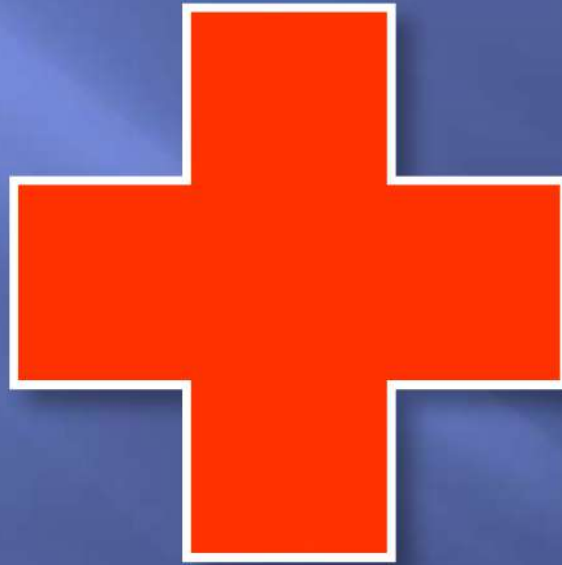


FIRST AID



Presented By

Prof. Sunil Kumar Jha
DEAN, SoPAHS

What is First Aid ?

The **Encyclopaedia Britannica** states **First Aid** as "measures to be taken **immediately** after an **accident** not with an idea to cure but in order to **prevent** further **harm** being done". It uses the **available** human and material **resources** at the site of accident to provide **initial** care to the **victim** of **injury** or sudden illness until more advance care is provided.

First Aid has the following main **objectives**:

- (i) To preserve life
- (ii) To prevent the victim's condition from worsening
- (iii) To promote recovery

Goals of First Aid

1. To restore and maintain vital functions. The **ABC of basic life support (Airway, Breathing, and Circulation)** are always the first priority.

- *Airway* must be open so that air containing oxygen enters the body
- *Breathing* must take place so that oxygen passes through the lungs into the blood stream
- The heart must *circulate* the oxygen carrying blood

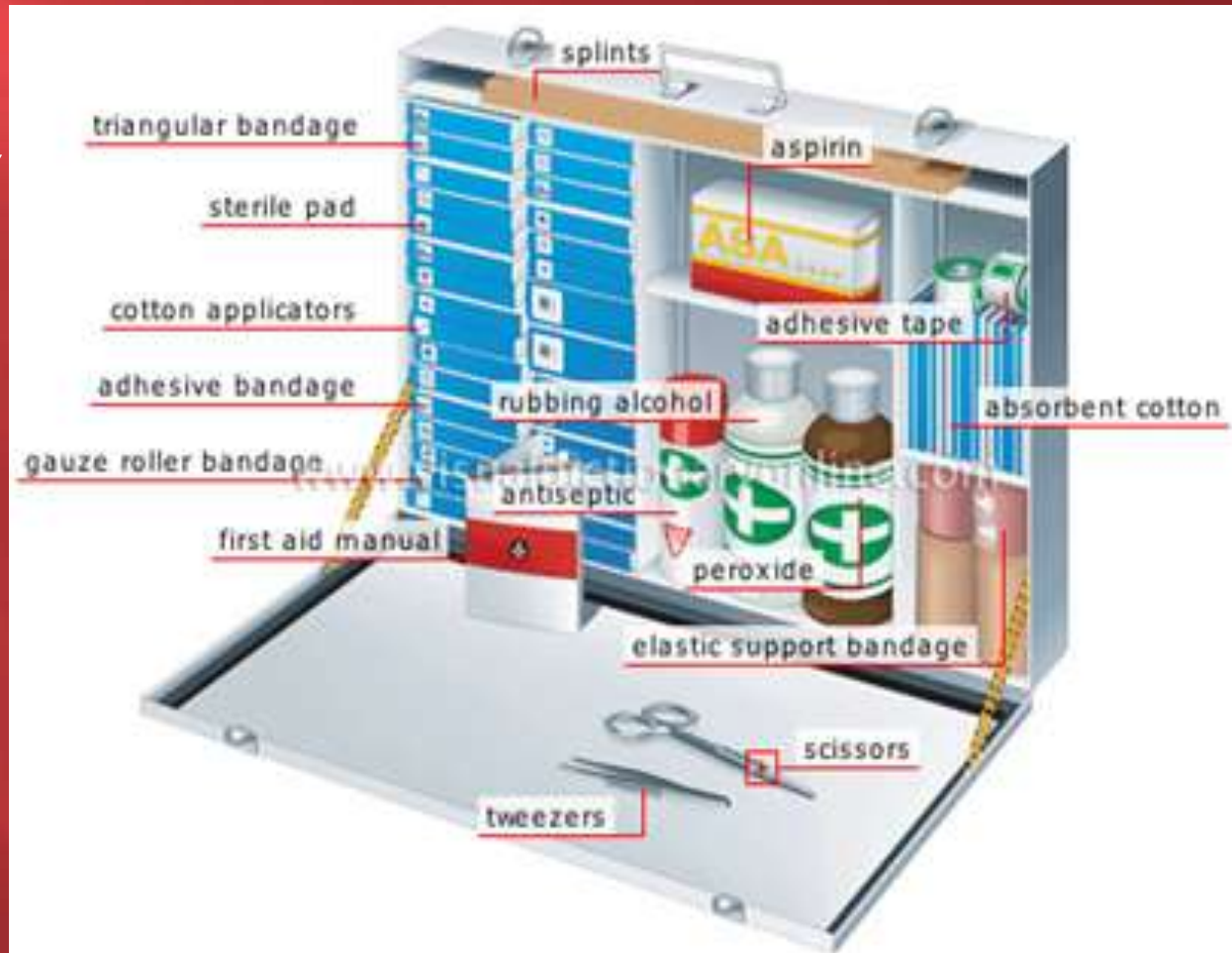
2. To prevent further **injury** or deterioration.

3. To **reassure** the victim and make him or her as comfortable as possible.

First Aid Kit

Following are the contents of a First Aid Kit :

- Cotton wool
- Adhesive tape
- Crepe bandage
- Sterile Dressing
- Bandage
- Thermometer
- Scissors
- Glove
- Soap
- Pain reliever
- Antacid
- ORS Packets



Action Plan

This Action Plan is a vital aid to the first aider in assessing whether the victim has any life-threatening conditions and if any immediate first aid is necessary. They are **DRABC** .

D - Check for **DANGER**

- ❖ To you
- ❖ To others
- ❖ To victim

R - Check **RESPONSE**

- ❖ Is victim conscious?
- ❖ Is victim unconscious?

A - Check AIRWAY

- ❖ Is airway clear of objects?
- ❖ Is airway open?

B - Check for BREATHING

- ❖ Is chest rising and falling?
- ❖ Can you hear victim's breathing?
- ❖ Can you feel the breath on your cheek?

C - Check for CIRCULATION

- ❖ Can you feel a pulse?
- ❖ Can you see any obvious signs of life?



Step 1

Danger

Are you or the casualty in danger? If not and it is safe, approach the casualty.



Step 2

Response

Does the casualty respond to a command or gentle shake? i.e are they conscious or unconscious?



Step 3

Airway

If the casualty does not respond open their airway. Put one hand on their forehead, two fingers on their jaw and tilt their head back whilst lifting their chin.



Step 4

Breathing

Look, listen and feel for breathing. If the casualty is unconscious and breathing normally, put them into the recovery position, check for injuries and dial 999 for an ambulance.

Fainting or losing consciousness

Fainting is a brief loss of consciousness and is the result of an interference with the function of the brain. There are many causes of unconsciousness, the most common of which are: fainting, head injury, epilepsy, stroke, poisoning, diabetes and conditions associated with lack of oxygen. If you have seen a person fainting then:

Don'ts :

- *Don't give the patient anything to eat or drink*
- *Don't allow the person who has just fainted to get up until the victim is fully conscious*
- *If the area is warm, don't crowd around the victim*

Do's :

- *Catch the person before he/she falls*
- *Pinch the person and see if she moves or opens her eyes*
- *Examine the injuries and causes of unconsciousness*
- *Tilt head back and keep arms at right angle to body*
- *Raise the legs 8 – 12 inches. This promotes blood flow to the brain.*
- *Loosen any tight clothing*
- *Keep the victim warm if it is cold outside*
- *Keep a record of the casualty's condition*



POST-CPR RECOVERY POSITION

1. Bend one arm and keep legs straight.



2. Place back of victim's hand against cheek and hold there.



3. Hold victim's hand against cheek to support head.



4. Hand supports head.
Bent knee prevents rolling
Bent arm gives stability

Front view of recovery position



Burns

A burn is damage to the skin caused by contact with dry heat. It may be caused by fire, flames, steam, hot liquids, hot metal, sunlight, electricity or chemicals. The degree of burn varies:

(i) First Degree (Superficial) - Involves only top layer of the skin and is red and dry and the burn is generally painful. The area may swell. Most burns are first degree burns.

(ii) Second degree (Partial - Thickness) - Involves both the epidermis and dermis. The area is red and blisters may open and weep fluid, making the skin appear wet. These types of burns are usually painful and the area often swells.

(iii) Third Degree (Full Thickness) - Destroys both the layers of the skin with muscles, bones, blood vessels and nerves. These burns may look brown or charred with tissues underneath sometimes appearing white.

Do's :

- ▣ *Immediately immerse the burnt area in cool water or by applying clothes soaked in cool water.*
- ▣ *Remove jewellery and constrictive clothing before swelling or blisters occurs.*
- ▣ *Cover the area with a dry, sterile dressing and not cotton or other fluffy material.*
- ▣ *Drop, Cover and Roll if caught fire or cover the person with a blanket immediately*

Don'ts :

- ▣ *Don't place a burn under extreme water pressure*
- ▣ *Don't remove the cloth that is stuck to the burnt area.*
- ▣ *Don't apply butter ointment, oil, ice in the area affected*

Epidermis
Dermis
Subcutaneous
Muscle



Superficial
(first degree)
burn



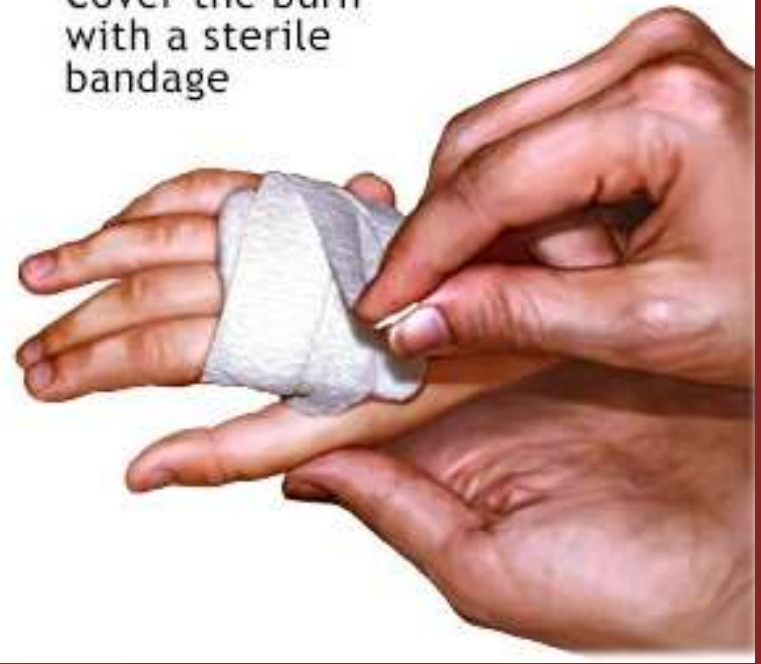
Partial thickness
(second degree)
burn



Full thickness
(third degree)
burn



Cover the burn
with a sterile
bandage



Frost Bite

Frost-bite occurs when body tissues freeze after exposure to below zero temperatures.

The signs and symptoms include white, waxy looking skin that is firm to the touch but the tissue underneath feels soft and pain followed by numbness.

Do's :

- ❑ *Cover frostbitten toes, ears with warm hands.*
- ❑ *The area affected can be warmed by breathing on them or placing them in a warm area of*
- ❑ *the body or by dipping the affected area in warm water (40 degree centigrade).*
- ❑ *Cover the area affected.*

Don'ts :

- ❑ *Do not rub as tiny ice crystals in the tissues may cause more damage.*
- ❑ *Never rub snow on the area as this may cause further freezing and do not apply direct heat as this may re-warm the area too quickly.*
- ❑ *Do not let the patient walk.*
- ❑ *Do not break blisters if any.*

Bleeding

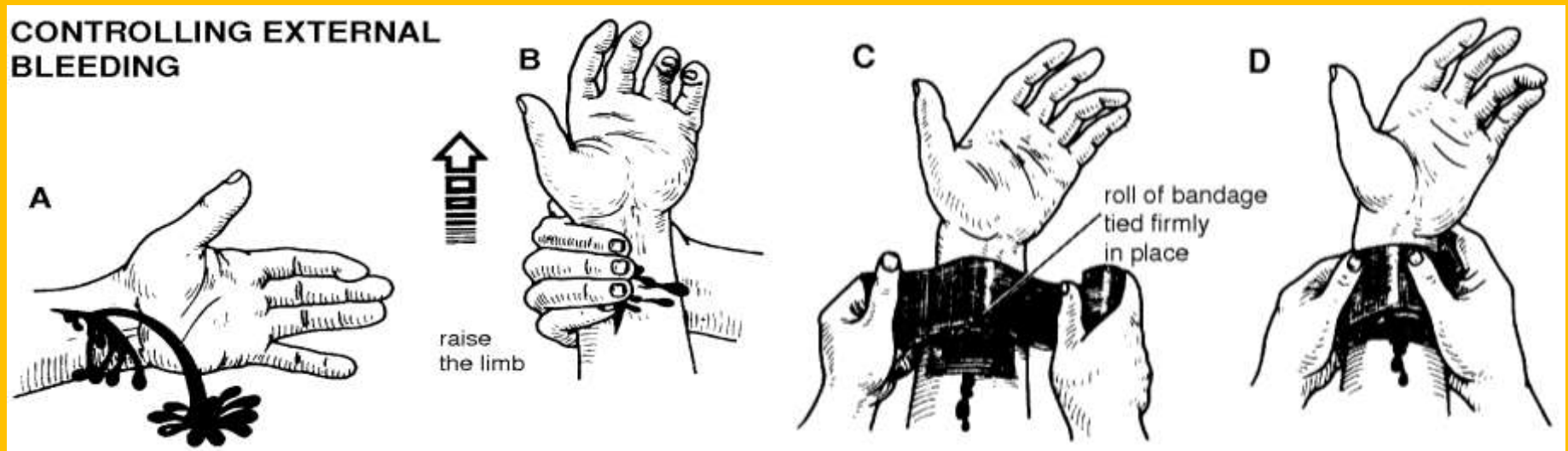
Cuts, scrapes and puncture can result in bleeding. Severe bleeding can be life threatening. To stop bleeding restore to:

- ✓ Direct pressure
- ✓ Elevation - Lie victim down and raise the injured part above the heart and handle gently if you suspect a fracture.

The blood gets thicker after bleeding for a few minutes. This is called clotting. Clotting slows down bleeding. Bandaging is done to stop bleeding and to stop dirt infecting the wound. Change the bandage at least once a day and tetanus injection needs to be taken if required.

Warning :

- ❑ If bleeding from a limb doesn't stop, apply pressure with hand to pressure point.
- ❑ If embedded object in wound, apply pressure either side of wound and place pad around it before bandaging.
- ❑ Wear gloves, if possible to guard against infection
- ❑ If the victim becomes unconscious, follow DRABC



Electrocution

Electricity can be very dangerous unless used with care. When an accident occurs with electricity, the First Aider must remember that it is not safe to touch the casualty until the power has been turned off.

The signs and symptoms include surface and internal burns and breathing and heart beat stopped. The best way to treat the person electrocuted is to cut off the power supply and remove the victim from the source with non-conductive material.

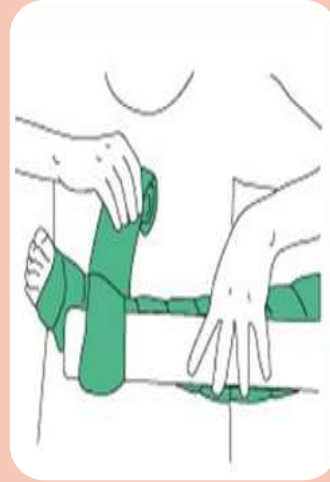
Carry out the DRABC exercise and cover the area affected with clean dressing and send him/her to the hospital immediately if necessary.

Snake Bite

Most of the snakes are harmless. Snakebites generally occur on the limbs and most often on the legs. Always assume the bite to be from a venomous snake. Suspected snakebite must be treated with a pressure immobilization bandage.

Do's :

- ▣ *Keep the bitten limb below the level of the heart*
- ▣ *Allow the affected area to bleed freely for 15 – 30 seconds*
- ▣ *If the bite is on the limb, apply a firm roller bandage two inches away from the wound.*
- ▣ *Wash the affected area with soap and disinfect the area*
- ▣ *The bandage should be loose enough for a finger to slip through*
- ▣ *Constantly check airway, breathing and blood circulation*
- ▣ *Start resuscitation if needed but see to it that there are no wounds in the mouth.*
- ▣ *Suck it out but do not swallow – spit the venom out. Rinse your mouth afterwards.*
- ▣ *Shift the patient immediately to the hospital and see to it that the person is at rest during transport.*
- ▣ *Instruct the person to avoid all movement on the area affected.*



Wind the bandage firmly around the bitten arm or leg starting from the bite.

Wrap the entire limb, then apply a splint to prevent movement.

Keep the victim as still as possible.

Do not remove the bandage.

Seek medical attention as soon as possible.

Fractures and Sprains

Fracture refers to an injury affecting the skeleton and can be caused by the application of direct and indirect force. The general signs and symptoms are:

- ★ Pain at or near the site of injury increased by movement.
- ★ Movement may be difficult or impossible
- ★ Swelling and later bruising of the injured part
- ★ Deformity at the site of the fracture
- ★ Shock may occur

Do's :

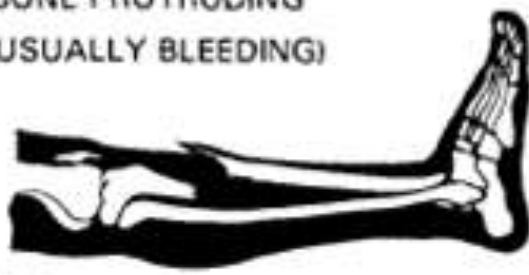
- ★ Check the danger, response, airway, breathing and the blood circulation of the victim (DRABC)
- ★ Always control severe bleeding before immobilizing any fractures
- ★ Place sufficient padding to support fracture site
- ★ Immobilize fracture sites
- ★ Do not force bones back into the wound
- ★ Give proper padding before the patient is shifted to the hospital
- ★ Apply ice pack on the affected area to reduce pain and control swelling
- ★ Treat to prevent shock

BONE NOT PROTRUDING
(USUALLY NO EXTERNAL
BLEEDING)



A CLOSED FRACTURE

BONE PROTRUDING
(USUALLY BLEEDING)



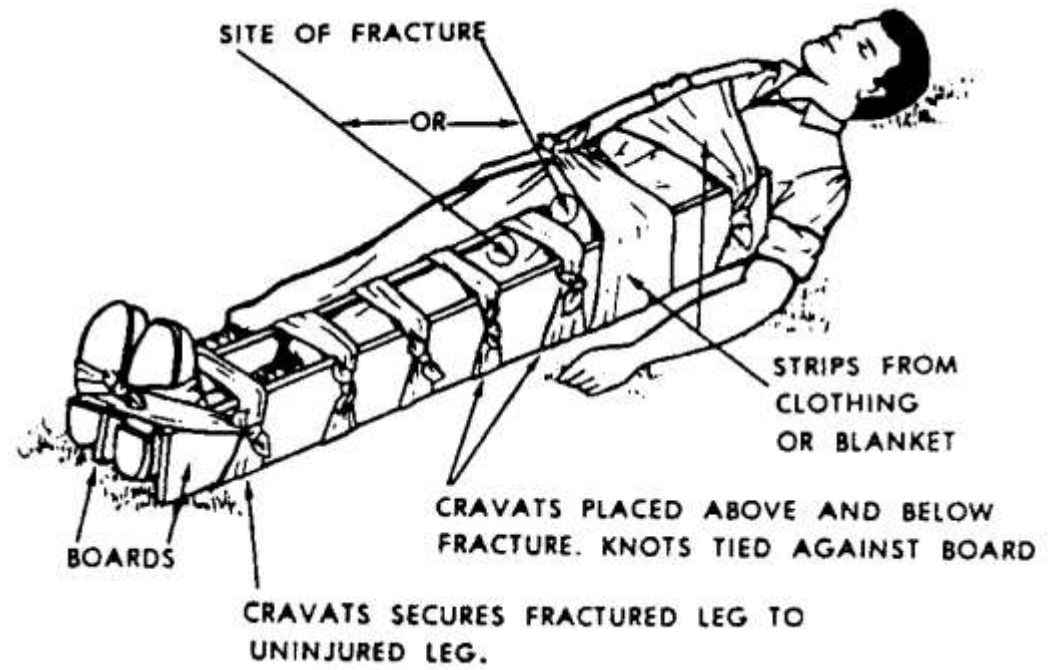
B OPEN FRACTURE

OPEN (USUALLY BLEEDING)



C OPEN FRACTURE
PRODUCED BY MISSILE

Types of Fractures



Poisoning

Poisoning is any substance that causes injury, illness or death when introduced into the body. There are different types of poisoning:

- *Ingested poisons* are introduced through the mouth by eating or drinking poisonous substances.
- *Inhaled poisons* are introduced through the lungs by inhaling industrial gases, fumes from fire, chemical vapors and petrol and engine exhaust.
- *Absorbed poisons* are absorbed through the skin via contact with poisonous sprays such as pesticides and insecticides.

Do's :

- ▣ *Check the danger, response, airway, breathing and the blood circulation of the victim*
- ▣ *Give milk or water to dilute down the poison*
- ▣ *Monitor vital signs and prevent shock*
- ▣ *Observe the amount and color of vomitus*
- ▣ *Check for foreign matter in his or her mouth and remove it so that he/she can breath freely*
- ▣ *Place the patient in the recovery position and wait for medical assistance.*
- ▣ *Send to hospital*

Don'ts :

- ▣ *Don't induce vomiting.*

Heat Stroke

It strikes suddenly with very little warning. When the body's cooling system fails, the body temperature rises fast. This creates an emergency condition.

The signs are: the temperature of the body is very high, hot and dry. The skin is red with no sweating and fast pulse rate, dilated pupils, confusion and sometimes there might be loss of consciousness.

Do's :

- ❑ *Lower the body temperature by removing/loosing the clothing or fanning the person.*
- ❑ *Put ice pack or cold compresses to the neck, under the armpits and to the groin area.*
- ❑ *Drink lots of fluid and those who perspire more should drink as much fluid as possible.*
- ❑ *Stay away from places that are hot.*

Oral Rehydration Solution (ORS)

ORS has been a lifesaver in case of dehydration (loss of salt and water in the body). ORS is prepared by dissolving a pinch of salt in a glass of water (the amount of salt added should just be enough for the water to taste like tear drops) and one tablespoon of sugar to it. ORS helps in restoring back the electrolyte balance of our body and re-hydrate it.



Dog Bites

The aim of First Aid in case of dog bite is to prevent rabies, to reduce the risk of infection and to get medical aid as soon as possible.

Do's :

- ★ Wipe the saliva away from the wound using a clean cloth or handkerchief.
- ★ Do not come in contact with the saliva that gets wiped away.
- ★ Wash the wound thoroughly with plenty of soap and water.
- ★ Cover the wound with a dry, sterile dressing.
- ★ Get medical aid or send the patient to the hospital as soon as possible.



THANK YOU