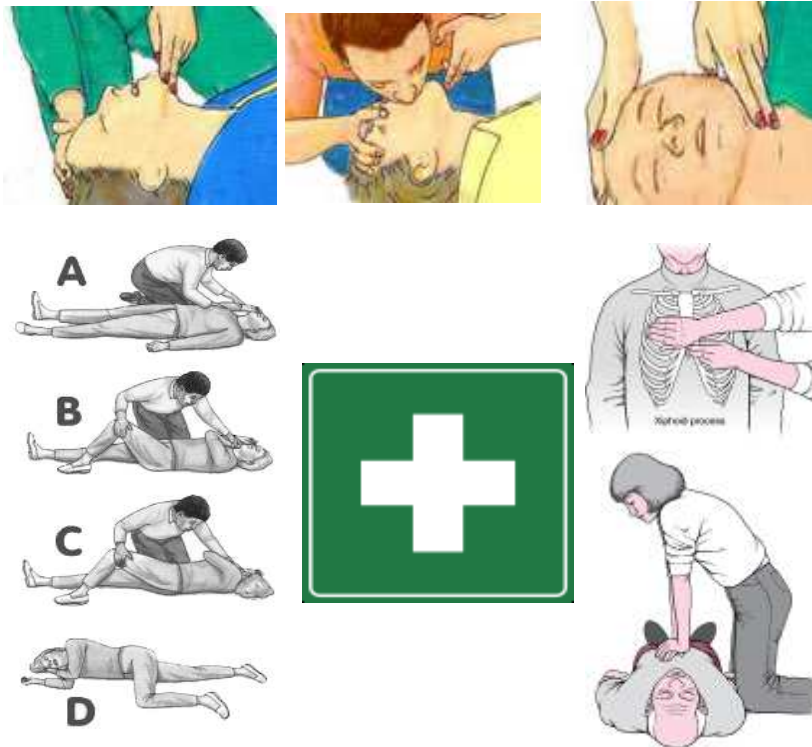


FIRST AID EMERGENCY MANAGEMENT



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. **1 Few words about.....**

Being Author is Secretary of St.John Ambulance Association Visakhapatnam branch, Andhra Pradesh responsibility to say few words about my parent organization.

St.John Ambulance Association

St.John Ambulance Association is a worldwide organization with

National Head quarters at New Delhi
State Head quarters at Hyderabad
District Head quarters at Visakhapatnam

This organization imparts training in "First aid to the injured" and issues certificates to those qualified which are recognized throughout the world

we are conducting regular training Programs "First aid to the injured" to the general public , industrial establishments and others at our District centre:

Address for Communication:

Secretary
St.John Ambulance Association
Bhavani Diabetic care centre premises
39.11.31, Muralinagar Jn.
Madhavadhara
Industrial Estate (PO)
Visakhapatnam 530 007
Andhra Pradesh

Phones: 6523999 (R) Cell 9885754766

2 FIRST AID

First Aid has been practised ever since the beginning of humanity. Learning First Aid is the civic responsibility of every citizen. Methods of first aid have been practised ever since one person desired to help another in sickness or after an injury. But, an organized worldwide effort at recognizing the importance of first aid came only in the year 1877 with the formation of the St. John Ambulance Association of England named after the great apostle St. John. Over the decades, the importance given to First Aid has grown. Mahatma Gandhi was a great supporter of the cause of First Aid, and led a band of dedicated Ambulance Corps volunteers in 1906 during the time of the Zulu Rebellion and earlier in 1899 during the

FIRST AID

First aid is the immediate skilled assistance given to a victim of an accident or sudden illness before medical aid is available (doctor).

AIM OF THE FIRST AID:

1. PRESERVE THE LIFE
2. PROMOTE THE RECOVERY
3. PREVENTS WORSENING CONDITION
4. TRANSPORT THE CASUALTY

1. ***Preserve the life:***
 - a. Maintain airway
 - b. Breathing
 - c. Circulation

2. ***Promote recovery:***
 - a. Encourage confidence
 - b. Attempt to relieve the pain and discomfort
 - c. Handle the casualty gently
 - d. Protect from cold and wet

3. ***Prevent the worsening:***
 - a. Unnecessary movements of the injured part
 - b. Dress the wound
 - c. Comfortable support to fracture site
 - d. Place the casualty on well ventilated area

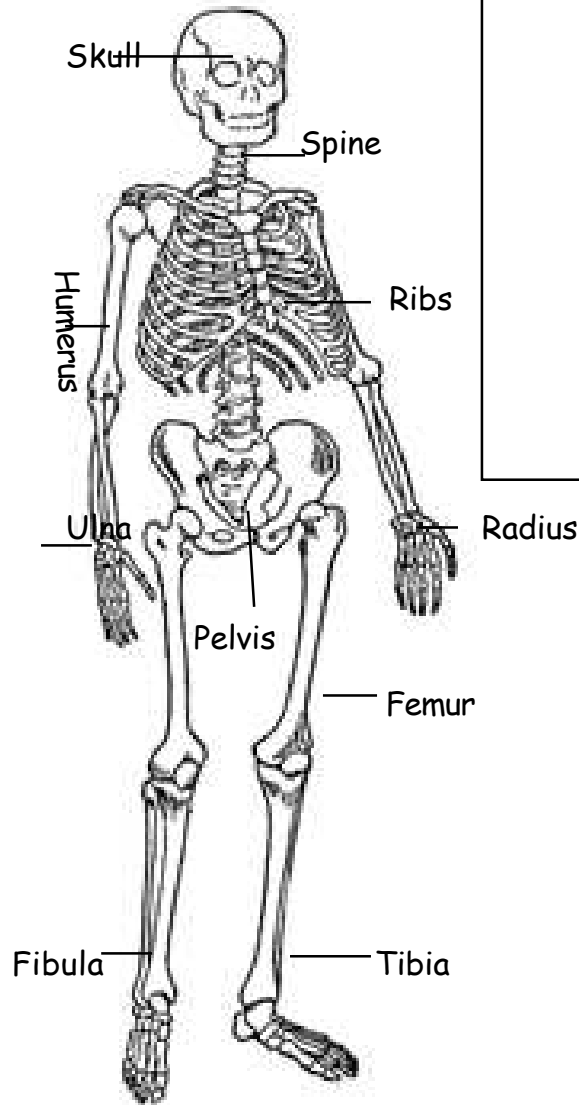
4. ***Transport the casualty to the hospital:***
 - a. Call immediate assistance to 108 in Andhra Pradesh
 - b. Shift the casualty by other transport

Golden rules for the first aid

- ◆ Reach the accident spot immediately
- ◆ Observe the scene which is endanger us to you or casualty
- ◆ Becalm, confident and quick in action
- ◆ Clear the crowd and ensure fresh air to casualty
- ◆ Assure & reassure the casualty
- ◆ Find and remove the cause
- ◆ Attend the priorities of ABC of first aid
- ◆ If possible, sent information to family members

3. THE HUMAN BODY

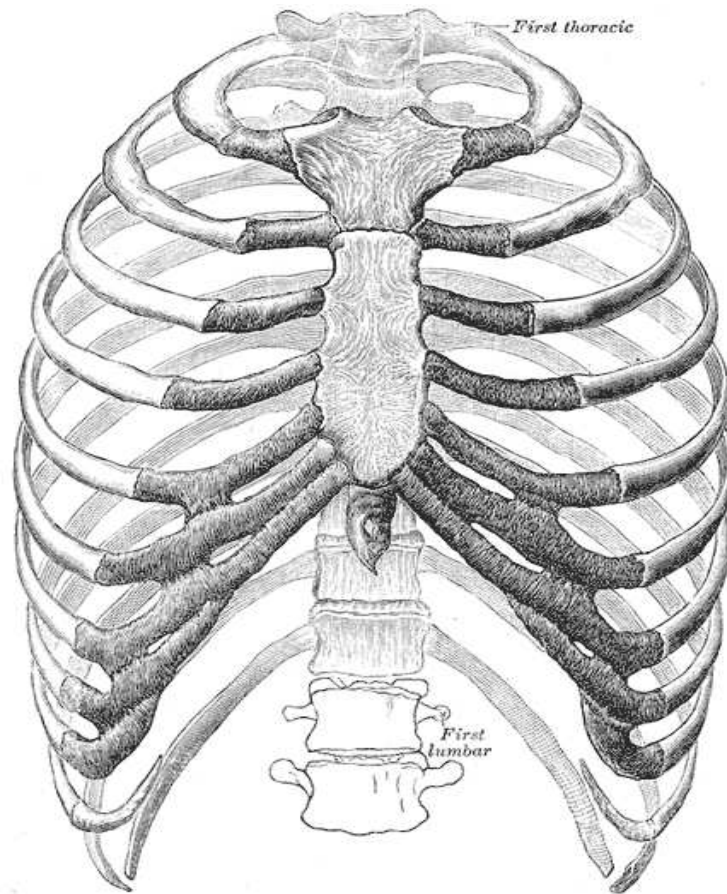
Human body consists of bones and flesh having 206 bones. It has Skull, spines, ribs, upper & lower limbs and pelvis,



Skull	22
Middle ear	6
Throat	1
Shoulder	4
Thorax	25
Vertebrae	26
Arms	6
Hands	54
Pelvis	2
Legs	8
Feet	52

Human Skeleton

Ribs: consists of 12 pairs which forms cage and protects vital organs like heart and lungs.



Uses of Bones:

- 1) Firm shape to the body
- 2) Protect the vital organs
- 3) Attached to muscle and make movements
- 4) Bone marrow produces blood cells (RBC)

Upper limbs: clavicle, scapula, humerus, radius, ulna and wrist

Shoulder: clavicle and scapula

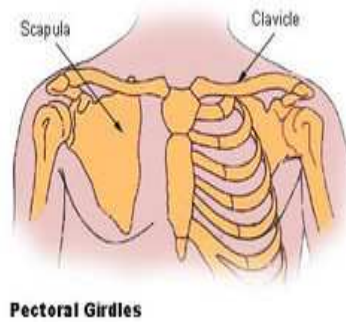
Upper arm: humerus

Forearm: radius and ulna

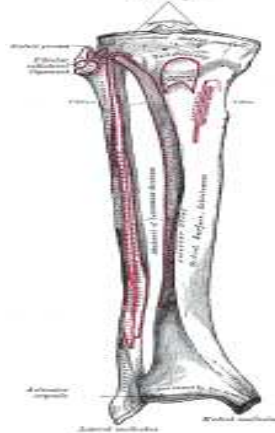
Wrist: carpel (8)

Palm: metacarpals (5)

Phalanges (three in each finger except little finger having two) (14)



Lower limbs: Pelvis, Thigh bones. Leg bones, Knee, Ankle and Foot

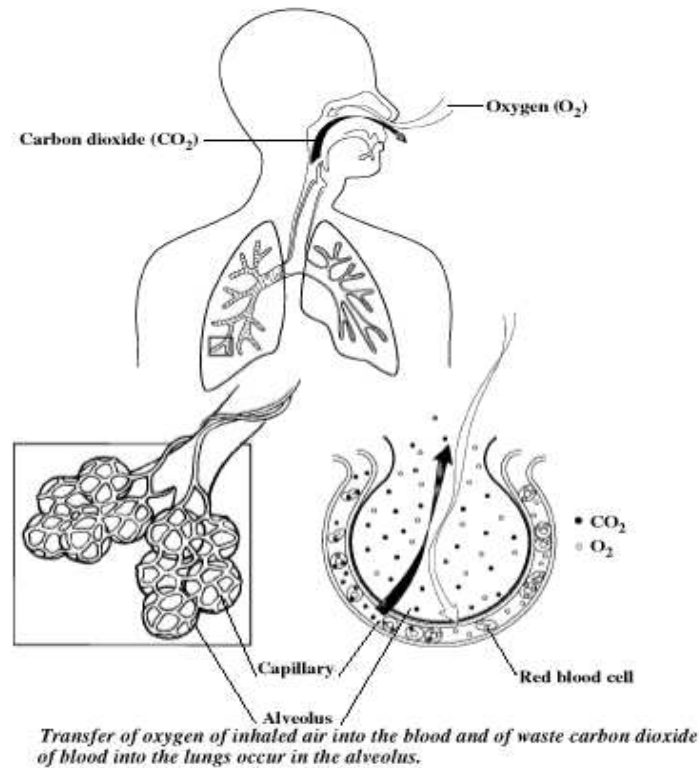


- Thigh bones Femur
- Leg bones Tibia&Fibula
- Knee cap Patella
- Ankle Tarsals(7)
- Foot Metatarsals
- Phalanges (three small bones in each toe except little toe having 2 bones)

4

THE RESPIRATION

Breathing is the process by which air is drawn into the chest through nose and mouth and is the blown out again though the same passage



Respiratory system consists of:

1. Respiratory tract
 - a. Air passages- mouth, nose and trachea
 - b. Lungs
2. Muscles connecting with respiratory mechanism
 - a. Ribs
 - b. Diaphragm
3. Respiratory Centre
present in the brain

Any where in the Respiratory system injured or blocked leads to suffocation

- 1) ***Conditions affecting the air passage:***
 - a) Obstruction by foreign body
 - b) Allergens like gases, food leading to spasm
 - c) Compression of trachea e.g.. Hanging, smothering
- 2) ***Conditions affecting the respiratory mechanism***
 - a) Diseases like tetanus and rabies
 - b) Nerve diseases like paralysis of chest wall and diaphragm
- 3) ***Conditions affecting the respiratory centre***
 - a) Electric shock
 - b) Large doses of sleeping pills
 - c) Chr.Alcoholism
- 4) ***Compressing of chest***
 - a) Falling of sand, stones and mud
- 5) ***Lack of oxygen***
 - a) High altitudes
 - b) Mines (under ground)

Signs & symptoms

1. Difficulty in breathing
 - a. Rate of respiration increases
 - b. Respiration gets shortened
2. Bluish discoloration of lips, tips of fingers & toes
3. Prominent neck veins
4. Gradual loss of consciousness
5. Fits may occurs
6. Froth from the mount & nostril

How to Asses, if breathing stops:

Look and see: chest wall will not moves up and down

Listen: you will not hear air flow, when place your ear near nose or mouth

Feel: your hand will not move up and down, when kept on the chest. No feeling of airflow when hand kept near nose and mouth.



What to do if breathing stops:

Management:

- Remove the cause
- Ensure an open airway, to allow the air to reach lungs
- If the casualty not able to breath normal, to apply artificial respiration

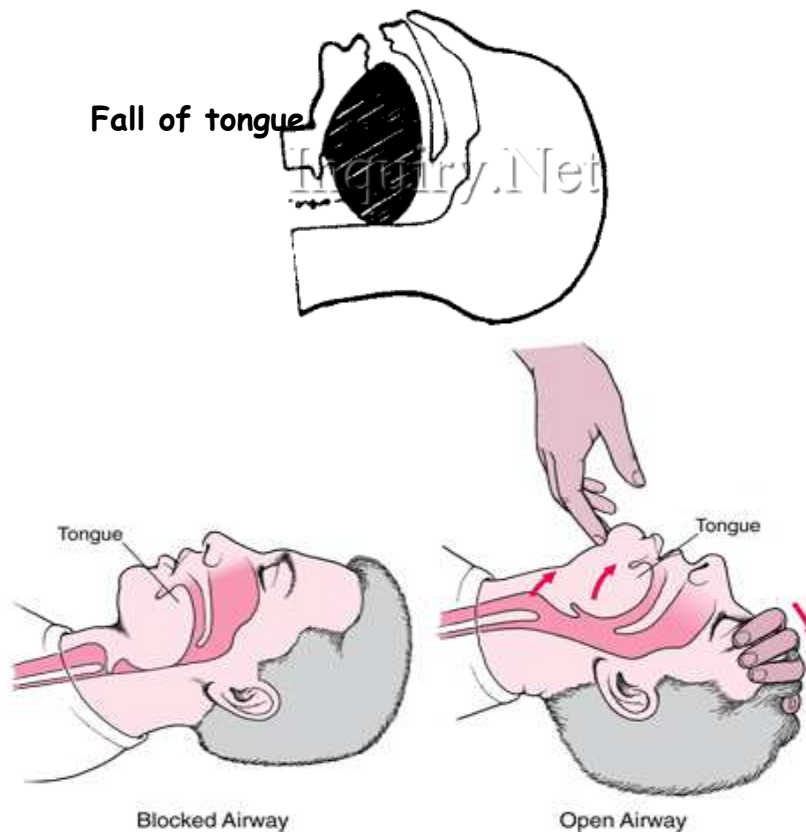
ARTIFICIAL RESPIRATION

This means providing air for a person who is not breathing or is not making sufficient respiratory effort on their own.

It consists of clear Airway and Breathing

A : Airway - The passage from the nose and throat to the lungs, which allows air containing oxygen to enter the body during normal Respiration or Artificial Ventilation. The main causes of an obstructed airway are:

- * Conscious: Food or other Foreign Body
- * Unconscious: Tongue or Epiglottitis

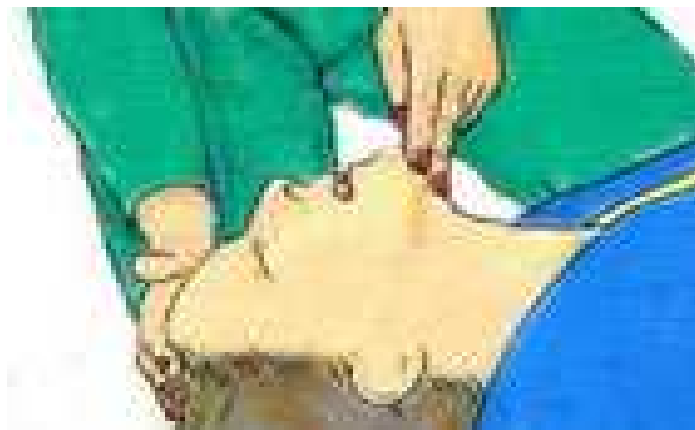


DN

B : Breathing - The casualty needs to be breathing for themselves, or assisted in breathing, in order to maintain oxygen in the body, particularly to the brain. The body and brain in particular can only survive without oxygen for a few short minutes before permanent damage or death will result.

Procedure of Artificial Respiration

- ◆ Lay the casualty on a hard surface in supine position (face to sky)
- ◆ Kneel next to the casualty neck and shoulders
- ◆ Ensure patients airway is clear by checking the mouth for any obstruction i.e.. any vomits, saliva and remove dentures if any
- ◆ Open airway using the head tilt-chin lift
Tilt victim's head back so chin points upward
- ◆ Take a deep breath and place your mouth tightly over the patient's mouth.
- ◆ Blow air twice steadily for 2 seconds and watch the chest movements (chest raising)





If it does not rise, further check for any airway obstruction

Repeat the procedure 15 times per minute till the patient recovered or medical attendance

For Babies and Children:

- ◆ Children should receive smaller breaths repeated at the rate of 20 times per minute.
- ◆ Place your mouth over mouth and nose of casualty
- ◆ Breath gently without over distending the lungs

It is the most effective method of giving artificial respiration, given appropriately without delay, can be life saving.

Other Methods of Artificial Respiration

In certain conditions, artificial respiration cannot be administered like injury to face, jaw bones fracture, consumed poison and drowning. Alternate methods are:

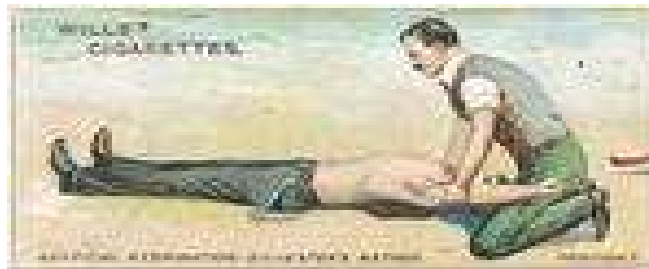
Schafer's method:

- ◆ Place the casualty face downwards, his head rest on his hand and head turned on side
- ◆ Kneel at legs and place hands on the casualty back just below the shoulder blades, and rock forwards and pressing down to compress the chest. Repeat the procedure for 12 times/minute



SYLVESTER Method :

- ◆ Place the casualty lying on the back, face upwards
- ◆ Extend casualty's hand above head then rock for ward and placing hands on the casualty's chest
- ◆ Repeat 12 times a minute.



Priorities of ABC of First Aid

- A AIRWAY**
- B BREATHING**
- C CIRCULATION**

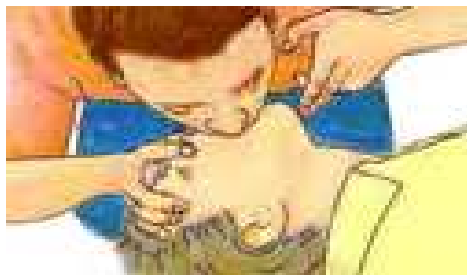
Any casualty who is in serious condition and requires immediate attention on airway, breathing, circulation.

Choose priorities of ABC of first aid depends on situation or CPR

A. Airway - The passage from the nose and throat to the lungs, which allows air containing oxygen to enter the body during normal Respiration or Artificial Ventilation. See for any obstruction and remove the cause.



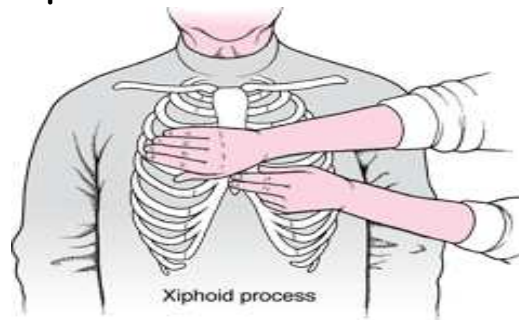
B : Breathing - The casualty needs to be breathing for themselves, or assisted in breathing, in order to maintain oxygen in the body, particularly to the brain. The body and brain in particular can normally only survive without oxygen for a few short minutes before permanent damage or death will result. To look for artificial respiration.



C : Circulation - The Heart is pumping blood throughout the body at a sufficient rate to allow for the exchange of gases (Oxygen and Carbon Dioxide). if fails to do, cardiac compression which is vital method to recover from the cardiac arrest



To look for carotid artery pulse (see above picture), if no pulse starts cardiac resuscitation



SUFFOCATION

Asphyxia is a condition in which the lungs do not get sufficient oxygen supply of air for breathing. If this continues for some minutes breathing and heart action stops and death occurs.

kinds of Suffocation:

- 1 *Drowning*
- 2 *Strangulation*
- 3 *Choking*
- 4 *Smoke*
- 5 *Gases and fumes*

Signs and symptoms

Initial phase

1. Rate of breathing increases
2. Breath gets shorter
3. Veins of the neck become swollen
4. Face, Lips, nails, fingers and toes turn blue.
5. Pulse gets faster and feeble (tachycardia)

Later phase

6. Consciousness is lost totally or partially.
7. Froth may appear at the mouth and nostrils.
8. Fits may occur.

Note: Even after breathing has stopped the heart may continue to beat for five to ten minutes. In such cases it is possible to restore breathing through artificial respiration, and bring the casualty back to life.

DROWNING

Drowning is the result of complete immersion of the nose and mouth in water (or any other liquid). Water enters the windpipe and lungs, clogging the lungs completely thus making the person unable to breath.

Management

The aim of first aid is to drain out water (or other matter) from lungs and to give artificial respiration.

1. Act quickly. Remove sea weeds and mud from the nose and throat. Start artificial ventilation immediately. This is possible even when the casualty is in water.

2. Turn the victim face down with head to one side and arms stretched beyond his head. Infants or children could be help upside down for a short period.

3. Raise the middle part of the body with your hands round the belly. This is to cause water to drain out of the lungs.

4. Priorities of ABC of First Aid

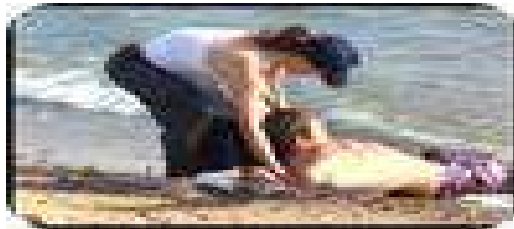
5. Remove wet clothing.

6. Kept the body warm, cover with blankets.

7. When victim becomes conscious, give hot drinks viz coffee or tea

8. Do not allow him to sit up.

9. After doing the above, remove quickly to hospital as a stretcher case.



Always perform the Heimlich maneuver on any drowning victim before you do CPR

STRANGULATION/HANGING

Strangulation is pressure on the neck that can cause injury to the spinal cord, brain stem, or neck structures; complete airway obstruction; cardiac arrest; or death.

Strangulation may be

1. Purposeful action

OR

2. Result from an accident.

Observe the scene and do immediately

1. Cut or remove the band constricting the throat.
2. If suspended, raise the body and loosen or cut the rope.
3. Priorities of ABC of First Aid
4. Inform to police authorities

CHOKING

Choking is suffocation caused by blockage of the windpipe (trachea)

Common causes:

- A weed or a button may get stuck on the air passage commonly seen in children
- Food may go down in the wrong way
- Water going into the air passage as in Drowning
- Irritant gases
- Hanging and Soothering leads pressure on wind pipe

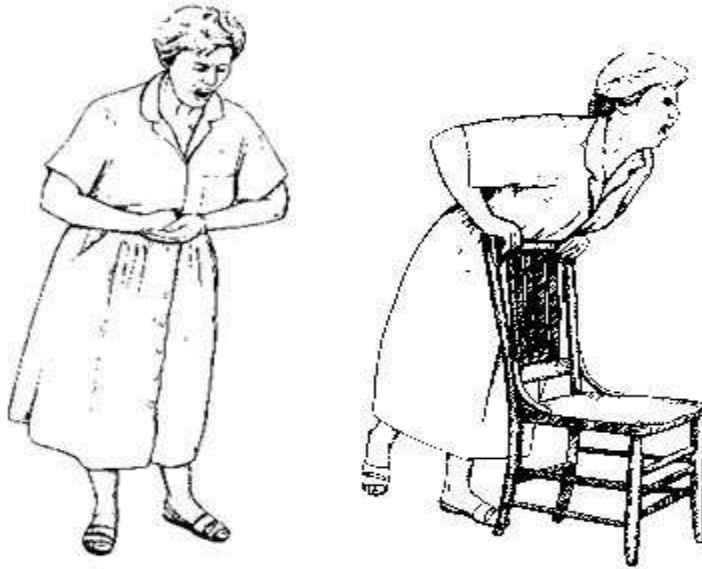
If choking is occurring, the Red Cross recommends a "five-and-five" approach to delivering first aid

- ◆ First, deliver five back blows between the person's shoulder blades with the heel of your hand.
- ◆ Next to, perform five abdominal thrusts (also known as the Heimlich maneuver).
- ◆ Alternate between five back blows and five abdominal thrusts until the blockage is dislodged.



ADAM.

Individual with choking:



Assisted Chocking:



victim is difficulty in breathing:

Management:

If the victim is in difficulty breathing:



Bend her/him over, head lower than the chest, he /she should try to cough out the obstructing object.



Slap her/him between the shoulder blades 5 times, if the above procedure fails, give up to 5 (five) abdominal thrusts (stand behind the person, interlocking your hands below the rib case. Pull inwards and upwards)

If victim unconscious, turn the victim on to the side, then slap between shoulder blades up to 5 times. Try to remove obstruction.

If the above procedure fails, kneel over victim and give up 5 abdominal thrusts and see for recovery

If Unsuccessful, perform artificial respiration/CPR

Management in case of an infant

1. Hold the child upside down by the legs and smack his/her back hard three or four times.

2. If not successful, lay the child prone with his head hanging downwards over the knee and give sharp smacks between shoulders.

3. If still not successful, induce vomiting by passing two fingers right to the back of the throat.

Heimlich maneuver

AHA (American Heart Association) Recommendation

Abdominal thrusts (also known as the "Heimlich maneuver" (HIM'lik mah-NOO'ver) are a series of under-the-diaphragm abdominal thrusts. They're recommended for helping a person who's choking on a foreign object (foreign-body airway obstruction).

To simplify training of cardiopulmonary resuscitation, abdominal thrusts are recommended for rescuers to use in clearing a blocked airway in conscious adults and children over the age of 1. It's not recommended for choking in infants under age 1.

Abdominal thrusts lift the diaphragm and force enough air from the lungs to create an artificial cough. The cough is intended to move and expel an obstructing foreign body in an airway. Each thrust should be given with the intent of removing the obstruction.

SMOKE/GASES/FUMES

1. Protect yourself by a towel or a cloth (preferably wet) over your mouth and nose.
2. Always bend low (crawling) while enter into the room
3. Remove the casualty as quickly as possible away from the smoke zone to fresh area.
4. Priorities of ABC of First Aid

Signs & symptoms:

1. Rapid, weak pulse
2. Headache
3. Blurred vision
4. Drowsiness (may lead to unconsciousness)
5. Breathing difficulties

Management:

1. Before entering the enclosed space take two or three deep breaths and hold your breath as long as you can.
2. Immediately carry or drag victim to fresh air (minimize your exposure to the fumes)
3. If the victim is not breathing, start mouth-to-mouth respiration

5 THE HEART

Cardio vascular system consists of a) Heart b) Arteries
c) Veins d) Capillaries

HEART: is a hollow muscular organ having 4 chambers
consists of:

a) Rt. Atrium b) Lt. Atrium c) Rt. Ventricle d) Lt. Ventricle and having non-return valves

The function of the right side of the heart (see right heart) is to collect deoxygenated blood, in the right atrium, from the body and pump it, via the right ventricle, into the lungs (pulmonary circulation) so that carbon dioxide can be dropped off and oxygen picked up (gas exchange). This happens through the passive process of diffusion. The left side (see left heart) collects oxygenated blood from the lungs into the left atrium

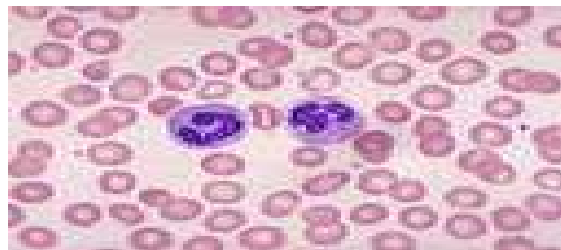
Human body having 5 to 6 liters blood

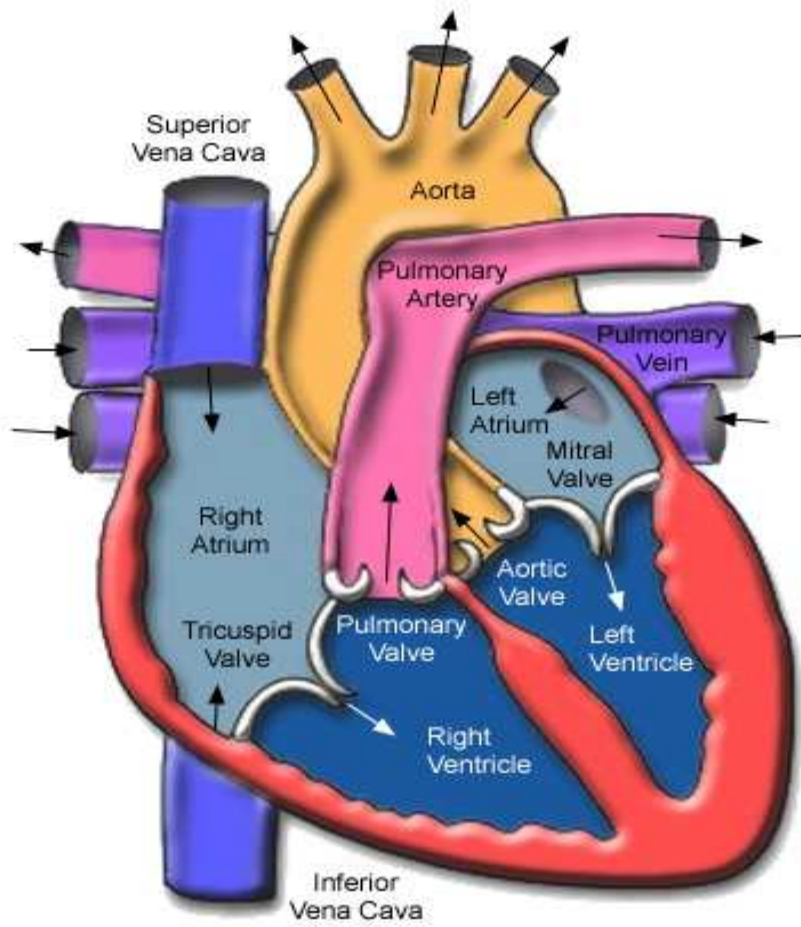
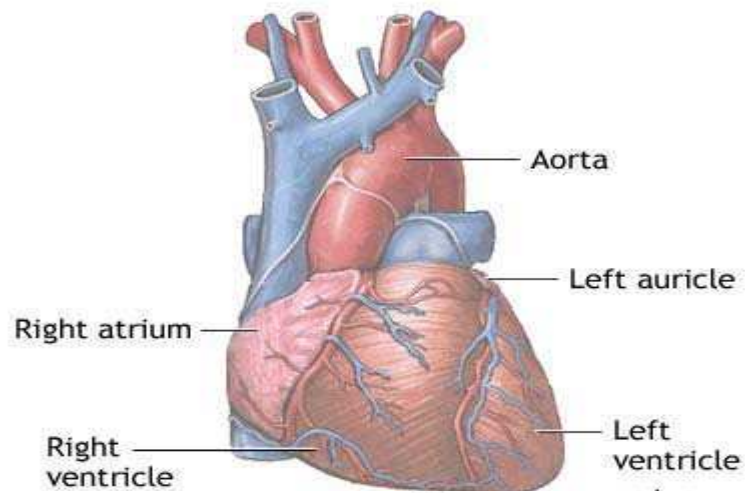
Heart rate 72 beats/minute

Blood is purified by exchange of gases in lungs

Blood Consists of:

- a) **R.B.C:** contains Hemoglobin, which carries oxygen to cells
- b) **WBC:** contains protective antibodies which fights against the bacteria
- c) **Platelets:** used for clot when injured





Arteries:

They present all over the body and bright red in color, which carries pure blood (oxygenated) from the heart to the tissues of body
Nature of blood flow is spurts, when injury

Veins:

They are along with arteries, dark red in color
They carry impure blood from the body to heart and purified in lungs
Nature of blood flow is continues, when injury

Capillaries:

They are fine and minute blood vessels of arteries and veins, which exchange the gases and return the gases and nutrients to every tissue of body.
Nature of blood flow is oozing, when injury

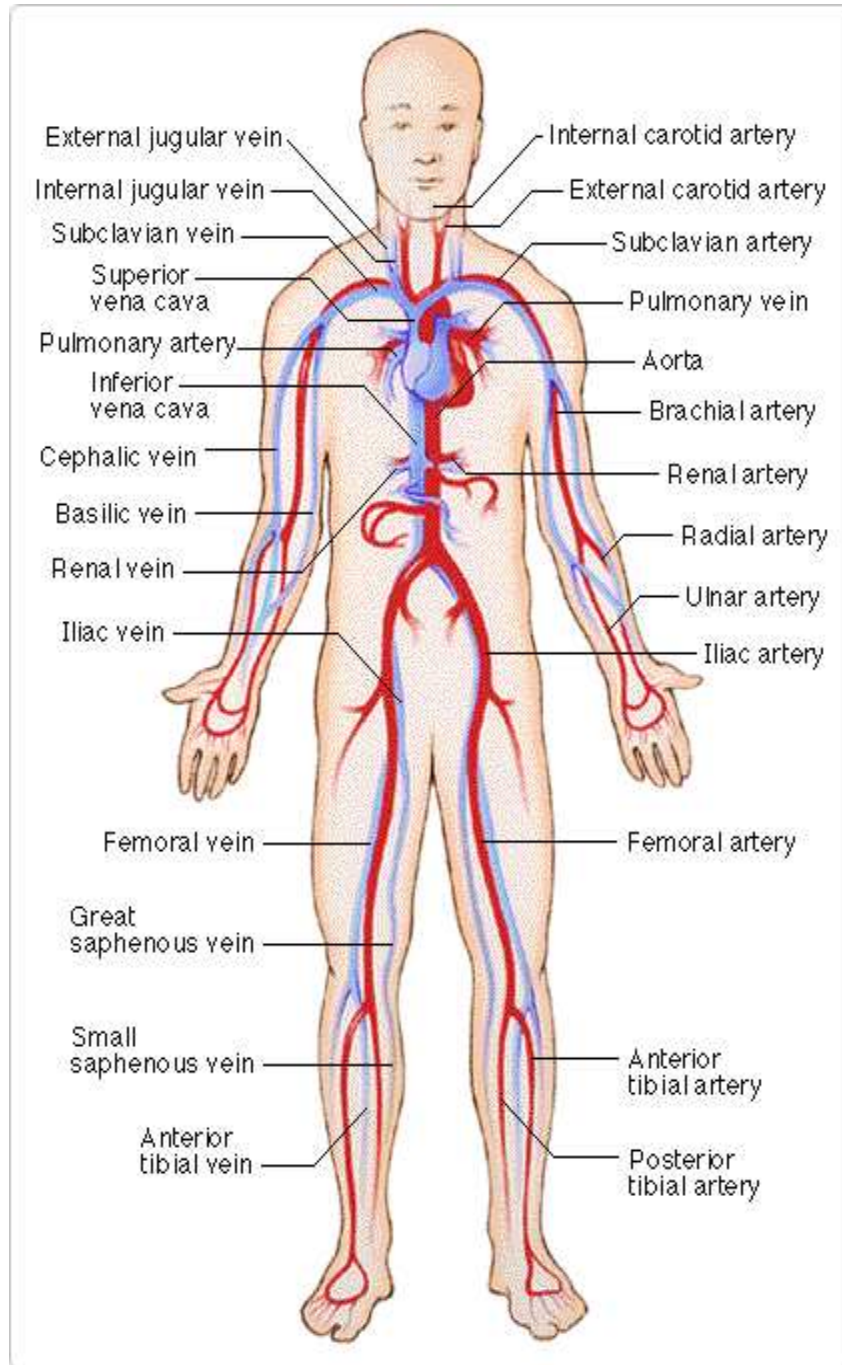
How to asses the function of heart failure:

If the heart is not functioning, following symptoms and signs are noticed

1. Heart beat is not heard (by placing ear on left chest)
2. Pulse is not felt
 - a. Radial artery pulse which is felt below the wrist along thumb side
 - b. Carotid artery pulse
3. No air through nose
4. Blue color of lips, tips of fingers and toes
5. Dilated pupil

In such circumstance external cardiac compression to be given to revive the heart function

CIRCULATORY SYSTEM



How to take pulse

A pulse is the beat you can feel against the wall of an artery, that comes close to the skin. It is the same as the heart rate i.e. 60 to 80 beats/minute

following are the most common arteries for counting and feeling your pulse

* Radial . This artery is located at the wrist joint just below the thumb.

Pulse at the radial artery



* Carotid . This artery is found on the neck on the sides of the wind pipe and neck muscle, lower jaw bone.

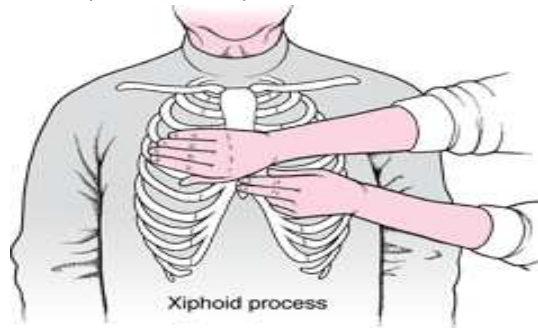


pulse at the carotid artery

if heart is not functioning do cardiac compression

CARDIAC RESUSCITATION

1. Place the casualty on the hard surface in supine position (face to sky)
 2. Kneel at one side of the chest
 3. Give direct blow the chest
 4. Place the heel of the one hand over the centre of the persons chest , between the nipple .place your other hand on the top of the first hand.
 5. Press the chest for 60 to 100 times/minute
 6. Same time observe for breathing, if no breathing do artificial respiration too.
- after 30 compressions, tilt the head back and lift the chin up to open the airway. Prepare to give two rescue breaths. (ratio 30:2)



CARDIOPULMONARY RESUSCITATION (CPR)

Cardiopulmonary resuscitation (CPR) is a lifesaving technique useful in many emergencies, including heart attack or near drowning, in which someone's breathing or heartbeat has stopped.

CPR involves a combination of chest compression and mouth-to-mouth rescue breathing that keeps oxygenated blood flowing to the brain and other vital organs until more definitive medical treatment can restore a normal heart rhythm.

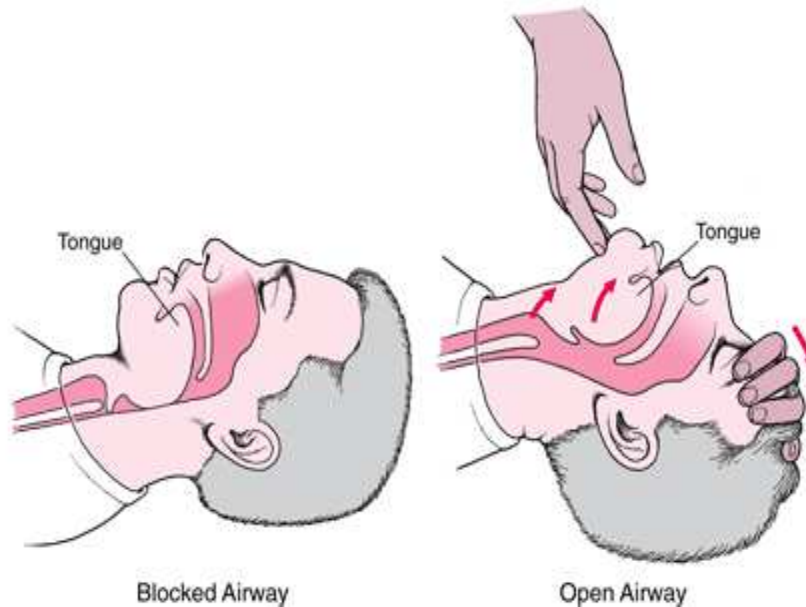
CPR is taught to the general public in order to increase the chance of CPR being performed in the crucial few minutes before emergency personnel are available

Remembers the ABCs

Airway, Breathing and Circulation

AIRWAY: Clear the airway

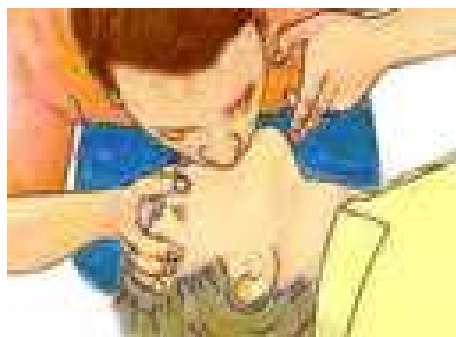
1. Put the person on his or her back on a firm surface.
2. Kneel next to the person's neck and shoulders.
3. Open the person's airway using the head tilt-chin lift. Put your palm on the person's forehead and gently push down. Then with the other hand, gently lift the chin forward to open the airway.
4. Clear the any contents, broken dentures, vomitus and saliva in the mouth
4. Check for normal breathing, taking no more than 10 seconds: Look for chest motion, listen for breath sounds, and feel for the person's breath on your cheek and ear. If the person isn't breathing normally or you aren't sure, begin mouth-to-mouth breathing.



BREATHING: Breathe for the person

Rescue breathing can be mouth-to-mouth breathing or mouth-to-nose breathing if the mouth is seriously injured or can't be opened.

1. With the airway open (using the head tilt-chin lift), pinch the nose and cover the person's mouth with yours, making a seal.
2. Prepare to give two rescue breaths. Give the first rescue breath — lasting one second — and watch to see if the chest rises. If it does rise, give the second breath. If the chest doesn't rise, repeat the procedure for 15 times/minute
3. Begin chest compressions — go to "CIRCULATION"

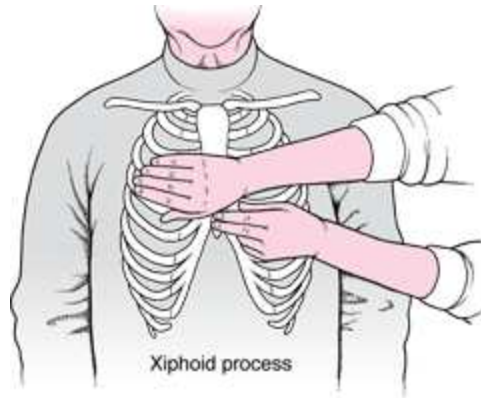


Open your mouth wide, place it tightly over the victim's mouth. Pinch victim's

CIRCULATION: Restore blood circulation

Location of chest compression: Place your hand two fingers width above the bottom of the sternum ie. lower end of the chest bone.

1. Place the heel of one hand over the center of the person's chest, between the nipples (sternum). Place your other hand on top of the first hand. Keep your elbows straight and position your shoulders directly above your hands.
2. Use your upper body weight (not just your arms) as you push straight down on (compress) the chest 1 1/2 to 2 inches. Push hard and push fast — give two compressions per second, or about 100 compressions per minute.
3. After 30 compressions, tilt the head back and lift the chin up to open the airway. Prepare to give two rescue breaths. Pinch the nose shut and breathe into the mouth for one second. If the chest rises, give a second rescue breath. If the chest doesn't rise, repeat the head tilt-chin lift and then give the second rescue breath. That's one cycle. If someone else is available, ask that person to give two breaths after you do 30 compressions.
4. Continue CPR until there are signs of movement or until emergency medical personnel take over.



CPR IN NUTSHELL

Steps to save a life

New CPR Guidelines of American Heart Association

1. Increase the chest compression delivered per minute and reduced interruptions in chest compressions.

2. Elimination assessment of signs of circulation before beginning of chest compressions

3, the first aider to start the chest compressions immediately after delivery 2 rescue breaths to the unresponsive victim who is not breathing.

simplification of instructions for rescue breaths: all breaths whether delivered mouth to mouth, to nose, mouth to mask, bag mask or advanced airway should be given over 1 second with sufficient volume to raise the chest.

recommendation of compression to ventilation in the ratio of 30:2 whether single or two first aid providers push hard and push fast at a rate of 100 compressions per minute to allow complete chest recoil and minimize in interruptions in the chest compressions.

recommendation that emergency medical services

select the procedure depends on situation

If the victim . .	you should
Is breathing and has a pulse	stop CPR, and stay with them until help arrives
Is not breathing and has a pulse	continue rescue breathing.
if no breathing.	continue rescue breathing. begin chest compressions, alternating with rescue breathing.



NEED ASSESMENT

Look, listen and
feel for breathing
and pulse



call assistant/
108 ambulance services



CHECK FOR BREATHING

While pushing back
on the forehead,
use your other hand
to lift the chin forward



e breathing.
mpressions,
h rescue



Place your mouth
over the victim's
mouth and exhale

TWO RESCUE BREATHS

 ADAM.

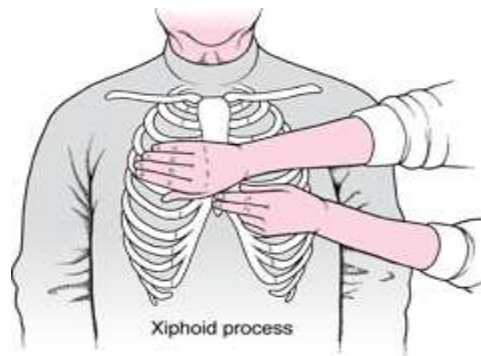


Check the
victim for
a pulse

CHECK THE CAROTID PULSE need assesment for circulation

 ADAM.

POSITION HANDS IN THE CENTRE OF CHEST



FIRMLY PUSH DOWN TWO INCHES ON THE CHEST 30 TIMES

CONTINUE WITH TWO BREATHS AND 30 COMPRESSIONS UNTIL HELP ARRIVES.

6 WOUNDS & BLEEDING

Wounds: break in the continuity of tissues of the body

Bleeding: injury to the blood vessels due to wounds

Types of the wounds:

- 1) **Abrasions:** scratch injury to the superficial layers of the skin
- 2) **Contusions:** caused by blunt instruments or by crushing. Tissues are bruised
- 3) **Incised:** caused by sharp instruments like knives, razor. The tissue having clear edges and bleeds profusely.
- 4) **Lacerations:** caused by machinery, claws of animals, fall on rough objects and tissues having irregular and rough edges, bleeds less
- 5) **Punctured:** caused by sharp, pointed objects like nail and needle and knife that pierces or penetrates or pierce the skin. Wound is deep in nature, infection spreads easily
- 6) **Gun shot wounds:** caused by firing having small opening and large exit wound. It is very serious wound immediate medical and surgical treatment.

Squeal of wounds:

- ❖ Infection
- ❖ Bleeding

Causes of infection:

1. Object caused by the wound and depth of the wounds
2. Skin & clothes of casualty
3. Dirty dressing
4. Contaminated water cleaning

a) Abrasion



b) contusion



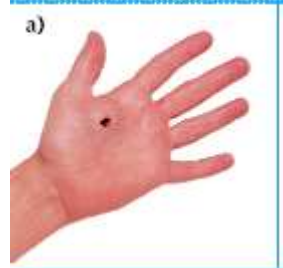
a) Incised wound



b) lacerated wound



a) Puncture wound



b) stab wound



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Wound Management:

There are six main steps for treating a wound.

- 1 Put on rubber gloves (if available)
- 2 Stop the bleeding
- 3 Clean the wound
- 4 Apply an antibiotic ointment
- 5 Dress the wound
- 6 Check for infections

1. Put on Rubber Gloves (optional)

If you are treating a person with a communicable or infectious disease, pull on a pair of rubber gloves.

2. Stop the Bleeding

Before you clean or dress the wound, you need to stop the bleeding by direct pressure (light pressure). Most wounds stop bleeding with light pressure. Cover the wound with sterile gauze or a clean cloth and then apply gentle pressure with the palm of your hand. The cloth absorbs the blood and will promote clotting. If blood soaks through, don't disturb the cloth. Apply a second cloth on top of the first.

if the bleeding is not controlled, apply indirect pressure point on major artery supplying to the wound /or apply tourniquet (details in bleeding chapter)

If the wound is on an arm or leg that doesn't appear to be broken, applying light pressure and elevating the body part to a height above the person's heart will allow gravity to slow the blood flow.



3. Clean the Wound



Run water over a wound, and use a cotton ball with water to remove dirt from the wound. If dirt or debris remains in the wound after washing, use tweezers cleaned with alcohol to remove the particles. If debris remains embedded in the wound after cleaning, see your doctor. Thorough wound cleaning reduces the risk of tetanus. To clean the area around the wound, use sterile cloth/gauge. There's no need to use hydrogen peroxide, iodine or an iodine-containing cleanser. These substances irritate living cells and delay the healing.

4. Apply an Antibiotic ointment

After you clean the wound, apply a thin layer of an antibiotic ointment to help prevent infection. These ointments may help the wound heal better (without scarring), and act as a barrier against infection. ointments like soframycin and betadin are preferable

5. Dress the Wound

After covering the wound with an antibiotic ointment, gently cover the wound with sterile gauze pad and bandage the wound

6. Check for Infection

Swelling, tenderness, localized pain and fever are symptoms for infections of the wound See your doctor immediately if you notice any sign of infection.

7

BLEEDING

Bleeding: injury to the blood vessels due to wounds or any other cause

There are two types of bleeding:

1. external bleeding which is obvious and apparent
2. Internal bleeding where the bleeding is not apparent at the outset but may manifest itself later in the form of bleeding from the nose, ear, lungs or stomach.

Signs and Symptoms of Bleeding:

- * Giddiness
- * The skin becomes cold and clammy.
- * The pulse becomes rapid and weak.
- * Profuse sweating may occur.
- * Breathing becomes shallow and the patient may gasp for air and sigh deeply.
- * Thirst may be prominent.
- * The patient may feel faint and even collapse
- * Death

Identify the source of bleeding:

Bleeding may occur from the arteries, veins or capillaries or from combinations of the three. It can be identified by the following characteristics:

Arteries are bright red in color
Nature of blood flow is spurts, when injury

Veins are dark red in color
Nature of blood flow is continues, when injury

Capillaries are fine and minute blood vessels
Nature of blood flow is oozing, when injury

Our aim is to arrest the bleeding at any cost by direct or indirect methods

METHODS OF ARREST THE EXTERNAL BLEEDING:

- 1. Direct Method**
- 2. Indirect Method**

Direct Pressure: apply direct pressure with pad/kerchief about 5 to 10 minutes and observe further bleeding.

- If no bleeding, apply bandage firmly
- If bleeding persists, don't remove the previous pad and apply more pads and bandage firmly
- If bleeding is profuse, apply indirect pressure

Indirect pressure:

a) Apply pressure on the nearest pressure point

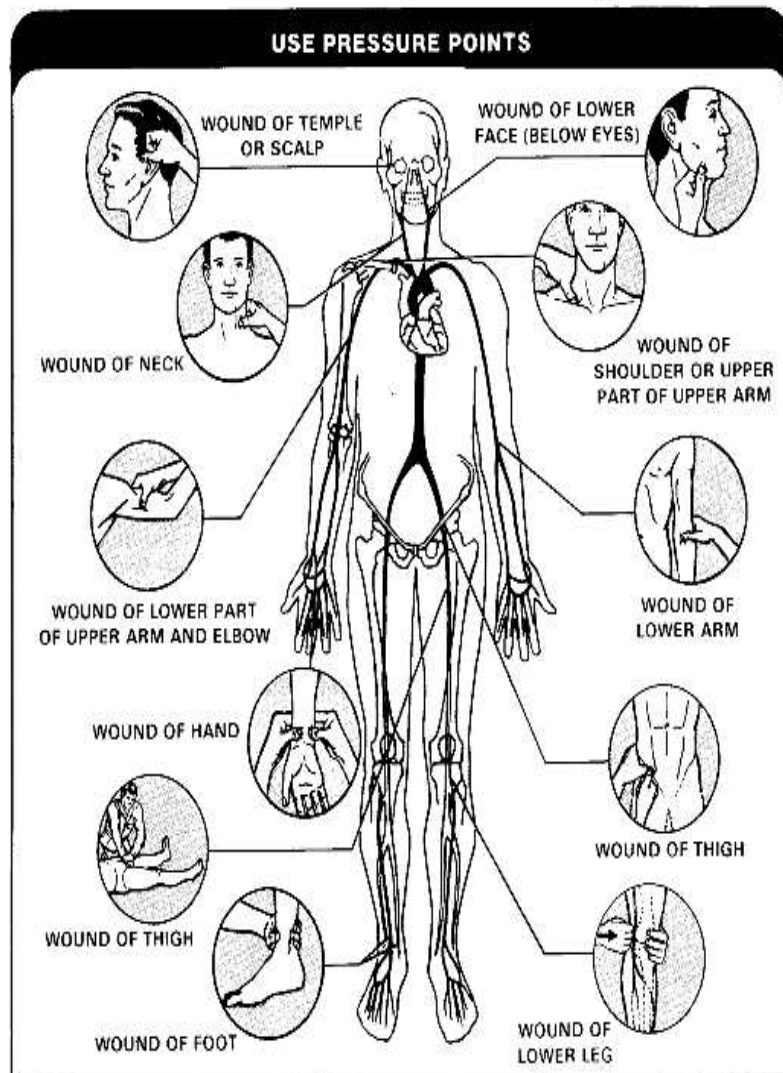
or

b) Apply constriction bandage (Tourniquet)

- Make the victim lie down to prevent fainting.
- **Immobilise and Elevate the injured part**
- **Treat for shock**
- **Shift the patient to a hospital as soon**



What is the pressure point: pressure point is one which artery can be compressed on the underlying bone to prevent further flow of blood beyond that point



Pressure Points

Direct pressure stops most bleeding. Place sterile gauze or clean cloth over wound & apply pressure. If bleeding doesn't stop in 5 minutes, replace cloth and continue to apply direct pressure to wound while adding pressure to pressure points (below).

X Denotes spot to apply pressure if bleeding persists in indicated body areas



Tourniquet

A tourniquet should be used only as a last resort to control severe bleeding after all other methods have failed and is used only on the extremities. Before use, you must thoroughly understand its dangers and limitations.

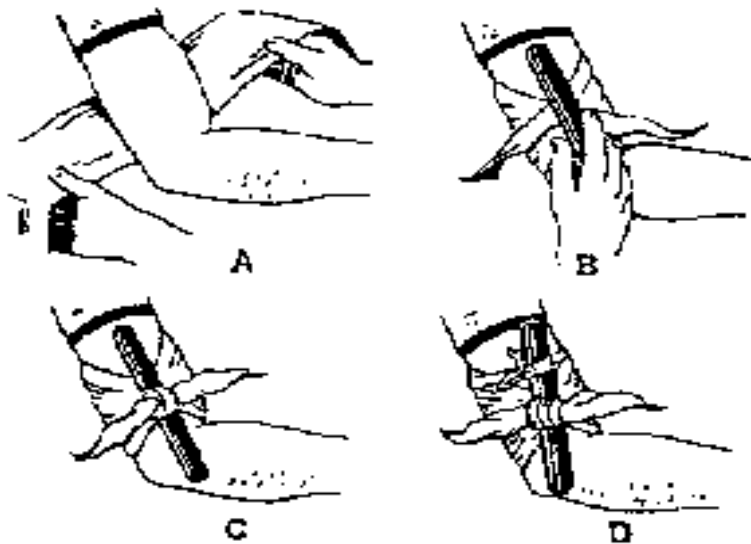
The standard tourniquet is normally a piece of cloth folded until it is 3 or more inches wide and 6 or 7 layers thick. A tourniquet can be a strap, belt, neckkerchief, towel, or other similar item. A folded triangular bandage makes a great tourniquet.

To apply a tourniquet ,do the following:

1. While maintaining the proper pressure point, place the tourniquet between the heart and the wound, leaving at least 2 inches of uninjured skin between the tourniquet and wound.
2. Place a pad (roll) over the artery.
3. Wrap the tourniquet around the extremity twice, and tie a half-knot on the upper surface.
4. Place a short stick or similar object on the half-knot, and tie a square knot.
5. Twist the stick to tighten, until bleeding is controlled.
6. Secure the stick in place.
7. Never cover a tourniquet.
8. Using lipstick or marker, make a 'T' on the casualty's forehead and the time tourniquet was applied.

9. Never loosen or remove a tourniquet once it has been applied. The loosening of a tourniquet may dislodge clots and result in enough blood loss to cause shock and death.

10. Advice to remove tourniquet about 30 to 45 minutes.



Note the application time. After 30 minutes, release the bandage and check for bleeding. If there is no bleeding, remove it. If bleeding recommences, apply direct pressure. If this is unsuccessfully, reapply the constrictive bandage, and recheck every 30 minutes.

Simple tourniquet:

Select a strip of firm cloth, at least 7.5 centimeters (3 inches) wide and about 75 centimeters (30 inches) long. This may be improvised from clothing or a narrow folded triangular bandage

Never use wire, cord, or any material that will cut the skin.

Causes of Internal bleeding:

- ① Bleeding from body cavities (such as the ears, nose, rectum or vagina)
- ② Vomiting or coughing up blood
- ③ Bruising on neck, chest, abdomen or side (between ribs and hip)
- ④ Wounds that have penetrated the skull, chest or abdomen
- ⑤ Abdominal tenderness, possibly accompanied by rigidity or spasm of abdominal muscles
- ⑥ Fractures

Management of Internal Bleeding:

- 1 Lay the patient head low. Raise his legs using pillows.
- 2 Keep the patient calm and relaxed with reassurance. Do not allow the patient to move.
- 3 Maintain the body heat with blankets, rugs or coats.
- 4 Do not give anything to drink/eat (Nil Oral)
- 5 Patient unconscious, keep them recovery position
- 6 Priorities of ABC of first aid
- 7 Look for shock and treat
- 8 Arrange for the patient to be shifted to the hospital at the earliest.

Recovery position (prone position)



Kneel next to the person.
Place the arm closest to you straight out from the body.
Position the far arm with the back of the hand against the near cheek



Grab and bend the person's far knee



Protecting the head with one hand, gently roll the person toward you by pulling the far knee over and to the ground



Tilt the head up slightly so that the airway is open. Make sure that the hand is under the cheek. Place a blanket or coat over the person (unless he or she has a heat illness or fever) and stay close until help arrives

This technique is used for unconscious patient

Other common causes of bleeding

Bleeding from the nose: common causes are nose pricking (damage to little's area), hypertension and non-specific conditions.

1. sit the casualty in comfortable position
2. Pinch the nose
3. Ice compression
4. Send to medical advice



Haemoptysis (coughing blood): common causes are T.B, cancer and other lung diseases

1. Lay the casualty on the comfortable position, head end to be raised
2. Nil oral
3. Reassurance
4. Call medical attendance

Haemetamesis (vomiting blood): common causes are ulcer stomach, cancer stomach

1. Lay the casualty down with feet and legs raised above the body
2. Keep the head lateral position
3. Don't give anything by mouth
4. If the patient is unconscious, turned to recovery position
5. Keep the body ward
6. Send to Hospital

Bleeding per rectum: common causes are piles, fissures and cancer colon

1. Bland diet
2. Soften faecal matter by giving phenolphthalein liquid
3. sitz bath

8 Dressing & bandages

Dressing is a protective covering applied to the wound

1. Prevent infection
2. Control bleeding
3. Absorb discharge
4. Avoid further injury

Quality:

Dressing materials are prepared from gauze, bandage and cotton

1. It should be soft, light, absorbent and sterilizable
2. Cotton compressed in gauze/bandage is known as dressing pad to apply on the wound.
3. Do not apply the cotton directly on the wound

Bandages: A bandage is a piece of material used either to support a medical device such as a dressing or splint, or on its own to provide support to the body. They are available as various sizes depends on need.

1. Fix the dressing in position
2. Maintain pressure on dressing to control bleeding
3. Reduce the swelling
4. To provide support to limbs when used as slings
5. Restrict the movements of limbs, for immobilization
6. Assist in lifting and carrying the casualty

Types of bandages:

- a) Roller bandages (gauze bandage)
 - i. Spiral
 - reverse spiral
- b) Compressed bandage
- c) Triangular bandages:
 - i. Used as slings
 - ii. Used as bandage
 - iii. Used as tourniquet if Used as large bandage



Procedure for Triangular Bandages

a. Triangular and cravat bandages are fashioned from a triangular piece of muslin (37 by 37 by inches) provided in the general-purpose first aid kit. If it is folded into a strip, it is called a cravat. Two safety pins are packaged with each bandage. These bandages are valuable in an emergency since they are easily applied.

b. To improvise a triangular bandage, cut a square of available material, slightly larger than 3 feet by 3 feet, and **FOLD** it **DIAGONALLY**. If two bandages are needed, cut the material along the **DIAGONAL FOLD**.

c. A cravat can be improvised from such common items as T-shirts, other shirts, bed linens, trouser legs, scarf's, or any other item made of pliable and durable material that can be folded, torn, or cut to the desired size.

Adhesive plaster: Instead of bandage , plaster is used in small wounds dressing.

Triangular bandage

Triangular bandage is a piece of cloth cut in the shape of a right-angled triangle. This is felt by many trainers to be the most versatile of the bandages available, as it can be used fully unrolled as a sling, folded as a normal bandage, or for specialist bandages such as on the head.

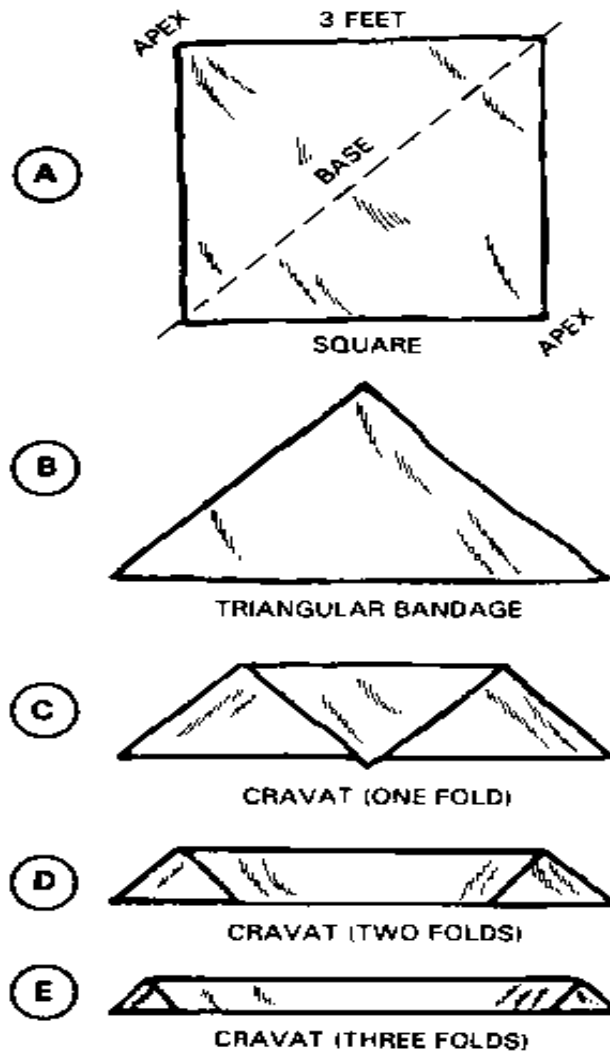


Figure A-2. Triangular and cravat bandages (Illustrated A thru E).

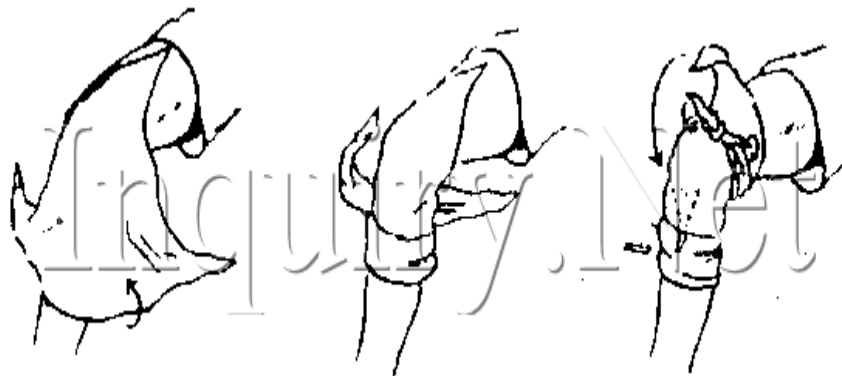
BASIC WOUND DRESSING



Applications of traingular bandages



The triangular bandage used for head wounds.

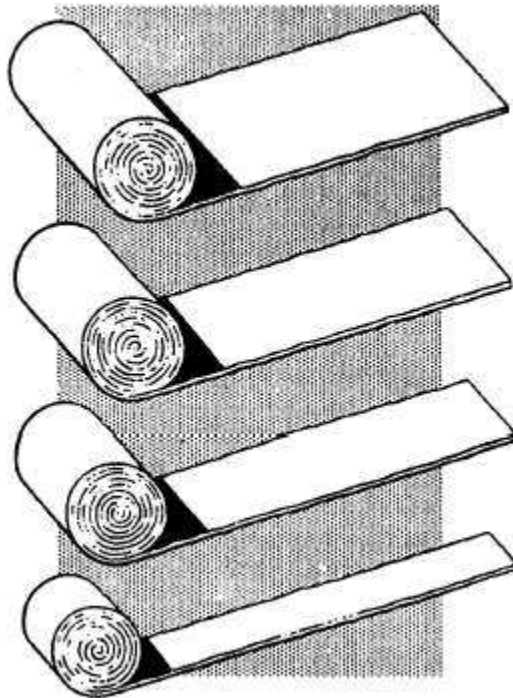


The triangular bandage used for knee injuries.

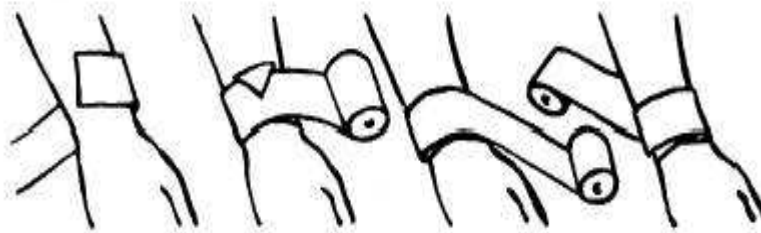


bandaging a wound on the foot.

Various sizes of Roller Bandages

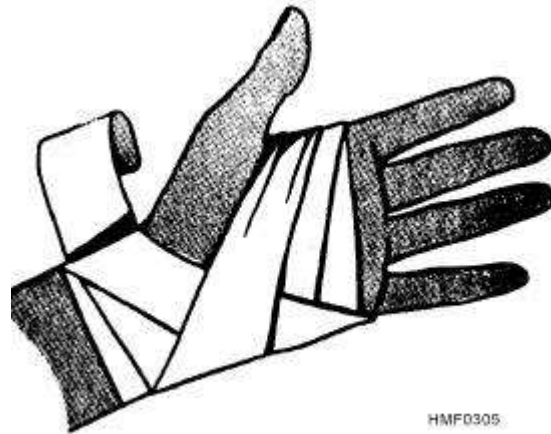


Applying a roller bandage.



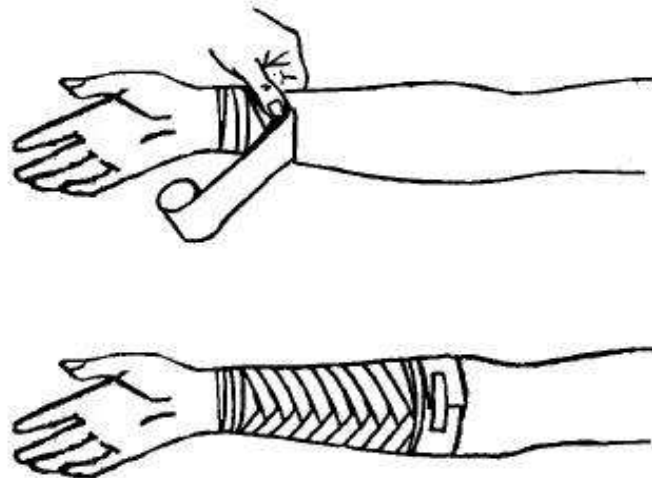
ROLLER BANDAGE FOR HAND AND WRIST.-

For the hand and wrist, a figure-eight bandage is ideal. Anchor the dressing, whether it is on the hand or wrist, with several turns of a 2- or 3-inch bandage. If on the hand, anchor the dressing with several turns and continue the bandage diagonally upward and around the wrist and back over the palm. Make as many turns as necessary to

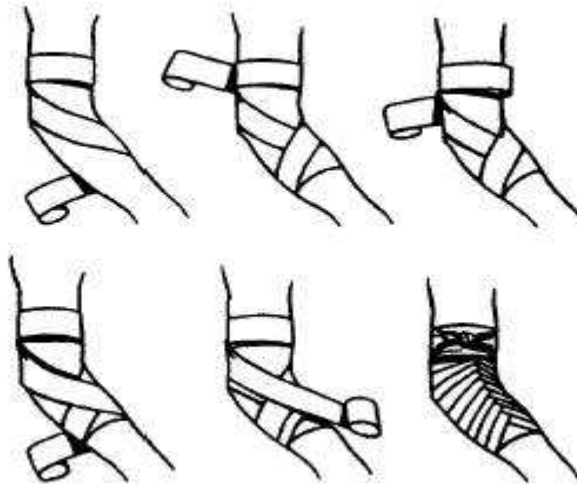


Roller bandage for the hand and wrist.

ROLLER BANDAGE FOR ARM. -The spiral reverse bandage must be used to cover wounds of the forearm;

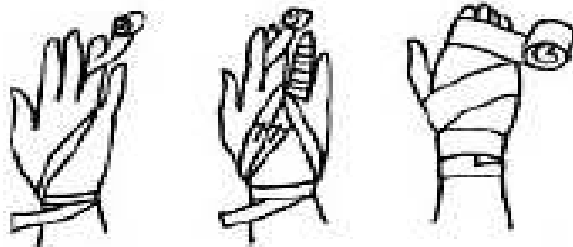


ROLLER BANDAGE FOR ELBOW.-Aspica or figure-eight type of bandage is used around the elbow joint to retain a compress in the elbow region and to allow a certain amount of movement. Flex the elbow slightly (if you can do so without causing further pain or injury), or anchor a 2- or 3-inch bandage above the elbow and encircle the forearm below the elbow with a circular turn. Continue the bandage upward across the hollow of the elbow to the starting point. Make another circular turn around the upper arm, carry it downward, repeating the figure-eight procedure, and gradually ascend the arm. Overlap each previous turn about two-thirds of the width of the bandage. Secure the bandage with two circular turns above the elbow, and tie. To secure a dressing on the tip of the elbow, reverse the procedure and cross the bandage in the back



Roller bandage for the elbow.

Bandaging fingers



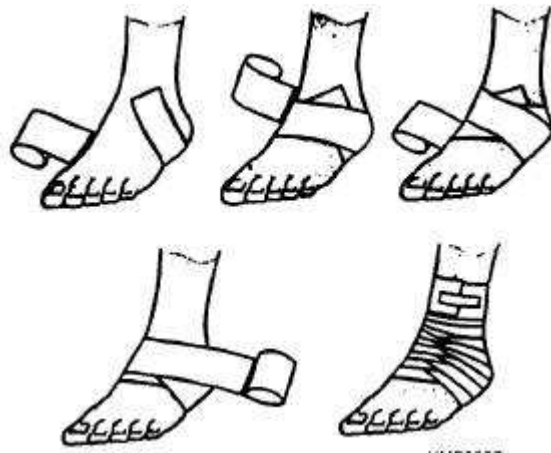
1. By using a long roll of narrow bandage or a strip of cloth, place one end at the base of the finger.
2. Hold the strip down with your thumb as you roll up one side of the finger and down the other side.
3. Hold the other side down with third finger as you roll the tape up and over with the other hand.
4. After wrapping several layers of tape up and down the finger, move gauge roll to the side and begin to circle the finger.
5. Knot the bandage at base of the finger as shown here in the figure.

bandageing hand with foreign body



ROLLER BANDAGE FOR HEEL. -

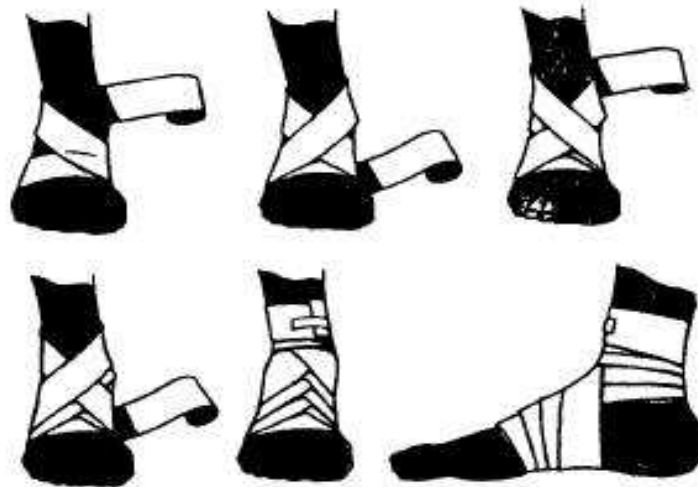
The heel is one of the most difficult parts of the body to bandage. Place the free end of the bandage on the outer part of the ankle and bring the bandage under the foot and up. Then carry the bandage over the instep, around the heel, and back over the instep to the starting point. Overlap the lower border of the first loop around the heel and repeat the turn, overlapping the upper border of the loop around the heel. Continue this procedure until the desired number of turns is obtained, and secure with several turns around the lower leg



Roller bandage for the heel.

ROLLER BANDAGE FOR ANKLE AND FOOT.-

The figure-eight bandage is also used for dressings of the ankle, as well as for supporting a sprain. While keeping the foot at a right angle, start a 3-inch bandage around the instep for several turns to anchor it. Carry the bandage upward over the instep and around behind the ankle, forward, and again across the instep and down under the arch, thus completing one figure-eight. Continue the figure-eight turns, overlapping one-third to one-half the width of the bandage and with an occasional turn around the ankle, until the compress is secured or until adequate support is obtained

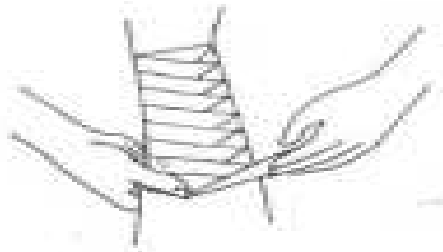


Roller bandage for the ankle and foot.

ROLLER BANDAGE FOR LEG.

The spiral reverse bandage must be used to cover wounds of the lower extremities;

Bandaging leg



Bandaging toes

1. By using a long roll of narrow bandage or a strip of cloth, place one end at the base of the toes.
2. Hold the strip down with your thumb as you roll up one side of the toe and down the other side.
3. Hold the other side down with third toe as you roll the tape up and over with the other hand.
4. After wrapping several layers of tape up and down the toe, move gauge roll to the side and begin to circle the toe.
5. Knot the bandage at base of the toe as shown here in the figure.

9 FRACTURE

Partial or Complete breakdown of bone called fracture

Types of fractures:

1. Closed (simple) fracture: Where the bone is cracked or broken without any damage to the skin or organs
2. Opened (Compound) fracture: where the fracture bone come out by piercing the muscle with out damage to other structures.
3. Complicated fracture: in addition to the fracture of the bone with damage to vital structures.
4. Green stick fractures: bone bends without damage to cortex commonly seen in children.

Simple fracture



Comminuted fracture



Open fracture



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causes of broken bones:

1. *Direct force* - a blow that breaks the bone at the point of impact

- ◆ Fall from a height
- ◆ Motor vehicle accidents
- ◆ Direct blow
- ◆ Repetitive forces, such as those caused by running, can cause stress fractures of the foot, ankle, tibia, or hip

2. *Indirect force* - when the bone breaks at some distance from the point of impact, e.g. where a fall on an outstretched hand results in a fracture of the collarbone

3. *Abnormal muscular contraction* -
A sudden contraction of a muscle may result in a fracture, e.g. an elderly person snapping the knee after tripping and trying to prevent a fall.

How to recognizes (signs & symptoms)

- 1 Pain
- 2 Tenderness
- 3 Swelling
- 4 Discoloration
- 5 Deformity
- 6 Crepitus

Management:

- 1 Immobilize the fracture part by available splints
- 2 Handle gently to prevent the complications
- 3 If the broken bone ends pierces out of the skin, simply cover the area with dressing, pad and bandage
- 4 Treat bleeding if any
- 5 Treat shock if any
- 6 Priorities of ABC of first aid

Purpose of Immobilization of fractures

A fracture is immobilized is to prevent the sharp edges broken bone to cut/damage the tissues, muscles, blood vessels and nerves.

It also reduces pain and swelling

In closed fracture, immobilization keeps bone fragments intact and prevents conversion to open fracture

For this purpose use splints/or available natural available material.



Fracture Upper Arm

Symptoms & Signs:

- ◆ History of fall on to the outstretched arm or elbow
- ◆ Pain, made worse by movements arm/shoulder
- ◆ Tenderness and swelling of upper arm/humerus bone
- ◆ The casualty may support the arm at the elbow and incline the head towards the injured side.
- ◆ The shoulder appears to be lower than the other side (non-injured)

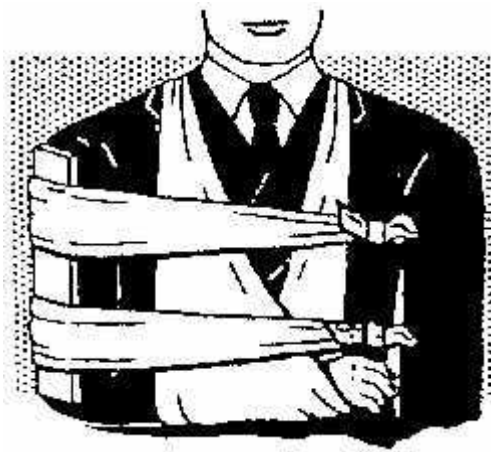
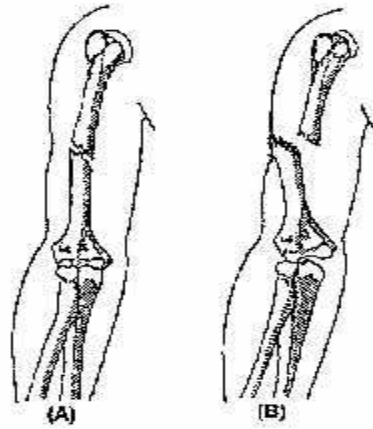
Fracture Upper Arm



Management

- ◆ If the fracture is in the upper part of the arm near shoulder, place a pad or folded towel in the armpit, bandage the arm to the body, and support the fore arm in a sling/triangular bandage.
- ◆ If the fracture is in the middle of the upper arm, you can use one well padded splint on the out side of the arm, The splint should extend from the shoulder to the elbow. Secure the arm firmly to the body with bandage and support the forearm in a sling/triangular bandage.
- ◆ If the fracture is at or near the elbow, the arm may be bent or straight. Regardless what position you finds the arm, do not attempt to straighten or move it. Gently splint the arm in position in which you find appropriate.
- ◆ Look for the priorities of ABC of first aid
- ◆ Sent for medical advise.

Splint and Sling for a Fractured Upper Arm



Fracture Forearm

Symptoms and signs

- Pain
- Loss of power
- Deformity
- The casualty may support the injured forearm with the other arm.

Management

- 1 Follow the general rules for fracture management.
- 2 Priorities of ABC of first aid
- 3 Immobilize the limb firmly to a splint which extends from the elbow to the wrist. Once the forearm is splinted, place the forearm across the chest and sling with triangular bandage.
- 4 Check pulse and color of finger.
- 5 Seek medical aid urgently.

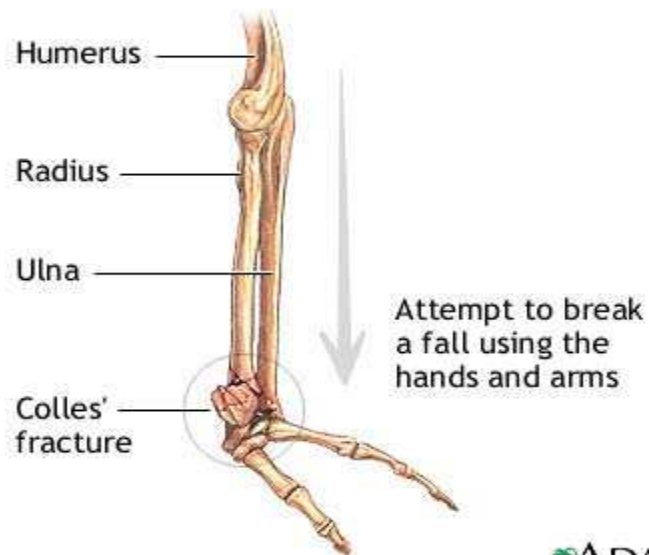




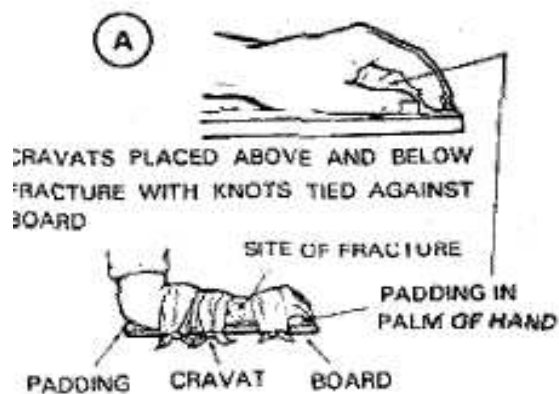
Fracture Wrist and Hand

Commonly occurs in outstretched hand, known as Colles' fracture.

- 1 Fall injury
- 2 Direct blow
- 3 Crush injury
- 4 Sports
- 5 Boxing punch



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Fracture Of The Hands And Fingers



A fractured or dislocated hand, finger, or wrist should be placed and splinted in a normal resting position. Rest the fingers around a padded object such as a sock, wadded cloth, or rolled elastic bandage. If the hand or wrist is injured, place the object in the victim's palm, and use a circumferential wrap to maintain the position of the object. If the victim has a broken wrist, place a rigid splint on the underside of the wrist, hand, and forearm to restrict any motion. Broken fingers can be splinted independently or taped together sound finger

Fracture Thigh

CAUSES:

- ◆ Direct trauma as in Motor vehicle accident
- ◆ Fall from height

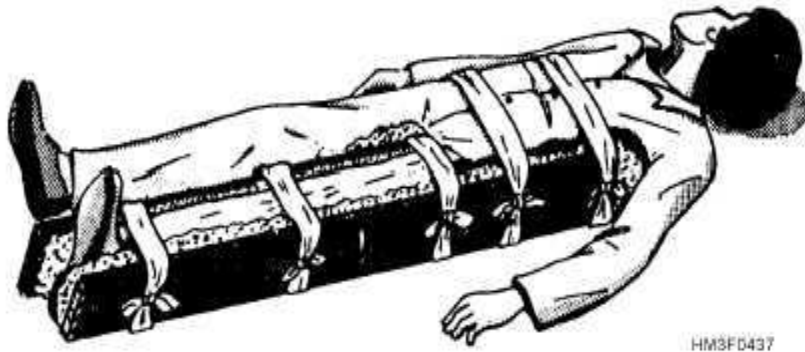


If the fracture is open and severe bleeding:

√ Priority given to stop bleeding before attempt to first aid to the fracture. Bleeding is very common danger in this type of injuries because broken bone may tear or cut the artery in the thigh.

√ Immobilizations of the injured leg: Carefully straightened leg (to prevent the nerve damage and injury to blood vessel) and apply two splints

√ One on the out side of the injured leg and other one on the inside.



The two splints should be fastened in five places

1. **Just below the armpit**
2. **Around the pelvis**
3. **Just below the hip**
4. **Over the knee**
5. **Around the ankle**

- √ If the splints are not available, the injured leg tied with other normal leg
- √ Treat the shock, if present
- √ To apply prioritizes of ABC of first aid
- √ Sent the patient at the earliest possible for medical aid

Fracture leg and patella

Causes: (leg)

- ◆ Trauma (motor vehicle accidents, fall from height)
- ◆ Stress fractures

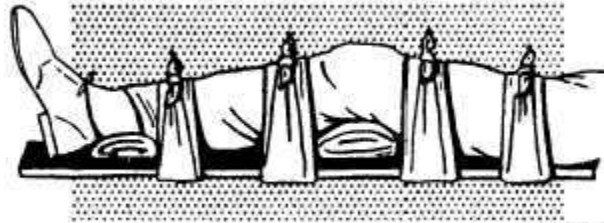
Knee cap:

- ◆ Forcible direct blow to knee (dash board of a car in accident)
- ◆ Direct trauma from opponent during sports.
- ◆ Forceful contraction of muscle

Signs & symptoms:

1. Intensive pain immediate after injury
2. Knee swollen
3. Unable to bend the injured knee





HM3F0438

Apply padded splint under the injured part

The splint should be atleast 4 inches wide and should extend from the buttock to the heel. Place the extra padding under the knee and above the heal.

The splint should be secured in four places

1. **Below the hip**
2. **Above the knee**
3. **Below the knee**
4. **Above the ankle**



fracture patella and treatment

Fracture Ankle

Some times ankle fractures may be mistaken for a sprain, if no deformity is present.

Causes:

- ◆ Rolling the ankle in or out
- ◆ Twisting the ankle side to side
- ◆ Extreme flexing or extending of the joint
- ◆ Severe force applied to the joint by coming straight down on it as in jumping from a high level
- ◆ Some times fracture associated with tear of ligaments too..



Symptoms and signs

- ◆ History of a twisting injury
- ◆ Pain and swelling on either or both sides of the ankle
- ◆ Inability to bear weight on the ankle
- ◆ Tenderness, particularly over the bony prominences on either side of the ankle
- ◆ Deformity, which may be severe.

Management

If no deformity is present :

Stay off the injured ankle so you do not injure it further.

Keep the ankle elevated to help decrease swelling and pain.

Apply cold packs to the injured area to decrease swelling and pain. Do not apply ice directly.
Cold packs are effective for the first 12-24 hours.

If deformity is present :

1. Steady and support the injured limb on pillows or folded blanket
2. Do not apply any compression bandages around the ankle
3. Seek medical aid urgently.



Fracture Collar bone (Clavicle)

Clavicle fractures are common injuries, they can occur in various ways.

Some patients fall on outstretched hand

Fall and hit the outside their shoulder

direct force on the clavicle

indirect force- when the bone breaks at some distance from the point of impact, e.g.. Fall on an outstretched hand results in a fracture of the collar bone

Signs & symptoms:

Pain at the site of injury

Tenderness

deformity

Injured shoulder lower than the sound/uninjured side

The victim unable to raise the hand above the shoulder



Management

- Immobilize fractures with figures of eight bandage or with triangular slings.
- Treat the bleeding if any
- Handle gently
- Seek medical aid

Fracture ribs

A rib fracture is a crack or break in one of the bones of the rib case or cartilage.

causes:

1. Direct force from blow or fall upon chest
2. Motor vehicle accidents
3. Crushing of the chest

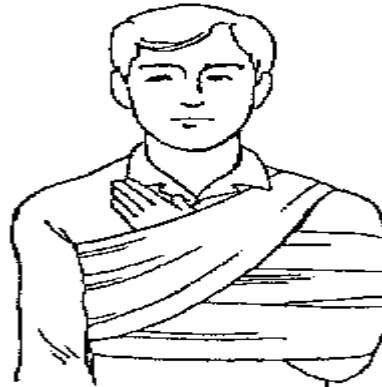
In this fracture the broken ends maybe driven inwards causing injury to lung, which then become complicated fracture and bleeding

Signs& symptoms:

Pain at the injured site, increases while coughing and breathing.

Difficulty to breath due to pain

Movement of chest leads to pain



Management:

- √ Two broad bandages should be applied round the chest
- √ The centre of the first should be below the area of the pain and the centre of the second above it.
- √ support the arm on the side of the injury in a sling
- √ Look for any bleeding
- √ Priorities of ABC of first aid

Fracture Neck and Spine

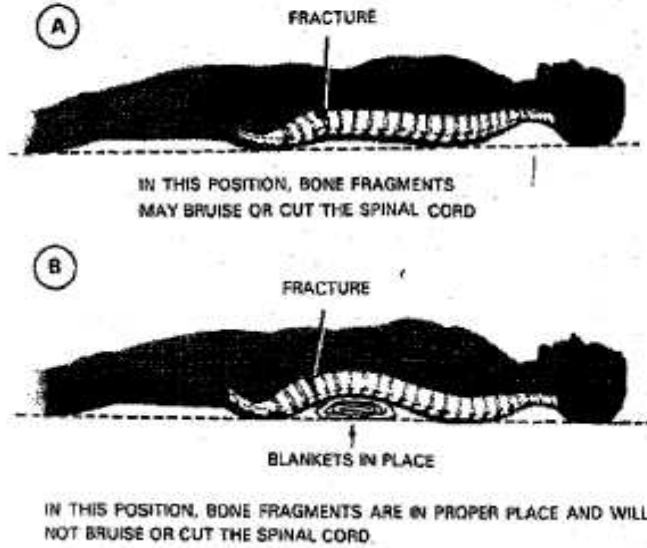
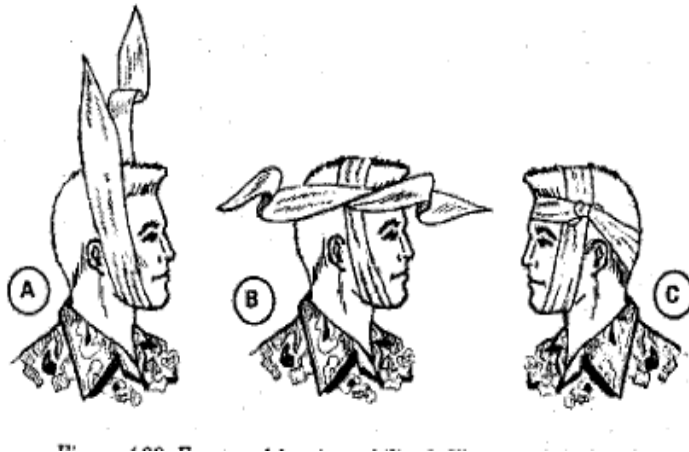


Figure 4-28. Casualty with roll of cloth (bulk) under neck.

Fracture jaw



Place the bandage under the chin and carry its ends upward. Adjust the bandage to make one end longer than the other (Figure A).

(b) Take the longer end over the top of the head to meet the short end at the temple and cross the ends over (Figure B).

(c) Take the ends in opposite directions to the other side of the head and tie them over the part of the bandage that was applied first (Figure C).

10 *Slings and Splints*

A sling is a device used to support and immobilize an injured part of the body (in particular, an injured shoulder, arm and collar bone)

A splint is a rigid piece of wood or plastic material or metal applied to a fractured limb to prevent movement of the broken bone

Types of slings:

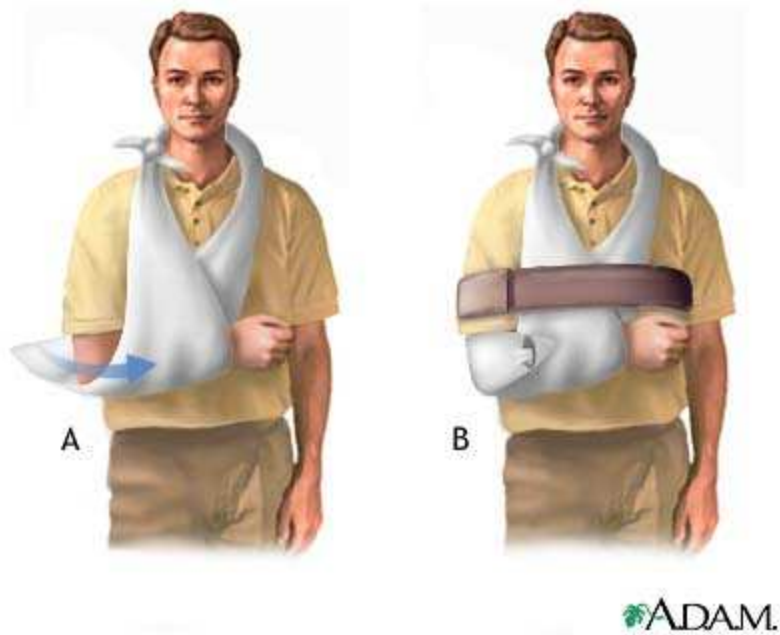
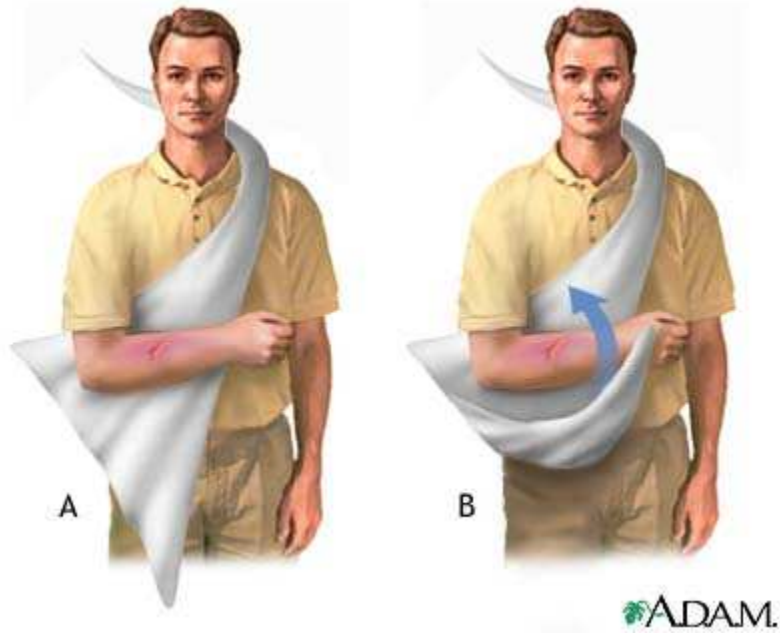
1. Arm Slings
2. Elevated slings
3. Collar and cuff slings

Arm sling

This simple arm sling help to support and immobilise your forearm, upper arm and wrist when injured. Arm slings can also help support your arm if you have fractured ribs



The procedure for arm sling for which needs triangular bandage and safety pin



Elevated sling:

This is used to support fracture forearm and wrist injuries



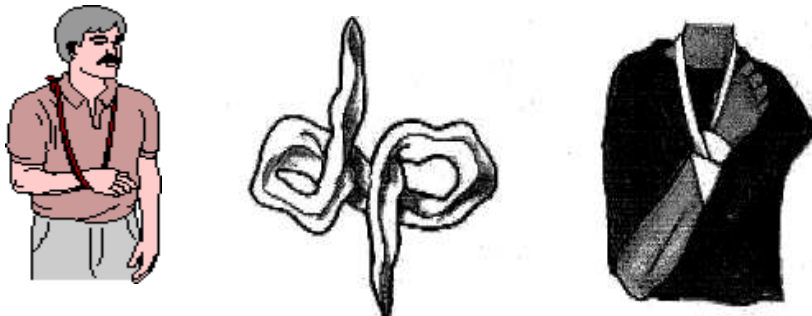
Procedure for elevated sling:

To make an arm slings requires Traingular bandage

1. Stand in front of the injured person
2. Support the arm
3. Ask the injured person to support their injured arm by placing it across the chest with their finger tips touching the opposite shoulder.
4. place the traingular bandage over the injured arm with the longest straight edge lying over the uninjured shoulder and the point extending beyond the elbow on the injured side
5. take lower end of bandage up, now take the lower end of the bandage up and around the back to meet the other end at the shoulder on the injured side.
6. tie a reef knot
7. tuck loose ends and secure
8. check circulation and movement

Collar and cuff sling

This sling for a suspected fracture of collar bone or elbow when triangular sling is not available. Commonly used wrap a strip of sheet, a pant leg around the wrist and tie the ends behind neck



Collar-and-Cuff' (Clove Hitch)

1. Allow the elbow to hang naturally at the side and place the hand extended towards the shoulder on the uninjured side.
2. Form a clove hitch by forming two loops — one towards you, one away from you.
3. Put the loops together by sliding your hands under the loops and closing with a "clapping" motion. If you are experienced at forming a clove hitch, then apply a clove hitch directly on the wrist, but take care not to move the injured arm.
4. Slide the clove hitch over the hand and gently pull it firmly to secure the wrist.
5. Extend the points of the bandage to either side of the neck and tie firmly with a reef knot.
6. Allow the arm to hang comfortably. Should further support be required, ex. For support to fractured ribs, apply triangular bandages around the body and upper arm to hold the arm firmly against the chest.

Splints:

- * A splint is a rigid piece of wood or plastic material or metal applied to a fractured limb to prevent movement of the broken bone.

- * Reasonably wide splints are better than narrow

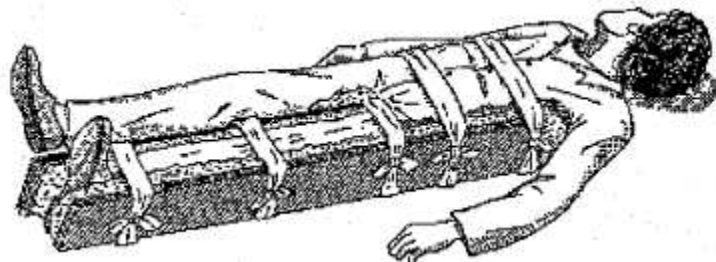
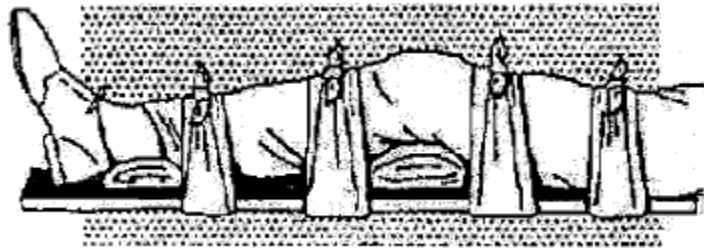
- * Splints should be long enough so that the joints above and below the fractured bones can be made immobile.

- * The splints should be well padded with cotton or cloth so as to fit snugly and softly on the injured limb.

- * Splints are best applied over the clothing.

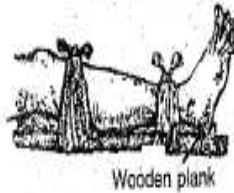
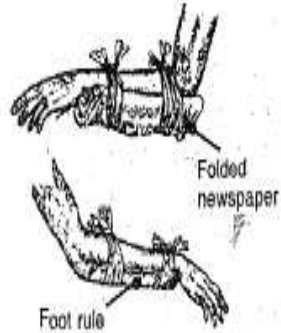
- * In an emergency, splints can be improvised using a walking stick, an umbrella, a piece of wood, a book or even a firmly folded newspaper, naturally available material

- * Use of splints becomes obligatory only when both legs or both thigh bones are broken, preferably wood boards.



Naturally available material used as splints

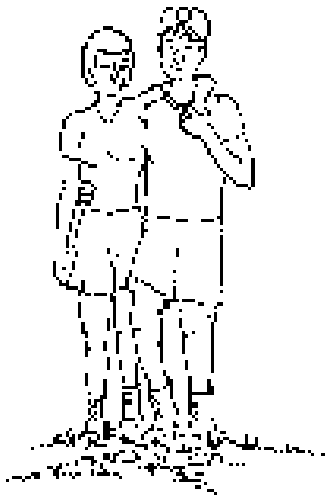
A splint is a method of keeping movements in a fractured bone to minimum.



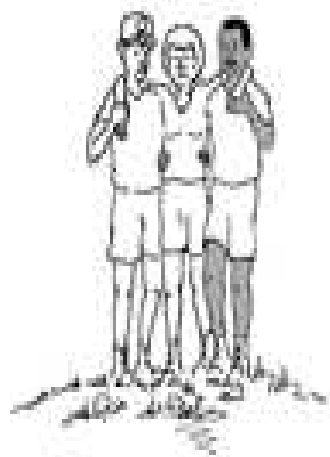
11 Moving a Victim (Transport)

Moving a victim can be done in variety ways. The aim is to the safest way to carry a victim

1. Support of single helper
 - a. Fireman lift
 - b. Hand on the shoulder
 - a) one person move
 - b) Two person move
2. Support with two helpers using handsets
 - a. Two hand sets
 - b. Four hand sets
3. Blanket lift
4. Stretcher
 - a. Two individuals
 - b. Four Individuals
5. Ambulance and other motor vehicles
6. By water: boat and steamer
7. By air: Aeroplane and helicopter



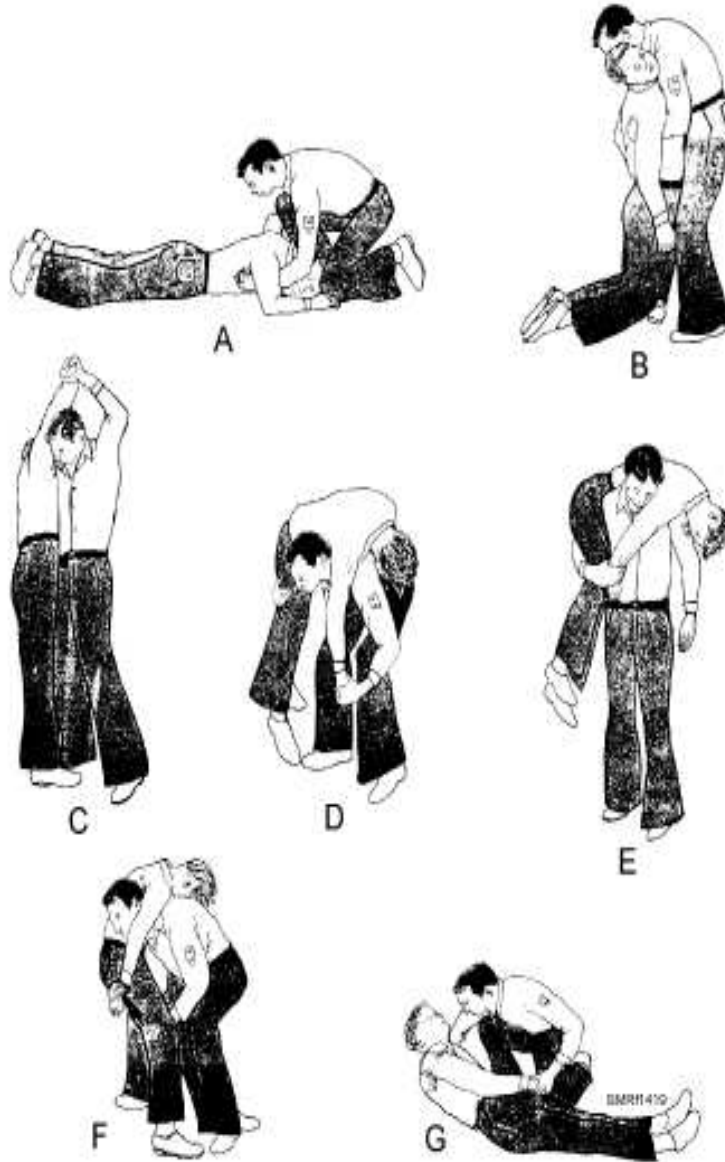
One-person move



Two-person move

Fireman lift/carry:

It is one of the easiest ways to carry an unconscious casualty



The Fireman's Carry:

It is one of the easiest ways to carry an **unconscious** casualty.

1. Place the casualty face down. Face the casualty, and kneel on one knee at the casualty's head. Pass your hands under the armpits; then slide your hands down the sides and grasp them across the back.

2. Raise the casualty to his knees. Take a better hold across the casualty's back.

3. Raise the casualty to a standing position and place your right leg between the casualty's legs. Grasp the right wrist in your left hand and swing the arm around the back of your neck and down your left shoulder.

4. Stoop quickly and pull the casualty across your shoulders and, at the same time, put your right arm between the casualty's legs.

5. Grasp the casualty's right wrist with your right hand and straighten up. The procedure for lowering the casualty to the deck is also illustrated. Do not attempt if the casualty has an injured arm, leg, ribs, neck, or back!

Support with two helpers using hand sets:



This technique is for carrying **conscious and alert** victims moderate distances. The victim must be able to stand unsupported and hold themselves upright during transport.

1. Position the hands as indicated in graphic.
2. Lower the seat and allow the victim to sit
3. Lower the seat using your legs, not your back
4. when the victim is in place, stand using your legs,

Two handed seat

This technic is carrying a victim longer distances. This technique can support an unconscious victim.



1. Pick up the victim by having both rescuers squat down on either side of the victim
2. Reach under the victim's shoulder and under their knees.
3. Grasp the other rescuer's wrists
4. From the squat, with good lifting technique, stand
5. Walk in the direction that the victim is facing



Blanket lift



Thee Person Carry/Stretchers lift



First Degree Burns



Second-Degree Burns



Third-Degree Burns



Classification of Burns:

First-degree burns: In which only outer layer of skin (epidermis) is burned.

The skin usually red,
surroundings area is swollen.
Usually heals in 3 to 6 days.

Second-degree burns:

When the first layer of skin has been burned through and the second layer of skin (dermis) also burned, the injury is termed as a second-degree burns.

Blisters developed
skin extensively reddened
severe pain
swelling
usually heals in 2 to 3 weeks

Third-degree burns:

Most serious burn. It destroy all the layers of the skin ,vessels, nerves , fat, muscles.

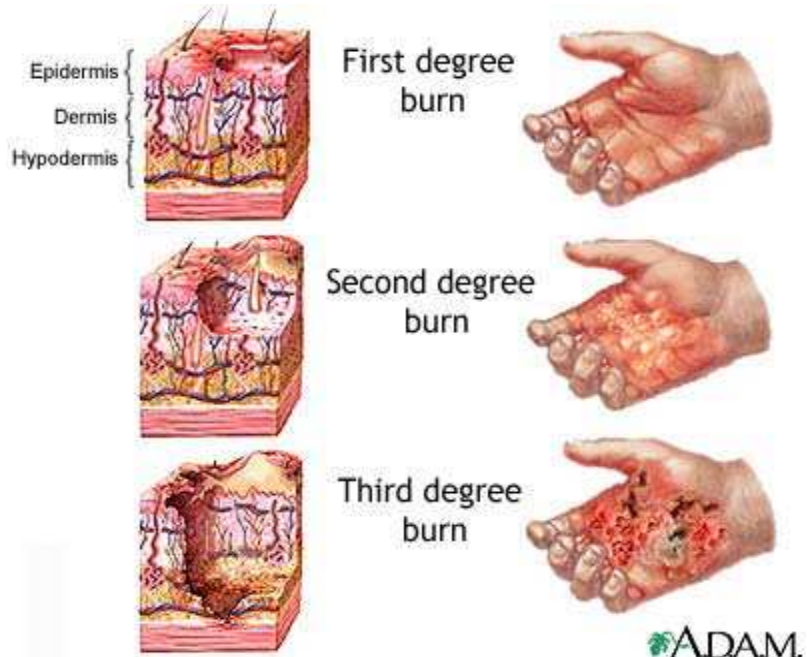
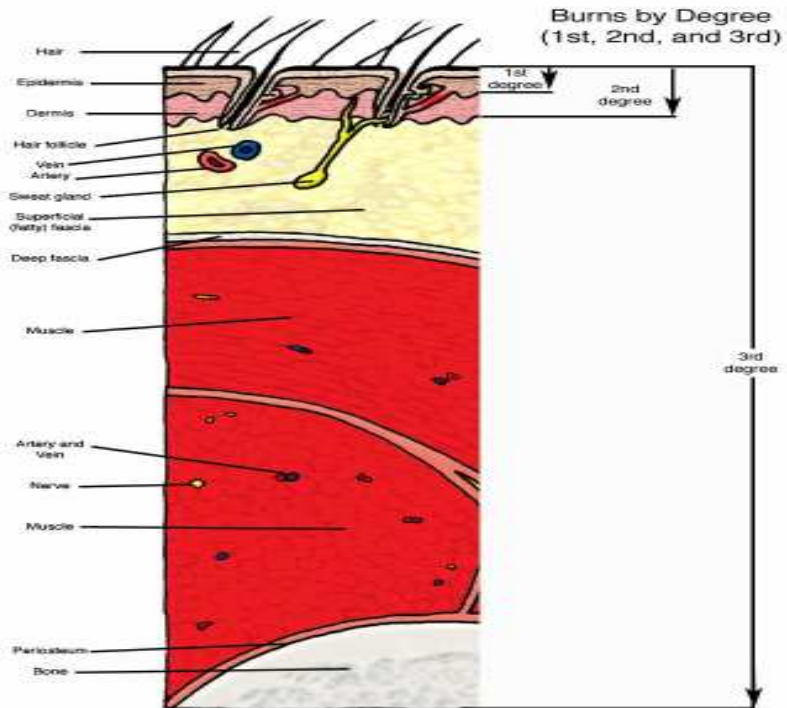
Causes of third degree burns:

1. Clothing on fire
2. Immersion on hot water
3. Contact with flames, hot objects and electrocution
4. Corrosive chemicals

Symptoms:

Areas may be charred black or appear dry and white.
Shock
Infection
Usually takes long time to heal, if heals contractures and other complications are present.
edges are healed. remaining area to be covered with skin grafting (surgical Procedure)

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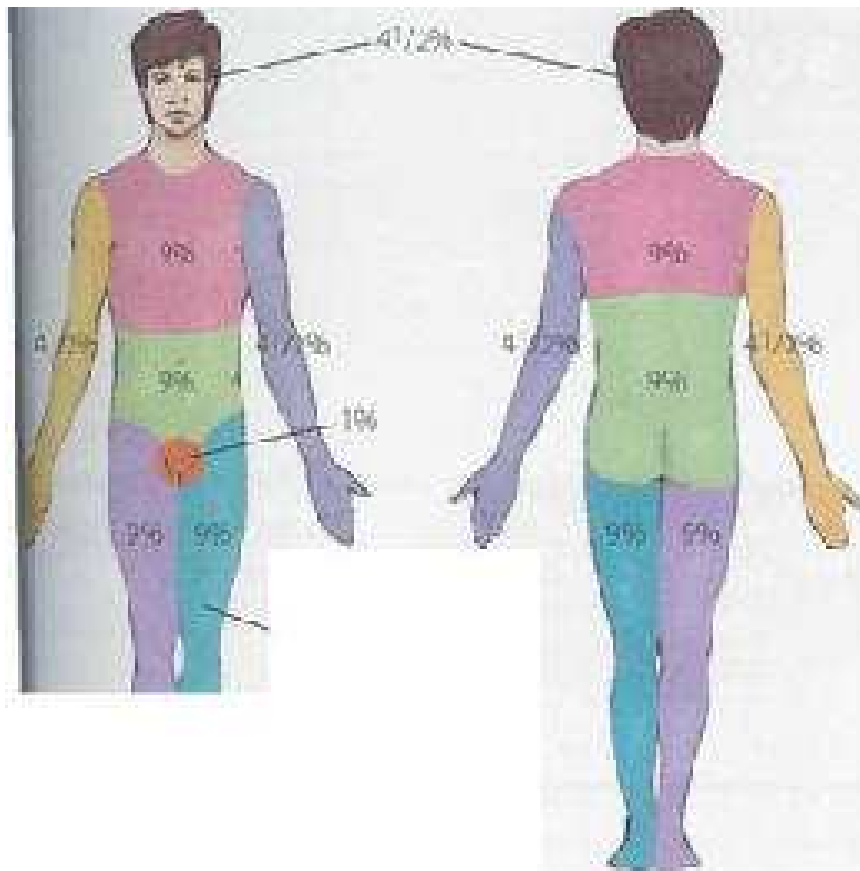


Percentage of the area of body burnt:

Area of burns are calculated by way of % "Rule of Nines"

The body divided 11 parts each consists of 9% + 1% scrotal area.

By the rule of Nines estimate the area of burnt and asses the severity of the victim



<20% burns treated as outpatient with doctor advise
between 20% to 40% treated as inpatient and admit in hospital, recovery takes more tome.
>40% risk is very high.

Thermal Burns:

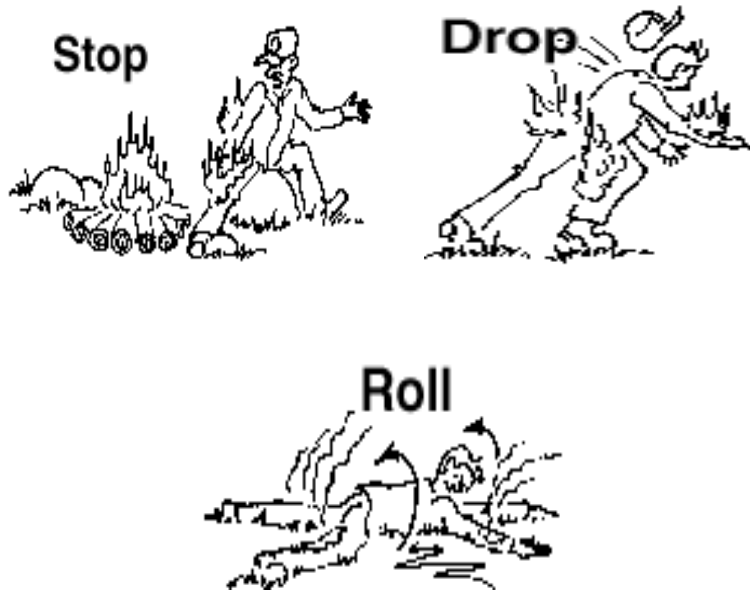
commonly this type of burns occurs in kitchen and suicidal tendency.

Stop the burn source

If clothes catch on fire,

STOP, DROP AND ROLL on the floor or ground or douse with cold water or wrap the victim in a cotton blanket or rug to put out flames.

if clother catch on fire, stop-drop-roll



Hunting partner can assist by smothering with blankets.



Electrical Injuries/Burns

If any part of the body comes into contact with a live wire or with a cable from which current is leaking then the person gets an electric shock.

In houses the blowing out of faulty switches, fuses or faulty electrical connections can cause such injury.

The injury may be mild or can be severe enough to cause death. It is due depression of respiratory centre which is present in the brain.

Electric shock is produced only when an electric current passes through the human body, which is in contact with the earth. It passes even more quickly if the part is wet.

The Effects of Electric Shock

- * There may be fatal stoppage of the heart.
- * There may be sudden stoppage of breathing due to sudden paralysis of the muscles of breathing.
- * There may be burns that are either superficial or deep. They depend on the strength of the electric current causing the injuries.

Management

Intelligent and prompt action is required.
First aider observe the scene and cautious about his safety.

1. If the patient is still in contact with the source of current switch off the source of current. This should be done with the rescuer standing on a dry piece of wooden board. When the current is of low voltage then the rescuer should stand on an insulated material that is dry. (Insulated materials include rubber-soled shoes, wooden planks, or piles of newspapers.) Rubber gloves if available should be worn. Dry clothing like a coat or a folded newspaper may give some protection.

2. When the current is of a very high voltage then the danger is greater even though the patient may not even be in contact with the wire as the current can pass through the gap causing an arc. The rescuer should keep as far away from the electric wires as possible. The patient should be dragged out using a nonconducting material like a wooden walking stick, dry bamboo pole, wooden plank or a dry rope.

3. If the patient is not breathing properly or the heart has stopped beating, give artificial respiration and external cardiac massage (ABC of First aid)

4. Treat for shock.

5. Treat for burns.

6. Transfer the patient to a hospital as soon as possible.

Why are burns Dangerous?

Burns are dangerous because they produce

SHOCK: They can very quickly lead to shock in the immediate period following the burn due to loss of excessive fluids from the body.

INTENSIVE PAIN: They produce intense pain.

INFECTION: They lead to infection in the affected area.

SCARS: When they heal they leave scars behind, which are disfiguring and can restrict movements.

AIM OF THE FIRST AID PROVIDER:

1. To get rid of residual heat
2. To control the shock
3. To prevent the infection
4. To act ABC of the First Aid

Management of Minor Burns and Scalds:

it including second-degree burns with limited to an area no longer than 2 to 3 inches in diameter.

Clean the area gently with clean water.

Submerge the burnt area in cold water.

Cover the burn area with sterile gauze and bandage
Do not apply cotton wool directly over the burnt area.

Do not apply any greasy substance.

Give the patient warm drinks.



Management of Extensive Burns

1. Keep the patient quiet and reassure him.
2. Wrap him up in a clean cloth.
3. Do not remove adhering particles of charred clothing.
4. Cover the burnt area with a sterile or clean dressing and bandage. In the case of burns that cover a large part of the body it is sufficient to cover the area with a clean sheet or towel.
5. Keep the patient warm but do not over heat.
6. If the hands are involved, keep them above the level of the victim's heart.
7. Keep burnt feet or legs elevated.
8. If the victim's face is burnt, sit or prop him up and keep him under continuous observation for breathing difficulty. If respiratory problems develop, an open airway should be maintained.
9. Do not immerse the extensively burnt area or apply ice water over it because cold may intensify the shock reaction. .
10. Do not remove the blisters or burnt skin.
11. Treat for shock.
12. Remove quickly from the body anything of constricting nature like rings, bangles, belt and boots. If this is not done early, it may be difficult later on as the limbs begin to swell.
13. If patient conscious and no vomiting, give water and hot liquid.
14. Do not apply ointments, grease or any other material over the wound.
15. Priorities of ABC of First Aid

Dont"s

Dont's use Ice:putting ice directly on the burn damaging skin and tissue. so ice wrapped in cloth
Don't break the blisters: Broken blister are vulnarable to infection.

Management of Other type of burns:

Management of Chemical Burns

- ◆ Remove the cause of burn by Wash off the chemical with a large quantity of running water for 20 minutes or more. If the burning chemical is a powder substance, such as lime, brush it off the skin before flushing. This flooding with water will wash away much of the irritants.
- ◆ Cut out contaminated clothing or jewelry
- ◆ Do not touch the burnt area.
- ◆ Treat as for burns.
- ◆ If victim has signs of shock, treat for shock
- ◆ Apply priorities of ABC of First Aid

all chemicals does not rinse with water. They are

Carbolic acid/Phenol: does not mix with water, so use isopropyl alcohol first to flush the chemical off the skin and then flush with water. If alcohol is not available, flush with large amount of water. Don't flush the eye with alcohol.

Sulphuric acid: is flushed with mild, soapy solution if the burns are not severe. Sulphuric acid feels hot when water is added to the acid.

Hydrochloric acid: is flushed with a soda bicarbonate (baking soda) solution. Later wash with large amount of water. Dent flush the eye with baking soda solution.

Dry powders, such as lime are first brushed later wash with eater

Eyes should not be washed with any above solutions. wash with water only, to reduce the chances of damage of eye.

Management of Electrical Burns:

- 1 Look first, Dont touch
- 2 The person may still be in contact with electrical source, turn off electrical current/ remove the source
- 3 Priorities of ABC of first aid
- 4 Burns often results in serious muscle breakdown, electrolyte abnormalities leads to kidney failure and cardiac arrest.
- 5 Prevent the shock
- 6 Cover the affected area
- 7 Treat as for burns
- 8 Send immediately to the hospital

Cold Burns (frost bite):

- ◆ Individual to be removed to hot zone
- ◆ Frost bite initially looks like reddened first degree burns,
- ◆ First rewarm the frozen skin by submerging it in warm, not hot, water.
- ◆ Don't rub the frozen skin to warm it with friction

Sun Burns:

- ◆ Remove from hot exposure of cold area
- ◆ Drink plenty of water to prevent dehydration
- ◆ Cover with cold cloth if no blisters
- ◆ If burn is severe and blisters develop, seek medical attention.

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UNCONSCIOUSNESS

Any interference with the normal function of the brain leads to loss of consciousness . It is serious sign.

How to asses:

1 Shake

2 Shout

3 Pinch

Causes:

- 1. Head injuries**
- 2. Stroke**
- 3. Heart attack**
- 4. Fits (epilepsy)**
- 5. Excessive alcohol consumption**
- 6. Bleeding (Hemorrhage)**
- 7. Shock**
- 8. Poisoning**
- 9. Diabetes**
- 10. Electrical shock**
- 11. Drug overused**
- 12. Allergy**
- 13. High concentration of fertilizers**
- 14. Dehydration**
- 15. Spinal Injury**
- 16. Heat stroke**

Management:

- ◆ Place the casualty in recovery position
- ◆ Nil oral
- ◆ Look for air way
- ◆ Elicit the cause and remove
- ◆ Priorities of ABC of first aid

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14 **SHOCK**

Severe depression of vital functions of the body associated with changes in circulating system. It is a life-threatening condition

Causes:

1. Severe bleeding (hemorrhage)
2. Heart attack
3. Severe burns (third degree burns)
4. Dehydration
5. Sun stroke
6. Severe bacterial infection (septicemia)
7. Acute abdominal emergencies
8. Crush injuries
9. Electrical shock
10. Allergy

How to recognise shock (signs and symptoms):

1. Skin cool and clammy
2. dizziness and fainting
3. Nausea and vomiting
4. Pallor
5. Shallow Breathing
6. Slow and thready pulse
7. loss of consciousness

Management:

1. Reassurance
2. Head low and elevation legs
3. loosen the clothes
4. Wrap with clothes
5. Nil oral
6. keep him in recovery position
7. Priorities of ABC of first aid
8. transport to hospital

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Heart Attack

It is due to an obstruction of coronary arteries that supply the heart muscles.

How to recognize (Signs and symptoms):

- ◆ Severe chest pain (pricking/stabing/squeeze ing)
- ◆ Pain spreads to left arm, neck, jaw, back of the chest
- ◆ Fullness of chest (unexplained)
- ◆ Breathlessness
- ◆ Sweating
- ◆ Pale and clammy of skin
- ◆ Rapid pulse
- ◆ Discoloration of lips and finger tips
- ◆ Nausea and vomiting
- ◆ Dyspepsia and abdominal pain
- ◆ Unconsciousness
- ◆ Pupils dilated
- ◆ Death

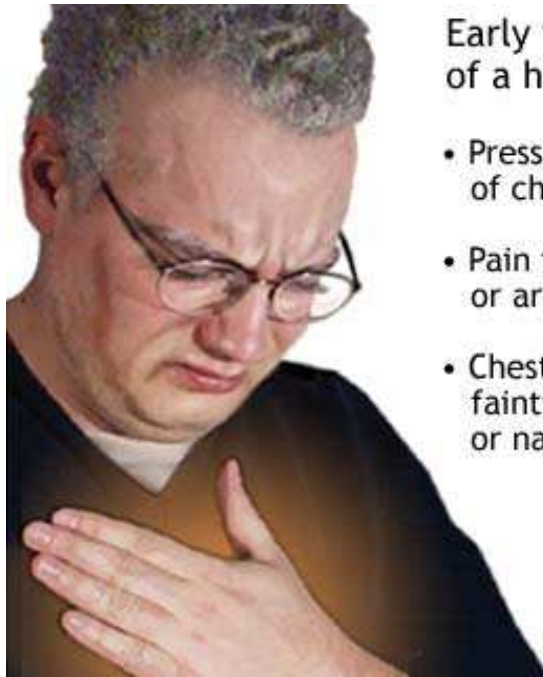
Causes:

- Deposition of cholesterol/calcium
- Hereditary factors
- Obesity
- High Blood pressure
- Consumption of tobacco
- Emotional stress

Indications of a heart attack include sweating, anxiety and chest pains



ADAM.



Early warning signs of a heart attack:

- Pressure in center of chest
- Pain in shoulders, neck or arms
- Chest discomfort with fainting, sweating or nausea

ADAM.

Management:

- Keep the patient calm and reassurance
- Loosen the tight clothing, if any
- Ask for any previous episodes of heart attack, if so give sorbitrate tablets under the tongue
- If the pain does not relief within short time call, send to hospital for medical emergency
- If the person is unconscious and unresponsive, then begin CPR
- Priorities of ABC of First aid
- Better to shift the heart patient where cardiac felicities are available
- Any chest pain not responds within 1/2 hr, suspect as heart attack and needs immediate medical advice.

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STROKE

It is due to rupture/blockage of blood vessels of Brain
It may be mild or severe depends on damage

Signs and Symptoms:

- .. Numbness of face, arm, leg, especially one side of the body;
- .. Blurring of the vision, particularly one side
- .. Sudden severe headache, not known cause
- .. Patient looks pale and shock
- .. Rapid pulse (tachycardia)
- .. Noisy breathing
- .. Froth from nose and mouth
- .. Inability to stand or raise the hand
- .. May pass urine and motion
- .. Uneven pupil dilatation
- .. Unconsciousness

Stroke warning signs: "FAST"

FACE: Ask the patient to smile

Ö stroke can cause one side of the face to drop

ARM: Ask the patient to raise arms

Ö not able raise the hand, arm drifts downwards

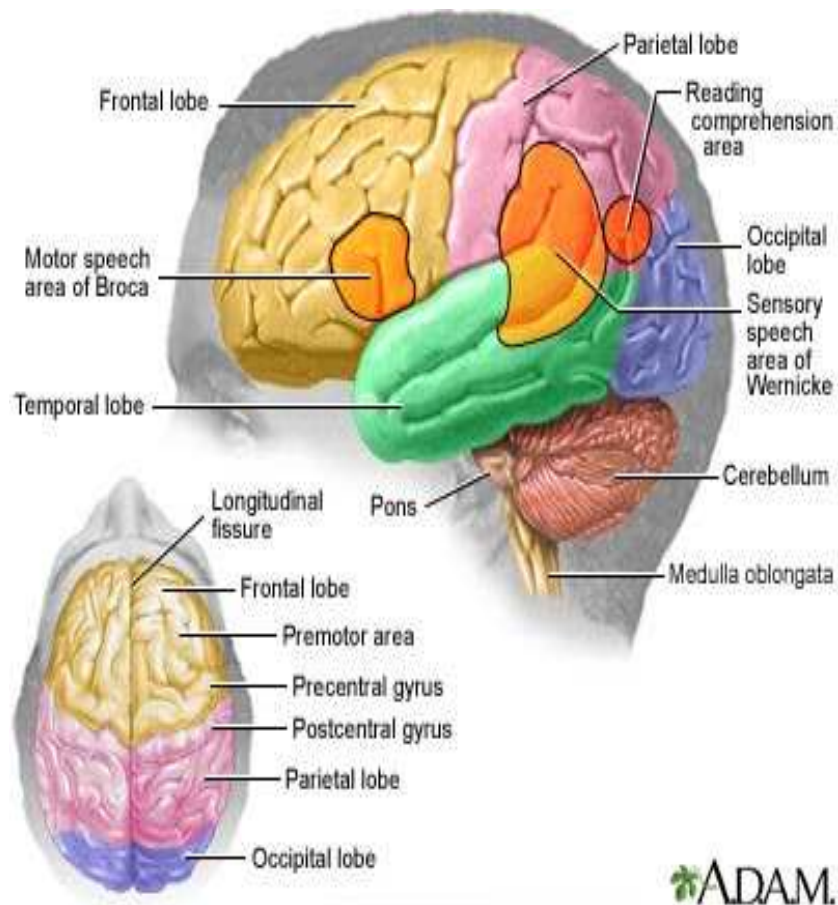
SPEECH: Ask the person to repeat small sentences

Ö stroke victim may slur their words

TIME: Important factor to recovery the victim

Ö early attention to reduce the complications

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Management:

- Patient is conscious, comfortable, send to hospital
- Patient is unconscious, keep in recovery position
- Nil Oral
- Apply the Priorities of ABC of first aid

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POISONING

Any gases or substances which when taken into body by large quantities will harm or destroy the life.

They enter in three ways.

1. **By mouth**
2. **By inhalation**
3. **Through skin**

It may occur accidentally or suicidal tendency

1. Accidentally:

Consumption of large doses
tablets within reach of children
inhalation of poisonous gases
gas leakage as Bhopal tragedy

2. Suicidal:

Pesticides (Organo-Phosphorous compounds)
Consume Large quantity of sleeping pills
Insulin injection

Management:

Preserve the material and vomitus for confirmation

Patient is conscious:

- ◆ Aid vomiting by making him/her tepid water (two spoons of common salt in a glass water)
- ◆ Large quantities of cold water should be given
- ◆ If poison is corrosive, do not induce vomiting, it further damage food pipe.

Patient is Unconsciousness:

- ◆ Nil oral
- ◆ Do not induce vomiting
- ◆ Keep the patient in recovery position (Prone)
- ◆ Look for air way and breathing
- ◆ Priorities of ABC of first aid
- ◆ Transport the patient to hospital

Signs and symptoms of poisoning:

- Burns and redness around the mouth and lips as in the case of corrosive poisoning
- Breath that smell like chemicals
- Burns, stains and odors at the surrounding area
- Empty medication bottles and scattered pills
- Vomiting
- Difficulty in breathing
- Confusion
- Unexpected signs
- Pupil dilatation
- Coma, Death

Carbon Monoxide poisoning: is colorless, odorless and tasteless gas. It is produced by appliances that burn gases, petroleum products, wood and other fuels.

Signs and symptoms:

- Dull headache
- Dizziness
- Nausea and vomiting
- Chest pain
- Confusion
- Irritability
- Impaired judgement
- Loss of consciousness
- When seek medical advice: if you suspect you have been exposed to carbon monoxide, get into fresh air immediately and seek medical care. If possible, open windows and doors on the way out of the house.
- Priorities of ABC or first aid

Snake Bite

Poisonous snake bites are medical emergency requires immediate medical attention

80 to 90 percentage of Indian Snakes are Non poisonous snakes and the remaining 10 percent are poisonous

Treatment:

- ◆ Keep the victim calm and reassurance
- ◆ Keep the affected area below the level of heart, so as to contain venom locally.
- ◆ Wash hands thoroughly or put on the latex gloves before attending the wound.
- ◆ If the bite is not bleeding, wash the wound well with mild soap and water and part dry with clean swabs or other non-fluffy material.
- ◆ If the bite is actively bleeding, control the bleeding by applying direct pressure with a clean and dry cloth until the bleeding subsides.
- ◆ Remove any of the constricting items.
- ◆ Lightly compress the limb above the wound with roller bandage.
- ◆ Immobilize the injury, immobilize an injured arm with a sling and an injured leg by binding it to the injured leg.
- ◆ If the patient stops breathing, be ready to resuscitate if needed. (ABC of first aid)
- ◆ Observe the bite for signs of infection (increasing skin redness, swelling) and other vital signs (temperature, pulse, rate of breathing, blood pressure).
- ◆ If the area around the wound begins to swell and change color, the snake was probably poisonous.
- ◆ Get medical help as soon as possible.

Warning

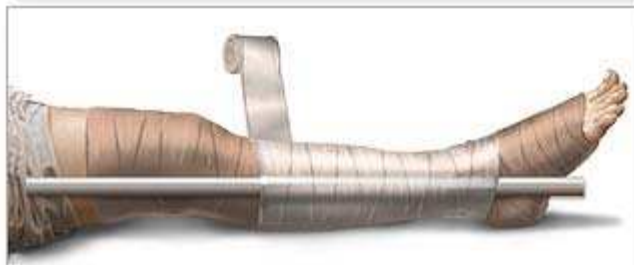
- * Do not apply ice or a cold pack to snakebite because cold can cause the venom to spread further.
- * Do not apply a Tourniquet such as a belt, neck-tie or cord.
- * Do not slash the wound with a knife.
- * Never try to suck the venom orally.
- * Patient should never be put to strenuous physical exercises.
- * Site of the bite should not be raised above the heart level.
- * No stimulants or pain medications should be taken without the prescription of the doctor.
- * Removal of the dressing/elastic wraps to be avoided until you are at a facility ready and able to administer antivenom.
- * Do not eat or drink unless told by the doctor.



Pressure Immobilisation technique



ADAM.



ADAM.

Insect bites and stings:

Signs and symptoms of an insect bite result from the injection of venom or other substances into your skin. The venom triggers an allergic reaction. The severity of your reaction depends on your sensitivity to the insect venom or substance.

Bites from bees, wasps, hornets, and red ants are typically the most troublesome. Bites from mosquitoes, ticks, biting flies and some spiders also can cause reactions, but these are generally milder.

Symptoms: Majority are mild in nature

- .. Move to safe area to avoid more stings
- .. Scrap or brush off the stinger
- .. wash the affected area with soap and water
- .. apply cold pack filled with ice to reduce pain and swelling
- .. Apply hydrocortisone cream
- .. Take anti histamine table for to relieve from allergy

If symptoms are severe consult immediately doctor for further treatment.

In rarest conditions produces severe reactions, so observe for some time for any untoward effects.

Scorpion strings and Spider bites

The majority of scorpions are harmless to humans, although the sting is extremely painful and will require pain killing treatment.

The following may be observed in cases of moderate to more serious poisoning.

- ◆ Sweating
- ◆ Palpitation
- ◆ Nausea and Vomiting
- ◆ Salivation
- ◆ Raised blood pressure

Treatment:

- There is no specific treatment
- Give analgesics to relieve the pain
- Remove the strings
- Give an Injection of Xylocaine around the bite, to reduce the pain to male numbness
- Reassurance to victim

In the rare occasions, severe reaction may produce in such circumstances treat like snake poisoning.

In our country no severe reactions of spider bites and are harmless.

ANIMAL BITES

Domestic pets cause most animal bites. Dogs are more likely to bite than cats are. Cat bites, however, are more likely to cause infection. Bites from non immunized domestic animals and wild animals carry the risk of rabies. Rabies is more common in bats and foxes than in cats and dogs. Rabbits, squirrels and other rodents rarely carry rabies.

Rabies is a serious viral disease that affects your central nervous system. Typically rabies spreads by way of the saliva of infected animals — often, but not always, through a bite.

Signs and symptoms

Signs and symptoms of rabies usually appear within ten days to three months after exposure, though there have been rare cases appear for more than six months after exposure.

Rabies is nearly always fatal once symptoms appear. Death from breathing failure often happens within a week after the appearance of signs and symptoms

- ◆ Fever, headache, malaise
- ◆ Anxiety
- ◆ Confusion
- ◆ Excitation
- ◆ Hallucination
- ◆ Insomnia
- ◆ Agitation
- ◆ Salivation
- ◆ Difficulty swallowing
- ◆ Hydrophobia (fear of water)

Once rabid dog/ animal bites better to take anti rabies vaccine without delay.

Once rabies affected, mortality rate is zero



Initial treatment for an animal bite should include thorough cleansing however all animal bites should be seen by a physician

ADAM.



Wash the area of an animal bite thoroughly

ADAM.

Treatment:

- Self care treatment followed by medical treatment
- Whether bite is major or minor:
- Wash with soap and water thoroughly
- Apply the antiseptic ointment and dressing
- Don't suture the wounds
- Take T.T.shot
- Treat infection, if any
- Immediately take antirabies vaccine of 5 doses (0,3,7,14,30 days), preferably on the day of bite
- Delay leads to death

18 FOREIGN OBJECTS

Foreign object in the eye: First aid

If you get a foreign object in the eye, try to flush it out with clean water or saline solution. Use an eyecup or a small, clean glass positioned with its rim resting on the bone at the base of your eye socket.

- 1 Wash your hands.
- 2 Seat the person in a well-lighted area.
- 3 Gently examine the eye to find the object. Pull the lower lid down and ask the person to look up. Then hold the upper lid while the person looks down.
- 4 If the object is floating in the tear film on the surface of the eye, try flushing it out. If you're able to remove the object, flush the eye with a saline solution or clean, lukewarm water.
- 5 Do not try to remove the foreign body by other ways





Foreign object in the Ear:

Common objects found in ears include food material, beads, seeds and insects. Children often place items in their ears out of curiosity.

Ear wax (cerumen) which produces pain and discomfort

Management:

- ◆ Do not push foreign material leads to damage the ear and tympanic membrane
- ◆ if earwax present pour oil into ear thrice a day for three days. Some times wax may expelled, if not consult doctor
- ◆ if insects enters pour coconut oil or water in the affected ear and wait some time, due to suffocation the insect dies off and come out
- ◆ Do not try to remove Other objects, consult doctor.

Foreign Object in Nose

If a foreign object becomes lodged in your nose:

- Don't probe at the object with a cotton swab or other tool.
- Don't try to inhale the object by forcefully breathing in. Instead, breathe through your mouth until the object is removed.
- Blow your nose gently to try to free the object, but don't blow hard or repeatedly. If only one nostril is affected, close the opposite nostril by applying gentle pressure and then blow out gently through the affected nostril.
- Gently remove the object if it's visible and you can easily grasp it with tweezers. Don't try to remove an object that isn't visible or easily grasped.

Consult doctor for removal foreign object

Foreign object in the skin

If a foreign object is projecting from your skin:

- Use tweezers to remove splinters of wood or fiberglass, small pieces of glass or other foreign objects.

If the object is completely embedded in your skin:

- ◆ Sterilize a clean, sharp needle by wiping it with rubbing alcohol. If rubbing alcohol isn't available, clean the needle with soap and water.
- ◆ Use the needle to break the skin over the object and gently lift the tip of the object out.
- ◆ Use tweezers to remove the object. A magnifying glass may help you see the object better.
- ◆ Wash and pat-dry the area. Follow by applying antibiotic ointment.
- ◆ Seek medical help if the particle doesn't come out easily or is close to your eye.

19 **FIRST AID BOX**

Three types of First Aid Boxes are listed below. These provide guidelines, but you will know from experience what to add to the contents in your specific environment.

Large First Aid Box (For Factories etc.)
Medium First Aid Box (Motor vehicles etc.)

Small First Aid Box

Size : (5" x 3 ½ " x 2 ½")
For Personal travel

Contents

1. Sterilised Finger Dressings	1	No
2. Sterilised Hand or Foot Dressings	1	No
3. Sterilised Large Dressings	1	No
5. Sterilised medium burn dressing	1	
6. Adhesive plaster (1.25 cms×90 cms)	1	spool
7. Safety pins	6	
8. Roller bandage 1" (2.5 cms)	1	
9. Roller bandage 2" (5.0 cms)	1	
10. Sterile gauze pads	2	
11. Eye pad	1	
12. Small scissors	1	
13. Disposable hand gloves	1	pair
14. Antiseptic Ointment	1	tube

Medium First Aid Box

Size: (16" x 7 $\frac{3}{4}$ " x 4")

Type: Dust-Proof

Environment: Small Institution, Motor Vehicles etc.

Contents

1. First aid splints wooden (ordinary)	1	set
2. Triangular bandages	6	
3. Sterilised cotton wool (25gms)	2	pkts
4. First aid dressings (3 large & 3 medium)	6	
5. Roller bandages (three sizes)	9	
6. Burn dressings (large)	3	
7. Burn dressings (small)	3	
8. Eye pads	2	
9. Safety pins (10 Nos)	1	pkt
10. Scissors, ordinary, 12.7cm,	1	
11. Spool adhesive plaster	1	
12. Antiseptic ointment	1	tube
13. Liquid antiseptic 50 ml bottle	1	
14. Eye ointment	1	tube
15. Loose woven gauze	1	Pack
16. Aspirin 300mg (24 tables)	1	bottle
17. Tear off scribbling pad with pen	1	
18. Adhesive dressing (band aid)	10	strips
19. Torch, medium size, without cells	1	
20. Hand gloves (disposable)	2	pairs
21. Sterile gauge pads	10	
22. First aid Book	1	copy
23. Forceps toothed and non-toothed	2	each one

Large First Aid Box

Size: (17 $\frac{1}{2}$ " x 10" x 6 $\frac{1}{2}$ ")

Type: Dust-Proof

Environment: Small factories etc.

Contents

1. First Aid Book	1	copy
2. Sterilized Finger Dressings	12	Nos
3. Sterilized Hand or Foot Dressings	12	Nos
4. Sterilized Body or Large Dressings	12	Nos
5. Sterilized Burn Dressings Small	6	Nos
Large	4	Nos
Extra Large	2	Nos
6. Sterilized Cotton Wool (25gms)	6	Nos
7. Antiseptic ointment	2	Nos
8. Eye Pad	6	Nos
9. Adhesive Plaster (2.5cms5M)	1	
10. Assorted Roller Bandage		
25 cms x 5.5M	6	Nos
5 cms x 5.5M	6	Nos
7.5 cms x 5.5M	6	Nos
11. Triangular Bandages	12	Nos
12. Safety pins (10 nos)	Set	
13. Scissors Ordinary, 12.7 cms (Both sides sharp)	1	Pair
14. Liquid Antiseptic (betadine)	1	
15. Cotton wool for padding 50 gms	1	
16. Eye ointment (soframycin) tube	1	
17. Loose woven gauze (28" x 8"	1	pkt
18. Aspirin (300mg)	24	tabs
19. Tear off Scribbling Pad with pen	1	
20. Adhesive Dressing Strips (band aid)	10	No
21. Torch, medium size, without cells	1	No
22. Hand gloves (disposable)	20	Pairs
23. First aid splints wooden (ordinary)	4	sets
24. Forceps toothed and non-toothed	2	each one

20 *Miscellaneous*

Epilepsy (Fits)

Epilepsy is a disease, occur in all ages, where the patient has repeated episodes of convulsions. The specific cause is not known

Epilepsy patients are in danger of hurting themselves when they fall down, when they bite their tongue or may either aspirate or even asphyxiate during the episode.

Cause may be hereditary and high temperature as febrile convulsion seen in children

It is divided into Major and Miner fits

Identification of a seizure or convulsion

Minor Seizure

1. Patient may become pale and anxiety
2. The eyes become fixed and staring and he may become unconscious for a few seconds.
3. He soon resumes his work as though nothing has happened.
4. Precaution to be taken is to observe if the patient is progressing into a major epileptic attack and to treat as for a fainting spell.

Major Seizure

1. This kind of seizure may follow headache, restlessness or a feeling of dullness.
2. The patient may be aware that he is likely to have a fit soon.
3. Unconscious and froth from mouth and nostrils.

The fit itself is divided into four phases:

1. Phase I - Sudden loss of consciousness which causes the patient to fall to the ground. The patient may cry or scream.

2. Phase II - The body becomes rigid for a few seconds and the face becomes flushed.

3. Phase III - The fits begin in full force. The patient may injure himself by striking himself hard against nearby objects. There is frothing at the mouth and the tongue may be bitten. The patient may pass urine or motion during this phase.

4. Phase IV - The attack lasts for a few minutes and then the convulsion stops. The patient appears dazed and confused. He may lapse into slumber or may act in a strange manner for a few hours without knowing the exact nature of his actions. After a few hours he becomes normal again.

Management:

Recurrent episodes of epilepsy candidates not to drive vehicles

To give support in phase III begin with forceful convulsion, to prevent injuries/fractures of the body

Take care not to bite the tongue

Nil oral till the patient recovery

Keep patient in recovery position as froth comes from the mouth and nostrils

Priorities of ABC of first aid

Don'ts:

Don't give any keys (no use)

Don't give water

don't pour the water on the body

21 Fever (Pyrexia)

Normal body temperature 98.4 degrees Fahrenheit or 37 degrees centigrade.

If the temperature higher than normal body temperature is called as fever

Fever is a symptom not a disease. This indicates some abnormal process going in the body

Temperature monitor by clinical Thermometer

Causes:

Bacterial/viral infections

Extreme hot weather

Children immunization (polio, DPT)

Rash

Symptoms:

Hot flushed face and hot when touches body

Headache and body pains

Lack of interest on food

Nausea and vomiting

Diarrhoea

High fever may be associated with:

Delirium

Convulsions (fits)

Treatment:

Whatever the cause of fever, cool body with cold sponging and keep the wet cloth on the forehead

Remove the excessive clothing

Plenty of fluids (oral/IV)

Give paracetamol tablet twice/thrice daily

Consult doctor

Treat as emergency in following disease:

Stiff neck

difficulty in breathing

Rashes (measles and chickenpox)

Persistence sore throat in children, diarrhea and

22

Chicken pox

Common viral infectious child hood disease
caused by varicella-Zoster virus
Spreads through air and contact
It is contagious till blisters disappear
incubation period: 14 to 21 days

Symptoms:

- ◆ Fever
- ◆ Rash
- ◆ Blister all over the body
- ◆ Itching
- ◆ Normally regress within 7 to 10 days, some time produces complications like Pneumonia and septicemia

Treatment:

- Fever treated with paracetmol
- Use antibiotic to prevent the complications
- Light digestible food
- Plenty of fluids
- Apply lotiocalmine liquid
- Acyclovir, antiviral drug shows remarkable effect
- Medical advice

Prevention:

- √ Infected person isolated, if possible
- √ Chikenpox vaccination between 12 to 18 months

Vaccination should not be given to:

1. Allergy to vaccines
2. Pregnant women
3. Immuno-compromised patients (HIV-AIDS)

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Measles

Measles is an infectious disease caused by a virus.
It spreads easily from person to person.
Incubation period: 7 to 14 days

Symptoms

- ◆ The rash often starts on the head and moves down the body.
- ◆ Fever
- ◆ Cough
- ◆ Runny nose
- ◆ Rash
- ◆ Itching
- ◆ Conjunctivitis (pink eye)

Treatment:

- Fever treated with paracetmol
- No specific treatment
- Vitamin A to be given to two consecutive days

Prevention:

- √ Measles vaccination can prevent the disease, should be given at the 10th month (9 completed months)
- √ There is proposal to give booster dose as number cases seen in children age of 10 years too.

This is a condition where sudden constriction of airways causing difficulty in breathing, especially in breathing out.

Causes

- ◆ Allergy,
- ◆ Pollen
- ◆ Dust
- ◆ Infection,
- ◆ Anxiety or tension can trigger an attack.

Management

1. Reassure the patient
2. Make them sit up in bed or chair and allow him to lean forward with couple of pillows and/or a small table on which to rest his/her head
3. Ensure fresh air by opening the windows.
4. Seek medical aid from a nearby doctor.
5. To rule out cause of allergen
6. Hydrocortisone inhalers are proven results
7. Sensitize with known allergens

25 *Diarrhoea (Motions)*

Diarrhoea is defined as copious watery motions or three or more motions within 24 hours.

Causes of Diarrhoea

Water borne disease

Viruses and toxins of microorganisms

Parasites

Digestive disturbances

Signs and Symptoms of Diarrhoea

- ◆ Frequency of motion is more than usual.
- ◆ Consistency of the stool changes from formed to fluid.
- ◆ There may be associated pain in the abdomen.
- ◆ Stools may be mixed with blood or mucus.
- ◆ There may be vomiting.
- ◆ Dehydration

Why is Diarrhoea dangerous?

The main danger from diarrhoea results from the loss of body water and salts in the watery stools, which can lead to shock and a number of electrolyte abnormalities and eventually death. Children are more prone to dehydration.

Management

Principle: Replace the water and electrolytes lost in the stools.

Oral Rehydration Powder packets (WHO Formulation) are available in the market with various brand names and may be used as per the instructions mentioned on the packets. If Commercial Oral Rehydration solutions are not available, then salt-sugar solution can be prepared at home and used instead. Mix 8 teaspoonful of sugar (40 gms) and $\frac{3}{4}$ teaspoonful of common salt (3.5 gms) in a litre of boiled water and after cooling use as Oral Rehydration solution.

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Diabetes

Diabetes is a chronic metabolic disorder, resulting insufficient insulin production by the pancreas, ineffective insulin action (insulin resistance) or both.

In simple terms:

Food eaten converted to glucose, this glucose produces energy and transport to every tissue of body with help of insulin.

Deficiency to produce insulin or action leads to Diabetes i.e. increases the blood sugar levels.

Normal blood sugar level: 80 to 110 mg/dl (fasting)
<140 (2 hrs after food)

Diabetic Levels: fasting blood sugar <126 mgs/dl
Post prandial sugar <200 mg/dl

Types:

■ **Type 1:** Mostly occurs in children, adolescence and young adults. Commonly seen in western population, as seen in India <1% cases.

■ **Types 2:** Mostly occur in adults after 35 yrs. Recently observed cases older than 25 years. Commonly this type of diabetes seen in Indian population.

■ **Gestational diabetes:** This type of diabetes seen in pregnant women and majority cases subsided after delivery.

Symptoms:

- ◆ Excessive urination
- ◆ Increased thirst
- ◆ Increase appetite
- ◆ Weight loss
- ◆ Weakness
- ◆ Vision changes
- ◆ Burning feet and hands
- ◆ Dryness and dehydration

if diabetes not treated regularly it may leads to following complications.

Complications:

- Diabetic Retinopathy (vision damage)
- Diabetic Nephropathy(kidney diseases)
- Diabetic Neuropathy (Nerve diseases)
- Heart diseases
- Brain stroke (paralysis)
- Peripheral vascular diseases)
- Impotence (sexual disorder))

Treatment:

Type 1 diabetes:

No oral pills
Daily insulin injections
Diabetic diet
Aerobic Exercise (walking/swimming)

Type 2 diabetes

Diabetic diet
Aerobic Exercise (walking/swimming)
Diabetic oral medicines/ insulin injections

Severe complications :

Hypoglycemia: blood sugar levels decline, produces sweating, weakness, yawning, causes , vomiting and unconsciousness. This symptoms due irregular food and over-dose of medicines.

In such circumstances, give sugar water or cool drinks

to prevent this complication

Hyperglycemia: Blood sugar levels are very high, produces dehydration and shock leads to death.

Immediately admit in hospital for further treatment

Always consult with diabetologist to reduce the above complications

27 Immunization schedule

Guidelines of A.P. Government (WHO)

Proper administration of immunization Prevents seven preventable diseases.

<i>Age</i>	<i>Vaccination</i>
0 days	Oral Polio drops
First few days	BCG
1 month 15 days	1st dose of Oral Polio drops 1st dose of DPT injection 1st dose of Hepatitis B inj
2 months 15 days	2nd dose of Oral Polio drops 2nd dose of DPT injection 2nd dose of Hepatitis B inj
3 months 15 days	3rd dose of Oral Polio drops 3rd dose of DPT injection 3rd dose of Hepatitis B inj
10th Month	Measles + 1st dose of Vit.A followed by every six months upto 5 years
1 1/2 year- 2 years (preschool going)	Booster dose of Oral Polio drops Booster dose of DPT injection Booster dose of Hepatitis B inj
5th Year School going)	Booster dose of Oral Polio drops Booster dose of DT injection
10th and 16th year Antennal Mother	Booster Tetanus toxoid 2 doses of T.T. monthly interval

28 *HIV- AIDS*

AIDS is

Acquired - must do something to contract

Immune - ability to fight off infectious agents

Deficiency - lack of

Syndrome - cluster of symptoms that are Characteristic for a disease

HIV is:

Human - isolated to the human species

Immuno-Deficiency - Lacking the ability to fight off infectious agents

Virus - a disease causing agent

How Hiv infect

AIDS is caused by HIV, a very fragile RNA type of retrovirus. Outside body it doesn't survive for more than half an hour

There are two types of HIV virus, i.e. HIV-1 and HIV-2. HIV-1 is present all over the world and in India more than 80% people are affected by it. HIV-2 is mainly found in Africa and also presents in India. Some people are infected with both the viruses. People only infected with HIV-2 live longer than those infected with HIV-1 and chances of transmission of HIV-2 from mother to child are very rare.

Once in body, HIV attacks CD4 type of White Blood Cells (WBCs) in blood and gradually kills them.

How does HIV Spread

Infected person's

1. Blood
2. Semen,
3. Vaginal fluid are rich in HIV.

HIV is transmitted by:

- ◆ Unprotected sexual intercourse with infected person (either heterosexual or homosexual)
- ◆ Transfusion of hiv infected blood or blood products
- ◆ Use of infected needles and instruments without sterilization or sharing of needles and syringes by HIV drug addicts
- ◆ Infected mother to her baby during pregnancy, birth process and through breast - feeding

How HIV is not transmitted

There is no risk of contracting HIV infection in daily routine activities and by casual contact with HIV positive person.

- ⊗ AIDS virus is not transmitted through:
- ⊗ Kissing (social)
- ⊗ Touching hand shaking or hugging
- ⊗ Sharing bathroom or toilet
- ⊗ Coughing, tears, saliva, sweating, urine or sneezing
- ⊗ Eating together or sharing utensils
- ⊗ Swimming pools
- ⊗ Sharing clothes
- ⊗ Mosquito bite, Insect bite or houseflies
- ⊗ Patient caring

SYMPTOMS OF AIDS

An HIV infected person initially looks normal and perfectly healthy. The symptoms of AIDS develop after few years (7 to 10 years) and include: -

- ◆ Long standing, unexplained fever (> 1 month)
- ◆ Unexplained diarrhoea (> 1 month)
- ◆ Persistent cough (> 1 month)
- ◆ Persistent unexplained fatigue and weight loss of more than 5 to 10 kg within short period
- ◆ White blotches in the mouth or on tongue (fungal infection)

1 Spot test: ELISA, TRIDOT for HIV1 and HIV 2

2 Confirmation Test: Western Blot test

3 Confirmation without window period: PCR Test

4 CD4 and Viral load testing

It is mandatory to do pre-test and post-test counselling of all the patients before and after the test respectively.

Where should I get the Blood tests:

VCTC centers : All government Hospitals

PPTCT Centers: Hospitals to look antenatal cases

CARE OF HIV / AIDS PATIENT

GENERAL CARE:

Sympathetic attitude, family and public support

Patient should be advised to take adequate rest and diet rich in proteins and vitamins

Patient should be advised not to donate blood or organs

Patient should be advised to use condom with any sexual partner

Patient should be encouraged to give up all habits i.e. smoking, alcohol or chewing pan or tobacco

Patient should drink boiled water to prevent water borne disease

Patient should be advised to do regular exercise or yoga

If patients follow above general care tips they can live 1-2 year longer.

Still there is research is going on immunization and new drugs to stop the spread of the disease

Prevention is better than cure

"AIDS, Difficult to get, Impossible to cure but, Easy to prevent"

SYMPTOMATIC TREATMENT:

Early treatment of common problems like fever, cough, diarrhea etc. from family doctor

Early detection and treatment of opportunistic infections like TB , oral candidiasis, skin infections etc.

SPECIFIC ANTI-HIV TREATMENT:

Many new anti-HIV drugs which prevent the spread of the virus and can postpone various complications are now available at selected places in market and few of them are also manufactured in India e.g. AZT, 3TC, D4T, Saquinavir, ddC, nevirapine etc. But these medicines are very costly and in India 90% of HIV patients cannot even think of them. One year expenses of good combinations of these drugs and blood testing comes to around 1.5 to 2.5 lacs. These medicines can prolong the life of the patient but not cure him.

Presently Govt of India giving pre medicines to HIV

Prevention:

Abstinence (safe sex)

Befaiith with life partner

Condom usage

Safe blood transfusion in recognized blood banks

Use disposable Needle (insists doctors/nurses) / boiling the needle and instruments

Safe motherhood and child

29 Blood groups & Blood donation

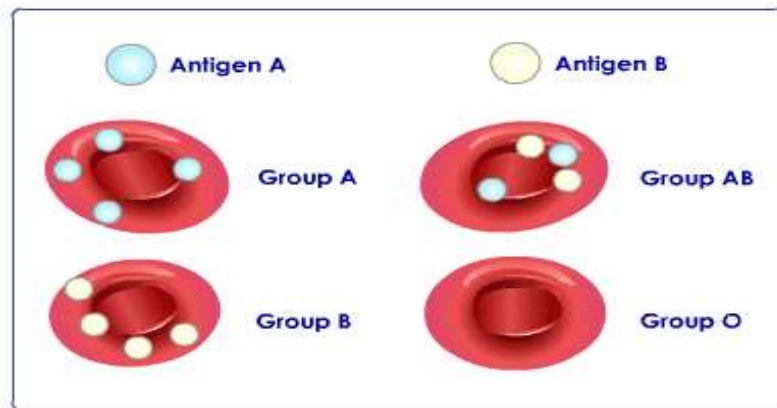
The ABO blood group system was discovered by Karl Land Steiner in 1901 by Australian Scientist

Four Groups of Blood groups

- 1 A Group
- 2 B Group
- 3 AB Group
- 4 O Group

O Group blood is universal donor
AB Group Universal recipient

ABO Blood Group System



Blood donation is a procedure by which an individual donates blood voluntarily either for immediate use in a transfusion or to be stored for later use.

The process of giving blood involves -

Screening the donor for infectious diseases. This is mandatory in most blood banks across the world.

The actual process of donation where the donor goes through the procedure of donating blood.

30 Whom and when to give blood Let's about Blood Donation

- ◆ You are between age group of 18-60 years.
- ◆ Your weight is 45 kgs or more.
- ◆ Your haemoglobin is 12.5 gm% minimum.
- ◆ Your last blood donation was 3 months earlier.
- ◆ You are healthy and have not suffered from malaria, typhoid or other transmissible disease in the recent
- ◆ Collected blood is tested for venereal diseases, hepa titis B & C and AIDS
- ◆ 350 ml of blood only taken for donation and procedure takes about 10 minutes.
- ◆ You can donated blood every three months, there is no harm.
- ◆ You can donate your blood at donation camp, work place, IRS blood bank and Govt.Blood Banks
- ◆ Brief recovery, no weakness, resume normal works after snacks

Do not donate blood if you have any of these conditions

- Cold / fever in the past 1 week.
- Under treatment with antibiotics or any other medication.
- Cardiac problems, hypertension, epilepsy, diabetes (on insulin therapy), history of cancer, chronic kidney or liver disease, bleeding tendencies, venereal disease etc.
- Major surgery in the last 6 months.
- Vaccination in the last 24 hours.
- Shared a needle to inject drugs/ have history of drug addiction.
- Had sexual relations with different partners or with a high risk individual.
- been tested positive for antibodies to HIV.

Donate blood---Save Life