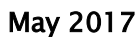


A collection of various first aid supplies arranged on a white background. The central item is a large green plastic first aid kit with a white cross and the words "FIRST AID" in white. To its left is a box of "STERILE GLOVES" and a pair of white nitrile gloves. In front of the kit is a box of "TRIANGULAR BANDAGE" and a box of "Waterproof Plasters". To the right of the kit are several rolls of white gauze, a pair of silver scissors, and a roll of white adhesive tape. In the foreground, there are several boxes of "First Aid Kits" and "First Aid Kits" with various medical supplies like band-aids and gauze.

Indian Association of Occupational Health



In Public Interest; in association with
Central Labour Institute

Table of Contents

1. Introduction to First aid & CPR

2. Injuries

- a. Wounds & Bleeding
- b. Musculoskeletal Injury
- c. Spinal Injuries
- d. Eye Injury
- e. Dressing & Bandages

3. Medical Emergencies

- a. Heart attack
- b. Fainting
- c. Convulsion / Fits
- d. Stroke
- e. Choking
- f. Snake bites
- g. Scorpion bites
- h. Dog bites
- i. Heat Stroke

4. Burns & Scalds

5. Chemical Exposure

1. Introduction

What is First aid?

Immediate skilled care given to the victim of an illness or injury before professional medical rescuers arrive.

First aider is the person who renders above care.

Why First aid is essential?

1. To preserve life.
2. To promote recovery.
3. To prevent worsening of the casualty's condition.
4. Arrange transportation to the hospital

Rules of First aid

Dos

- Attend the casualty immediately
- Reassure the casualty and make him comfortable
- Stop bleeding if any
- Turn the face on one side if vomiting
- Be confident
- Call for help and start CPR if casualty is unconscious & non-responsive

Don'ts

- Don't waste time
- Do not attempt to move patient with an injured back unless necessary
- Do not feed an unconscious patient
- Do not remove the impacted foreign body like rod in the body or pencil in the eye
- Do not panic

DRSABCD



D	DANGER Check for danger – ensure scene is safe
R	RESPONSE Check for response – ask name, squeeze shoulders
S	SEND Send for help – call Triple Zero (000) for an ambulance, or ask a bystander to make the call
A	AIRWAY Open mouth – look for foreign material and maintain the airway
B	BREATHING Check for breathing – look, listen, feel
C	CPR Start CPR – 30 compressions : 2 breaths If unwilling or unable to perform breaths, perform chest compressions only (100/min)
D	DEFIBRILLATION Apply Defibrillator (AED) as soon as available Follow the voice prompts

Danger:

- ✓ Check for scene safety
- ✓ Check for your safety (Chemical Exposure)
- ✓ Check for casualty's safety (Fire)
- ✓ Use personal protective equipment wherever necessary & available

Response

If patient responds

1. Introduce yourself
2. Ask for permission to give first aid
3. Ask for following information
 - Name, residence phone no & address
 - What exactly happened?
 - Medical history
4. Examine the casualty
 - Inspect the patient from head to toe
 - Note wound, swelling and bleeding; Treat in appropriate way

If the patient is not responding

Immediately call for help & give details.

Your name

Phone number

Exact location

What has happened?

No. of patients

Condition of patients

Nearest road

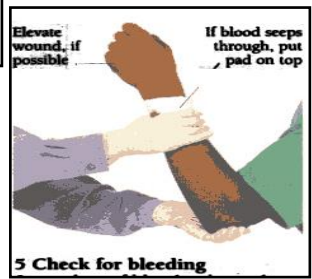
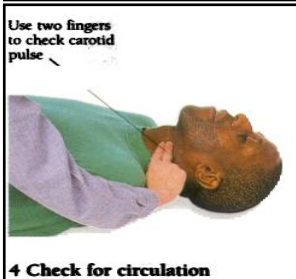
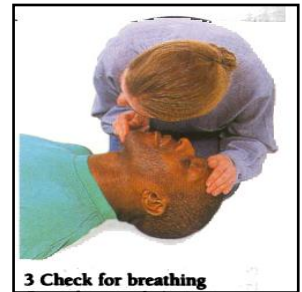
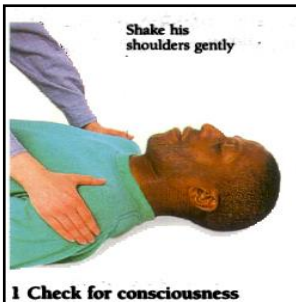
Other necessary information

Do not disconnect unless told to do so

Check airway and breathing

- ✓ If patient is breathing
- ✓ Inspect the patient from head to toe, note wounds, swelling and bleeding
- ✓ **Treat in appropriate way**
- ✓ If no breathing observed, start Cardio Pulmonary Resuscitation [CPR] (See next page)

Initial Assessment



Cardio Pulmonary Resuscitation (CPR)

Definition: Restoration of vital functions of the body, namely ventilation & circulation.

Life Saving procedure where every second matter

THE ABC OF RESUSCITATION



A is for AIRWAY

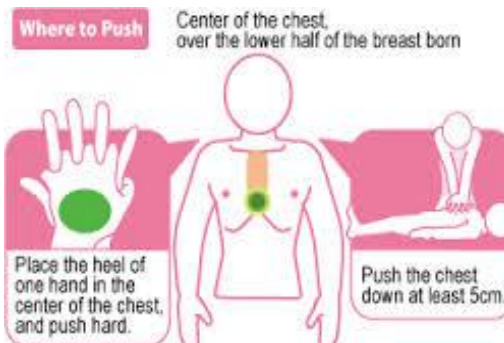


B is for BREATHING



C is for CIRCULATION

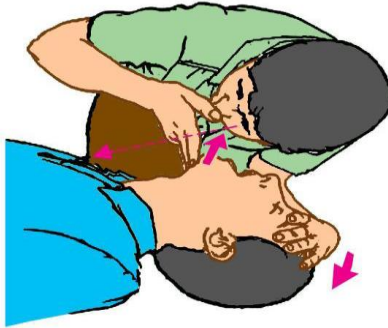
Compression / External Cardiac Massage



- Push hard 2.5 inch deep
- Push fast 100/min
- Push continuously
Do not interrupt for > 10 seconds

Artificial respiration - Give mouth-to-mouth breathing

An appropriate and effective technique for emergency artificial respiration



Look, Listen & Feel for Breath



Prevent tongue fall by head tilt-chin lift manoeuvre



- Do Head Tilt Chin lift
- Seal the casualty's nose to prevent escape of air
- Take a deep breath, open your mouth widely, place it over the victim's mouth and make a tight seal.
- Give 2 breaths after 5 cycles of compression

2. Injuries

Common causes of injuries

1. Fall from height
2. Slipped/Tripped on floor
3. Lifting or Pulling heavy weight
4. Motor vehicle injury
5. Electrocutions

Types of Injuries

A) Wounds & Bleeding

Any abnormal break in the skin or the body surface which allows the blood to escape is known as wound.

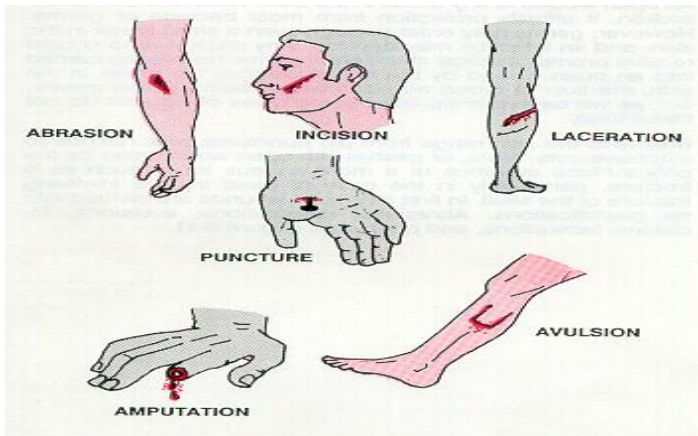
Wounds can cause:

1. Serious bleeding leading to death
2. Shock
3. Infection
4. Damage to vital organs, brain, heart etc.

Classification of Wounds

Open Wound	Closed Wound
Skin is broken Subtypes • Abrasion: Scratches or scrapes on the skin. • Incision: Cuts caused by sharp objects • Laceration: Jagged or irregular breaks in the soft tissue • Punctured: Penetrating injury cause by nail, bullet etc. • Avulsion: Tissue cut or torn from the body. E.g. Finger cut	Skin intact with underlying tissue damage Subtypes • Contusion: Blow by blunt object injuring the soft tissue but skin is intact • Bruise : Blunt injury causing discoloration of skin • Hematoma: Localised collection of clotted bloods due to trauma.

Types of Wounds



Why First aid for wounds

- Stop bleeding
- Protect wound from contamination to prevent infection
- To prevent shock
- Get medical help as soon as possible

Bleeding (Haemorrhage)

Caused by the rupture of blood vessels due to severity of the injury.

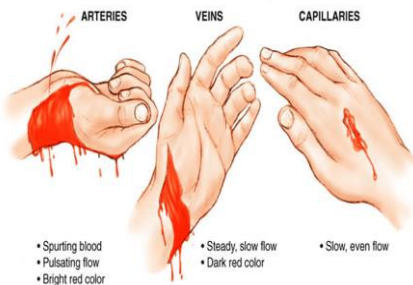
Bleeding can be classified as



External Bleeding



Internal Bleeding



Types of bleeding depending upon the blood vessel

1. Arterial (Spurting)
2. Venous (Flowing)
3. Capillary (Oozing)

Signs & Symptoms of Bleeding

- Casualty feels faint and may collapse
- Skin become pale, cold and clammy
- Pulse- rapid and weak
- Breathing becomes shallow, casualty gasps for breath and sighs deeply.
- Profuse sweating
- Casualty feels thirsty and restless.

Dos

- Get medical care if bleeding persists
- Wear gloves
- Apply direct pressure by thumb, gauze pad, bandage
- Keep pressure at least up to 5 – 7 minutes
- If first gauze is soaked, apply another gauze
- Give pressure dressing

Don'ts

- Do not remove dressing frequently
- Do not remove soaked dressing
- Do not apply anything on the wound such as turmeric, etc.



Apply direct pressure Elevate the injured part &
apply pressure dressing

Internal Bleeding

When do you suspect internal bleeding?

1. Vehicular accident
2. Blunt trauma to chest or abdomen
3. Penetrating injury – bullet or knife
4. Pain in chest or abdomen after injury
5. Blood in vomit
6. Difficulty in breathing
7. Symptoms of shock

Shock

When blood supply to brain decreases due to low blood pressure

1. Uncontrolled bleeding
2. Uncontrolled vomiting and
3. Diarrhea

4. Severe allergic reaction
5. Heart attack

Symptoms of Shock

1. Severe weakness
2. Giddiness
3. Uneasy confused feeling
4. Pale skin
5. Wet and cold skin
6. Difficulty in breathing

First aid for Shock

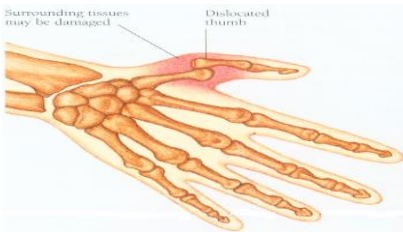
- Call for immediate help
- Make the patient lie down
- If no injury to leg, elevate both the legs
- Stop bleeding
- Keep the patient warm

B) Musculoskeletal Injuries

Types Of Injury	
Bones	▪ Fracture (Broken) ▪ Dislocation (Displaced Joint) ▪ Both (Fracture & Dislocation)
Muscles	▪ Sprained ▪ Tear
Tendons & ligaments	▪ Strained ▪ Tear



Fracture: Break or crack in a bone caused by direct or indirect force



Dislocation: Partial or full displacement of bones at a joint.



Sprain: Injury to the ligaments by excessive stretching or tearing

Strain: Stretching or tearing of muscles

How to suspect

- Swelling
- Pain
- Abnormal position of injured part
- Restricted movement of the injured part

Your aims are:

- To prevent movement at the injured site
- To prevent blood loss, movement, and infection at injury site.
- To arrange removal to hospital, with comfortable support during transport.
- If you can, get a helper to support the limb while you work on the wound.
- Cover the wound with a clean pad or sterile dressing, and apply pressure to control the bleeding.

Do not move the casualty until the injured part is secured & supported, unless in danger.

Do not let the casualty eat or drink.

Do not try to replace a dislocated bone into its socket.

Precautions for Open Fracture

Dos

- Care for the wound before you care for the fracture.
- Remove / cut away the clothing over the wound.
- Apply direct pressure with a large thick sterile compress to stop bleeding. Bandage the compress in place.

Don'ts

- Do not replace bone fragments - put it in a clean containers and send to hospital with the victim.
- Do not wash the wound or put your fingers in it - open fracture becomes infected easily.
- Do not try to push bones back into place.

First aid for shock with injury

- Treat any wound
- Pad bony prominences
- Apply adequate splint to immobilize the joint above and below of the injured part
- Check pulse, color and warmth of skin
- Elevate injured part with sling

First aid for Sprain or Strain – RICE



R -Rest the injured part

I-Apply Ice/ a cold compress



C -Compress the injury.

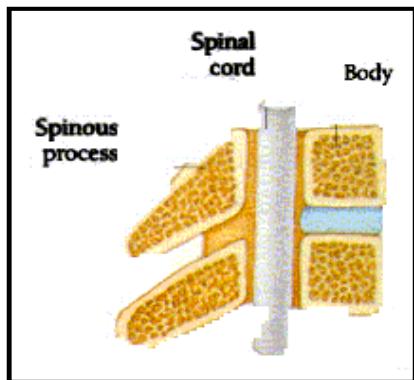
E -Elevate the injured part.

C) Spinal Injuries

When do you suspect spinal injury

- 1) Vehicular accident
 - 2) Fall from height
 - 3) Diving accident
 - 4) Multiple injuries
 - 5) Injury to head, chest & back
 - 6) Electrical shock
- The main danger is – damage to Spinal Cord

Spinal Cord is composed of nerve fibers that pass message from brain to organs and other parts of body. If damage can cause loss of power or sensation in parts



How to recognize?

- Pain in the neck or back.
- Irregularity or twist in normal curve of spine
- Inability to move from lying position

If spinal cord is damaged:

- Loss of control over limbs, movement may be weak or absent
- Loss of sensation
- Breathing difficulties.

Treatment:

Your aim is: To prevent further injury & arrange urgent removal to the hospital with proper spine stabilization & immobilization.

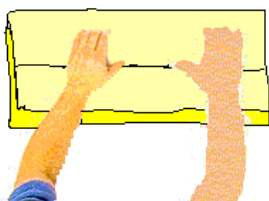
Dos

- Reassure the casualty, & tell her not to move
- Give support to the head in the neutral position by placing your hands over her ears. Maintain this support throughout.
- Apply the collar
- If unconscious, check for ABC

Don'ts

- Do not move the casualty from the position found, unless any danger

MAKING A COLLAR



1 Fold a newspaper and wrap it in a triangular bandage or scarf, or insert it into a stocking or a leg of a pair of tights.

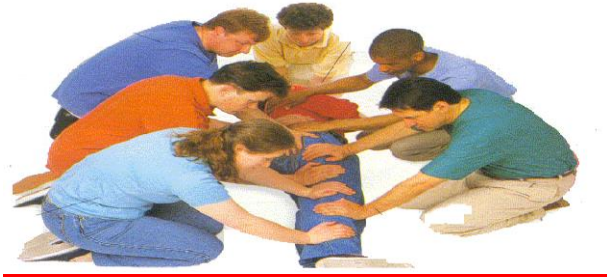


2 Bend the wrapped newspaper over your thigh. Place the centre of the collar at the front of the casualty's neck, below the chin.



3 Gently pass the loose ends around the casualty's neck and tie in position at the front. Ensure that breathing is not impeded.

Shift the patient always on spine board using log roll technique



D) Eye Injuries

- Particle of dust or speck of dirt in the eye.
- Penetrating injury to the eye
- Hit & blow to the eye
- Cuts to the eye or eyelids
- Chemical burns to the eye

Dos

- Wash under running cold water to remove dust, speck and in case of chemical injury
- Apply cold compress over the area around the eye for reducing pain & swelling after hit & blow
- Cover the eye with sterile pad in case of injury
- Seek medical attention as soon as possible

Don'ts

- Do not rub the eye
- Do not remove the object embedded
- Do not apply pressure on the eye
- Do not use fingers to remove dust or speck

E) Dressing & Bandages

Dressing: Dressing is a cover of clean gauze or cloth placed over a wound to protect it. A compress, sometimes called a pad, is a thick dressing used to absorb blood and control bleeding.

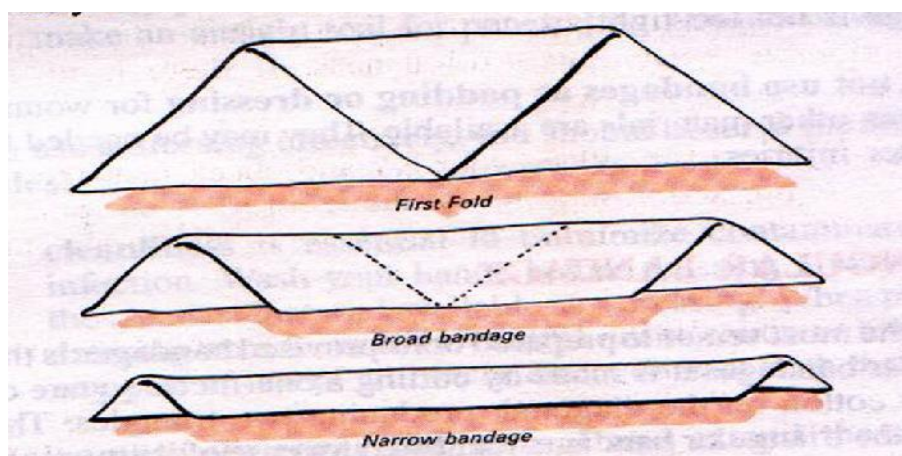
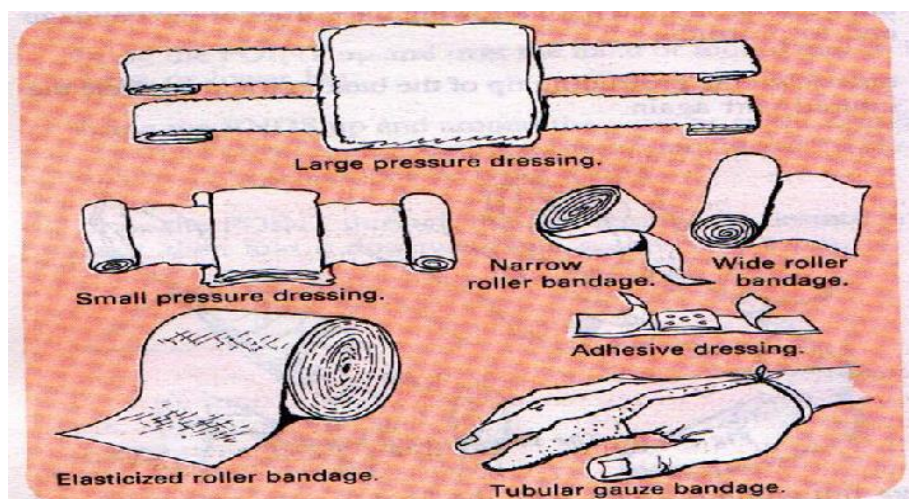
Bandage: Bandage is a tape that holds a dressing in place, provides support, and keeps injured areas from moving.

Dos

- Wash small wound/cuts thoroughly
- Dry with clean gauze before bandaging
- Apply large dressing covering the edges of wound on all sides
- Apply bandages over dressing to prevent slipping of dressing

Don'ts

- Do not wash large wounds, deep wounds, bleeding wounds and crush injury wounds
- Do not apply the bandage tightly
- Do not do dressing to the fingers or toes so as to check for swelling or any colour changes
- Do not use wet bandages.



3. Medical Emergencies

A) Heart attack / Chest pain

How to suspect

- Chest pain
- Shortness of breath
- Profuse sweating
- Giddiness
- Vomiting

First aid

- Do not allow the patient to move
- Call cardiac ambulance immediately
- Let the patient breath fresh air
- Reassure the patient
- Shift as early as possible

B) Fainting

Dos

- Make the patient lie down
- Elevate both legs
- Look for injuries if the patient has fallen down
- Do not allow the patient to get up till he/she fully recovers
- Transfer to hospital immediately

Don'ts

- Do not let the patient sit
- Do not give water or anything by mouth
- Do not put onions/footwear to his/her nose

C) Convulsions/Fits

Jerky abnormal movements of the body.

Dos

- Make the patient lie down
- Remove any obstructing furniture
- Put a pillow or a thick bed sheet below the head
- Call for help
- After fits stop, check for airway and breathing
- If the patient is breathing, turn him on one side

Don'ts

- Do not hold the patient
- Do not give strong stimulus
- Do not put anything in the mouth
- Do not give water

D) Stroke

How to suspect

- Sudden facial droop
- Unable to balance arms

- Trouble speaking/slurred speech
- Sudden numbness or weakness on one side of the body

First aid for Stroke

- Phone Emergency Medical Services
- Help victim lie down slowly
- Note the time of onset
- Transfer the patient as early as possible to the hospital

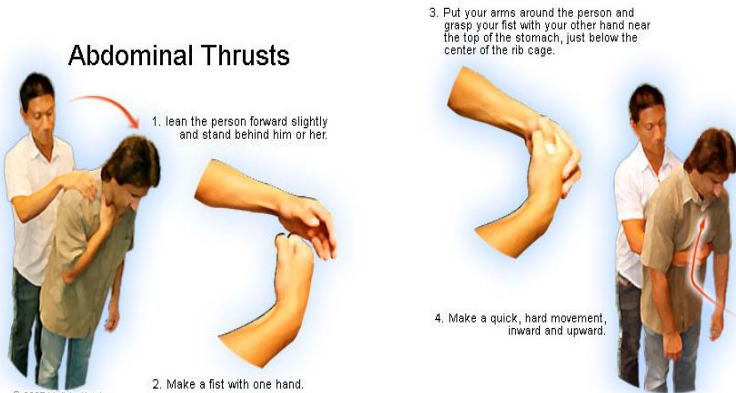
E) Choking

Partial or complete obstruction of the airway can be due to a foreign body (e.g., food, a bead, toy, etc).

Partial Choking	Complete Choking
What you see... ➤ Victim can make sounds and coughs	What you see... ➤ Victim cannot breathe ➤ Victim cannot speak or make a sound ➤ Victim use choking sign (clutches neck)
What you do... ✓ Allow victim to cough ✓ Stand by	What you do... ✓ Give abdominal thrusts until object comes out or victim becomes unresponsive. ✓ If victim becomes unresponsive, start CPR

First aid manoeuvres for Choking

1) Abdominal thrusts



1) Chest thrusts & Back blows

Give 5 cycles of Back blows and Chest thrusts alternately, until foreign body is removed.



F) Snake Bites

Snake Bite – Danger Signs

- Pain and swelling at site
- Drooping of eyelids
- Drowsiness
- Bleeding from wound

- Blurred vision
- Convulsions
- Difficulty in breathing
- Nausea and vomiting

Dos

- Scene safety
- Ask the victim to be still and calm - Reassure
- Immobilize the part
- Wash bite area with running water and soap
- Get medical help as soon as possible

Don'ts

- Do not apply cold or ice
- Do not apply suction
- Do not cut the wound
- Do not wrap the wound tightly or tie tourniquet
- Do not waste time in hunting for snake

G) Scorpion Bites/Insect Bite

Symptoms

- Intense pain at bite site
- Swelling at bite site
- Anxiety or restlessness
- Muscle twitching
- Increase heart rate or tachyarrhythmias

First aid for scorpion bite

- Scene safety
- Ask the victim to be still and calm

- Wash bite area with running water and soap
- Put ice bag wrapped in towel on the bite area
- Get medical help immediately

First Aid For Insect Bite

- Reassure the victim
- Wash bite area with running water and soap
- Scrap the stinger with something having dull edge such as credit card
- Put ice bag wrapped in towel on the bite area
- Watch the victim for signs of bad allergic reaction

H) Dog bites

Types of wound

1. Only licks on intact skin.
2. Abrasions & licks on abrasions.
3. Transdermal bites with salivary contamination.

Management

- Wash the wound immediately with water.
- Then wash with soap & water or dettol.
- Do not try to stop bleeding.
- Cover the wound with a sterile dressing.
- Send the patient to hospital for further treatment.
- Watch the dog for twelve to fifteen days.

I) Heat Stroke

Caused by failure of “thermostat” in the brain.

Body becomes dangerously overheated due to prolonged exposure to heat.

Symptoms

- Confusion or strange behaviour
- Vomiting
- Red, hot and dry skin
- Shallow breathing
- Convulsions
- Unconsciousness

Dos

- Send for help and medical help
- Move the victim to the cool and shady area
- Loosen or remove tight clothing
- Sponge or spray the victim with cool water and fan the victim
- If victim stops responding, start steps of CPR

Don'ts

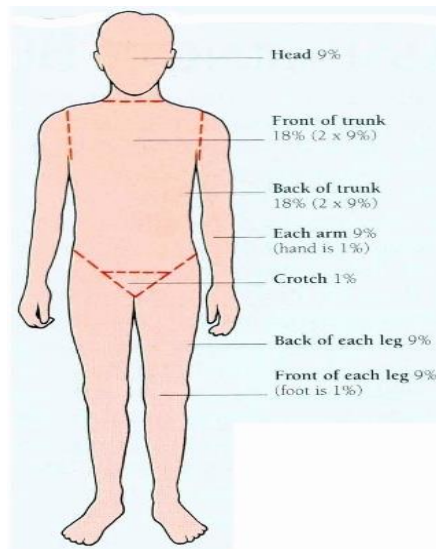
- Do not wait to begin cooling
- Do not continue cooling once the victim is normal
- Do not rub alcohol or any other thing on victim's skin
- Do not give anything by mouth if victim is unconscious, cannot swallow, confused or had a seizure

4. Burns & Scalds

Burns are injuries that result from dry heat, extreme cold, corrosive substances, friction, or radiation, including the sun's rays

Scalds are caused by wet heat from hot liquids & vapors.

Extent Of Burns - Can be measured according to “Rules of 9”



“RULE OF NINES”

- Any partial thickness burn of 1% or >1% must be seen by the Doctor.
- A partial thickness burn of >9% will cause shock to develop & needs hospital treatment.
- **Full thickness burn requires hospital treatment**

Dos

- Cool burns immediately with water till burning sensation stops
- Cover the burns with clean cloth
- If clothes have caught fire, Shout Stop Drop Roll and put wet blanket to extinguish fire

Don'ts

- Do not apply cold water or ice
- Do not apply ink, toothpaste, ointment, oil, butter etc.
- Do not open the blisters
- Do not remove burnt and adhered clothes

5. Exposure to Chemicals

Routes of exposure

- 1) Direct skin contact
- 2) Direct eye contact
- 3) Inhalation
- 4) Ingestion

Hazards

- Skin Irritation
- Eye Irritation
- Inhalation Effects
- Ingestion Effects
- Carcinogenicity
- Mutagenicity



First Aid Measures

- Scene safety for self and for the casualty
- Bring the casualty to the fresh air or open environment
- Look for respiration if not breathing start CPR
- Remove all contaminated clothes from the body
- Flush the affected area with large quantities of water

- Wash the eyes in running water at least for 20 minutes
- Do not induce vomiting
- Do not give anything to eat or drink if unconscious
- Seek medical attention as soon as possible