FIRST AID

Yogo Odhiambo.

What is first aid?

- The initial assistance given to a ***casualty*** using available materials and generally accepted principles before handing over to a more ***responsible person***.

Why first aid?

- Preserve /save life
- Prevent the condition from worsening
- Promote recovery

Cross infection

- Transmitting germs to casualty or contracting an infection yourself e.g. blood-borne viruses; hepatitis A or B & HIV

Modes of transmission

1. From casualty to aider
2. From aider to casualty
3. From casualty to casualty thru aider
4. From environment to casualty

Prevention

- Wash hands before and after attending to casualty.
- Always use protective gloves
- Use face shield when giving rescue breathes

(Continued)

- Avoid touching wound or dressing
- Cover own cuts on hands with waterproof dressings
- Take care not to prick or cut yourself
- Dispose off all waste safely
- Report exposure to employer immediately

Incident Managemen

Assess the situation

- Is there any danger to me **A**ider (me), **B**ystanders/ **c**asualty?
- What happened? Injuries?

Make the Area Safe

- Switch of any revving engines
- Stabilize any unstable vehicles
- Switch of main power source
- If you can’t ensure safety, get help – Fire brigade, police etc
- Set hazard lights & warning triangles (200m)
- Control traffic

Give Emergency Aid

Assess your casualties quickly and decide who to start with. (ABC's of Life)

TRIAGE: is the sorting of casualties based on the need for treatment and the available resources. e.g. **MOVE**
(All those who can move to a safer place and start with the immobile ones)

Get Help

- Notify the relevant authorities as soon as possible so as to get early assistance

- Use bystanders, if any, and give them proper instructions on who to contact and what to tell them.

- Other available means of transportation should be used to avoid delays e.g. neighbors, Good Samaritans, taxis etc.

Aftermath

- Clear the scene
- Make the scene safe to avoid another accident
- Restock your kit
- Inform casualty’s next of kin
- Deal with any stress there-from

Your Action plan
(summary)

- **A**ssess the Situation
- **M**ake the Area Safe
- **E**mergency
- **G**et Help
- **A**ftermath

Life Threatening Priorities

- **A**irway
- **B**reathing
- **C**irculation

Primary Survey

Danger: scene survey and remove hazards

Response:question,command and shake/pinch

Airway: open and maintain

Breathing :look, listen and feel

Circulation: signs of life and severe bleeding

Primary survey summary

D

R.

A

B

C

Secondary assessment

- Look for signs,symptoms,history's and other clues.

- Most of the time you will have to perform a head to toe examination to look for clues

Unconsciousness

Unconscious casualties are at a greater risk to their airway due to:

- falling back of the tongue or
- aspiration of substances in their mouth

Aims

- To maintain an open airway
- To remove to hospital

Unconsciousness Management

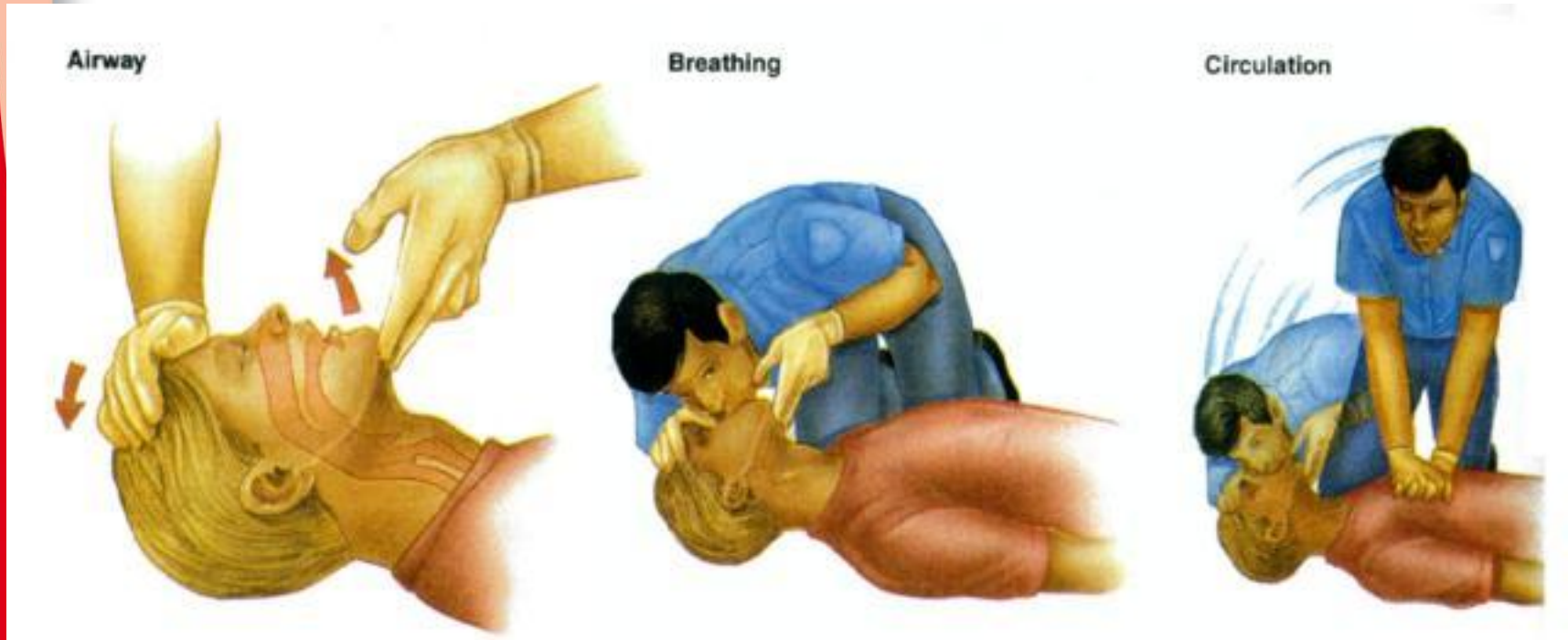
- DR.ABC-call for an ambulance
- Assess and manage any life threatening injuries
- If breathing and injuries permit turn to the **recovery position**
- Keep on monitoring vital functions **R.A.B.C**
- Be prepared to resuscitate

CARDIO PULMONARY RESUSCITATION

(CPR)

CPR

The combination of artificial ventilation (rescue breathing) and external chest compression



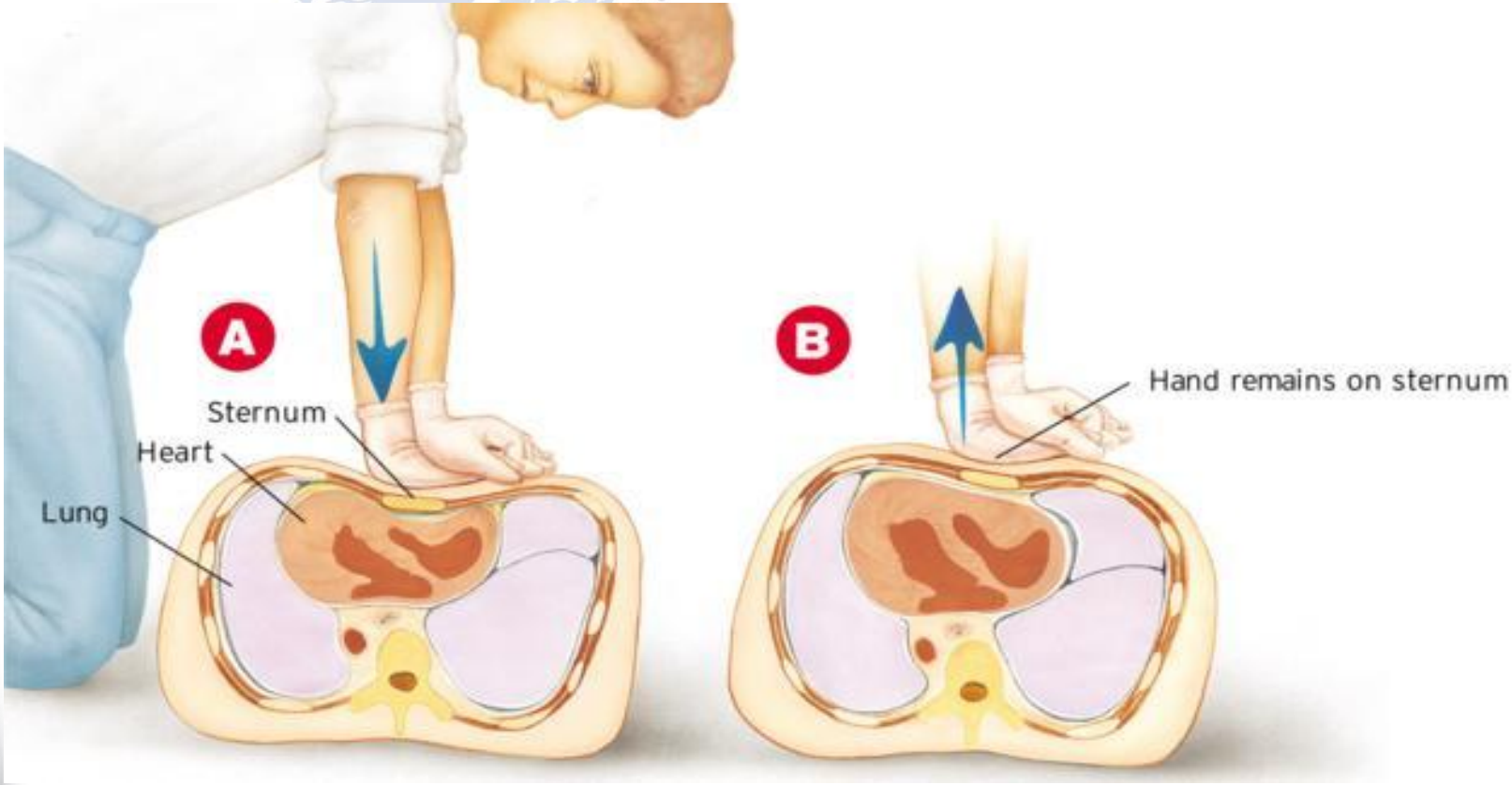
Chest Compressions

- External chest compressions are used to circulate blood anytime that the heart is not beating

- External chest compressions are combined with artificial ventilations to oxygenate the blood

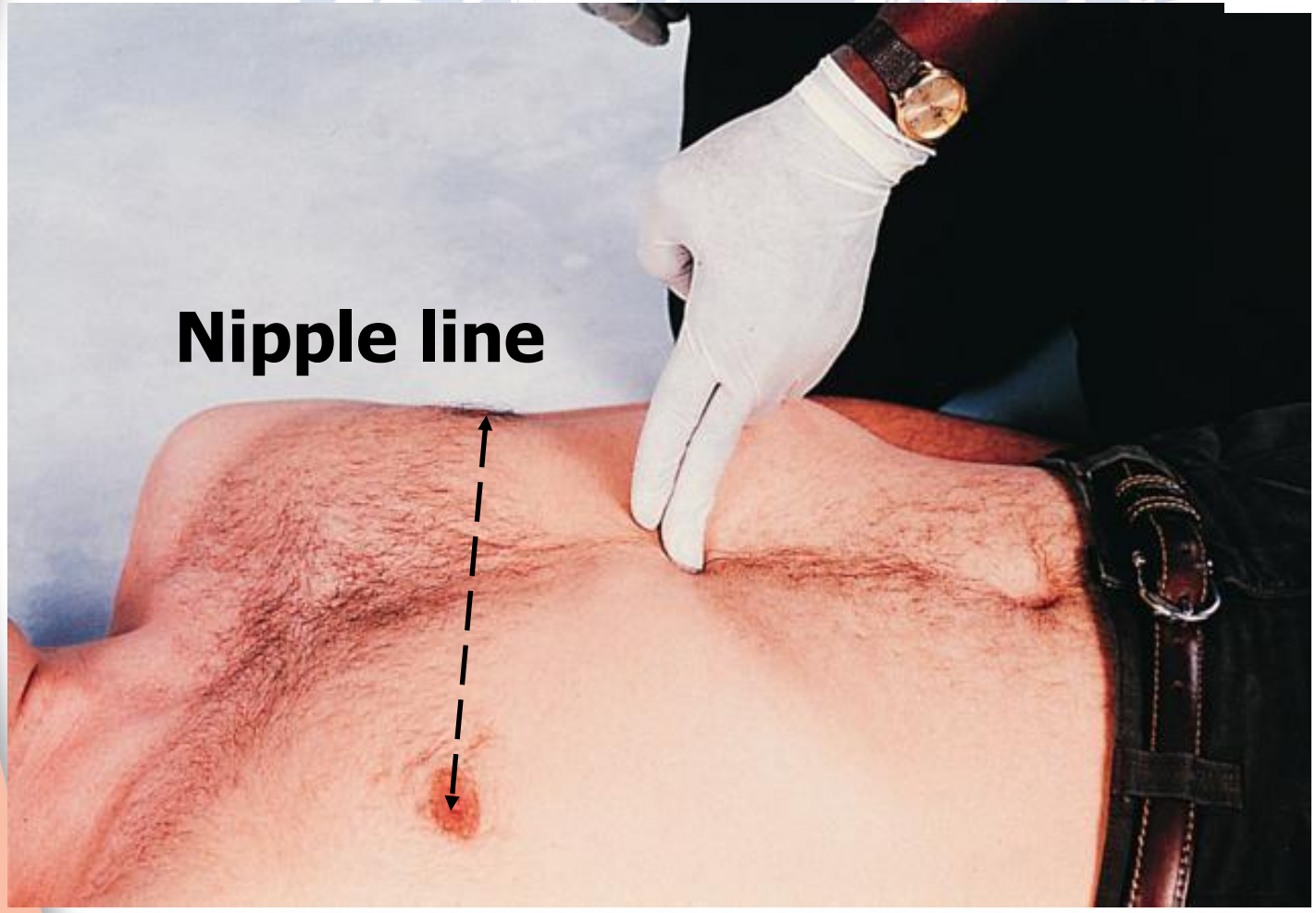
(Continued)

"Push hard, push fast & allow the chest to recoil"



Minimize interruptions of compression

Chest Compressions



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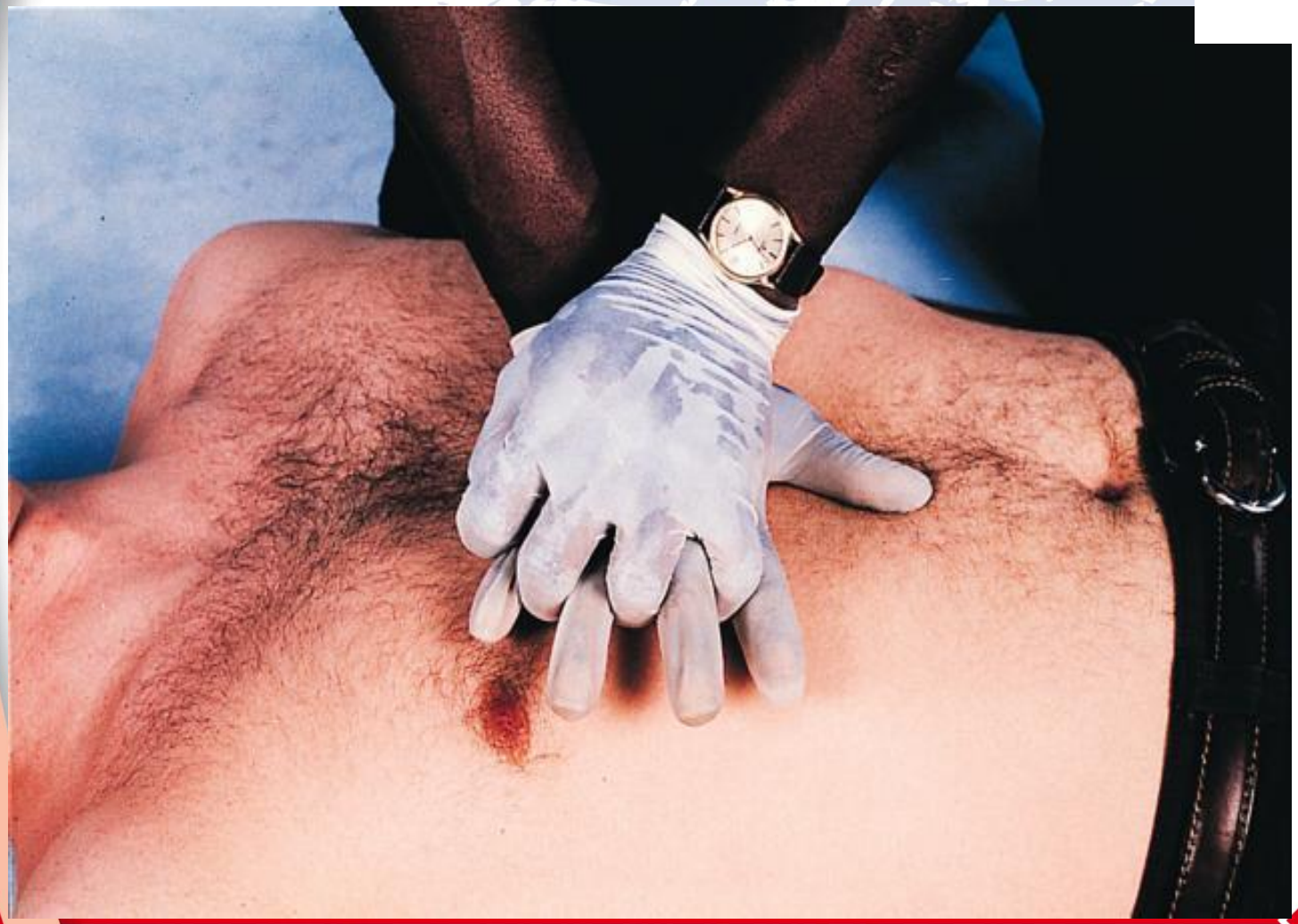
Locate center of ches



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Elbows locked & fingers off the chest

Press deep & Fast

Allow chest to recoil

Mouth-to-mouth

- If unable to determine presence of breathing provide ventilations
- They are combined with chest compressions to circulate blood anytime that the heart is not beating
- Air contains enough oxygen to support life

Cont…

- Barrier devices if available can be used

(Continued)

Cont...

- Adequate ventilation is determined by:
  - Observing the chest rise and fall
  - Hearing and feeling the escape during exhalation
- Too much ventilation is likely to make air enter the stomach and cause vomiting during chest compressions

(Continued)

Cont...

- If the victim cannot be ventilated after repositioning the head, suspect **choking unconscious**
- However **continue with CPR** reassessing mouth for visible obstruction after compressions before attempting more ventilations

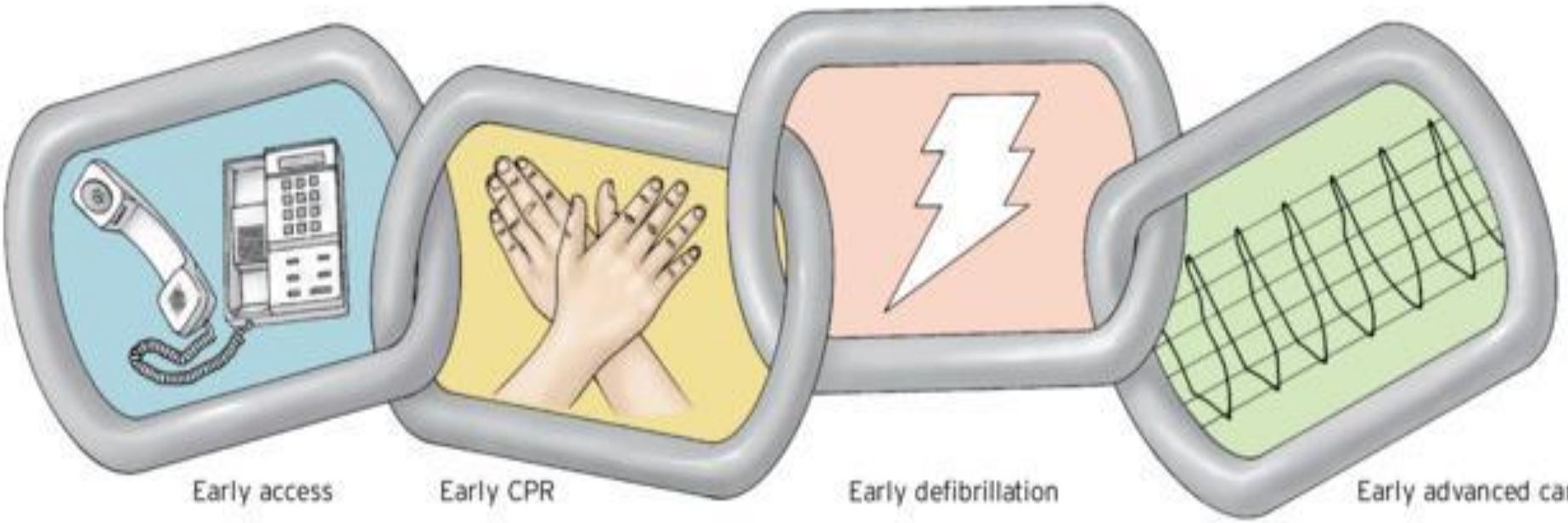
(Continued)

Cont...

- You are bound to perform mouth-to-mouth or mask on a stranger as long as you have a duty act

- Without the duty to act -The decision to perform mouth-to-mouth ventilation on a stranger is a personal choice

The chain of survival



The “chain” is as strong as it’s weakest link

SUMMARY

(Resuscitation sequence)

If Not safe activate professionals & wait

Danger

If Safe proce

Response

Shout for help/activate EMS

Airway

Head tilt chin lift

Breathing

Look listen feel

30 compressions

2 ventilations

5 cycles of ventilations and compressions then recheck breathing

Foreign Body Airway Obstruction in Adults (FBAO)

Ask “ are you choking”

Heimlich maneuver/

Abdominal thrusts on Adults

Chest thrust

- Late Pregnancy more than 3 months or obese
- When in doubt always use the chest

Management of FBAO in Children

Place one fist just above the child's navel with the thumb side facing the abdomen

Do a Heimlich Maneuver (abdominal thrusts)

Management of FBAO in Infants

Place the infant stomach-down across your forearm and give five thumps on the infant's back with heel of your hand

Place two fingers in the middle of the infant's breastbone and give five quick downward thrusts

- Up to 5 backslaps
- Up to 5 chest thrust

Asthma

Condition that causes difficulty in breathing due to :

- ✓ Spasms of the muscles of the air passages in the lungs and or
- ✓ Production of mucus and swelling along airway linings

Triggers: fumes,cold,dust,pollen, exercise, strong scents, anxiety, fur……

Asthma recognition

- Anxiety
- Difficulty in breathing (wheezing/whistling)
- Dry cough
- Blueness of extremities
- Difficulty in speaking (whispering)
- Dizziness

Asthma management

- Remove from trigger-ABC
- Sit casualty up preferably leaning forward
- Encourage to try breathing normally
- Help take own and appropriate medication if available
- If unconscious turn to Recovery position or perform CPR

Near Drowning

Rescue from water

- Remove from water if you can using throw and tow method or
- Get into the water if you can wade or
- If the casualty has stopped kicking and u are a good swimmer get into the water as a last resort if safe

Management

- Take care of ABC and resuscitate if necessary
- send for an ambulance
- Remove all wet clothing and replace with dry ones or dry towel to keep warm
- Keep casualty in the recovery position to drain mouth in case of vomiting

(Continued)

Secondary Drowning

swelling of the air passage due to presence of water or fluids in the lungs

- This may occur hours after near drowning incident due to water inhalation so all the casualties must be seen by a doctor

Fainting

A brief loss of consciousness du
to inadequate blood supply to the brain

CAUSES

Emotions – too happy or too upset, fright
Hunger
Exhaustion
Extreme heat or cold
Sudden sharp pain
Standing for a long time

Recognition

- Sudden collapse
- Shallow breathing
- Slow pulse
- Sweating
- Headache
- History

Treatment

AIM: To improve blood supply to the brain

- Remove any danger or move the casualty to safety-ABC's
- Lay casualty down and elevate his legs
- Gently fan and monitor
- If no quick recovery suspect shock

Shock

A life threatening condition caused by insufficient blood supply to all body organs
(failure of circulatory system)

CAUSES:
Severe bleeding
Burns
Heart Disorders
Dehydration –Diarrhea, Vomiting, Sweating!

Signs and symptoms of shock

- ✓Deteriorating levels of response
- ✓Pale ,cold and sweaty skin
- ✓Fast, shallow breathing
- ✓Rapid, weak pulse
- ✓Dizziness and nausea
- ✓ Blueness of extremities (cyanosis)
- ✓Thirst

Treatment

Aims

- To treat for the cause
- Improve blood/oxygen supply to vital organs
- Urgent removal to hospital

Treatment cont...

- DR.ABC-send for ambulance
- If injuries permit lay the casualty down, raise and support their legs.
- Cover to keep warm
- Do not give anything to eat or drink.
- If unconscious turn to recovery position.
- Check breathing and pulse frequently.

DRESSINGS AND BANDAGES

Dressing

Cover for wounds to:

- Stop bleeding
- Minimize infection
- Prevent from further injury

Types

Sterile,Gauze,Adhesive,Improvised……

Bandage

Support for dressings and limbs to:

- Help control bleeding
- Minimize swelling
- Immobilize
- Assist in transportation

Types

Gauze roller,adhesive tape,Crepe,Triangular

Improvised……

Bleeding

General considerations

- Risk of infection
- A serious injury may prevent effective clotting or cause excessive bleeding leading to shock or death
- Internal bleeding often results from blunt and /or penetrating injury

Role of the First Aider

- Danger
- Response
- Airway
- Breathing
- Control bleeding
- Control shock
- Comfort, Calm the injured person while awaiting ambulance

Apply finger tip pressure directly on the point of bleeding.

(Continued)

Elevate arm or leg above the level of the heart

(Continued)

Large gaping wounds may require packing with sterile gauze and direct pressure to control bleeding.

(Continued)

(Continued)

NOSEBLEED/EPISTAXIS

- Advice to breath through the mouth
- Pinch soft part of the nose – 10min
- Casualty should avoid swallowing blood

- When bleeding stops - Ask the casualty not to pick or blow the nose
- Take to hospital if bleeding continues for more than 30 minutes or it’s due to injury.

Seizures

Involuntary contraction of Muscles caused by massive Electrical discharge in a group of nerve cells in the brain

Causes

- **Epilepsy** – most common
- **Other causes:**

- ✓High fever
- ✓Poisoning
- ✓Head trauma
- ✓Shock
- ✓Hypoxia
- ✓Stroke
- ✓Drugs/alcohol
- ✓Idiopathic
- ✓Infections

Management & Care

Before

- Support the victim to the ground

During

- Keep the victim safe by moving objects or the casualty away
- **Do not interfere with the fits**
- **Do not put anything inside the mouth**

(Continued)

After

- Clear the airway and ensure adequate breathing
- Place in the recovery position
- Control any bleeding and stabilize any other injury
- Stay with victim until s/he fully recovers

Take to hospital if

- First time fits
- Fits last more than 5minutes
- Victim remains unconscious for more than 10minutes
- Is injured

Hypoglycemia (low blood sugar)

Hypoglycemia is a true diabetic emergency and requires immediate attention

Causes

- Overdose on insulin
- Under eating/missing meals
- Heavy manual labor

Recognition of hypoglycemia

- ✓ Confusion or strange actions
- ✓ Sugar hunger and muscle tremors
- ✓ Sweating and pale skin
- ✓ Deteriorating level of response.
- ✓ A history of diabetes
- ✓ Diabetic's medic alert, glucose gel, sweets, tablets, or an insulin syringe

Hypogyl..managemen

- ✓ DR.ABC
- ✓ If they can swallow, give them high energy sugary foods/drink, sugar lumps, boiled sweets…..

If the casualty responds quickly:

- ✓ Give them more food and drink and let them rest until they feel better.
- ✓ Advise them to see their doctor still

Contd….

If unconscious or cannot swallow:

- ✓Look for medic alerts
- ✓Call ambulance
- ✓Turn to recovery position or give CPR if not breathing

Burns and Scalds

Factors to consider

- Body Surface Area (percentage of skin cover)
- Burn Injury Location (site)
- Depth (layers of skin)
- Cause (type of burn)

Superficial Burn

(1st Degree)

- ✓ Involves only the epidermis
- ✓ Reddened skin
- ✓ Pain at the site

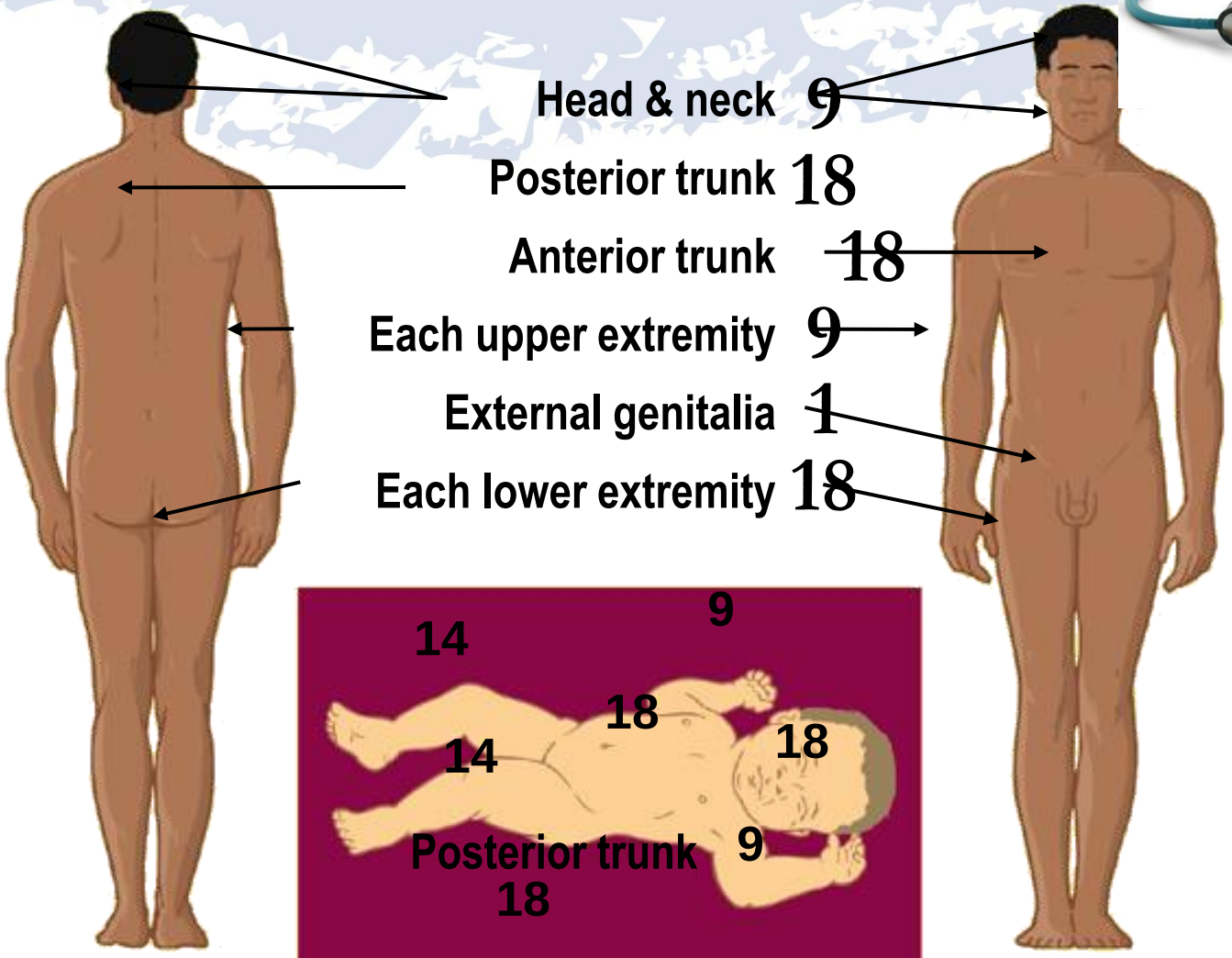
Partial Thickness Burn (2nd Degree)

- Involves both the dermis and epidermis
- Intense pain; blisters
- White-to-red skin that is moist and mottled

Full Thickness Burn (3rd Degree)

- Burn involves all layers and may include muscle, bone, or organs
- Dry and leathery skin; Charred
- Little or no sensation; hard to the touch; pain at periphery

RULE OF NINES (%)



Head & neck 9

Posterior trunk 18

Anterior trunk 18

Each upper extremity 9

External genitalia 1

Each lower extremity 18

Hand Estimation

- Compares burn area to patient's palm
- Hand and fingers equals approximately 1%
- Can be used to estimate burn area of any age patient

Management and Care

Assessment and Care

Initial Assessment-DR.ABC

- ✓ Evaluate casualty's airway, breathing
- ✓ Look for indications of airway injury

Stop The Burning Process

- ✓Use water to cool burn injuries within first 10 minutes of injury, if possible.
- ✓ Remove jewelry and any smoldering clothing

(Continued)

Cut around areas of clothing that adhere to casualty; do not attempt to remove sticking clothing

(Continued)

Cover the burn with a dry sterile dressing and treat for shock

Special Considerations

Burns of hands and toes

- Remove all rings and jewelry that may constrict with swelling
- Separate all digits with dry, sterile dressing material

Don'ts in burns

- Avoid using any material that sheds or leaves particles e.g. fluffy material
- Never apply any type of ointments, lotions, or antiseptics to burns
- Never attempt to break or drain blisters
- Do not touch a burn with bare hands

Poison

A poison is a substance when taken into the body in sufficient quantity, may cause temporary or permanent damage.

Methods of poisoning

- ✓Ingestion (swallowing)
- ✓Absorption through the skin
- ✓Inhalation
- ✓Splashing/ Instillation into the eyes,
- ✓Injected.

Swallowed Poisons

- ✓DRABC-send for help
- ✓ Reassure and Keep casualty still
- ✓If possible identify the container that held the poison and carry it to hospital
- ✓**DO NOT give the casualty anything to eat or drink**

(Continued)

Swallowed poisons cont

- ✓**DO NOT induce vomiting**
- ✓**DO NOT try to neutralize/ dilute the poison**
- ✓***If corrosive*** poison, give frequent sips of cold water
- ✓If unconscious place in recovery position, monitor RABC and be prepared to resuscitate

Inhaled poisons

Remove casualty to open air or open windows without endangering yourself

- ✓ If possible cut off the source of fumes
- ✓ DRABC, If unconscious turn to recovery position and if not breathing give CPR.

Skin contact

- Wash away the poison with cold water without touching the area.
- If chemical is causing burns, flush for 20mins
- Avoid splashing onto yourself or into the casualties eyes, mouth or nose
- Remove all contaminated clothing

Splashing into the eye

- Irrigate the affected eye with water keeping it lower than the sound eye for 10 minutes or more if still burning
- Cover with an eye pad
- Take to hospital

Stings

Complications

- massive allergic reaction (anaphylaxis) from the venom

Insect Stings
Care & Management

Aim:

- Remove the stinger without induce release of more venom
- Relieve pain and reduce swelling

(Continued)

Care & Management

- Scrap the stinger off by using a plastic card
- Apply icepack at the site to reduce swelling and pain
- Watch out for signs of anaphylaxis (massive allergic reaction)

Injuries to Muscle and Bones and joints

Fractures

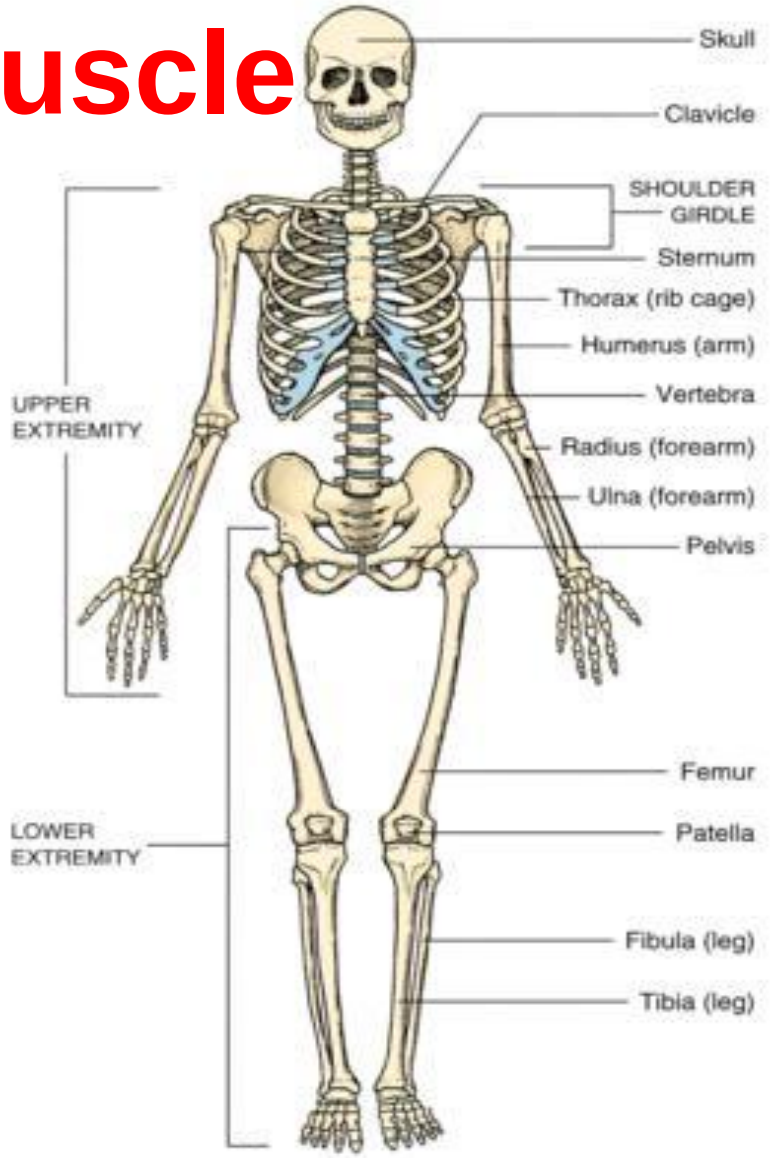
Dislocations

Sprains & Strains

Skeleton and Muscle System

Function

- Gives the body shape
- Protects vital internal organs
- Facilitates movement

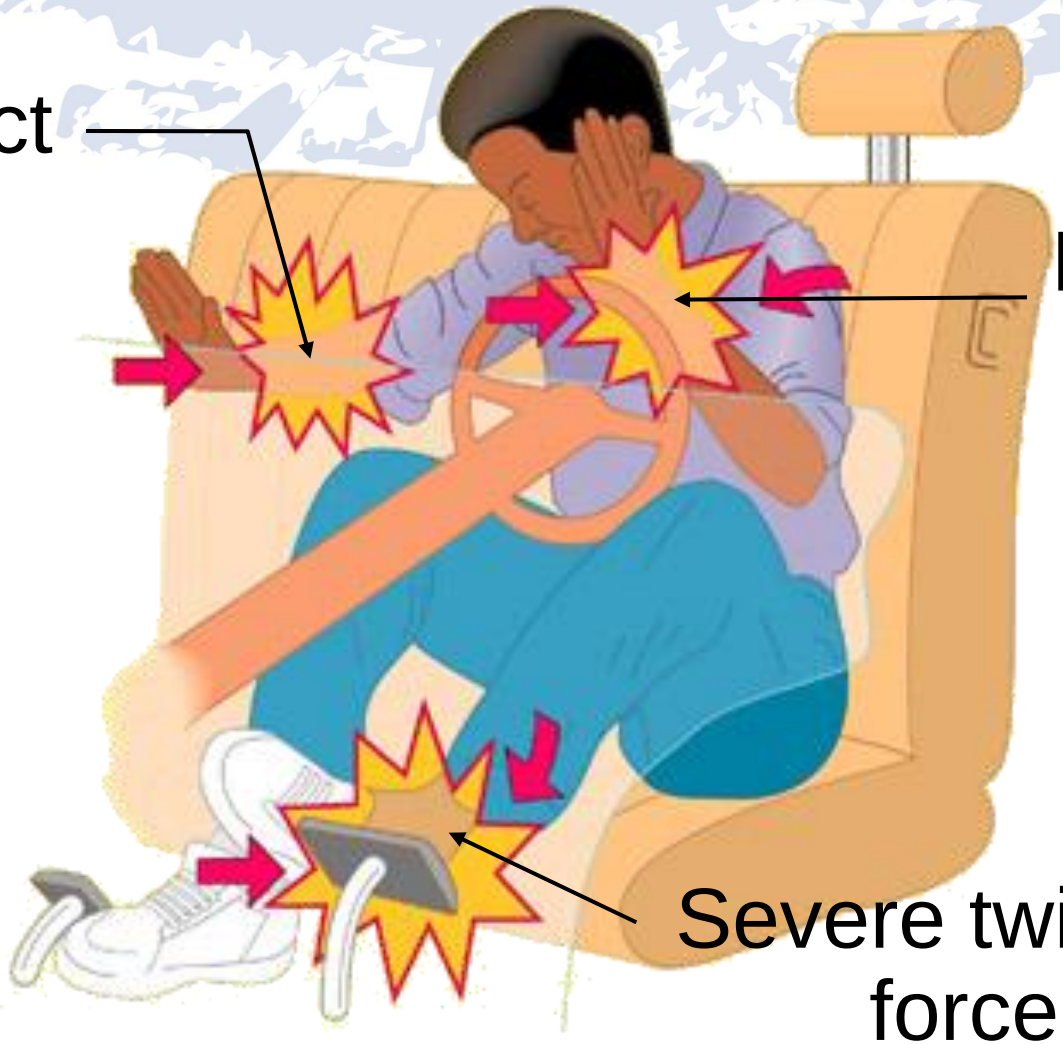


Mechanism of Injury

Injuries to Bones, Muscles and Joints are caused by:

- Direct force
- Indirect force
- Twisting force

Mechanism of Injury



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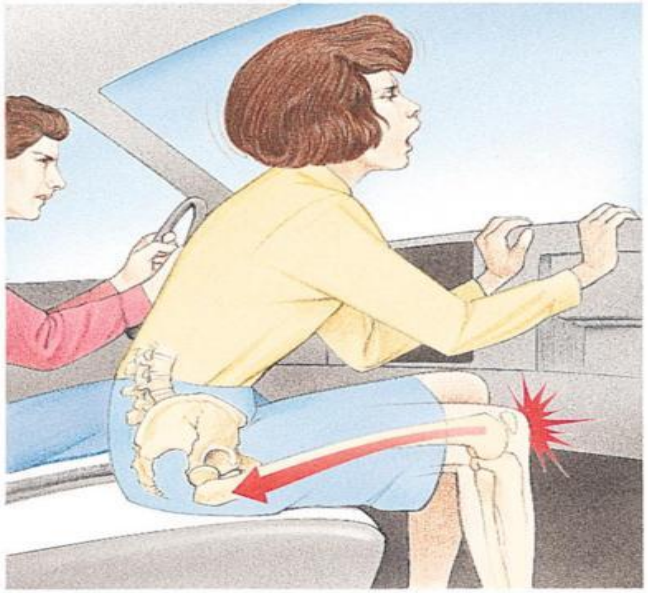
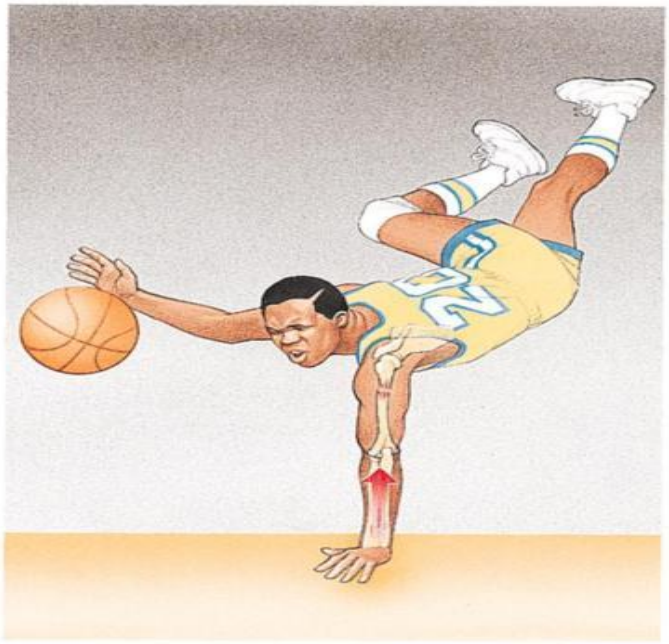




Injury Definitions

- **Sprain** – ligament injuries (joints)
- **Strain** – injuries to muscles due to overstretching
- **Dislocation** – displacement of two or more bones at a joint
- **Fracture** – break, crack or chipping of the bone

Sprains and strains (RICE)

- **R**est the injured part
- Apply **I**ce – must be covered
- **C**ompress with a bandage to minimize movement and swelling
- **E**levate to minimize blood flow to the site
- **DO NOT MASSAGE**
- When in doubt treat as a fracture

Dislocations

- Do not try to replace the joint the bones into position
- Immobilize like for a fracture in the most comfortable position
- Apply an Icepack/cold compress at the site

Fractures

Closed-
no break in the continuity of the skin

Open-
break in the continuity of the skin

(Continued)

Signs and symptoms

- Deformity
- Pain and tenderness
- Swelling
- Bruising (Discoloration)
- Exposed bone ends
- Joint locked in position
- Snap sound

Management of fractures and dislocations

- Danger
- Response
- Airway
- Breathing
- Allow to remain in a position of comfort
- Support above and below the injury with manual stabilization

- Apply a cold pack for closed injuries only to minimize swelling
- Cover open wounds with a sterile dressing and bandage diagonally
- Immobilize or splint if you have to transport
- Minimize effects of shock on casualty

Dislocated shoulder

Apply manual stabilization using sling

(Continued)

Dislocated shoulder cont..

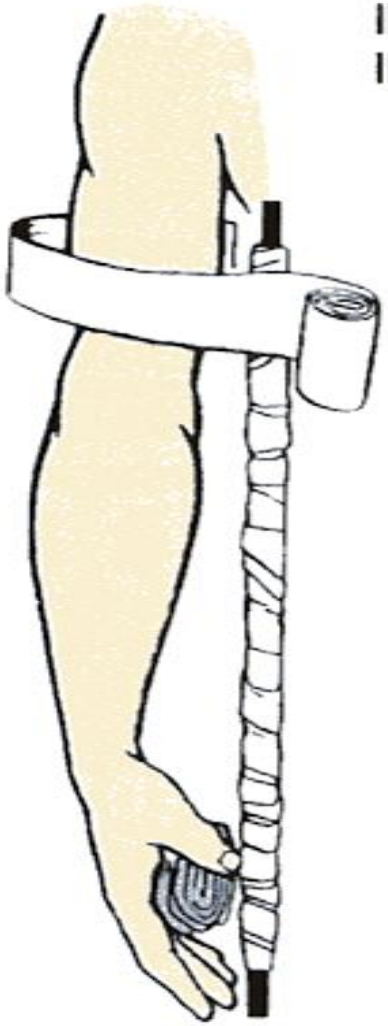
Secure the sling with broad bandage for extra support

Fractured lower arm

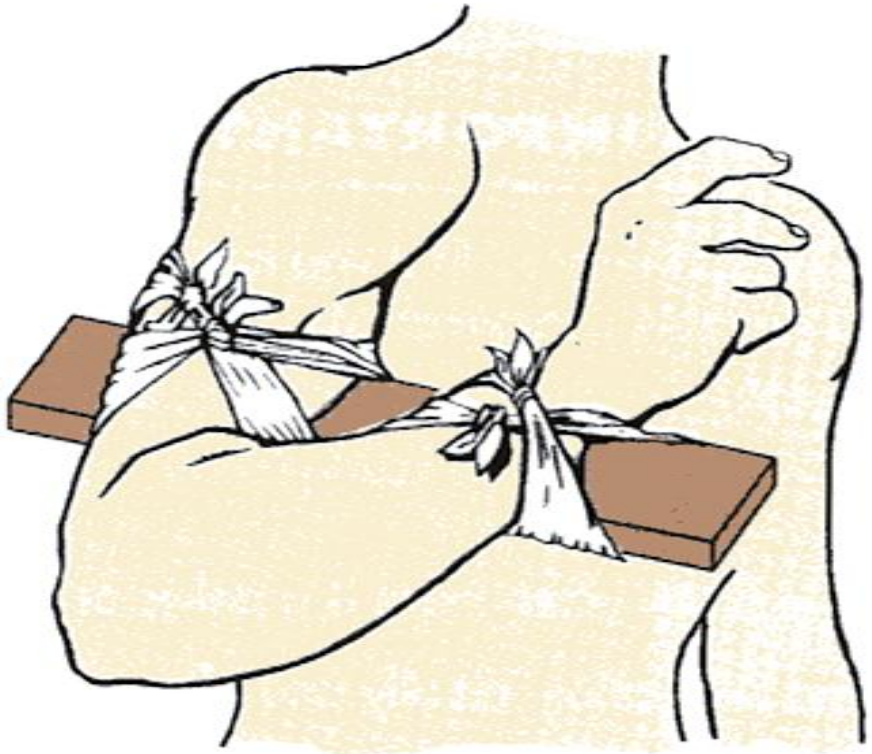
Splint a fractured arm if possible before tying a sling

Elbow Injuries

IMMOBILIZE LIMB IN POSITION
IN WHICH IT WAS FOUND

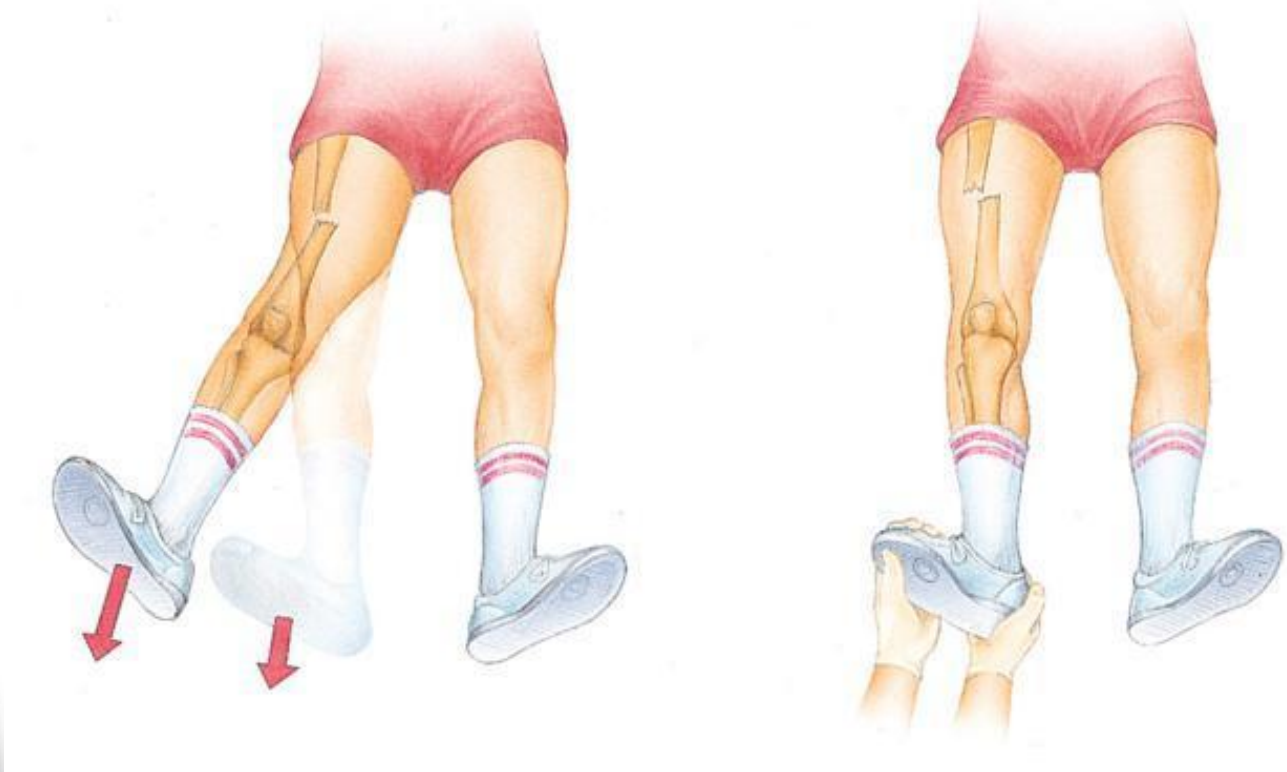


STRAIGHT POSITION



BENT POSITION

Straightening/Traction



Open fracture of the leg

(Continued)

Control bleeding

Apply direct pressure around protruding bone with sterile dressing

Applying Manual Stabilization

Bandage dressing in place

(Continued)

Measure Splint

(Continued)

Bandaging with splints in position

Apply splint to immobilize the bone and joints above and below the injury.

Closed Fracture to leg

Foot Injuries

(Continued)

Management of foot injury

Spinal injuries

Most Probable causes

- Motor Vehicle Crashes
- Motorcycle crashes
- Pedestrian-Vehicle collisions
- Unconscious trauma victims
- Falls
- Hangings
- Diving Accidents
- Blunt Trauma
- Penetrating trauma to the head, neck or torso

Signs and symptoms

- Tenderness in the area of injury
- Pain associated with moving
- Loss of sensation or paralysis
- Breathing problems
- Loss of bladder or bowel control

(Continued)

Cont…

- Soft tissue injuries associated with trauma
  - Head neck and cervical spine
  - Shoulder, back or abdomen
  - Lower extremities
- Numbness, weakness or tingling in the extremities

Special consideration

Absence of pain or presence of normal limb function does not necessarily mean that the injury is not significant

injured.

Spine injury management

- Danger
- Response
- Airway (using jaw thrust maneuver)
- Breathing
- Avoid unnecessary movement
- Maintain manual stabilization of head and neck

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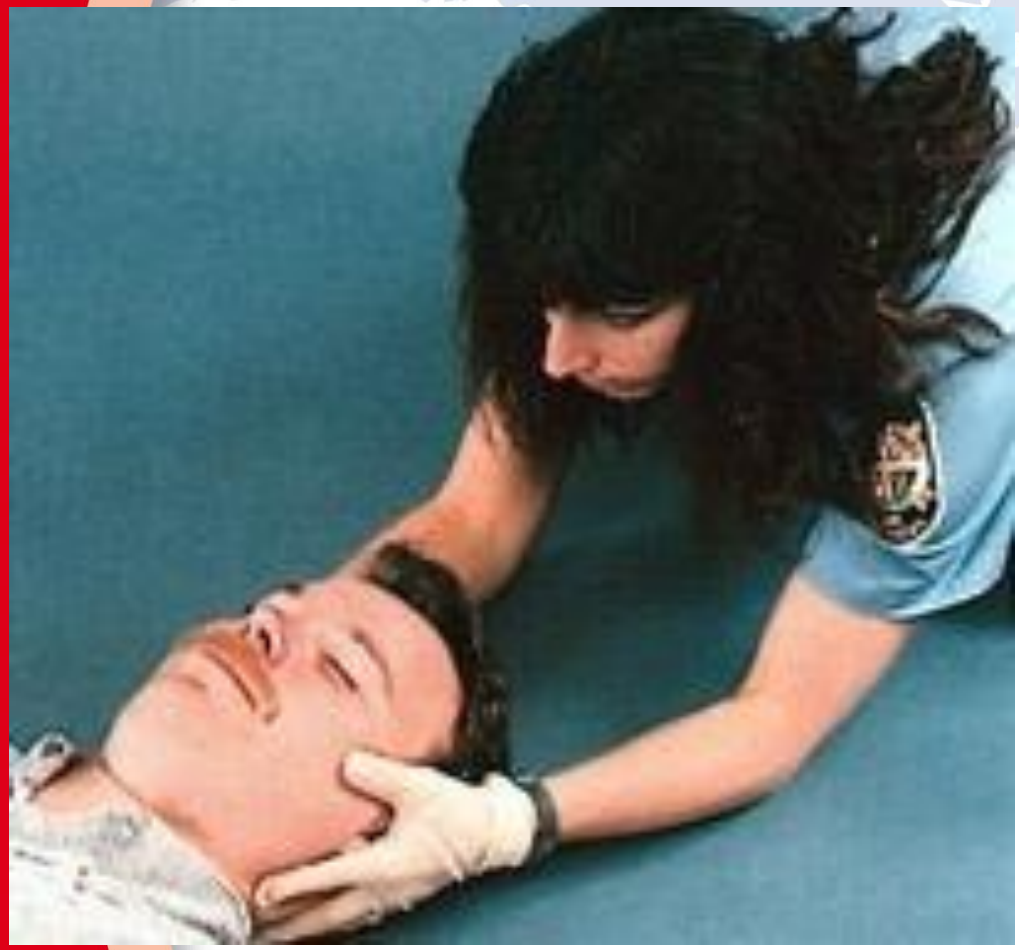

Maintain constant in-line immobilization until medical help arrives

(Continued)

Cont...

- A single First Aider may stabilize head and neck manually in the position found until EMS arrive if possible
- If additional First Aiders are available they may perform physical and ongoing assessments

FIRST AID KIT

- CONTENTS; Identification, description and knowledge.
- USAGE: How each item in the First aid Kit is applied and utilized by you.
- Storage and Replacement: Ensure all items are in order and replaced once used.

SOP

- MSF Protocols: What to do in case of an accident or at scene of an accident
- At Dagahaley: Follow the MSF protocol.
- At Nairobi: Follow the MSF protocol.