent using harmful foreign substances on the burned area, frequent touching of the wound, moving joints etc; and
 - Identify the causes of the burn accident and give appropriate education to the family and the community.

Measure to prevent burns:

- Keep away from children items such as matches, burning lamp and candles;
- Prepare and place stoves and other cooking installations in a safe way. E.g. locally made standing stove;
- Keep away from fire inflammable materials and don't come with materials such as nylon close to fire-place;

- Educate smokers not to smoke inside a house and if they smoke give them strict advice to put off the burning left over cigarette;



UNIT TWELVE

Poison

Definition: Any substance that, if taken in to the body in sufficient quantity, can cause temporary or permanent damage.

Note: get the poisoned to the hospital or health center immediately.

The extent of danger depends upon:

The amount and type of poison

The age of the person

Whether the person vomits

Where the accident takes place

There are different types of poisons:

- Acids
- Alkalis
- Aspirin over dose in children
- Iron
- lead
- Lysol
- Insecticides
- Drugs given for allergy (antihistamines)
- sleeping pills (sedatives)
- mercury
- paraffin, petrol (Gasoline)

General signs and symptoms

- Nausea
- Vomiting
- Abdominal pain
- Change in consciousness
- Change in vital signs
- Change in pupils

Poisons enter the body either accidentally or intentionally through

- Ingestion (through the mouth)
- Inhalation (by breathing in)
- Absorption (through the skin) through contact with poisonous sprays, pesticide, and insecticides
- Injection into the skin as the result of bites from some animal, insects, poisonous fish or by syringe

Steps to treatment of poison:

- Remove the poison from the body
- Give the patient the antidote
- Treat symptoms
- Give comfort and confidence

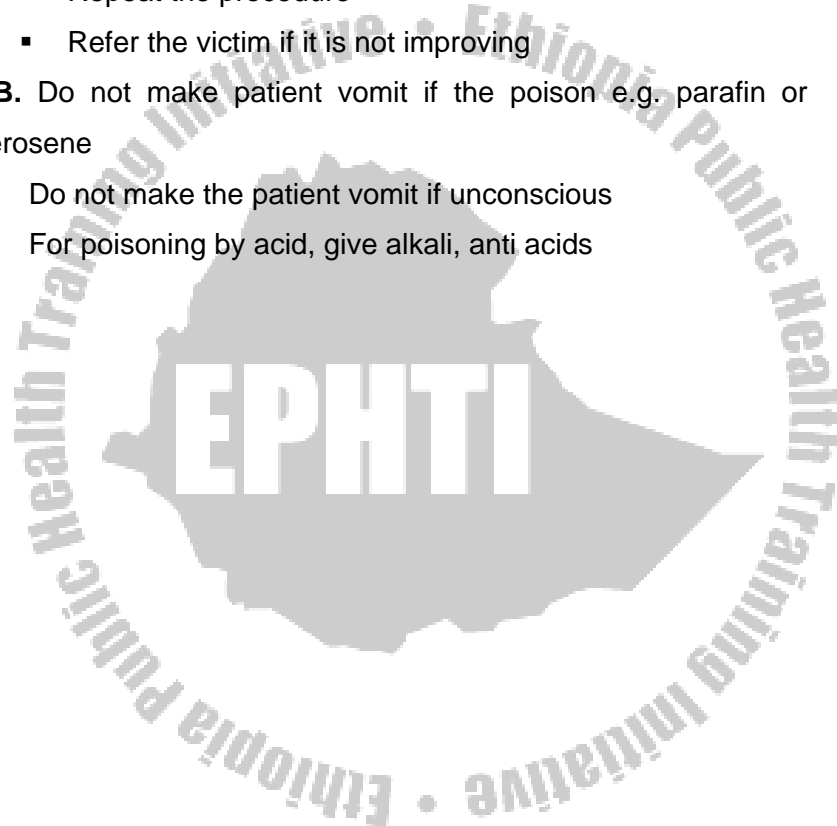
How to remove the poison from the body

- Make the victim vomit it
- Give plenty of tape water.
- If it is a child give them syrup or water.
- Repeat the procedure
- Refer the victim if it is not improving

NB. Do not make patient vomit if the poison e.g. parafin or kerosene

Do not make the patient vomit if unconscious

For poisoning by acid, give alkali, anti acids



UNIT THIRTEEN

Bites

A. Snake Bite

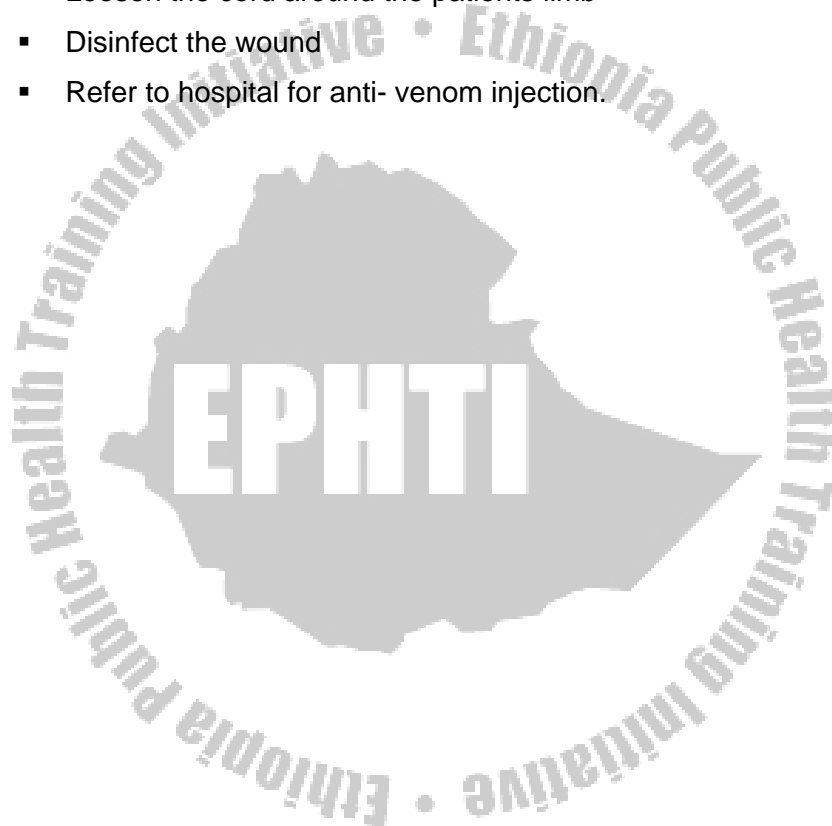
Signs and symptoms

- Disturbed vision
- Feel nauseated or vomiting
- One or two small puncture wounds with sharp pain and local swelling
- Symptoms and sign of shock
- Sweating and salivation in advanced stages of venom reaction

First aid management

- Lay the victim down and advise not to move
- Calm the victim
- Immobilized the affected part and keep it below the level of the heart
- Wipe the wound of venom
- Apply firm cord just above the bite
- This must be removed in 15 minutes if you are sure that anti venom has been injected and you can not get the victim to hospital in time. If there is no antivenom do the following:
- Tie a cord tightly around the limb just above the bite

- Using a razor blade or a clean knife make a cut 1 cm deep
- Suck the liquid which is coming out of the wound
- Continue to suck and dispose for 5-10 minutes
- Loosen the cord around the patients limb
- Disinfect the wound
- Refer to hospital for anti- venom injection.



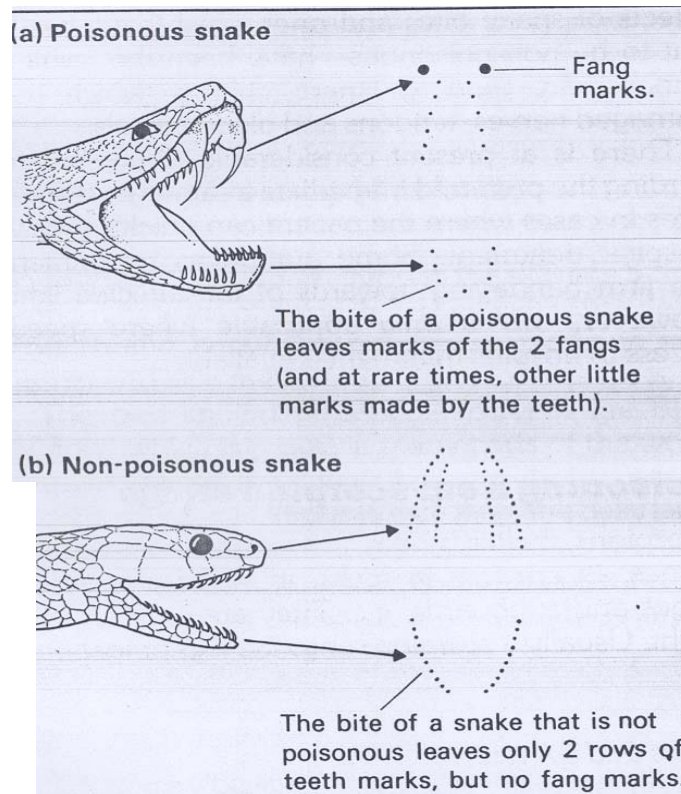


Fig .11. Snake bite

B. Dog bite

Rabies is a sickness due to an infection from an animal usually a rabid dog, cat, fox, wolf, and bats. The infection grows in the animal's nerves, may develop the disease, if the saliva enters a wound or scratch on a human being.

Signs and symptoms of a rabid dog.

- has difficulty in swallowing
- rarely bites
- Is lethargic /lazy/
- hides it self
- does not want food, but swallows, pieces of wood stone etc
- barks in unusual way and never stop barking
- Saliva runs out of its mouth

First aid management

1. Clean the wound with soap and water
2. Cover the wound with dressing ointment/powders
3. Find out if any one knows the dog that bit the patient
4. If the dog known, ask its owner to watch the dog carefully for lodges and to let you know it shows any of the above sign and symptoms in that time
 - See, during that time, it begins to show any of the above signs and symptoms
 - get the dog Killed
 - Send the person to hospital or Health center immediately for antirabies vaccination

UNIT FOURTEEN

Fit

Fit (convulsions)

When some one has jerking movements and which cannot be controlled it is called fit or convulsion.

▪ Signs and symptoms:-

- uncontrolled jerking movements
- Unconscious to the environment

Management:

- Keep the air way clear and lie him on one side
- Remove any clothes which is too tight
- Keep from biting his tongue by putting tongue depressor in the mouth
- Note vital signs and time of fit
- Prevent from injury or sharp objective
- Educate the victim and the family to go to health center or a hospital for further investigation and management

UNIT FIFTEEN

Eye, Ear and Nose Injury

Injury to the eye

Since the eyes are delicate, they can be affected easily there fore; immediate help should be given.

Signs and symptoms

- Pain inside the eye
- Wound or cut around the eye ball
- Different between the size of eye ball
- Sight decreases
- Inflammation and infection

Management of the eye injury

- A very light covering be applied to an injured eyes
- Do not apply pressure
- Reassure the patient
- If no improvement in few days, Refer the victim to the nearest health facility

Foreign bodies in the eyes:

A foreign can be; dust, ash, particles of sands, or small fly etc.

Often you can remove foreign from the eyes by flooding it with taped boiled water.

If it does not work:

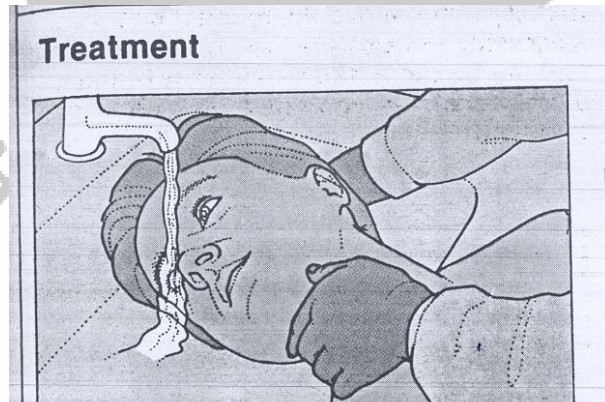
Instruct the patient not to rub his eyes, while the patient is looking up; gently draw the lower lid down and out. If the foreign body is seen on the lower lid remove it with moistened cotton wool or the corner of a clean hand kerchief,

If it does not

- Stand behind the patient
- Carefully place a smooth match stick at the base lid and pull and turn it in side out over the math stick
- Remove the often body with wisp of cotton wood

Note: - Do not try to remove a foreign body from the eye ball

- If an acid or alkali gets in to the eye, this can be very dangerous hence, flood the eye with running water for several minutes



Hold the affected side of the eye

Fig. 12. First aid treatment of Chemical burn.

Problems with ear:

Bleeding from the ear:

Bleeding from the ear may be due to broken (fractured) skull

- Cover the ear with a clean material (sterile if available) dressing.
- Do not plug the ear with wool
- Do not put in drops
- Refer the victim to the nearest health facility

Foreign body in the ear:

- Turn the patient's head to the affected part of the ear so that the foreign body may drop out.
- If it is an insect which is inside the ear, direct torch- light to the ear- the insect may follow the light and come out of the ear. If this does not succeed
- Pour in tepid boiled water, the insect may float out
- If neither these treatment is successful refer the client to the next health facility.

Bleeding from the Nose:

- If the foreign body is either beans, peas, avoid putting water or any fluid
- Get the patient to pinch the lower part of his nose firmly for 10 minutes, while breathing through his mouth
- Loose tight clothing around his neck

- Tell the patient not to blow his nose for several hours
- If bleeding persists, refer the client to the next health facility.

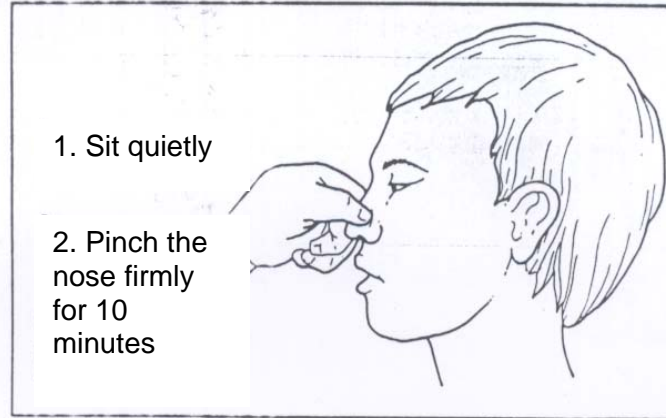
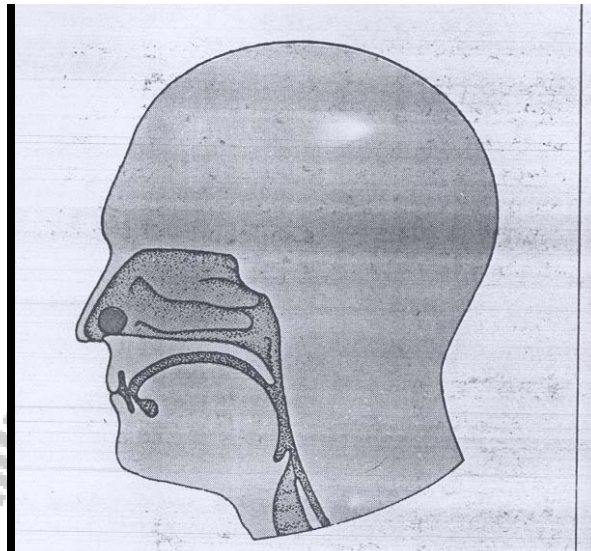


Fig . 13. How to stop a nose bleed

Foreign body in the nose:

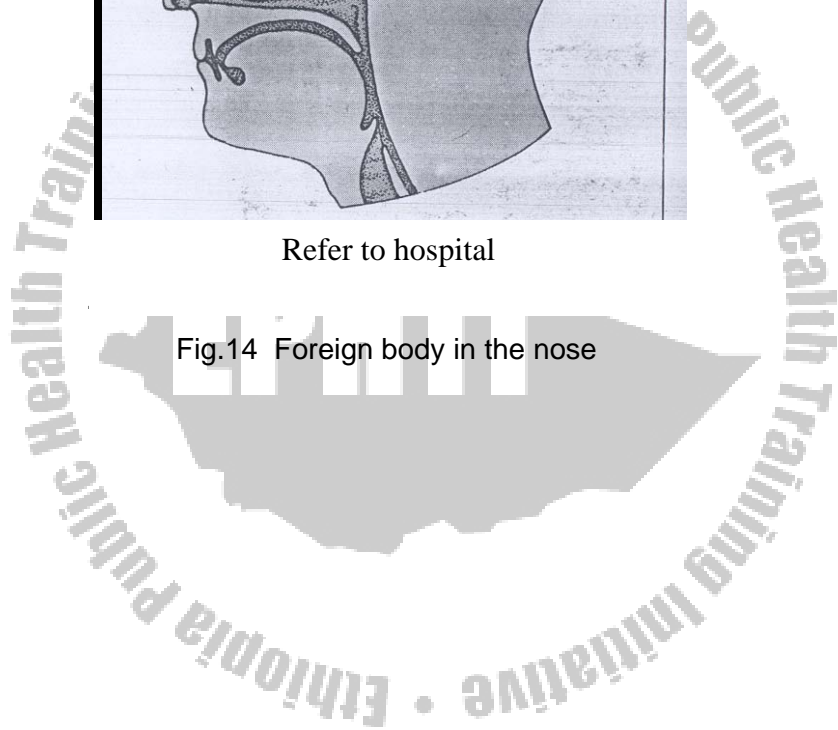
In an adult, a foreign body may enter the nose by accident, but mostly common in children who insert a pea or a bean in to their noses.

NB. - Do not attempt to remove it, refer to the next health facility.



Refer to hospital

Fig.14 Foreign body in the nose



UNIT SIXTEEN

Diarrhea

If some one has over three frequent/subsequent loose stool in a day, it is called diarrhea. When an individual loses much fluid from the body due to diarrhea and vomiting, it is likely that he/she becomes unconscious and /or dies.

Causes of diarrhea and/or vomiting:

- Food poisoning; and
- Intestinal parasites.

Emerging adverse consequences:

- Depletion of body fluids;
- Unconsciousness;
- Failure of kidneys;
- Malnourishment and dehydration; and
- Death, if untreated in time.

Signs of dehydration/excessive loss of body fluids:

- Body debilitation or loss of weight;

- Dryness of the mouth or tongue, sunken eye balls, eye drops, and sunken fontanel, in children;
- Dry and wrinkled skin, and when the skin on the stomach is stretched up with fingers and let down, it remains as wrinkled;
- Reduced amount of urine are observed and ; and
- Restless and unconscious.

First-aid measures:

- First, ensure that there are no adverse signs that are usually precipitated by diarrhea and vomiting such as:-
 - Sunken eye balls, wrinkled skin, restlessness; and unconsciousness; and in children, continuous vomiting after taking fluids, shivering etc.
- Prepare ORS in one litter of boiled and cold water. If ORS is not available prepare home made solution as follows. Mix eight spoon of sugar, with half a spoon salt in one litre (three normal beer bottles) of boiled cold water. If available, add half a glass of orange or banana juice into the solution;
- The ORS or home-made solution is prepared for an adult. Therefore, he/she must take the fluid in small amount every

five minutes. If the one liter solution is not finished in 24 hours, prepare and give a new/fresh solution in the following day. In addition frequently provide the victim soup, rice-water, gruel/oatmeal (an adult can take daily up to three liters of fluid);

- For children give ORS or a solution mix of eight spoon of sugar and half spoon of salt in one liter of boiled coldwater or mix of 2 times rice flour or corn or wheat or smashed potato in one liter of water and boiled for 5-7 minutes. Feed children after it is properly cooled in the following manner.
 - Children 2 months to 2 years old must get 50-100 milliliters (1 or 2 cups), a maximum of 500 milliliters in one day (one spoon every 2 minutes);
 - Children 2-10 years old must get 100-200 milliliters or 2-4 cups of ORS or home-made solution after every diarrhea episode the child can take up to one liter of the solution);
 - If the victim is over 10 years old, give the fluid until satisfied;
 - If the victim vomits the fluid, wait for about 10 minutes, and give one spoon of the solution every three minutes;

- Frequently breast feed the victim and add in small amount other supplementary foods such as gruel/oat meals every 10 minutes; and
- Continue the supplementary feeding for about two weeks after the diarrhea ceased.

Rationale for referral

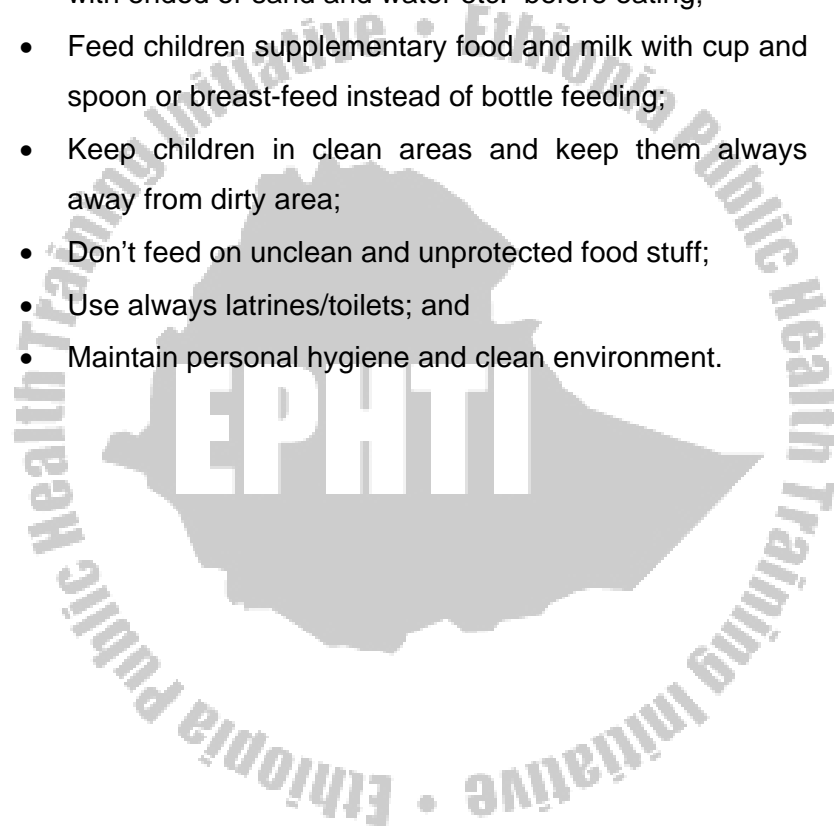
- Persistent vomiting after taking fluids;
- If the diarrhea is stained/mixed with blood and the victim has high fever;
- If the vomiting is accompanied with sign such as tenderness and sever cramp of the stomach; and
- If the diarrhea continues for 3 days in children and 4 days in adults without improvement.

Measures to be taken after first-aid assistance:

- Explain the causes of diarrhea and vomiting!
- Observe on the presence of precipitating factors in the household, such as the maintenance of house cleanliness and personal hygiene, water source usage, the handling of food and feeding practices. Based on the findings educate the household or the community with demonstrations.

Preventive Measures:

- Educate and demonstrate to the household on the importance of washing hands with soap and water, or with endod or sand and water etc. before eating;
- Feed children supplementary food and milk with cup and spoon or breast-feed instead of bottle feeding;
- Keep children in clean areas and keep them always away from dirty area;
- Don't feed on unclean and unprotected food stuff;
- Use always latrines/toilets; and
- Maintain personal hygiene and clean environment.



UNIT SEVENTEEN

Diseases Characterized By Fever

When an individual's body temperature is too hot than normal (above 37.5 °c) he/she has a fever. Fever itself is not an illness, but a sign of many different illnesses.

Common diseases that precipitate fever:-

- Yellow fever;
- Typhus, relapsing fever etc;
- Typhoid;
- Meningitis'
- Influenza; and
- Malaria

Emerging adverse consequences of febrile diseases

- Mental confusion, unconsciousness;
- Reduction of body fluid;
- Convulsion; and
- High fever precipitates brine damage, paralysis, low blood pressure, dysfunction of kidneys, inability to hear, speak, and liver damage.

First-aid Measures for febrile cases in general

- Cover with or put light dress on the victim. If the victim is a child, cover it with light cloth and carry it in your arms;
- replace fluids lost by profuse sweating give frequently the victim, soup, gruel oatmeal, if the victim is a child, give frequently breast-milk;
- Put cloth soaked in lukewarm water on the chest, face and abdomen to bring down the fever;
- Ask or ensure perhaps the presence of convulsion, chillness, vomiting, diarrhea, meningitis etc;
- If the area is malarious and the fever has lasted for at least two days, give the victim malaria treatment according to the guidelines on malaria case treatment (refer to the malaria prevention and control extension package).
- If the victim has not improved three days after he/she got the malaria treatment and if he/she has signs and symptoms such as vomiting, diarrhea, meningitis, jaundiced eyes, convulsion, inability to breathe, rapid and intermittent breathing, dyspnea, no urination after drinks, mental confusion, unconscious etc. and if the locality is not malarious and the cause of the fever is unknown, brig the victim immediately to a nearby health facility for treatment. If the victim is a child and has not improved with first-aid treatment, take him rapidly to the next health facility;

- Consult the professional staff in the health facility to find out whether the cause of the fever is or not an infectious disease;
- Assess if similar illness is observed in the same community; follow and register if the number of cases is rising. Then report and solicit support from the nearby health facility; and
- Give health education on the causes and preventive measures of the illness.
- If the cause is identified, treat accordingly or refer when necessary because meningitis and cerebral malaria are serious condition to refer soon.

Preventive measures:

- Clear and level all mosquito breeding places such as water collections, ditches etc;
- Undertake insecticide residual house spraying; and
- Advise households to use insecticide treated nets
- Avoid over crowding
- Maintain hygiene
- Residence/houses must have windows and the windows must be kept open;
- Let air come through windows and doors in prisons, schools and in public meeting places;

- If any disease exists in the community report to the nearby health facility and in the meantime under take a survey or assessment of the situation; and
- If the number of sick people increases, advise the community to stop gathering and in the meantime solicit and organize for vaccination programme.

Signs and symptoms:

- Unconsciousness;
- Convulsion;
- Foaming at the mouth;
- Only the white part of the eye ball becomes visible; and
- When the convulsion subsides, the victim gradually becomes conscious. The victim is weak and dizzy for sometime.

Emerging adverse consequences

- Depletion of oxygen in brain, dysfunction and retardation of the brain;
- The victim incurs head damage, wound, body burns etc. during the attack; and
- Perhaps death

First-aid measures:

- Move or push the victim from potentially dangerous site to prevent him/her from further accident or injury while in convulsion;
- Remove nearby objects to avoid further accident;
- Loosen tight dress, necktie, belt etc.;
- Lay him/her on his/her side, to prevent the biting of his/her tongue, insert splint of wood wrapped by stripes of cloth in between his/her teeth;
- Clean the fluid or the saliva coming out through the victim's mouth;
- Keep him/her laid down on his/her side until jerking is over. When the jerking is over, bring him/her immediately to a nearby health facility;
- Understand the cause of the sudden illness, and if the victim was already on drugs, advise and educate him/her to take medicine regularly. Also keep record of the victim and follow him/her and advise him/her not to come near fire, or to stay always where there are people; and
- Advise the victim to refrain from crossing deep rivers or climb high trees.

Management of Abortion

Danger signs in pregnant women

If in spite of all care and advice, any of the following happens urgent medical help should be obtained at once.

Bleeding

If a pregnant woman loses any amount of blood however little from the breathing- opening (Vaginal) she should be treated as an emergency.

Vaginal bleeding due to abortion

Definition Abortion is an expulsion of the fetus from the womb during the first weeks of less than 28 weeks, of pregnancy.

NB. There are two types of abortions

1. This is loss of the un born fetus during the first 3 months of pregnancy
2. Therapeutic Abortion

This abortion which is legally induced by drugs in order to save the woman's life.

a) Criminal abortion

This is abortion which is illegally induced in order to end the life of an unwanted fetus.

First Aid and Management:-

- **Arrange for urgent referral, until then:-**
 - Keep the woman quiet and clean
 - Observe and record pulse and respiration rate
 - Collect any tissue or collected blood which may be discharged from the womb
 - Put clean piece of cloth as a pad on the genitalia

General Assessment when dealing first aid management or emergency situation

- The whether the patient or causality is conscious or an conscious
- Assess the air way
- Check bleeding / Hemorrhaged
- Investigate or check the circulatory
- Control any bleeding it any status,
- Carry if out artificially respiration in necessary or needed.
- Check and record and interoperate vital sings
- Apply first aid management accordingly

- Reassure the causality and the relative
- Arrange and transfer to the nearest health center or Hospital for further investigation and treatment.

All splints should be:

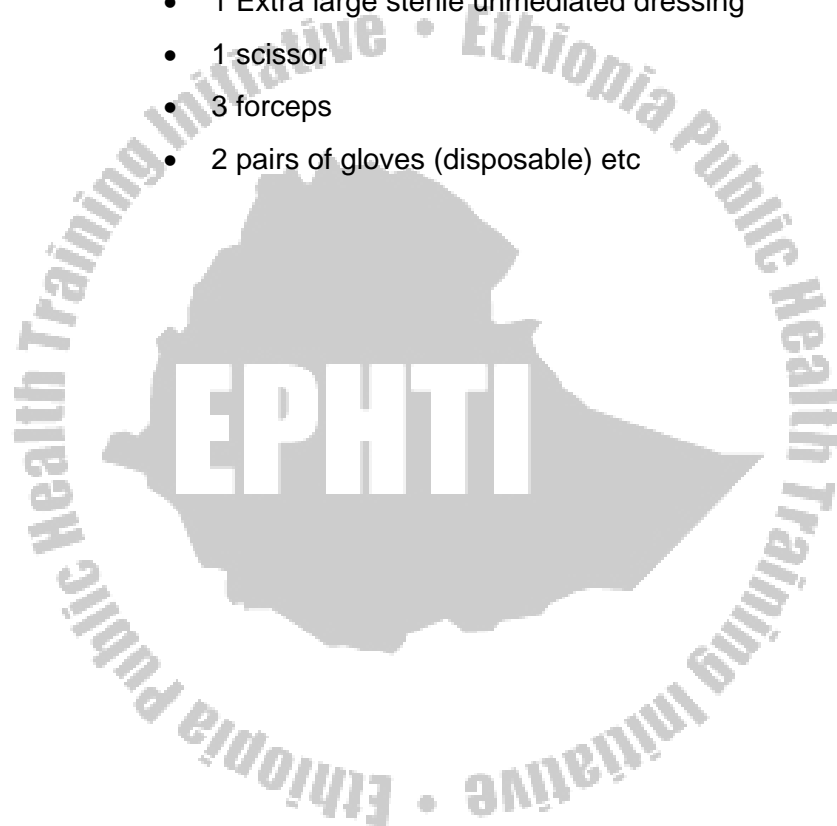
- Rigid/Firm
- Well padded
- Long enough to supports joints above and below the fracture
- Wide enough to fit the limb comfortably
- Applied for injured parts over cloths

First aid kits equipment included

While bandages and dressing can be improvised it is far better to have proper equipment on hand.

- These materials should always be kept in a clean, dry, airtight container
- Do not keep the container in a damp atmosphere such as a bath room and make sure that it is clearly labeled
- Below is a suggested list of content for a first aid kit
 - 10 individually wrapped adhesive dressing
 - 1 sterile eye pad with attachment
 - 1-3 Triangular bandage

- 1-6 sterile covering for serious wound
- 6 safety pins
- 3 medium sized sterile unmediated dressing
- 1 large towel un medicated dressing
- 1 Extra large sterile unmediated dressing
- 1 scissor
- 3 forceps
- 2 pairs of gloves (disposable) etc



Glossary

1. **Fracture**: The breakage of bone tissue or interruption of continuation of bone tissue
2. **Dislocation**: it is the separation of bone at Joint abnormally
3. **Sprain**: over pulling or over stretching of ligament (tearing of ligaments)
4. **Strain**: over stretching of muscles of different parts of the body
5. **Un consciousness**: when a person is unable to be aware or respond to external stimuli or objectives such as place, people and time (Disoriented)
6. **First aid**: The treatment given when an accident or sudden illness occurs
7. **Respiratory Arrest**: When the breathing stops if the airways become blocked due to different accidents
8. **Drowning**: The condition that happens to airway such as sea, river, lake, bath, spring, while swimming and soon
9. **Cardiac arrest**: Stopping of heart function to different causes.
10. **Wound**: is the continuity of the tissue of the body either internal or External
11. **Bandage**: is a material used to keep splint and dressing place and also to apply pressure

12. **Causality:** a person he seeks first aid treatment until he reaches Hospital (Vic timed person).
13. **Burns:** When the skin of the body is a burned or destroyed by burning causing factors.
14. **Poison:** when substances that are very toxic to the body hitter they reach to digestive system by swallowing
15. **Antidotes:** substances which neutralizes
16. **Pain:** sensation of Discomfort just like sharp knife
17. **Abortion:** is expulsion of the fetus stimulation
18. **Complete abortion:** When the placenta are expelled
19. **Incomplete abortion:** when the fetus comes out but pieces of placenta after birth remain in the womb
20. **Fit:** Jerking movements which can be controlled (convulsion)
21. **Fever:** Height body temperature
22. **Hypothermia:** Temperature below normal
23. **Split:** Any firm material that helps to support the fractured bone or part.

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Multiple Choice Question

1. When unconscious patient's head tilts forward the air way often will be obstructed by the
 - a. Tongue
 - b. Tonsils
 - c. Throat (pharynx)
 - d. Voice box

2. You find an unconscious patient and call out for first aider help. Your next step is
 - a. Clear the mouth
 - b. Ensure an open airway
 - c. Check for a pulse
 - d. Provide ventilation

3. The first step to control bleeding is
 - a. Tourniquet
 - b. Pressure point
 - c. Direct pressure
 - d. Applying a dressing

4. Which comes first in adult cardio pulmonary Resuscitation?
 - a. Ensure an open air way
 - b. Call dispatch
 - c. Establish breathing
 - d. Establish unresponsiveness

5. A simple Nose bleeding is best controlled by
- Tilting head back
 - Packing nostrils with gauze
 - Using facial pressure points
 - Pinching Nostrils
6. The main purpose of splinting is to
- Set broken bones in their normal position
 - Realign broken bones
 - Immobilize the injured part
 - Apply tension to a broken bone
7. Which of the following is a symptom of a snake bite:-
- Weakness
 - Nausea
 - Vision problem
 - All of the above
8. Which of the following is the purpose of first aid treatment?
- To sustain life
 - To prevent the injured condition from becoming worse
 - To help him/her to recover
 - An of the above

9. Common cause of respiratory problems is/are
- Drawing
 - Combustible
 - Inhalation of oxygen
 - A and B
10. Types of open wounds includes
- Abrasions, Boil, Incisions, Puncture and Avulsions
 - Ulcerated, Abrasions, incision; punctures of avulsion
 - Avulsions, Puncture, fracture, Abrasions and incisions
 - All of the above
11. The common causes of wound
- Falling
 - Accidents like motor vehicles
 - Mishandling of sharp objects
 - All of the above
12. All are the main aims of dealing with wound except
- To treat and prevent shock
 - To control the wound from contaminants
 - To facilitate complication
 - To control bleeding

13. The principle that should be followed during treatment of unconscious patient
- Checking the air way, berthing and circulation
 - Assessing air way and checking appetite of the patient
 - Checking weather he/she is waving or not
 - Checking bleeding and attempt to stop bleeding only
14. A cracked bone is called
- Strain
 - Sprain
 - Fracture
 - Dislocation
15. The first aid management of fracture
- Immobilize the injured part
 - Stop bleeding
 - Bandaging and application of splinting
 - All of the above
16. An injury which occurs at a joint when the ligament and tissue around particular joint are suddenly twisting or torn is
- Sprain

- b. Strain
- c. Dislocation
- d. Fracture

17. The first aid treatment of sprain include

- a. Raise the limb, cold compress, Bandaging firmly and rest
- b. Apply bandaging, cold compress and support with a hard board
- c. Raise the injured part, cold compress, bandaging and advise the patient to move around the bed
- d. All of the above

18. All are the first aid management of burn Except one

- a. put off flame with cold water or by instructing the victim lay down and roll on ground
- b. Don't attempt to remove any constricting items
- c. Cover the area with a clean cloth or sheets
- d. Do not handle the burned area

19. Which of the following is True about the first aid treatment of poisoning

- a. Do not make patient vomit if the poison is kerosene and acid
- b. Dilute the poison by giving plenty of fluid

- c. If a known poisoning give antidote
- d. All of the above

20. Dislocation is
- a. Twisting of ligament
 - b. Overstretching of muscles
 - c. Cracked bone
 - d. Separation of bone at a joint

Key to multiple-choice questions:

- | | |
|------|-------|
| 1. A | 10. B |
| 2. B | 11. D |
| 3. C | 12. C |
| 4. D | 13. A |
| 5. D | 14. C |
| 6. C | 15. D |
| 7. D | 18. B |
| 8. D | 19. D |
| 9. D | 20. C |