Ambulance
First Aid

AVFA
FIRST AID COURSE

First Aid – What is it?

First Aid is emergency care given to a sick or injured person before medical help arrives

Principles of First Aid

- Preserve life
- Protect the unconscious person
- Prevent further injury
- Promote recovery
- Seek medical help

The main aims of first aid are to:

- Preserve Life
- Prevent the casualties condition from getting worse

CALLING FOR ASSISTANCE

DIAL '000'

Exact location (Nearest cross street)
Your phone number
Chief complaint (What is wrong)
Number of casualties
Age & sex of casualty
Is the casualty Conscious?
Is the casualty Breathing?
Casualty's Name
Do not hang up until told too

Once an Ambulance has been called:
- Call back if the patient gets worse
- Someone should meet the ambulance
- Gather patient's Medical History
- Get out any medications
- Turn on Front Light
- Lock up animals

IN AN EMERGENCY ☎ '000'

Basic Life Support Flow Chart

D – Danger
Check for Dangers

R – Response
Check for Response
No response

Call for help

A – Airway
Open Airway & look for Signs of Life
Responsive
Breathing normally
Moving

No

B – Rescue Breathing
Give 2 initial Rescue Breaths

If casualty begins breathing normally

No

Yes

C – Chest Compressions
Give 30 Compressions followed by 2 breaths
Continue until help arrives or Signs of Life return

D – Defibrillation
Attach AED as soon as available and follow prompts

Yes

Recovery position
Vital Signs Survey
Secondary Survey
Provide oxygen if able

DANGER

LOOK, LISTEN & SMELL FOR……

- **FALLING OBJECTS**
- **ELECTRICITY**- Power lines, cords etc.
- **GLASS** - Car windows , broken bottles
- **GASES** - Fumes from L.P.G., chlorine etc.

- **FIRE**- Explosions, burns etc.
- **TRAFFIC** - At car accidents etc.
- **OTHERS** - Needle stick injuries, violent patients, body fluids i.e.(Blood, vomit, urine)

Only proceed if it's safe to do so.

RESPONSE

Do not shake a small child or infant

Talk and Touch

Ask questions such as -:

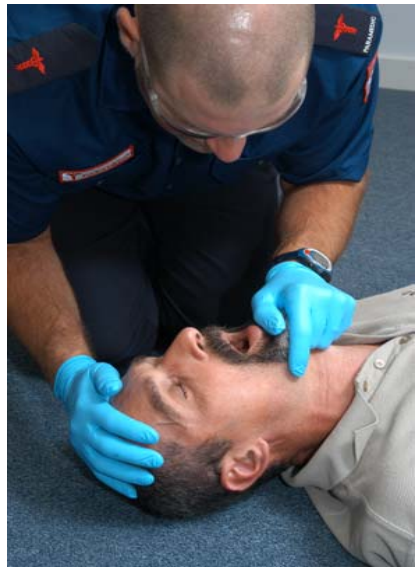
- Can you hear me?
- Open your eyes.
- What is your name?
- Squeeze my hand.

AIRWAY

Look inside the Casualties mouth. This is done with the casualty on their back.

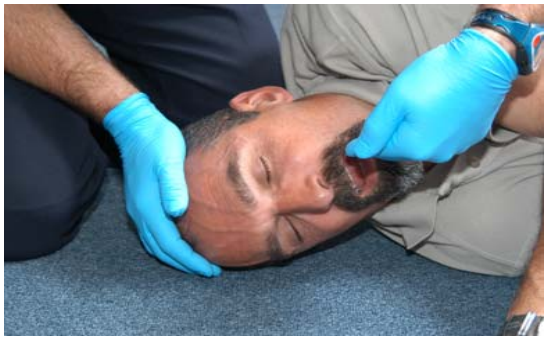
IF: mouth is clear of any obstruction then check for breathing

IF : Blood, Vomit, Foreign objects or as a result of a submersion event



Then.....

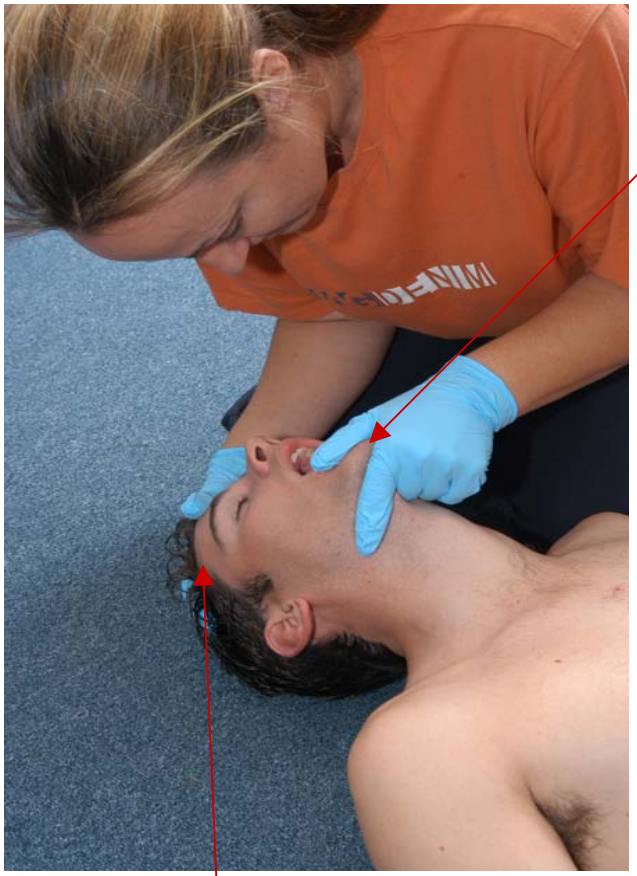
Gently roll the casualty into the **STABLE SIDE POSITION** and -:



TILT the head slightly backwards & downwards
CLEAR the mouth with your fingers

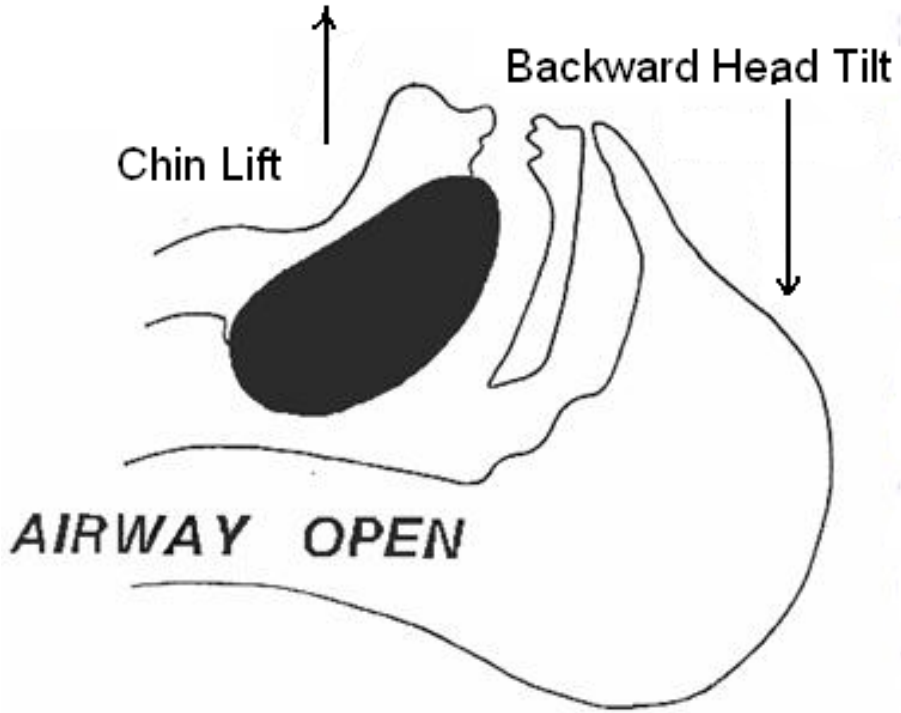
CLEARING THE AIRWAY IS THE MOST IMPORTANT PART OF YOUR TREATMENT!

OPENING THE AIRWAY



Chin Lift. (Pistol Grip.)

Backward Head Tilt



BREATHING

LOOK

LISTEN

FEEL

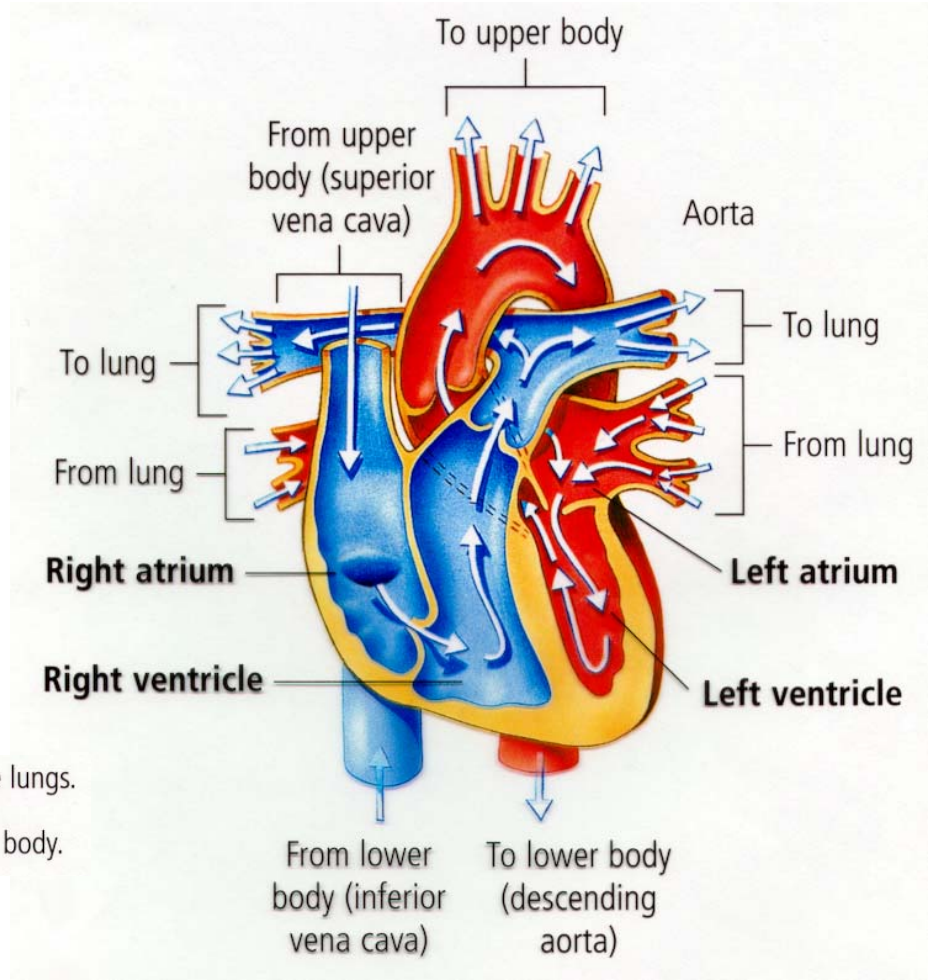
IF THE CASUALTY IS BREATHING, PLACE THEM IN THE STABLE SIDE POSITION AND MONITOR THEM

COMPRESSIONS

CIRCULATORY SYSTEM

"Blood carries oxygen and nutrients around the body and is pumped under pressure by the heart"

- Oxygen poor blood is pumped from the body to the Heart and then to the Lungs
- Oxygen rich blood is pumped from the Lungs to the Heart and then around the body



Oxygen-poor blood pumped from the body to the lungs.

Oxygen-rich blood pumped from the lungs to the body.

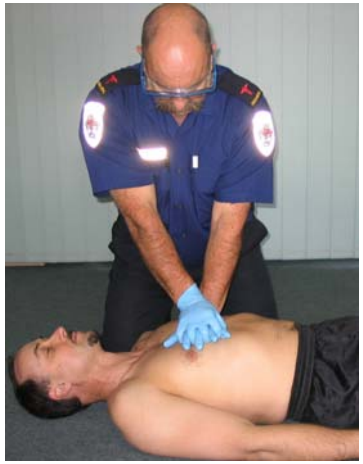
CARDIOPULMONARY RESUSCITATION

If pregnant – place padding under right hip

IF the person is:

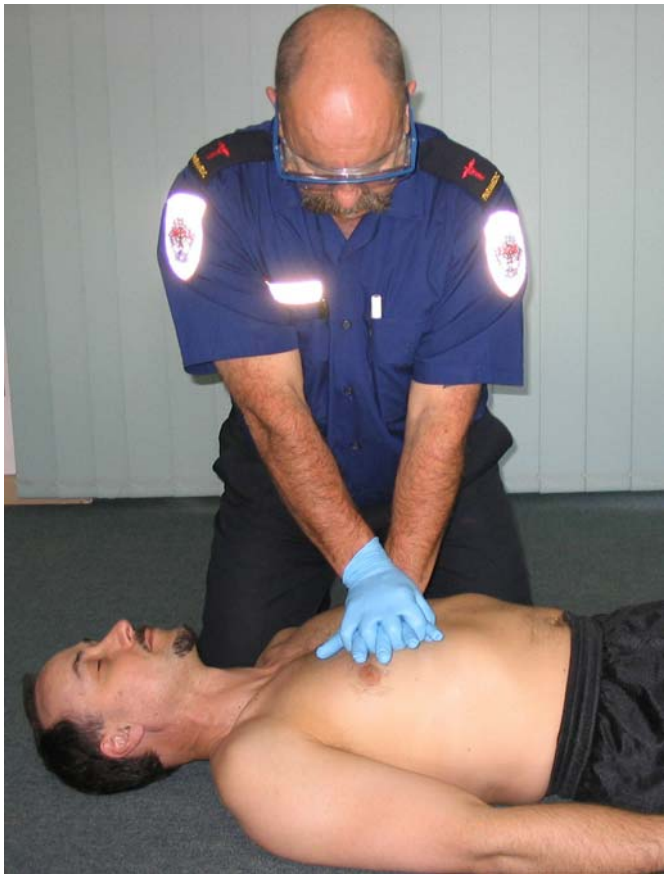
- Unconscious.
- Unresponsive.
- Not breathing normally.
- Not moving.

Indicating "no signs of life"…….



- 30 Compressions and 2 Breaths.
- Continue until help arrives.
- If Breathing returns – Stable side position and monitor the A.B.

C.P.R. TECHNIQUES



- Hand position, Visualisation method to be used, Centre of chest for all ages
- Keep your arms locked straight
- Align your shoulders over the Person's breastbone(Sternum)
- Pivot from the hips.
- Compress the breastbone (1/3rd Depth of Chest for all ages.)
- Keep your fingers off the ribcage

RESUSCITATION

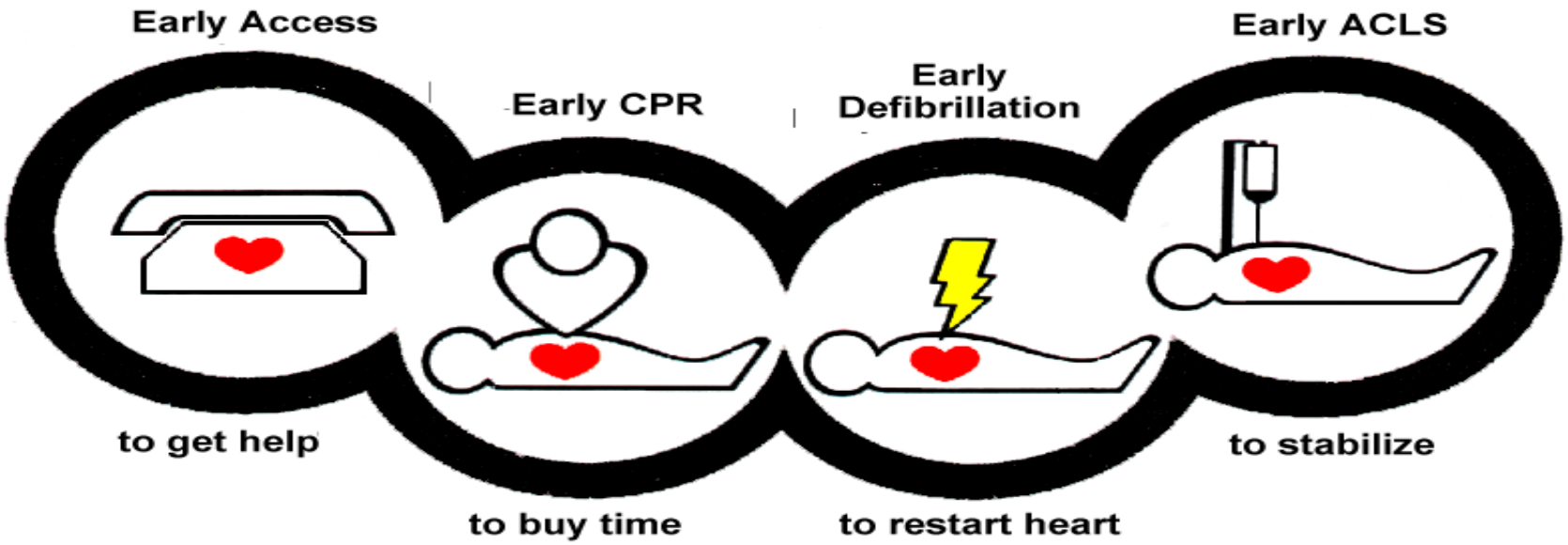
ADULT and CHILD

INFANT

CPR Compression	Two Hands On Centre of Chest	Two Hands On Centre of Chest	Two Fingers On Centre of Chest
Depth	1/3 depth of chest	1/3 depth of chest	1/3 depth of chest
Operator	30 compressions 2 breaths At a rate of 100 per minute	30 compressions 2 gentle breaths At a rate of 100 per minute	30 compressions 2 gentle puffs At a minimum rate of 100 per minute

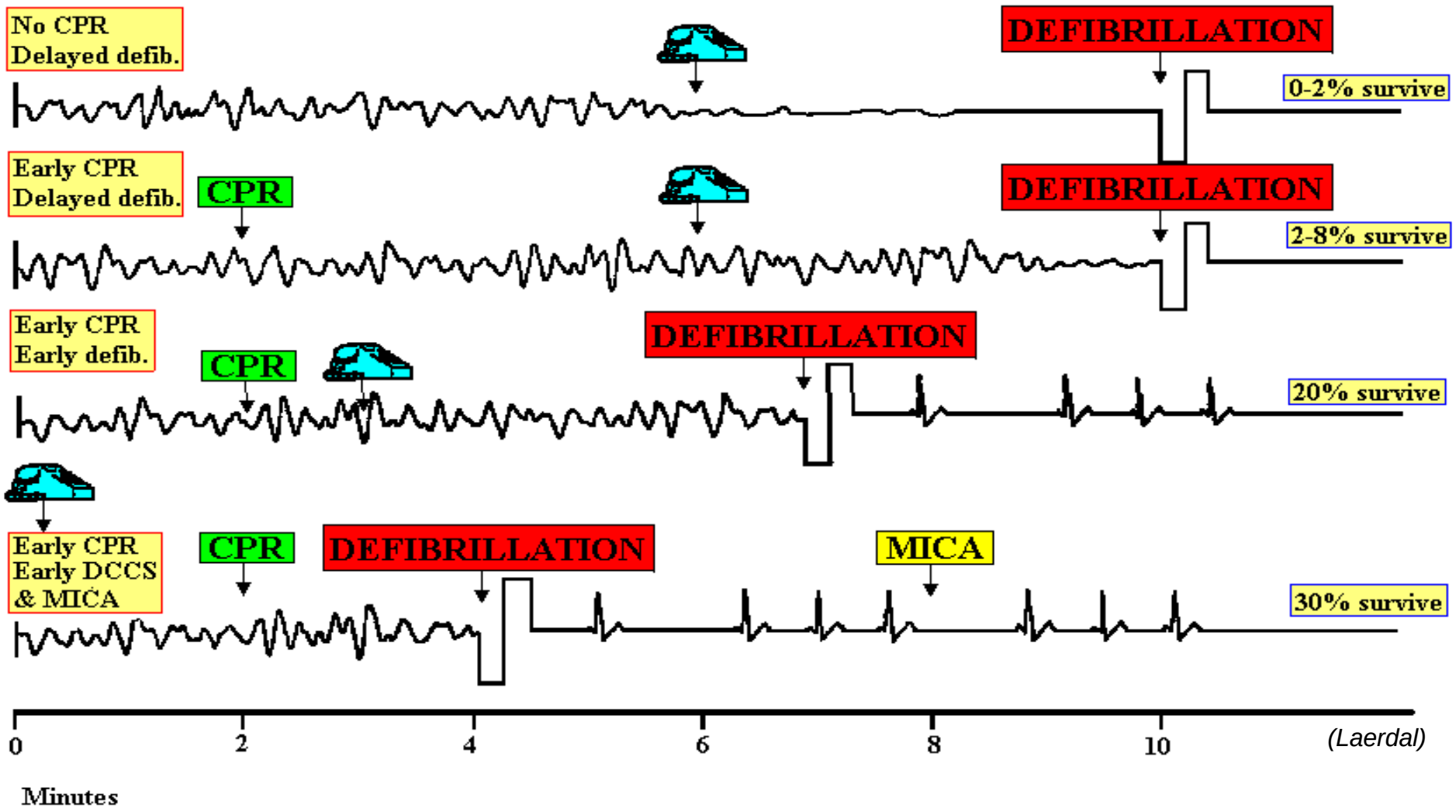
THE CHAIN OF SURVIVAL

"The process used to assist in treating for the best possible outcome for a patient in cardiac and respiratory arrest"



(Laerdal)

CHAIN OF SURVIVAL



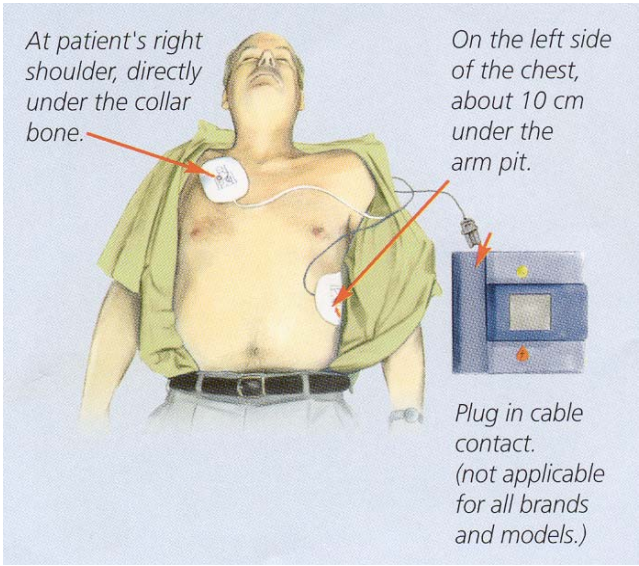
Automated External Defibrillator

Features

- On/off button
- Pad connection socket
- Function keys
- Self-test/battery failure indicator
- Shock button
- Battery
- Defibrillation pads

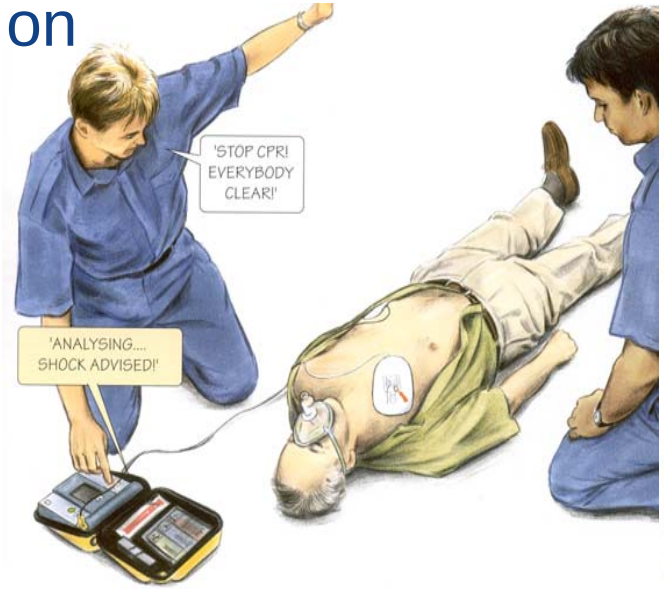
Placement of defibrillation pads

- Ensure that the skin is dry. Wipe with a towel if necessary.
- Roll pads onto the chest to prevent air bubbles from being trapped under the pads.
- Poor contact due to air bubbles may cause burns to the patient.



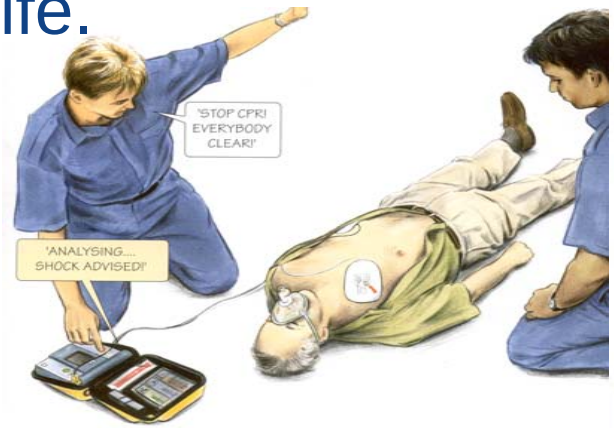
Defibrillation Procedure

- Continue C.P.R. whilst placing the pads on the casualty.
- Plug pad connector into the Defibrillator
- Stop CPR. Do not touch the casualty.
- The AED will automatically analyse.
- Shock advised, ensure that the area is safe and no-one is touching the casualty.



AED Procedure Continued:

- Yell "***STAND CLEAR",*** and visually check that no-one is touching the casualty.
- Wait for a response of ***"ALL CLEAR"***
- Press **SHOCK** button.
- Wait for AED to re-analyse the rhythm and follow the prompts.
- If *no shock advised* check for Signs of Life.
- If absent commence CPR.
- Continue following the prompts.



PERSONAL PROTECTION/ INFECTION CONTROL

- **Cover any open cuts** or sores on your hands or arms.
- **Wear** disposable gloves and eye protection
- **Wash hands** as soon as possible after contact
- **Clean contaminated objects** or **blood spills** with mix of household bleach & water 1:10
- **All First Aiders** should consider immunisation against Hepatitis B

A.I.D.S

Acquired Immune Deficiency Syndrome

H.I.V

Human Immunodeficiency Virus

Reduces ability to resist disease

AIDS is transmitted by the following routes:

- Sexual Intercourse (Semen & Vaginal Secretions)
- Open Wounds
- Breast Feeding
- Blood to Blood (Mother to child in the womb, IV drug users)

1: 3000 chance of infection through blood to blood contact

HEPATITIS A – VIRAL INFECTION

Spread by direct contact of contaminated food and water, usually through raw sewage or poor hygiene

Signs and Symptoms

- Loss of appetite
- Nausea & Vomiting
- Pain under the right rib cage
- Jaundice –:

  1. urine becomes darker
  2. eyes and skin go yellow

Immunise against Hepatitis A

Avoiding Hepatitis A

Wash hands thoroughly with **soap and hot water** before:

- Preparing food
- Eating
- Handling raw and ready to eat foods
- After using toilets
- After sexual intercourse
- **Clean toilets/bathrooms often**
- **Boil water** you suspect is contaminated

HEPATITIS B – VIRAL INFECTION

1: 3 with blood to blood contact

Transmitted by blood to blood contact, including bodily fluids

Over 2 billion people have the virus and of them 350 million have chronic infections

Hepatitis B is transmitted thru:

- Unprotected sexual intercourse
- Infected blood coming into contact with open wounds
- Breast feeding
- Perinatal – at birth
- Unsafe injections or blood transfusions
- Conjunctiva of the eye
- Saliva

Signs and Symptoms

- Loss of appetite and tiredness
- Nausea & Vomiting
- Fever and pain in joints
- Pain under the right rib cage
- Jaundice –:
  1. urine becomes darker
  2. eyes and skin go yellow

Immunise against Hepatitis B

HEPATITIS C – VIRAL INFECTION

1: 30 with blood to blood contact

Hepatitis C is spread by:

- Sharing needles/ syringes or other injecting equipment,
- One person's blood coming into contact with open wounds on another person
- Dirty tattooing or piercing equipment
- Sharing razor blades or toothbrushes

Signs and symptoms are similar to Hepatitis B

AVOIDANCE: **Practice safe sex** **Don't share personal items**

Wear gloves and glasses when dealing with first aid incidents

Workers should follow standard infection control **Don't share needles**

There is NO Immunisation against Hepatitis C

BLEEDING

"Blood carries oxygen and nutrients around the body and is pumped under pressure by the heart"

ARTERIES: carry bright red oxygenated blood **away** from the heart.

VEINS: return dark red deoxygenated blood **back to** the heart.

CAPILLARIES: are minute vessels and carry both arterial and venous blood.

TYPES OF WOUNDS

- **ABRASIONS** - gravel rash, friction
- **CONTUSIONS** - **(bruise)** bumps, blows
- **LACERATIONS** - **(jagged uneven wound)** barbed wire
- **INCISIONS** - **(clean edged wound)** knife, glass
- **PUNCTURE** - nails, animal bites, syringes

ALSO:

- **HIGH VELOCITY** - Gunshot, staple gun, nail gun
- **EMBEDDED OBJECTS** - Object embedded in wound

EXTERNAL BLEEDING

Management

1. **DRABCD**
2. Check for objects in wound
3. Get the patient to apply **direct pressure** and **elevate the limb**
4. Apply a **dressing** (pad) and continue direct pressure
5. Use a **roller bandage** to secure pad and apply pressure
6. Elevate limb (sling if applicable)
7. Check for and treat other injuries
8. Treat for shock

If bleeding is evident through the pad:
Apply another pad and bandage over the top of the pad and bandage already in place.

PENETRATING INJURIES

knives, guns, nail/staple guns, bites, arrows

Management

1. **DRABCD**
2. **Do not** remove object, keep the impaled object still
3. ☎ Ambulance ‘000’
4. **Apply direct pressure** around the edges of the wound
5. **Build up** the dressing around the object
6. **Consider internal injuries**

AMPUTATIONS

Management

Patient

1. Apply **direct pressure**
2. **Elevate** limb
3. Apply **pad & roller bandage**

Amputation

1. Place amputation in **airtight container**
2. Place container in **iced water**
3. **DO NOT** allow severed part to come in contact with ice
4. ☎ **URGENT** Ambulance ‘000’
5. Don’t wash amputated part

partial

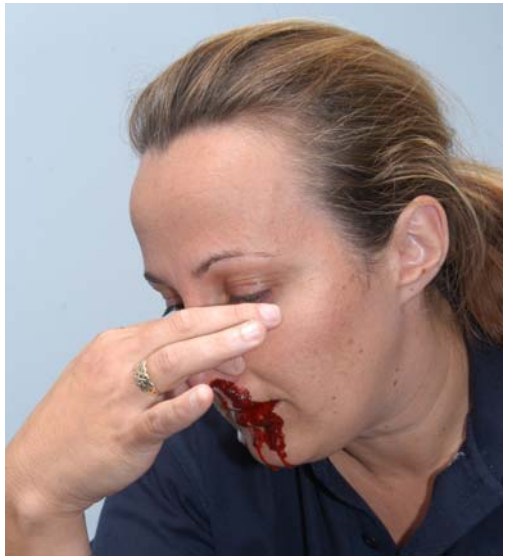
total

INTERNAL HAEMORRHAGE

Internal bleeding can be caused by:

Blunt trauma, organ ruptures, ulcers, infections, fractures, degenerative diseases

Revealed – obvious blood flow
i.e. mouth, nose, ear, urine, bowels



Concealed – difficult to detect Typically collects within body cavities i.e. abdomen, femur, chest, skull

INTERNAL HAEMORRHAGE

RECOGNITION

- **History of the incident**
- **Pain** and **swelling**
- **Shock**
- Possible **Revealed** blood loss

Management

1. **DRABCD**
2. **R**est and **R**eassurance
3. **Elevate** the legs
4. **Treat** for shock
5. ☎ Ambulance ‘000’
6. **Secondary survey**
7. **Loosen** any tight clothing

SHOCK

"Shock is caused by the lack of effective circulating blood volume reducing the body's ability to supply its cells adequately with oxygen"

Signs & Symptoms:

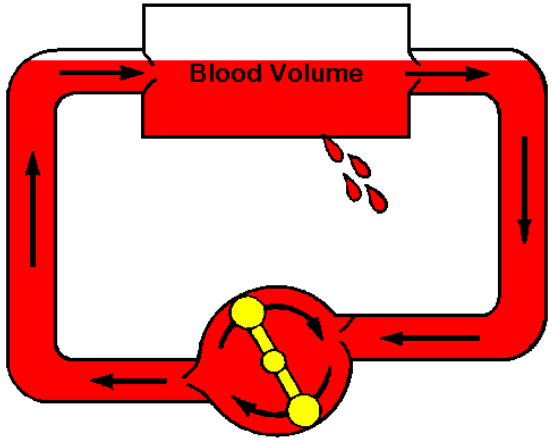
- Weak & rapid pulse
- Rapid shallow breathing
- Anxious or restless
- Pale cold clammy skin
- Nausea & vomiting
- Thirsty
- Confusion or unconsciousness

Causes:

- Severe bleeding
- Severe burns
- Severe vomiting (fluid loss)
- Severe diarrhoea (fluid loss)
- Emotional stress
- Major Injury, trauma or illness

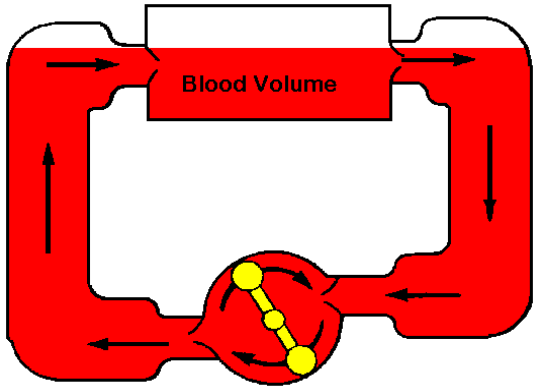
Fluid Is Lost

1.Bleeding
2.Vomiting & Diarrhoea
3.Burns
4.Excessive Sweating



Tubing Expands

[Dilatation of Blood Vessels]
1.Over Heating
2.Spinal Injury
3.Faint
4.Infection
5.Anaphylaxis



SHOCK

Management

Conscious Person:

1. **DRABCD**
2. **Manage** cause – i.e. control bleeding?
3. **Lay** the patient down
4. **Elevate legs**
5. **Reassure** the patient
6. **Maintain** body warmth (Blanket)
7. **DO NOT** give any food or drink
8. ☎ Ambulance '000'

Remember

Continually Monitor A.B.

If Unconscious:

1. **DRABCD** (Stable Side Position)

RESPIRATORY EMERGENCIES

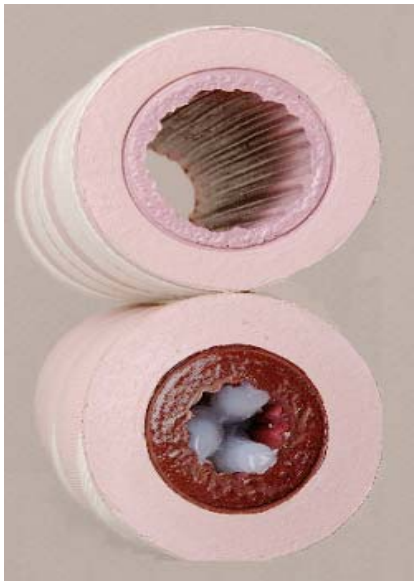
Asthma – Hypersensitivity of the Airways

Foreign Airway Obstruction

Near Drowning - is the aspiration of water into the lungs

ASTHMA

"Caused by acute narrowing and spasm of small air-sacs, further complicated by swelling and build up of mucus in airways."



Top left: Normal healthy airways

Bottom left: Airway with muscle spasm and mucus

Some Triggers:

- Colds
- Dust mites
- Animal hair
- Pollens
- Food additives
- Smoking

Pollen

Dust mites

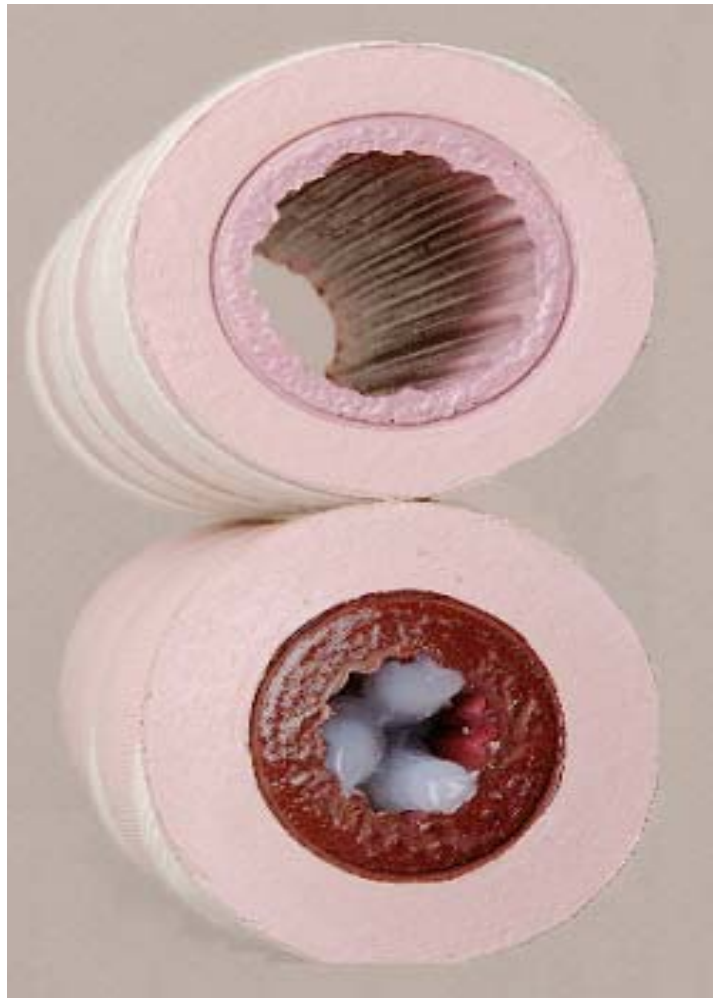
Mold

Pet dander

ASTHMA

Asthma Medication

1. **Relievers** (immediate)
   - Ventolin
   - Bricanyl
2. **Preventers** (long term)
   - Inhalers (Pulmicort)
   - Tablets (Singulair)
   - Rescue tablets or Syrup (Prednisolone)
   - Combination medication (Seretide)
3. **Symptom Controllers**
   - (long acting relievers)
   - Inhalers (Serevent)



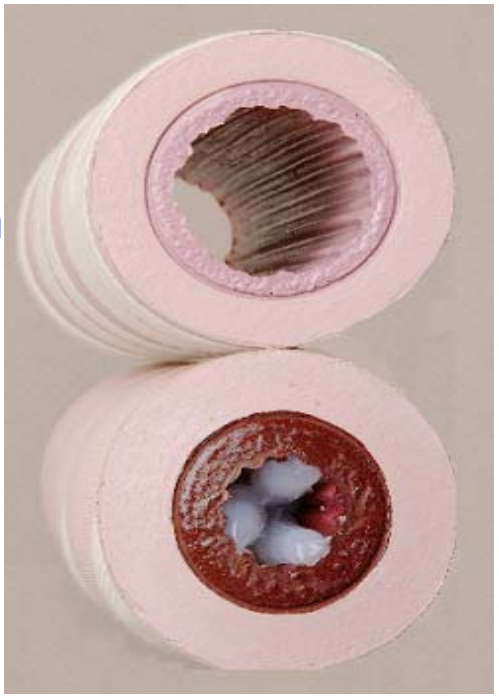
ASTHMA

Signs & Symptoms

- Wheezing
- Tightness in the chest
- Shortness of Breath
- Coughing
- Previous History
- Rapid Pulse

Severe S & S

- **Gasping for breath**
- **Inability to speak more than 1 or 2 words per breath**
- **Pale & Sweaty**
- **Feeling distressed**
- **Blue colouring around lips**



REMEMBER: Asthma S & S vary between people. Some may have all the S & S, while others may only exhibit a wheeze or cough

ASTHMA

Management

Step 1. DRABCD

Step 2. Sit the person upright, and give reassurance

Step 3. Without delay assist the patient to give 4 separate puffs of a reliever (Airomir, Ventolin, Bricanyl, Epaq or Asmol)

Step 4. Wait 4 minutes

Step 5. If there is little or no improvement, repeat Steps 3 & 4

Step 6. If still no improvement: ☎ Ambulance "000" and repeat step 5.

FOREIGN BODY AIRWAY OBSTRUCTION

Assess Severity

Ineffective Cough

Severe airway obstruction

Unconscious

Call ambulance (000)

Commence CPR

Conscious

Call ambulance (000)

Give up to 5 back blows

If not effective

Give up to 5 chest thrusts

Effective Cough

Mild airway obstruction

Encourage coughing

Continue to check casualty until recovery or deterioration

Call ambulance (000)

NEAR DROWNING

Near Drowning is the aspiration of water into the lungs which induces laryngospasm sealing off the airways causing asphyxia and loss of consciousness.

Signs & Symptoms:

- Shortness of Breath
- Unconsciousness
- Coughing
- Cyanosis
- Frothy sputum

NEAR DROWNING

Management

Conscious patient:

1. **Danger** – do not enter the water unless it is safe to do so

   You increase your chances of risk, the closer you get to the drowning person
2. Reach out or throw something that floats i.e. long stick, broom, rake
3. Calm and reassure the person
4. Ask the person to hold the object and kick
5. Pull or drag the person to safety
6. Follow A,B, protocols – if required
7. Seek medical attention

Unconscious patient:

1. **DRABCD**
2. Remove patient from water
3. Place patient in Side Stable position to check **A. B.**
4. THINK ???? SPINAL
5. Treat for hypothermia if evident
6. **URGENT** Ambulance '000'

Note: Vomiting is common following a near drowning episode

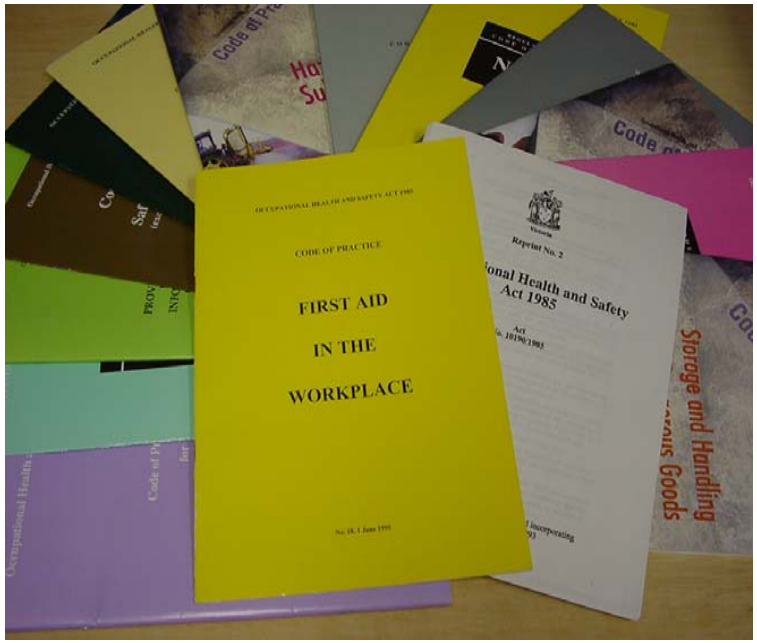
Hospital monitoring for 24 – 48 hrs is essential

OCCUPATIONAL HEALTH & SAFETY ACT 2004

Objectives of the Act:

- To secure health, safety and welfare within the workplace.
- To protect people at work against risks to health or safety
- To assist in securing safe and healthy work environments
- To eliminate, at the source, risks to health, safety and welfare within the workplace.
- Provide employers, employees and associations in the foundation and implementation of health and safety standards.

"First aid in the workplace is defined as the provision of emergency treatment and *Life Support* for people suffering injury or illness at work" (Code of Practice 1995)



CODE OF PRACTICE 1995
First Aid in the Workplace

"The Code of Practice is a set of Practical Guidelines"

Employers need to consider:

Size and Layout of workplace

The number and distribution of employees including arrangement of hours

Nature of hazards and the severity of risk

Location of workplace

Known occurrences of accidents or illnesses

LEGAL CONSIDERATIONS

Consent:

In an emergency where a person is unconscious or unable to communicate consent to treat, the law will imply consent via the legal doctrine of necessity.

Duty of Care:

Australian law **does not impose** duty on any person to render assistance unless that person **decides to provide** first aid to a person **in need** of medical assistance. Then it is **expected** that the duty of care will be to a standard expected of a **reasonable person** in your position.

Once assistance has been provided:

It is not reasonable to leave the person unless:

- Appropriate alternative assistance arrives. Eg. Paramedic, Nurse, Doctor
- You must leave to secure your own or someone else's welfare and personal safety. Eg. Fire, gas leak, exhaustion
- Instructed to leave by a member of the police or emergency service personnel assuming control of the scene

LEGAL CONSIDERATIONS

Negligence:

Negligence would be established if:

- The first aider **owed** a duty of care
- The standard of care was **breached**
- **Damage** was sustained
- There was some **cause-and-effect relationship** between the breach and injuries sustained

ALL must be proven to establish Negligence

Common Law protection of Rescuers:

Common law provides some protection to the first aider if they are injured whilst providing medical assistance and it is found that another person has negligently caused the situation of danger or injury

RECORDING & REPORTING

- **Write in ink only**
- **Sign & date** any alterations,the signature of the first aider is mandatory
- **Do not** use correction fluid - an entry may be crossed out & signed if incorrect, but the alteration must be legible
- Keep the contents strictly **confidential**
- All accident records must be kept for a minimum of **seven (7) years**

FIRST AID KITS

- The container should be easily recognised – **white cross on green background**
- The container should **not be locked**

- The container should be of **an appropriate size** to hold its contents
- Appropriate first aid contents **will vary** from one workplace to another
- **Specific additional** modules should be included where there is a greater risk of injury

EYE MODULES where risk to eyes from chemicals, liquids, flying particles and/ or protective eyewear is worn

BURN MODULE where there is a risk of sustaining a burn injury from heat, flammable liquid, acids, chemicals or other corrosives

ALTERED CONSCIOUS STATES

1. **Stroke** – CVA or TIA
2. **Diabetes**
   Hypo/ Hyperglycaemia
3. **Seizure**
4. **Fainting**

STROKE

Cerebral Vascular Accident - CVA

Is a process, by which either a clot or bleeding reduce the oxygen supply to the brain, affecting its function

Signs & Symptoms:

- Difficulty speaking
- Weakness/paralysis on one or both sides of body
- Drooping & dribbling mouth
- Confused
- Incontinent
- Unequal pupils
- Possible unconsciousness

Management

1. **DRABCD**
2. **Semi-Sit** the patient & loosen clothing
3. Rest and strong **reassurance**
4. ☎ **URGENT** Ambulance '000'

DIABETES - imbalance in insulin production

LOW BLOOD SUGAR

(Hypoglycaemia)

Cause:

Too much insulin
Too little food or missed meal
Exercise

Signs & Symptoms:

- Rapid onset, usually in good health before event occurs
- Cold, pale, clammy skin
- Strong bounding pulse
- Normal or shallow respirations
- Person becomes weak, light headed and confused – may appear aggressive or drunk
- Rapid loss of conscious level with tremors or convulsions

HIGH BLOOD SUGAR

(Hyperglycaemia)

Cause:

Too little insulin
Eat too many carbohydrates
Infection or digestive disturbance

Signs & Symptoms:

- Slow onset, ill health for several days
- Flushed, dry and hot skin
- Weak rapid pulse
- Lethargic and slow on response
- Gradual reduction in conscious state

DIABETES

Management

LOW BLOOD SUGAR

(Hypoglycaemia

1. **DRABCD**
2. **If conscious:**
   give “sugar” drink, lolly, honey, fruit or sandwich
3. ☎ **URGENT**
   Ambulance ‘000’

HIGH BLOOD SUGAR

(Hyperglycaemia)

1. Monitor the patient’s A.B.
2. ☎ Ambulance ‘000’

SEIZURE

"Sudden uncontrollable episodes of electrochemical activity in the brain causing seizures".

Some Triggers:

Stress
Lack of sleep
Flicking light
Caffeine
Infection & Illness

Signs & Symptoms:

- Person falling to ground
- Jerking & Twitching
- Frothing at the mouth
- Cry of air as person falls

Management

1. **DRABCD**
2. **DO NOT restrain** patient or put anything in mouth
3. Once seizure ended put in **Side Stable position**
4. Check & Monitor A.B.

Ambulance '000' If:

It's the patient's first seizure

The patient has multiple seizures

The patient is diabetic

Seizure lasts longer than 5 mins

FAINTING – sudden brief loss of consciousness

Signs & Symptoms:

- Dizziness
- Blurred vision
- Headache
- Confusion
- Light-headedness
- Pale clammy skin
- Nausea
- Short period of Unconsciousness

Management

1. **DRABCD**
2. **Lay** the patient down
3. **Elevate** legs (50 cm)
4. ☎ Ambulance '000'
5. **Assess** the patient for any injuries

CARDIAC EMERGENCIES

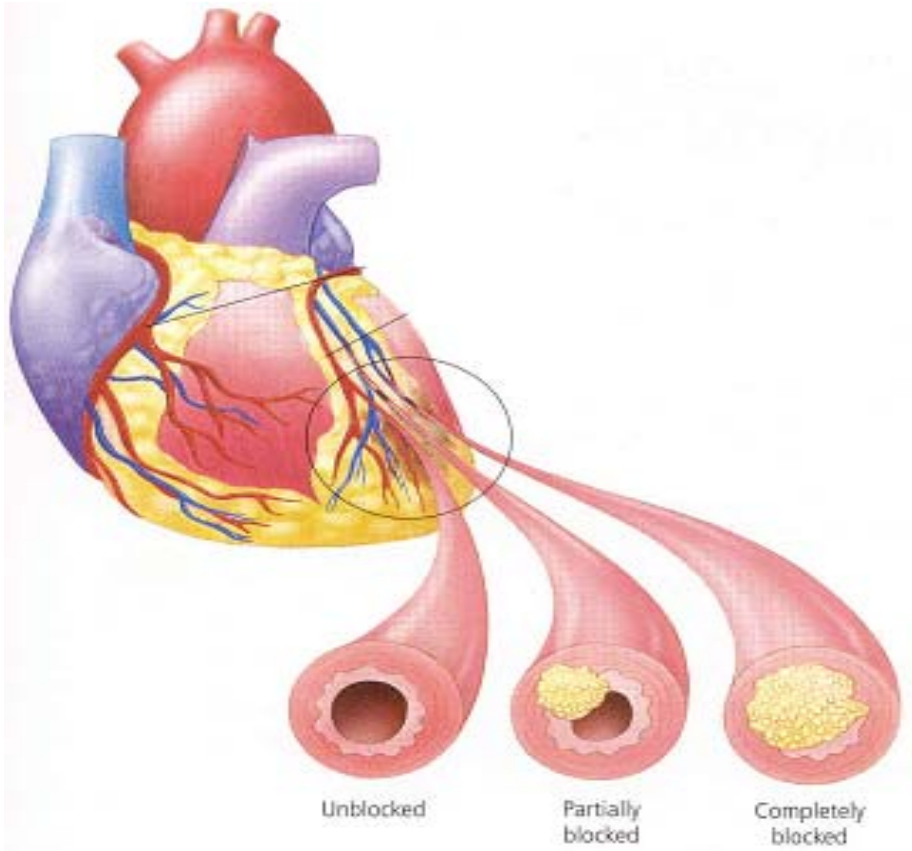
Angina

"An inadequate blood flow to a portion of the heart muscle during exertion resulting in chest pain. There is no heart muscle damage associated".

Heart Attack

(Acute Myocardial Infarction – AMI)

"Total blockage in artery resulting in heart muscle death and subsequent scar tissue formation".



CARDIAC EMERGENCIES

Signs & Symptoms

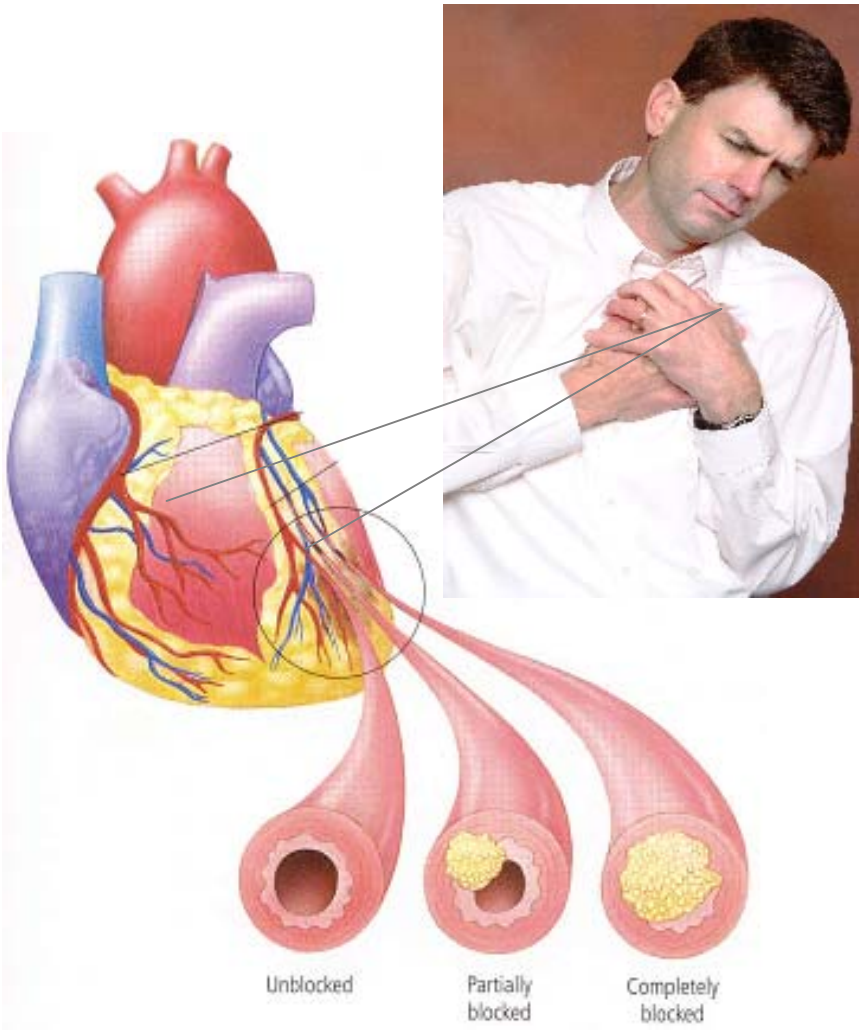
	ANGINA	HEART ATTACK
Type of pain	May be heavy or dull pain, with tightness around lower chest	Dull, tight crushing, or heavy pain. Pain radiates to neck, jaw, shoulders and arms
Duration of pain	Minutes only	More than half an hour
What brings it on?	Usually exertion or excitement & sudden exposure to extreme cold	May come on anytime, but may be precipitated by exertion and excitement.
Sweating, Nausea or Vomiting	Usual	Usual
Breathlessness	Common	Common
Appearance of casualty	Distressed looks unwell	Often very ill and 'grey'

CARDIAC EMERGENCIES

(Angina & Heart Attack / AMI)

Management

1. **DRABCD**
2. ☎ **URGENT** Ambulance‘000’
3. Get patient **comfortable**
4. Assist patient to **self administer medications** (eg. Anginine, GTN Spray)
5. Prepare to resuscitate



ASSESSMENT TECHNIQUES

- **DRABCD** – primary survey
- **BLEEDING** – significant haemorrhage control
- **VITAL SIGNS SURVEY**
  - Conscious State
  - Heart Rate
  - Breathing Rate
  - Skin
- **SECONDARY SURVEY** – head to toe examination
- **DOLOR** – description, onset, location, other S & S, relief
- **PATTERN OF INJURY** – significant trauma to body areas
- **MECHANISM OF INJURY** – history of forces involved

ASSESSMENT TECHNIQUES

Secondary Survey - Head to Toe Examination

Start at the head and check for bleeding, wounds, fractures, etc.

METHOD

1. Check head, face & neck
2. Check torso, ribs, sternum & spine
3. Check pelvis, hips, thigh, lower leg, feet & toes
4. Check arms, elbow, wrist & hands

Continually monitor AB

ASSESSMENT TECHNIQUES

Vital Sign Survey:

Pulse:	
RATE	60 - 100
RHYTHM	Regular
STRENGTH	Strong

Respirations:	
RATE	12 - 16
DEPTH	Normal
EFFORT	Normal

Skin:	
COLOUR	Pink
TEMPERATURE	Warm
TEXTURE	Dry

Conscious State:

FULLY CONSCIOUS

CONFUSED (Semi Conscious)

UNCONSCIOUS

VITAL SIGNS

PULSE

Carotid pulse check - sitting

Rate-

Normal resting rates

- Adult - 60 to 100 per minute
- Child - 80 to 120 per minute
- Infant - 100 to 160 per minute

Strength - Is the pulse strong or weak ?

Rhythm - Is the pulse regular or irregular ?

Carotid pulse check - on side

BE AWARE that the Carotid pulse may be difficult to find in Hypothermic incidents

ASSESSMENT TECHNIQUES

Assessment Principles:

D **ESCRIPTION** - What happened? Where does it hurt?

O **NSET** - When did it start?

L **OCATION** - Where is the pain?

O **THER** - Signs & Symptoms

R **ELIEF** - Has anything relieved the pain?

(eg. Medication, position, etc.)

ASSESSMENT TECHNIQUES

Mechanism of Injury

This is an assessment of what forces were involved in the accident/injury.

E.g. explosions, roll over in an MCA, pedestrian hit by a car, falling greater than 3 m

Pattern of Injury

This is an assessment of the trauma sustained by the body's regions.

E.g. Stab or gunshot wound, spinal injury, fractured limbs, burns >20%, chest pain, CVA (Stroke).

BURNS

Assessment of a Burn:

Partial Thickness (Superficial)

- Area is red
- Shallow & medium thickness
- May be blistered and skin peeling
- Painful due to nerve stimulation

Full Thickness (Deep)

- White, waxy / charred appearance
- Moist ooze
- Pain free due to burnt nerve ends

THINK:

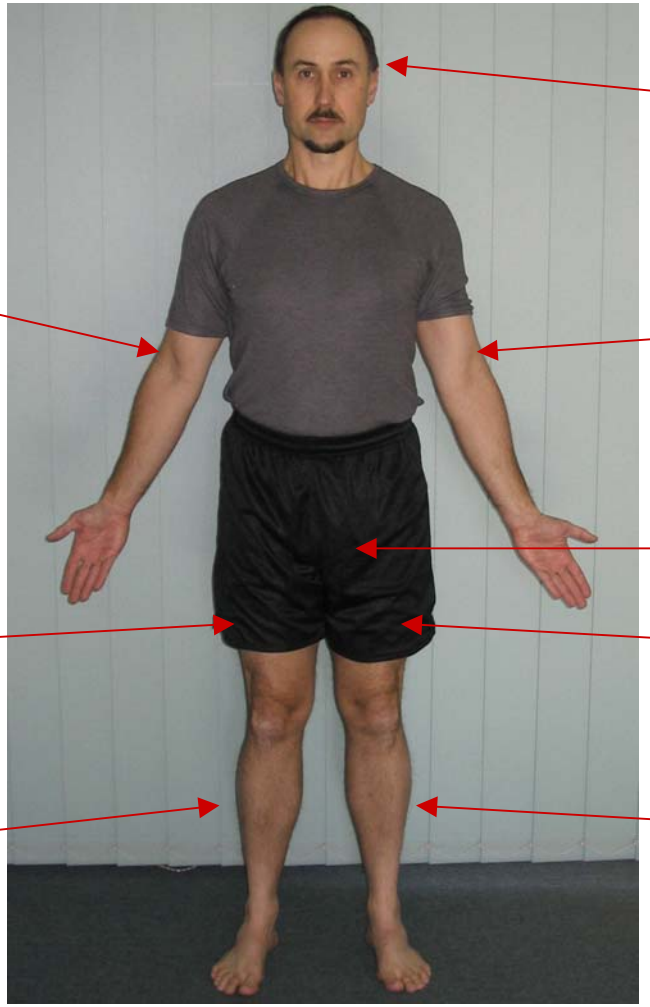
SHOCK

BURNS

Casualty's hand = approx. 1% of their body

The Palm

Rule of 9's



Upper back 9% **Lower back 9%**

BURNS – Thermal & Radiation

Management

1. **DRABCD**
2. **Cool** burn with running water (up to **20 mins**)
3. **Remove** burnt clothing, jewellery (**DO NOT** remove clothing adhered to the skin)
4. **Cover** with sterile dressing (Non-Adherent)

DO NOT

- Break blisters
- Remove stuck items
- Apply ointments or oily dressings
- Put ice on a burn

SEEK MEDICAL AID IF:

-All full thickness (deep) burns

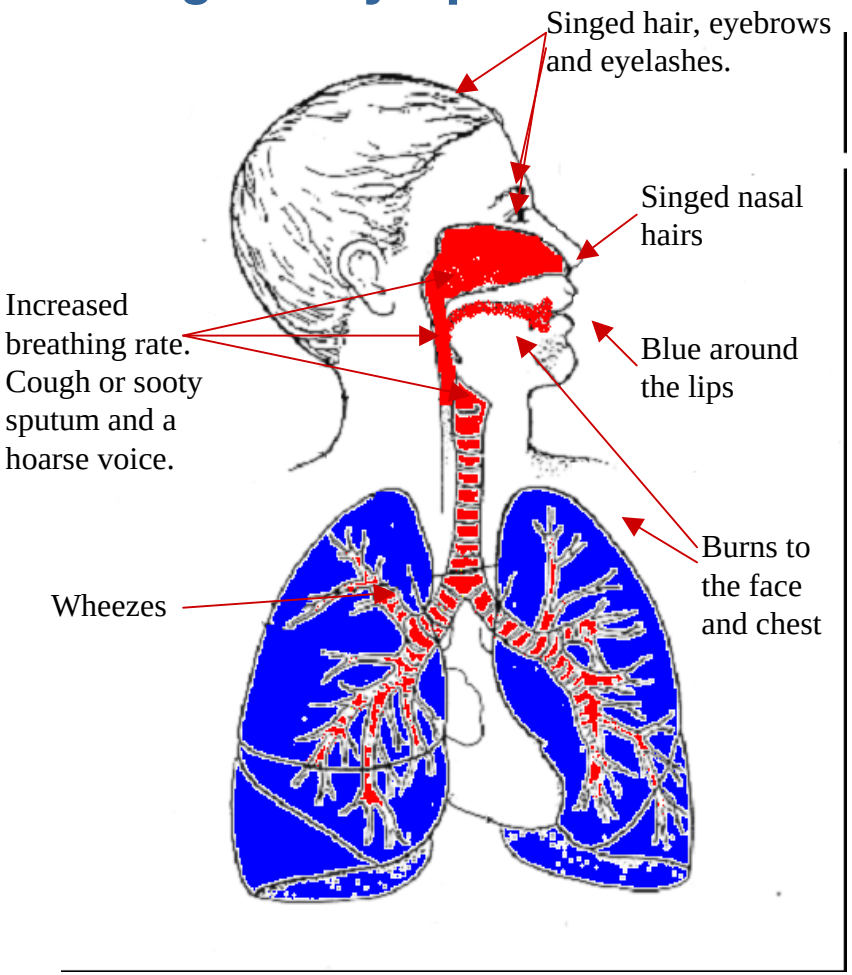
-Any burn > 50 cent piece

-All burns to face, hands, airways or genitals

-If patient is going into shock

INHALATION BURNS

Signs & Symptoms:



Burns to the mouth or throat can be caused by a variety of factors.

- Inhalation of fumes from
  1. Burning Plastics
  2. Chemicals
  3. Wood
- An actual burn to the face or the front of the upper chest/trunk
- Swallowing of hot fluids
- Inhaling hot air
- Inhalation burns will cause breathing difficulties due to the delicate nature of the tissues within the air passages

INHALATION BURNS

Management

Conscious

1. Reassure the person
2. Remove any constrictions from around the neck or chest
   i.e. clothing, jewellery
3. Place cold compress around throat
4. **Oxygen therapy** (If available)
5. ☎ Urgent Ambulance ‘000’

Unconscious

1. Stable side position
2. Maintain clear airway as per primary survey
3. ☎ Urgent Ambulance ‘000’

ELECTRICAL BURNS

Electrical burns can cause extensive internal damage as the electricity takes the shortest route to the earth through the body

Management

Unconscious

1. Control the **Dangers** first
2. Look for entry & exit points
3. Cool & cover the burnt area
4. Side Stable position
5. Maintain a clear airway
6. Be prepared for C.P.R.
7. Urgent Ambulance '000'

Conscious

1. Control the **Dangers** first
2. Look for entry & exit points
3. Cool the burnt area
4. Cover the burnt area
5. Urgent Ambulance '000'

CHEMICAL BURNS

Management

1. **Check** for and control **Dangers**
2. **Immediately** irrigate the area with cold running water – min 30 minutes
3. **Remove** any contaminated clothing & **check skin folds**
4. Remove any **constricting objects**
5. **Cover** with a sterile or clean dressing
6. **Elevate** burnt limbs
7. **Do not break** blisters

1. **Do not** apply ointments/oils
2. ☎ **Urgent** Ambulance '000'
3. **Attempt to identify** the Chemical

Chemical burn of the tongue

HEAD INJURIES

Head injuries involve damage to the brain or the structures of the skull surrounding the brain.

Signs & Symptoms

- History of incident
- Headache / Dizziness
- Loss of memory
- Nausea / Vomiting
- Drowsy / Irritable
- Slurred speech
- Unequal pupils
- Dark around eyes
- Blurred vision
- Blood / Clear fluid from nose, ears or mouth

- Loss of power or coordination in limbs
- Unconsciousness or seizures

HEAD INJURIES

Management

DRABCD

If Conscious:

1. **Calm** the person down
2. **Semi-seated** position
3. Manage injuries
   (ie. bleeding)

If Unconscious:

1. Stable Side Position
2. ☎ URGENT
   Ambulance '000'

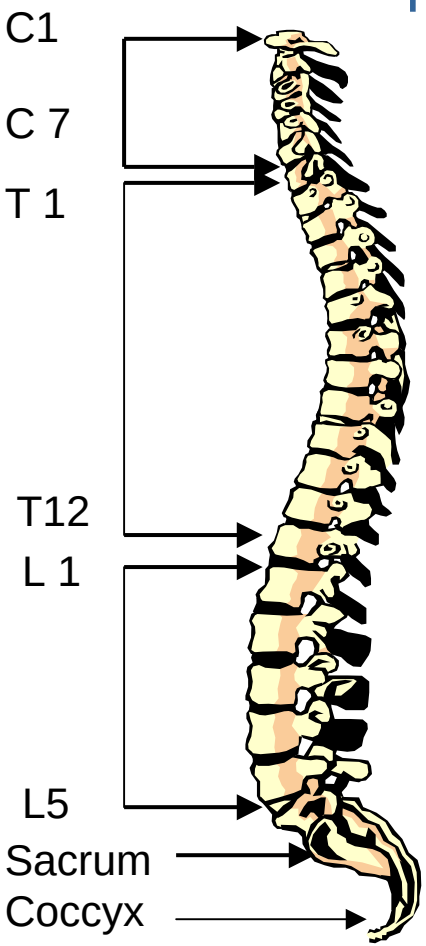
No food or drink

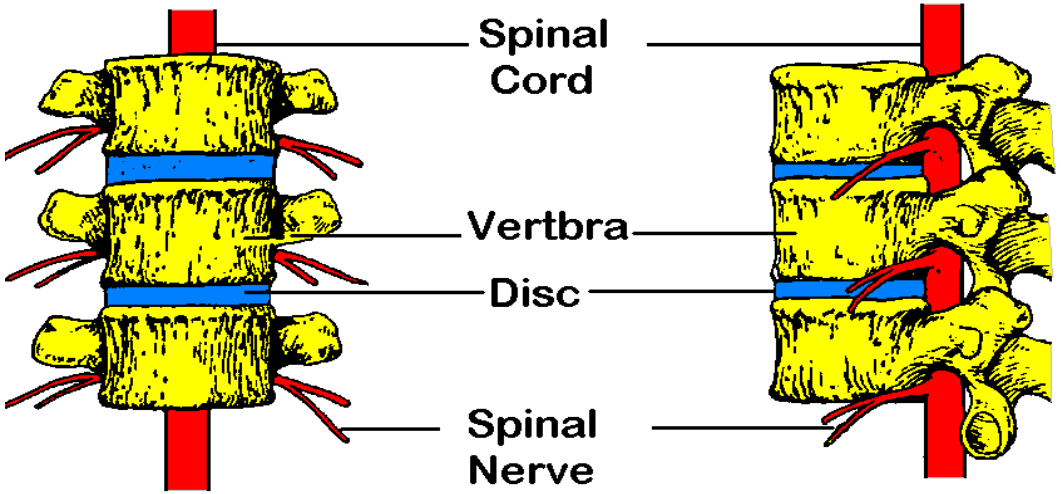
THINK: ???? Spinal Injuries

☎ URGENT Ambulance '000'

NECK & SPINAL INJURIES

"The best indicator of a possible spinal injury is the history (mechanism) of the incident"





THINK:

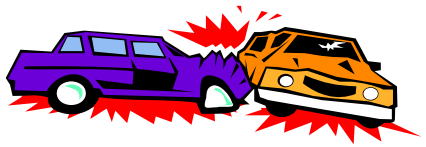
SPINAL

INJURIES

NECK & SPINAL INJURIES

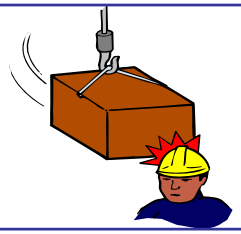
Causes:

Motor Vehicle Accident

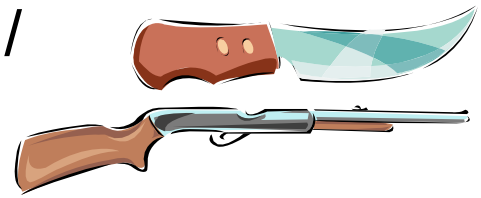


Falls/ Diving

Falling Weights



Gunshot/ Stab



Signs & Symptoms:

- History
- Impairment or loss of movement below injury site
- Pain at or below site
- Slow pulse
- Tenderness at injury site
- Numbness/ Tingling in hands or feet

NECK & SPINAL INJURIES

Maintaining a clear and open airway takes priority over any other injury

Management

1. **DRABCD**
2. **DO NOT MOVE** the patient
3. **Reassure** the patient
4. **Support** head & neck (improvised cervical collar)
5. ☎ **URGENT** Ambulance '000'

If patient is Unconscious:

DRABCD

Stable side position supporting head & neck in neutral alignment

FACIAL INJURIES

Bleeding from the Nose

Foreign Body in the Eye

Bleeding / Fluid from the Ear

NOSE BLEED

Management

1. **DRABCD**
2. **Lean the patient forward** and advise them to try not to swallow any blood
3. **Pinch the nostrils** with thumb and fore finger
4. Keep the **nose pinched** for at **least 10 minutes**
5. **Treat** for and check for any **other injuries**

Seek medical aid if:

- The patient becomes unconscious
- Blood thinning medication is taken i.e. aspirin, warfarin
- Bleeding cannot be stopped within 30 minutes or recurs for no apparent reason
- Embedded object in nose

CAUTION

Do not stick anything up the nose, blow, pick or rub the nose after bleeding has ceased

EYE INJURIES

The eye is well protected by the bony orbits of the skull. However, the eye can be easily damaged by **direct trauma** and is also susceptible to **infection**. If the fluid is lost from its chambers the sight will be lost

TYPES OF INJURIES

- Foreign objects
- Heat
- Chemical
- Penetrating objects
- Blunt trauma

Bleeding around eyes & forehead due to facial mask squeeze when scuba diving

EYE INJURIES

Penetrating Injury

Management

1. Do not attempt to remove the object
2. Lay the patient down with the head slightly raised
3. Pad around the object, no pressure over the object
4. ☎ Ambulance '000'

Foreign Bodies

Management

1. Do not allow the patient to rub the eye
2. Sit the patient down
3. Irrigate the eye with saline or water
4. If this fails and the object is over the white of the eye. It may be lifted off with a moist cotton bud

   Do not attempt this if the object is over the iris or pupil

EYE INJURIES

HEAT OR BURNS INJURY

Management

1. **Reassure** the patient
2. **Flush with** saline or running water
3. Patient to **close their eyes**
4. **Pad both eyes** with cool moist pads
5. ☎ **Urgent** Ambulance ‘000’

Flash burn to the cornea

EAR INJURIES

Usually caused by trauma to the head, barotrauma, insects, or foreign bodies in the ear

Bleeding or a clear discharge from the ear could indicate a ruptured ear drum or the more serious injury of a fractured base of skull

Management

1. Sit or lay the patient down towards injured side
2. Do not plug the ear
3. ☎ Ambulance '000'

In remote areas, an insect in the ear may be floated out with a small amount of warm water

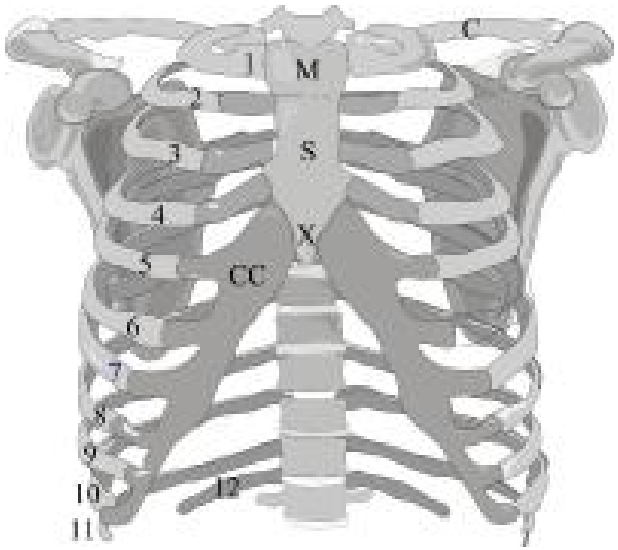
CHEST INJURIES

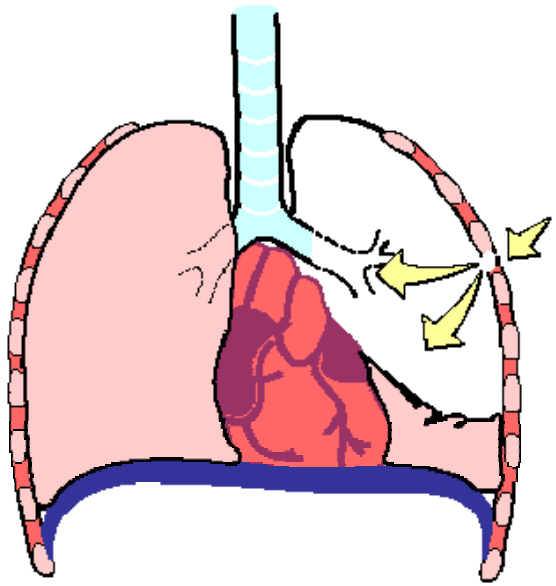
Open: Penetrating i.e. stabbing or gunshot

Closed: Pneumothorax – collapsed lung

Fractured ribs

Flail segment





CHEST INJURIES

Management

CLOSED

(Fractured ribs / Flail Chest /Pneumothorax)

1. **DRABCD**
2. **Semi-sit** the person
3. **Lean** towards **injured side**
4. Encourage person to shallow breath
5.  Ambulance ‘000’

OPEN

(Penetrating)

1. **DRABCD**
2. Get the person comfortable (generally **semi-sitting**)
3. **Cover wound** initially using person’s hand
4. Cover wound with **plastic** bag, or similar
5. **Tape 3 sides** to make 1 way valve (Not bottom)
6.  **URGENT** Ambulance ‘000’

ABDOMINAL PAIN

Management

1. **DRABCD**
2. **Lay** the patient on their back
3. **Raise head** and **bend knees**
4. **Loosen** tight clothing
5. **Cover** protruding organs with foil, food wrap or large non stick dressing soaked in saline or water.
6. ☎ **URGENT** Ambulance ‘000’

PELVIC INJURY

Management

1. **DRABCD**
2. **Lay** the patient down, support head with pillows or folded blanket
3. **Keep Legs Straight**
4. Try to **Calm** the patient
5. ☎ Ambulance ‘000’

Abdominal pain management

LIMB INJURIES

1. **Fractures** – Direct force

   Indirect force

   Pathological force

2. **Dislocation** – the displacement of bones at a joint

3. Strain
4. Sprain

FRACTURES/ DISLOCATION

Signs & Symptoms

P AIN

I RREGULARITY

L OSS OF MOVEMENT

S WELLING

D EFORMITY

U NNATURAL MOVEMENT

C REPITUS

T ENDERNESS

Types of fractures

Open Fracture

Closed Fracture
or
Complicated Fracture?

FRACTURES/ DISLOCATION

Management

Medical Aid
Within 30 minutes

1. **DRABCD**
2. **Support** injured part in most **comfortable** position
3. ☎ Ambulance ‘000’

Medical Aid
Greater Than 30 minutes

1. **DRABCD**
2. **Splint** injured limb
3. **Immobilise** joint above and below fracture
4. ☎ Ambulance ‘000’

If Unconscious: – A, B. protocols take priority

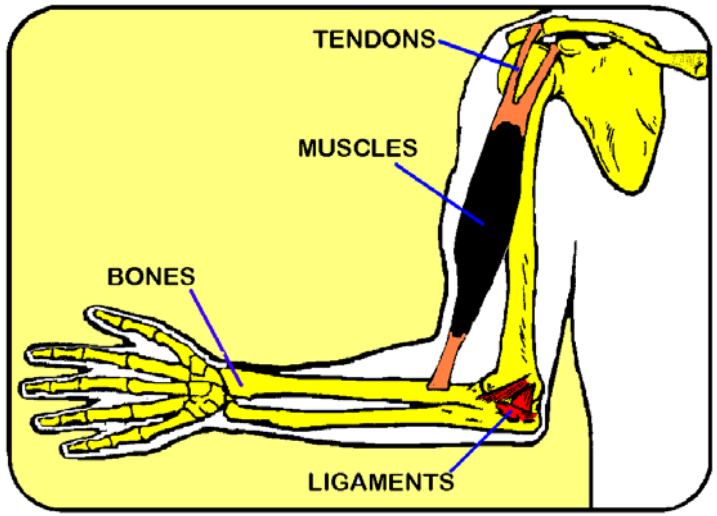
SOFT TISSUE INJURIES

What is soft Tissue?

Sprains - Involve ligaments surrounding a joint

i.e. a person sprains their ankle

Strains - Involve muscles and tendons



SOFT TISSUE INJURIES

Management

REST - Injured part

I CE - Apply ice for a maximum of 20 minutes

COMPRESSION - Apply compression bandage to limb

E LEVATION - Elevate injured part

REFERRAL - Refer to Medical Aid

POISONS

INGESTED

INHALED

POISONS MAY ENTER THE BODY

INJECTED

ABSORBED

POISONS

Signs & Symptoms

- Nausea & Vomiting
- Abdominal pain/ diarrhoea
- Headaches, drowsiness, giddiness
- Altered Conscious State – confusion, disorientation
- Blurred Vision
- Respiratory depression, Shortness of Breath
- Blue in colour around the lips
- Breath odour
- Puncture/ Bite marks, local swelling
- Collapse, Unconsciousness, Death

POISONS

Management

1. **DR ABC**
2. **Ambulance '000'**
3. **Ascertain**
   - Who makes it
   - How it was taken by casualty
   - Name of product
   - Patient's age, sex, approx weight
   - Approximate amount taken
   - Time taken
   - Signs & Symptoms
   - If patient is on any medication
4. **Phone the Poison information centre and follow instructions given by them.**

13 11 26

Beware of **DANGERS** to yourself

BITES & STINGS

Potentially Lethal	Not Lethal Unless allergic or multiple bites	Stinging Fish
•Snake •Funnel Web Spider •Blue Ringed Octopus •Box Jellyfish [1] •Cone Fish/ Shell	•Red Backed Spider •Blue Bottle Jellyfish [2] •Bee [3] •Wasp •White Tail Spider	•Sting Ray •Stonefish •Catfish •Flat head •Gurnard
PRESSURE IMMOBILISATION	**ICE COMPRESSION**	**HOT WATER IMMERSION**

[1] BOX JELLYFISH: Douse Area With Vinegar. **Do Not** Applying Pressure Immobilisation

[2] BLUE BOTTLE: Remove tentacles using tweezers [3] BEE: Remove stinger by scraping it sideways

ALL ALLERGIC REACTIONS: PRESSURE IMMOBILIZATION

BITES & STINGS

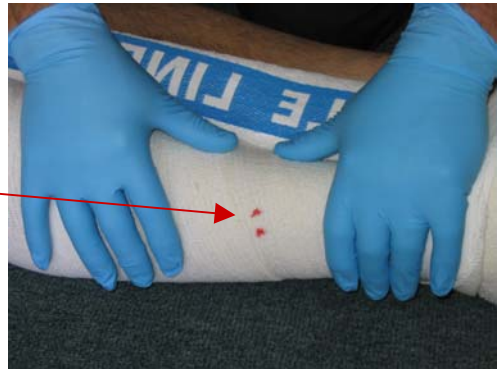
		
Snake Bite	**Funnel Web**	**Blue Ringed Octopus**
• Puncture Marks • Nausea Vomiting • Headache • Blurred Vision • Dizziness / Faintness • Breathing Difficulties • Problems Speaking • Pain/Tightness in Chest • Respiratory Weakness	• Profuse Sweating • Nausea • Vomiting • Abdominal Pain • Increased Saliva • Muscle Twitching • Breathing Difficulties • Confusion leading to unconsciousness	• Tingling sensation in lips & tongue • Difficulty speaking or seeing • Vomiting • Collapse • Paralysis leading to cessation of breathing
PRESSURE IMMOBILISATION	**PRESSURE IMMOBILISATION**	**PRESSURE IMMOBILISATION**

BITES & STINGS

Management

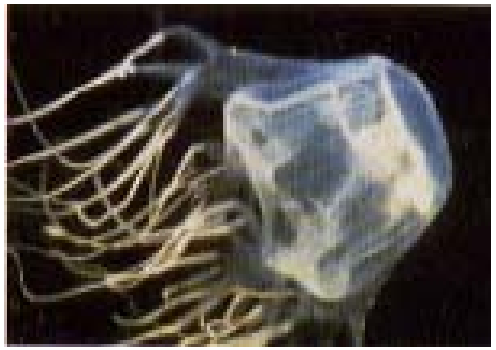
Pressure Immobilization:

1. **DRABCD**
2. **Lay** patient down
3. Apply a pad and **roller bandage**, **starting** directly over the bite site.
4. Now apply a roller bandage starting at the fingers or toes and winding as far up the limb as possible to the armpits or groin
5. **Immobilise** the limb - splint
6. ☎ Ambulance '000'
7. Do not elevate the limb



Mark on the outside of the bandage where the bite site is.

BITES & STINGS

		
Red Back Spider	**Box Jellyfish**	**Bee / Wasp**
• Puncture Marks • Nausea Vomiting • Profuse Sweating • Abdominal Pain • Intense local pain which increases and spreads • Small hair stand on end	• Tropical Waters Aust. • Severe Pain • Irrational Behaviour • Ladder Pattern Sting • Muscle Spasms • Respiratory Distress • Unconsciousness and respiratory arrest	**BEE:** • Pain inflammation and swelling at site • Possible presence of stinger **WASP:** • Extreme Pain • Swelling at site • Multiple stings
ICE (Up to 20 mins) **COMPRESSION**	**VINEGAR, REST, AMBULANCE**	**ICE (Up to 20 mins)** **COMPRESSION**

BITES & STINGS

Management

Ice / Compression Method:

1. **DRABCD**
2. **Lay** patient down, **DO NOT** move them
3. Apply **ICE** for up to 20 minutes. (**Never apply ice directly to the skin**).
4. Apply **compression bandage** to bite site
5. ☎ Ambulance '000'

ALLERGIC REACTION

(Anaphylaxis)

Signs & Symptoms:

- Pale cold & clammy skin
- Rapid weak pulse
- Throat swelling
- Difficulty breathing
- Wheezing / gasping for air
- Chest tightness
- Nausea & vomiting
- Anxious & restlessness
- Itchy red rashes
- Dizziness

Management

1. **DRABCD**
2. ☎ **URGENT** Ambulance '000'
3. **If conscious:**
   - make person **comfortable**
   - Assist **self administration** of any **prescribed** medication.
   - Loosen **tight** clothing
4. **If unconscious**:
   - **DRABCD**
   - prepare to resuscitate

OVEREXPOSURE INJURIES

Hyperthermia / Hypothermia

HYPERTHERMIA

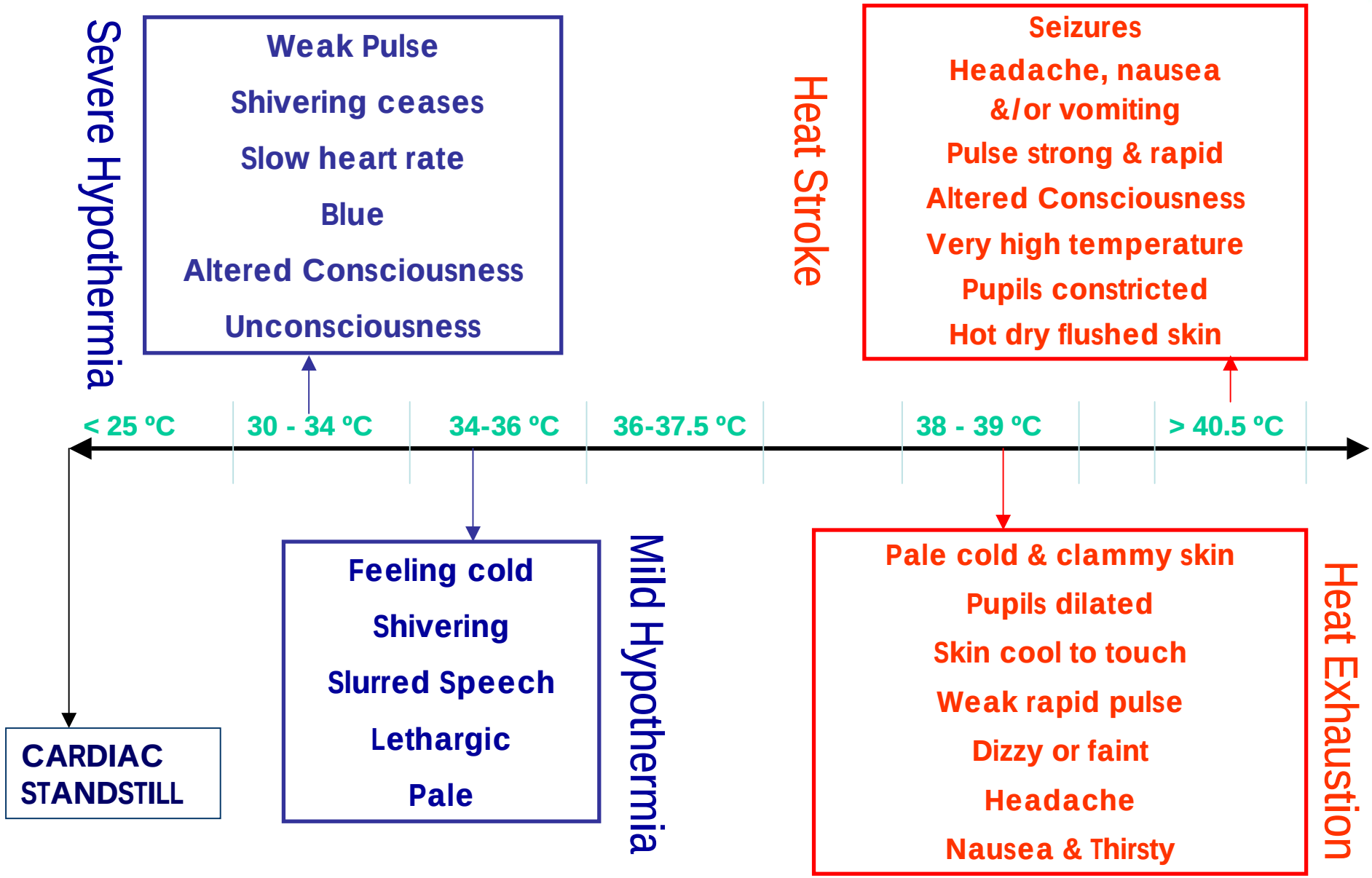
Heat cramps - Cramps occur in the muscles of the arms, legs or abdomen. These may occur after heavy exertion

Heat syncope - The increased blood flow to the skin and pooling of blood in the legs - in response to heat - leads to a sudden drop in blood pressure

Heat exhaustion - When the core body temperature rises to 38C to 39C. This is a **serious condition**, which occurs when excessive sweating in a hot environment reduces the blood volume

Heat stroke - this is a **medical emergency**, where the core body temperature exceeds 40.5C

HYPOTHERMIA - occurs when the core body temperature falls below 35C



HYPOTHERMIA

Mild / Severe

CAUSES:

Conduction - direct contact of body to object

Convection - air passing over body (wet)

Evaporation – sweating

Radiation – body heat lost to the environment

Respiration - breathing out warm moist air

High Mortality Rate in:

- the young
- unfit and unprepared
- thin people
- illness or injury

Predisposing factors

- Prolonged exposure to cold, wind & water
- Inadequate clothing
- Inadequate food/ fluid intake
- Wet clothing
- Exhaustion/Being frightened

HYPOTHERMIA

SIGNS OF EXPOSURE

- Feeling cold
- Shivering
- Loss of concentration
- Loss of coordination
- Confusion
- Drowsiness, Lethargy
- Falling/stumbling
- Fainting
- Unusual or irrational behavior
- Speaking difficulties
- Unconsciousness
- Death

Management

1. **DRABCD**
2. **Handle** the person gently, carry in the supine position if required
3. **STOP** all activity and create a shelter – make a fire
4. **DO NOT** remove wet clothing until in shelter
5. Warm the person **GRADUALLY**, do not rub the person to warm.
6. If conscious, warm sweet drinks and high carbohydrate food portions
7. **DO NOT** give alcohol
8. **If moderate to severe**, place in sleeping bag with another person
9.  **URGENT** Ambulance '000'

HYPERTHERMIA

Heat Cramps / Heat Syncope

Recognition:

- painful cramps to legs and or abdomen
- faintness, dizziness, marked weakness
- pale clammy skin

Management

1. **Move patient** to cool shaded position and lay down
2. **If severe** vomiting or diarrhea seek urgent medical assistance
3. **Stretch** cramping muscles
4. **Sponge** patient with cool water
5. **If conscious** - sips of water or sports drinks
6. **Seek medical** attention

HYPERTHERMIA

Heat Exhaustion

Heat Exhaustion

Recognition:

- Painful cramps to legs and or abdomen
- Faintness, dizziness, marked weakness
- Pale clammy skin
- Profuse sweating
- Headache
- Nausea, vomiting
- Rapid heart rate
- Low blood pressure

Management

1. **Move the person** to a cool shaded area, loosen tight or restrictive clothing
2. If **conscious,** give frequent sips of water or other mineral replenishing drinks
3. **Do not,** give salt tablets
4. If **unconscious**, recovery position and monitor the **A.B.**
5. ☎ **Urgent** Ambulance '000'
6. A person suffering **heat exhaustion** may also suffer **heat stroke**
7. To aid in diagnosis, accurately determine how the condition occurred **(History)**

HYPERTHERMIA

Heat Stroke

Heat Stroke: 25 – 50% mortality rate

Recognition:

- History of exposure to high temperature & humidity
- Hot flushed dry skin
- Headache
- Strong, bounding pulse
- May develop noisy breathing
- May become deeply unconscious

Heat Stroke – skin is hot

Heat Exhaustion - skin normal temperature

Management

1. **DRABCD**
2. **If conscious**, move the patient to the nearest shaded area
3. **Remove** all unnecessary clothing
4. **Lie the patient down** with their head & shoulders slightly raised to assist with heat loss from the head
5. **Sprinkle with cold water** & cover with a wet sheet if possible
6. **Fan the patient** with paper, fan.
7. **If unconscious**, place the patient in the side stable position & monitor **A.B.**
8. **Urgent** Ambulance '000'

Principles of safe lifting

- Have the correct amount of people for the lift
- Keep a straight back
- Bend your knees
- Lift using your legs, back & abdominal muscles
- Get as close to the casualty as possible
- Consider alternative transfer methods

  i.e. lifting aids, wheelchairs
- Know your limitations - share the load
- Communicate clearly & frequently

MOVING THE CASUALTY

A casualty requiring assistance to move to safety is one that has:

- Sustained a soft tissue injury or fracture and is unable to weight bear
- Chest pain or shortness of breath
- Weakness or is physically unable to move themselves i.e. stroke
- Moderate or severe pain

Casualties should only be moved if:

- They are in immediate danger
- It is safe for the first aider to move them

Ambulance
First Aid

THANK YOU