First Aid Course at the Workplace Module

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Date: 28th May 2025

Undergraduate Diploma in
Occupational Health and Safety

Emergency Nurse Instructor
Gesmond Micallef

Gesmond has over 37 years of experience, working in the Accident & Emergency Department of a major hospital and in pre hospital care. His background to date has been centered around delivering advanced emergency care. He was trained to work in such situations through real world experiences, involving travelling abroad for training, namely Australia, France, England and Scotland.
He was also a volunteer emergency nurse in major incidents namely in Libya, Mozambique, Tanzania, Egypt, Albania, Kosovo and Tunisia among other countries. Besides having gained experience by delivering hands on emergency care in various countries, he also has teaching experience on the related subject in Malta and around the globe. Through these hands-on experiences, he further gained many strengths that helped him pass on the knowledge, skills and attitudes, to provide safe and effective care in an emergency situation.
Gesmond is a qualified Charge Nurse and Emergency Nurse Instructor. He is licensed with EFR UK, European Resuscitation Council and the University of Malta and acts as an instructor and mentor for the Primary Health Care. He is also a member in the Resuscitation Committee of the Primary Health Care.

Gesmond Micallef

Qualified Emergency Nurse Instructor

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PLEASE
SILENCE
YOUR PHONE

Defibrillation

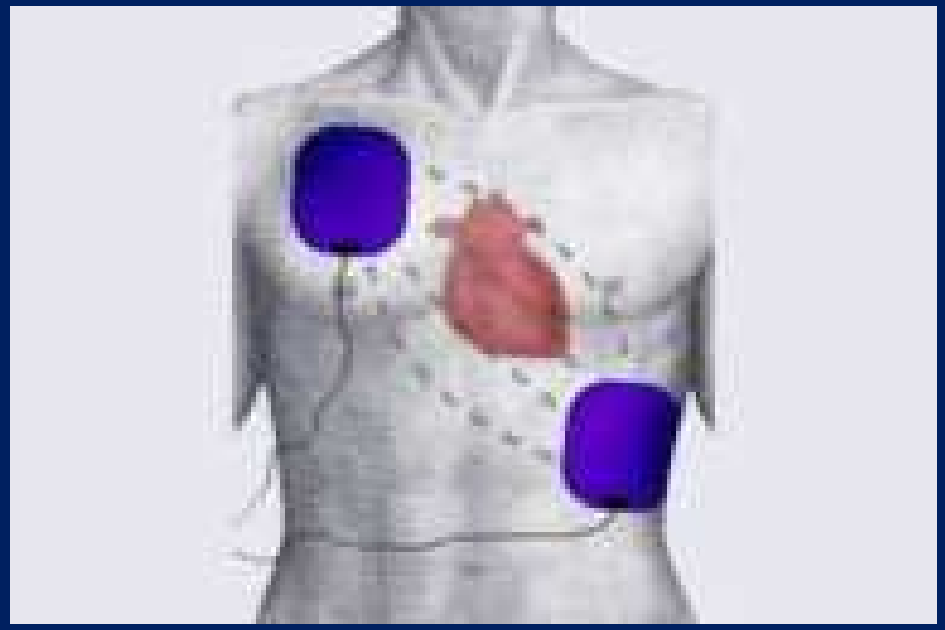
- 59-65% of the patient in SCA have an abnormal heart rhythm, in which the heart is quivering instead of beating
- This rhythm is technically called ventricular fibrillation, and the heart needs to be reverted to a normal rhythm quickly otherwise the chance of survival decreases drastically

Once the AED arrives

If more than one rescuer is present, continue CPR while the AED us switched on. If you are alone, stop CPR and switch on the AED

Follow the voice and visual prompts

Attach the electrode pads to the casualty's bare chest, ensuring the positioning of the pads as per instruction given



AED (Shock Indicated)

Ensure that nobody touches the casualty whilst the AED is analysing the heart rhythm

If a shock is indicated:

- Ensure that nobody is in contact with the casualty and give clear instruction for everyone to ‘STAND CLEAR’
- Press the shock button as directed
- The AED will inform you to continue CPR until the voice prompt informs you to stop

AED (Shock not indicated)

If no shock is indicated:

- Resume CPR immediately using a ratio of 30 chest compression to 2 rescue breaths
- Continue as directed by the voice/visual prompts

AED

Continue to follow the AED prompts until:

- Qualified help arrives and takes over
- The casualty starts to show signs of regaining consciousness, such as coughing, opening their eyes, speaking, or moving purposefully and start to breath normally
- You become exhaused

How AED s Work

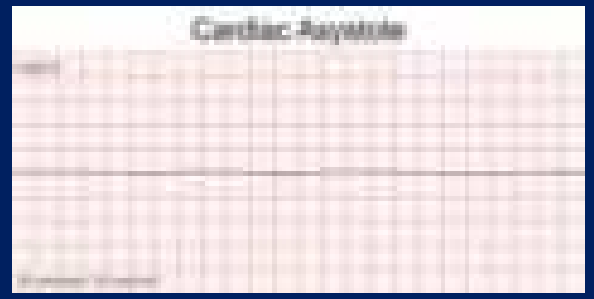
An AED is a computerized and portable electronic machine that automatically analysis the cause of the cardiac arrest and where appropriate, delivers a shock to a patient in cardiac arrest. In some cases, cardiac arrest is not treated by a shock and the AED can reliably detect these rhythms and direct you to provide CPR until the EMS arrive. AED connect to a patient via two chest pads-each having an adhesive gel on one side of the pad to stick to the patient's chest. If the AED detects a shockable heart rhythm, the AED will indicate that shock is advised. Depending on the type of AED, you will either activate the shock by pressing a button or the machine administers the shock automatically.

Using an AED

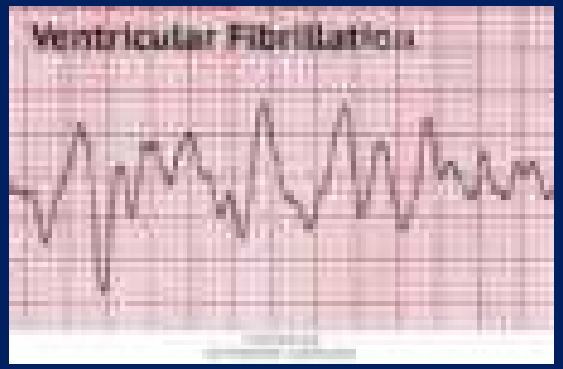
To treat sudden cardiac arrest, lay rescuers must be able to rapidly integrate CPR with AED use. To give the patient the best chance of survival, three action must occur within the first moments of cardiac arrest.

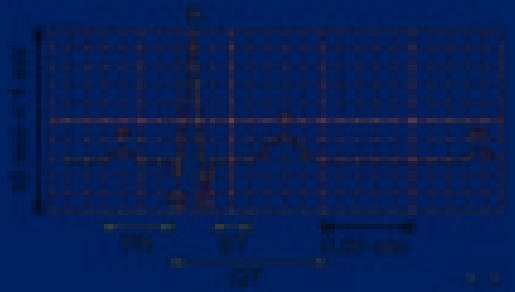
Alert the Emergency Medical Service.

Use the AED on a patient as quickly as possible.



Provide CPR when told by the AED to do so.





Special AED Considerations

Children: Causes of cardiac arrest in children are:

Airway and Breathing problems.

Traumatic injuries and accidents.

Heart disease from rare birth defects.

For children between 1 and 8 years old, special child-sized pads may be available. However, if a child-specific method of delivering a reduced shock to a child is not available, use adult pads and shock doses. Never use child pads on an adult.

Special AED Considerations

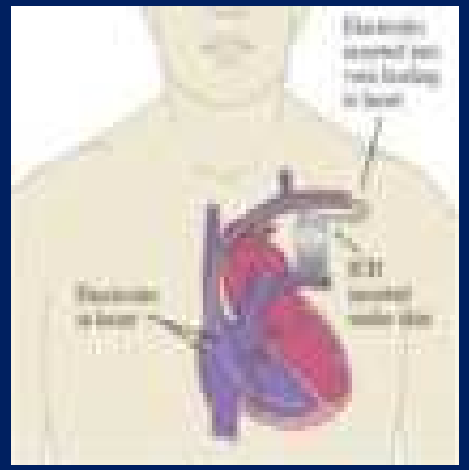
Chest Hair- AED pad to skin contact is very important for successful defibrillation. If a patient's chest is extremely hairy, consider shaving the area where the AED pads are placed. Some AED s may include a small shavers in their container. Avoid unnecessary delays to pad placement and AED use. Seconds count.

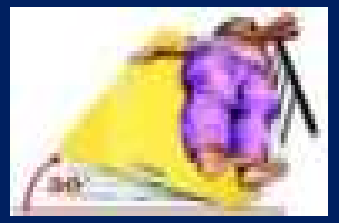
Wet Chest- If a patient's chest is wet or sweaty, dry it before applying the AED pads. This will allow for better pad adhesion.

Medicated Skin Patches and Dressings- Never place AED pads directly on top of medicated skin patch. An entire AED pad must be in direct contact with patient' s skin. Therefor remove all bandages, dressings, and medicated skin patches.

Special AED Considerations

Implanted Pacemakers and Defibrillators- Some patients may have implanted pacemakers and/or defibrillators. You can detect these devices when the patient's chest is exposed. Typically you'll see a small rectangular bump located just under the skin in the upper chest on the left side. If the patient simply has a pacemaker, go ahead and use the AED as directed by the devise. If a patient has an implanted defibrillator, an AED is not needed unless the device is not working. You'll hear the device deliver shocks and see the patient's muscles contracting if the device is working





Special AED Considerations

Pregnant Women- There is no evidence that shocks from AED have adverse effects on the mother and baby. You should use an AED on a pregnant woman exactly the same way as any other adult patient.

Emergency Responder Safety- Do not touch patient while defibrillating. Touching a patient while a shock is being delivered could shock you. Also, do not use an AED when around flammable or combustible materials, such as gasoline.

AED Analysis- Do not touch the patient while the AED is analysing his heart rhythm. Touching will interfere with the analysis.

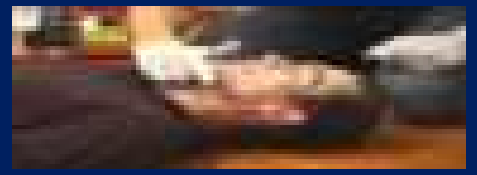
- AED- Pads expiry dates and also AED maintenance.

Scene Assessment

Stop- Assess Scene
Ask yourself- What caused the injury?
Are there any hazards? Look for potential hazards such as leaking gas, chemicals, radiation, downed electrical lines, fire, firearms, the possibility of explosion, etc.
Can you make a safe approach? Consider how to make a safe approach. Be alert for possible dangers, such as oncoming traffic.
Do you need to turn off a car's engine?

Think - Formulate Safe Action Plan
Can you remain safe while helping? Remember that your safety must be first priority. Know your limitations.
What emergency care may be needed? How can you activate local EMS?
Think about your training and relax.

Act - Begin providing care.
Follow the emergency care guidelines
Continue to consider your safety as you provide care.



CPR & AED
Primary Assessment

How s It's Done

1.Assess the scene for safety. Check the adult or child for responsiveness by giving the Responder Statement: **Hello? My name is _____. I'm an Emergency Responder. May I help you?** If no response to your statement, then tap the patient on collarbone, and ask, Are you okay? Are you okay? The collarbone is sensitive and tapping it will reveal a level of responsiveness.

2. With an infant, check responsiveness tapping the child heel and shout his name.

3. Quickly check for an open Airway and normal Breathing. If you are unsure if the patient's airway is open or if he is breathing normally:

4. Open his airway using either the head tilt-chin lift or pistol grip lift techniques.

5. Quickly check for normal breathing. Look for chest movement and listen for breathing sounds. Feel the expired air on your cheek.

6. This check for normal breathing must be accomplished quickly. If the patient is not breathing normally, he needs CPR immediately.

CPR & AED
Primary Assessment

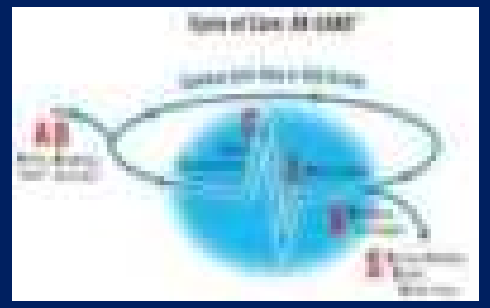
7: If the patient is not responsive or breathing normally, ask a bystander to call EMS and secure an AED if possible. If you are alone, use your mobile phone to call EMS. If you do not have a mobile phone, leave the patient to call EMS if no other option exists. This is Call First approach to emergency care.

8: Put on barriers if immediately at hand. Do not delay emergency care if barriers are absent.

9: If the patient is unresponsive and not breathing normally, immediately begin giving CPR.

Perform adult CPR- chest compressions at rate of 100 to 120 chest compressions per minute and depressing the chest one-third the depth of chest- approximately 5-6 cm/2-2.4 inches. 30/2

Minimize interruptions in chest compressions.

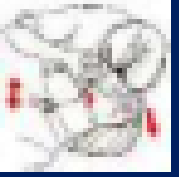


Chest Compressions

Position patient on his back

2) Locate the chest compression site.
Expose the chest only if necessary to find the compression site.
Find the compression site by putting the heel of one hand in the chest centre. On some individuals, this position is between the nipples.
Place your other hand on top of the hand already on the chest and interlock your fingers.
Use the palm of your hand on the compression site. Keep fingers off the chest.

3) Deliver Chest Compressions 30/2
Position yourself so that your shoulders are directly over your hands and your arms are straight – lock your elbows
Keep the force of the compressions straight down – avoid pushing on the rib cage or the lower tip of the breastbone. With locked elbows, allow your body weight to deliver the compressions.
To provide effective chest compressions you should push hard and push fast, depressing the breast bone approximately one-third the depth of the patient's chests – approximately 5-6 cm / 2-2.4 inches.
After each chest compression, release, allowing the chest to return to its normal position.



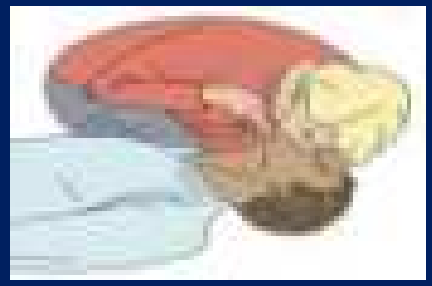
Rescue Breaths

1:Position a ventilation barrier on the patient for mouth-to-mouth rescue breaths.

2:Open the patient's airway. Use one of two common methods-head tilt-chin lift or pistol grip. If patient has an injury to the face or jaw, gently close the mouth to protect the injured site. While holding the jaw closed, place your mouth over the barrier covering the nose and give rescue breaths through the nose.

3:With the patient's head tilted back and the ventilation barrier in place, pinch the nose closed.

4:Now give two rescue breaths. Each breath should last about one second. Provide the patient with just enough air to make the patient's chest rise. Look for this rise in the patient's chest.



5:After delivering two rescue breaths, immediately begin another cycle of 30 chest compressions.

6:Continue altering 30 compressions with two rescue breaths until:

- EMS arrives // You can defibrillate with AED.
- The patient becomes responsive and begins to breath normally.
- Another Emergency Responder takes over CPR efforts. // You are too exhausted to continue.
- If the patient problem could be a drowning or other respiratory problem, give Care First. This means that you provide [illegible] to the patient for a short time and then call EMS.

AED USE

1.Use the Cycle of Care to continually monitor the patient's medical status.

2.If the patient is unresponsive and not breathing normally call EMS. Next

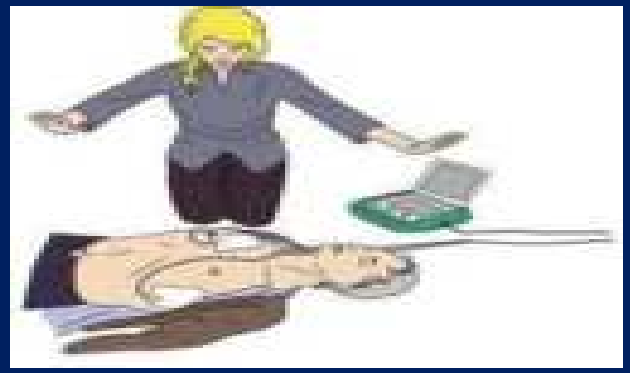
➢If a bystander can go get an AED, direct them to do so while you begin CPR. Once the person arrives with the AED, have them set it up and place the chest pads on the patient while you continue CPR. This minimizes interruptions to chest compressions.

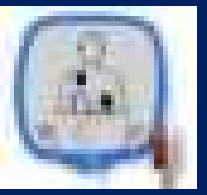
➢If you are alone and know where to find an AED close by, leave the patient to quickly secure the AED.

3. Position the AED close to the patient on the same side as you, the rescuer.

4. Turn AED power ON – follow device prompts exactly.

5. Bare the patient's chest. If the patient is wet, consider quickly drying the chest prior to pad placement. Use razor if available to shave excessive body hair where the pads will be placed.





AED USE

6. Remove defibrillator pads from packaging-peel away any protective plastic backing from the adhesive pads.

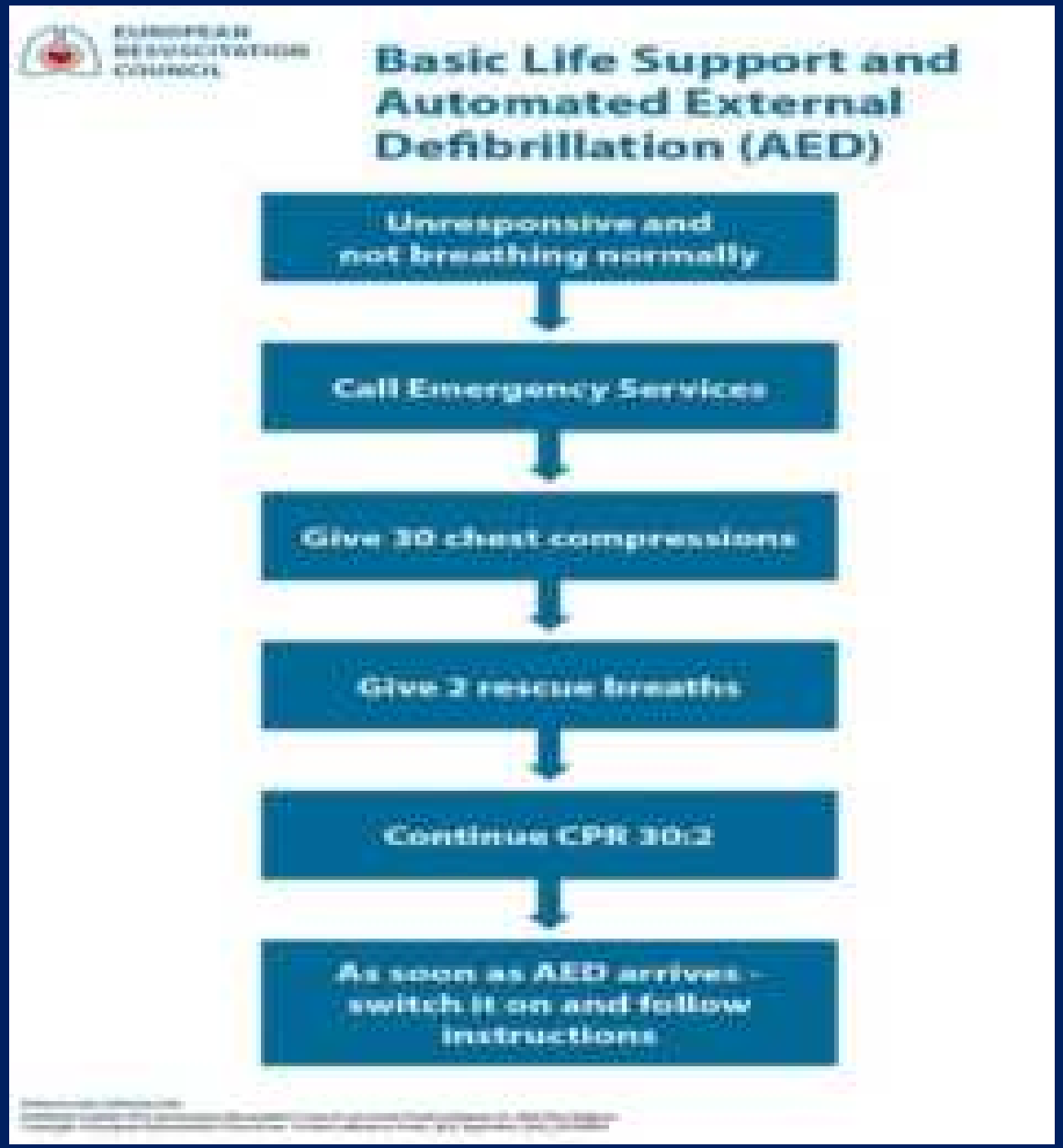
7. As directed by the AED, place defibrillator pads on the patient's bare chest, adhesive side down. One pad goes on the upper-right side of the chest, below the collarbone and next to the breastbone. One pad goes on the lower-left side of the chest, to the left and below the nipple line.

8. Plug in the AED pads if needed. The AED will analyse the patient's heart rhythm.

9. The AED will ask you to stand clear for the heart analysis. No one will touch the patient.

10. If the AED advises that a shock is needed, the responder should say before delivering shock**, I'm clear, you are clear, everyone stay clear…….** And deliver shock. Continue CPR as advised by the AED. 30/2

CPR ADULT


EUROPEAN RESUSCITATION COUNCIL
Basic Life Support and Automated External Defibrillation (AED)
Unresponsive and not breathing normally
Call Emergency Services
Give 30 chest compressions
Give 2 rescue breaths
Continue CPR 30:2
As soon as AED arrives - switch it on and follow instructions

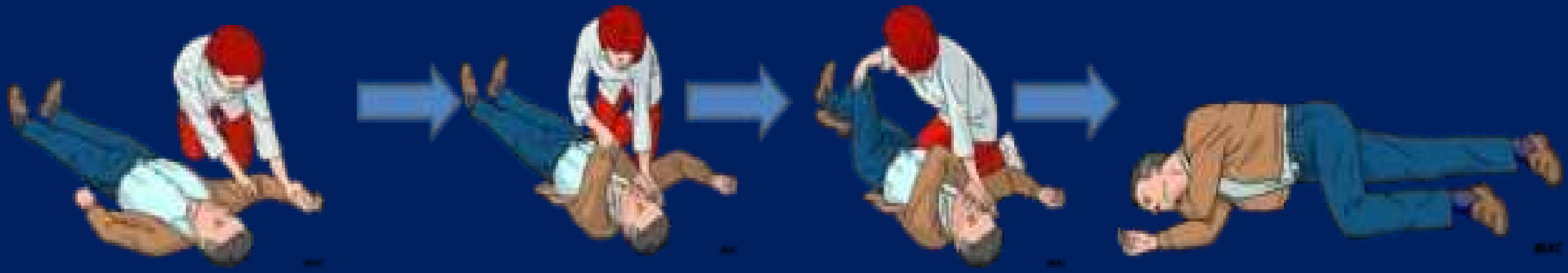
Chest Compressions

Keep your arms straight. Do not apply pressure on upper abdomen or bottom end of bony sternum.

Rescue breaths

If you are trained and able to give rescue breaths. Alternate 2 breaths with 30 chest compressions. Start by opening airway using head tilt chin lift.

Recovery position



Paediatric Basic Life Support

- Age > 8 years
  - use adult AED
- Age 1-8 years
  - use paediatric pads / settings if available (otherwise use adult mode)
- Age < 1 year
  - use only if manufacturer instructions indicate it is safe

Response (Child)

- With older children, give the responder statement and remember to tap on the collarbone.

- This is sensitive and therefore tapping will indicate a level of responsiveness.

Response (Infant)

- For an infant, you can flick the bottom of the foot.

With young children/infants, ask for consent from the parents/guardians first. If no one is present, consent is implied.

Airway (Child and Infant)

- Tilt head to check for breathing
  - Head tilt-chin lift
- Look, Listen and Feel
  - Not more than 10 seconds
- If the child is not breathing normally, he needs CPR immediately.

Infant CPR
How it's done

- Place the infant on his back
- Locate the compression site – place 2 fingers on the breastbone (just below the nipple line).
- With your 2 fingers, push straight down on the breastbone.

Infant CPR
How it's done

- You need to push down approximately 4 cm (1.5 inches)
- Deliver 30 chest compressions.
- Your rate should be at least 100 compressions per minute.

Infant CPR
How it’s done (cont.)

- After the chest compressions, place the ventilation barrier on the infant’s face.
- Open the airway, cover the nose with your mouth as well
- If your mouth is too small, put your mouth over the infant’s nose and hold his mouth closed to prevent escaping air.

Infant CPR
How it's done (cont.)

- Give the infant 2 rescue breaths – lasting about 1 second (just enough to make the chest rise).
  - With infants the breaths are more like puffs of air
- Begin another cycle of CPR without delay.

Reasons for a child to stop breathing

1. Submersion and near drowning
2. Head injury / injuries in general
3. Severe asthma
4. Allergic reaction
5. Foreign body airway obstruction (choking)
6. Sudden cardiac arrest
7. Febrile seizure (fever convulsion)
8. Smoke inhalation
9. Drug overdose
10. Electrocution, suffocation

CPR – Child
How it's done

- Place child on his back
- Locate the compression site – put heel of one hand on the lower half of the breastbone (centre of the chest)

- Deliver 30 chest compressions.
- Your rate should be at least 100 compressions per minute.
- After the chest compressions, place the ventilation barrier on the child's face.

CPR – Child
How it's done

- Open the airway and pinch the nose or cover the nose with your mouth as well (especially in small children).
- Give the child 2 rescue breaths – last about 1 second (just enough to make the chest rise).
- Begin another cycle of CPR without delay.

Child CPR – ERC (European Resuscitation Council) Guidelines

If you are ALONE (no bystanders present) and you did not see the child collapse:

- Deliver 5 initial rescue breaths, followed by 1 minute 30:2 CPR before calling EMS or retrieving an AED.
- Often a child's heart stops because of breathing problems and therefore rescue breaths are very important.
- Effective rescue breaths last just over 1 second, giving enough air to make the child's chest to rise.

- The AED will usually wait 2 minutes and then start it’s analysing routine again.
- Continue this process until the child resumes breathing or relieved by EMS.

AED Safety

- Automated External Defibrillators (AEDs) are very safe devices. However, safety aspects are to be considered when using an AED.
- No one should touch the patient during delivery of the electrical shock by an AED. The AED will instruct everyone to stand clear.
- As the operator you should repeat this command and ensure everyone is clear of the patient.
- It is important however to deliver the shock as quickly as possible.

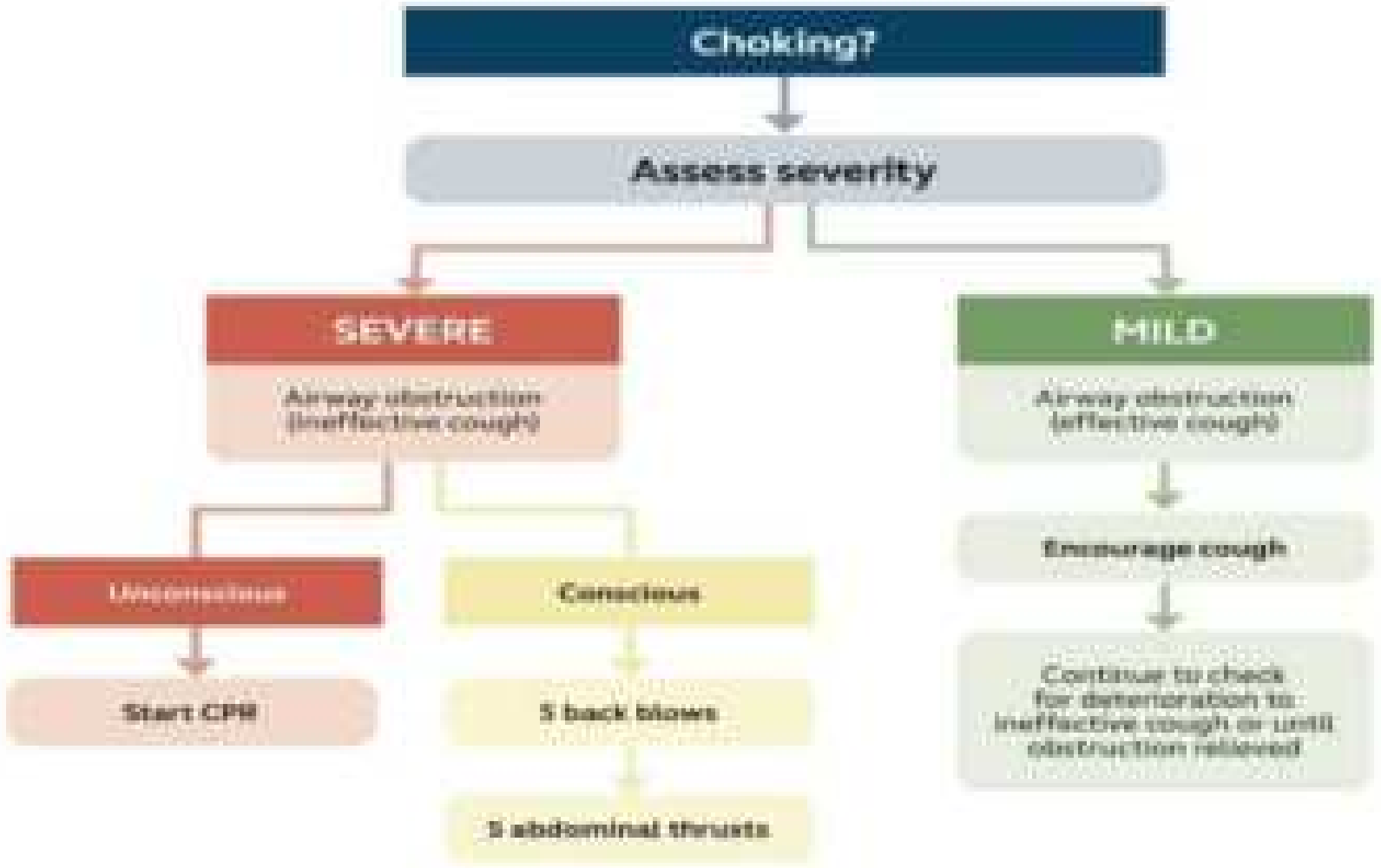
AED use with Children Procedure

- Clear everyone from the child so no one is touching the patient.
- If the AED advises a shock, provide one shock and continue with thke CPR procedure.
  - If no shock is advised, continue CPR

Complete (Severe) Airway Obstruction

You may suspect choking if a patient grasps or clutches the neck or throat area. This is the universal distress signal for choking. By asking the patient what's wrong, you can determine if the patient can speak, is breathing or is able to cough. A patient with complete or severe airway obstruction may become unconscious if the airway is not cleared quickly.

Adult Choking



Adult Choking

- If the casualty is breathing, encourage him to continue coughing. Remove any obvious obstruction from the mouth
- If the casualty is becoming weak or stops breathing or coughing, carry out 5 back blows
- If back slaps fail, try 5 abdominal thrusts
- Continue alternating back slaps and thrust till either foreign body is removed or patient is unconscious
- Make sure you have an ambulance on the way

PAEDIATRIC FOREIGN BODY AIRWAY OBSTRUCTION

Key Points

If the child is coughing, wheezing or can speak (partial airway obstruction), stay with the child and encourage him to cough until the object is expelled.

If the child is unsuccessful at coughing, obtain child or parent/guardian consent before you do anything.

When checking a child's mouth for obstructions, do not use finger sweeps as this may push the object further, making expulsion more difficult.

After receiving treatment, the child should be medically evaluated to rule out any life-threatening complications.

What to do

1. Ask, “Are you choking?”
2. If the child is not coughing and can’t speak, give the Responder Statement.
3. If a parent/guardian is present, ask permission to help.
4. When permission is granted …
    - Back blows
    - Abdominal Thrusts

Abdominal Thrusts

- If choking continues – you will need to do the Abdominal Thrusts
- Make a fist and place the thumb just above the child's navel.
- Place your other hand over the outside of the fist.
- Bend your arms and elbows outward to avoid squeezing the ribcage.

Abdominal Thrusts (continued)

- Perform 5 quick inward and upward thrusts.
- Look inside the child's mouth and carefully remove any visible objects.
- If child is still choking, repeat another set of back blows and thrusts.

If obstruction persists

- If there is still an obstruction, call EMS (if not done already). Continue the cycles until object is expelled, help arrives or child becomes unconscious.
- If the child becomes unconscious, open the airway and check for breathing. Again check for objects in his mouth.

If obstruction persists (cont.)

- If breathing, place in recovery position. Unconsciousness may have relaxed the muscles in the larynx, allowing air to pass.
- If not breathing, attempt 5 rescue breaths and continue with CPR.

The Choking infant (Key points)

- If the infant is coughing, wheezing or can speak (partial airway obstruction), observe the infant until the object is expelled and encourage him to cough.
- If the infant is unsuccessful at coughing, obtain parent/guardian consent before you do anything.
- If the FBAO persists for more than a few minutes, stay with infant, send someone to call or take the infant with you to call EMS.

The Choking infants (key points)

- When checking an infant's mouth for obstructions, do not use finger sweeps.
- After receiving treatment, the infant should be medically evaluated to rule out any life-threatening complications.

What to do

- If a parent or guardian is present, give the Responder Statement and ask if you may assist the infant.
- If available, ask someone to call EMS. If alone, take care of the infant first.
- Look in the infant's mouth and carefully remove any visible object.

Back Blows

- Put infant face down on your forearm and support the infant's head and neck with your hand.
- With the infant's head slightly lower than his body, deliver up to 5 distinct and separate back blows between the shoulder blades with the heel of your hand.
- This is done to relieve the obstruction with each blow rather than to give all 5 back blows at once.

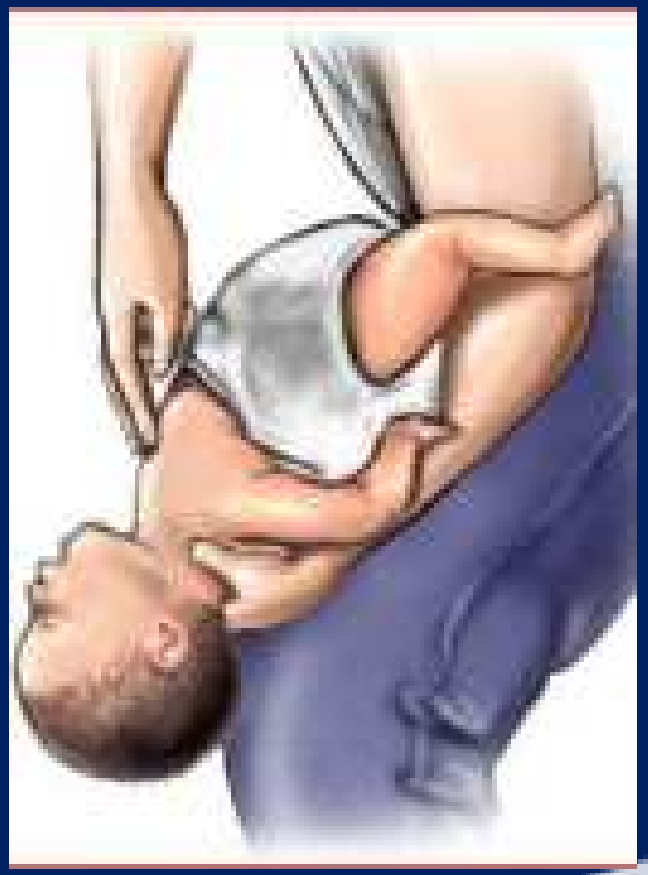
Chest Thrusts

DO NOT perform abdominal thrusts on infants as it may damage the relatively large, unprotected liver.

Chest Thrusts

Place the infant on his back with head lower than his body. (You can support him on your arm or thigh).

Locate the chest compression site as done during the Infant CPR.



Chest Thrusts

Provide up to 5 distinct chest thrusts. These have to be sharper than done during CPR and delivered at a slow rate.

- The aim again is to relieve with each compression.
- Keep the force of the compressions straight down and avoid pushing on the rib cage or the lower tip of the breastbone.

Look in the infant's mouth and carefully remove any visible objects.

If obstruction persists - Breathing

- If obstruction is still there, repeat the cycle of Back Blows and Chest Trusts. Continue until the object is expelled or infant becomes unresponsive.
- If the infant loses consciousness, open airway and check for signs of breathing.
- If breathing, place in recovery position.

If obstruction persists - Not Breathing

- If not breathing, attempt 5 rescue breaths.
- If breaths are not effective, begin CPR immediately.
- If alone, continue CPR for 1 minute, then call EMS (remember to take the infant with you).

1 GIVE 5 BACK BLOWS

- **Adult:**

- **Child:**

- **Infant:**

2 GIVE 5 ABDOMINAL THRUSTS

- **Adult:**

- **Child:**

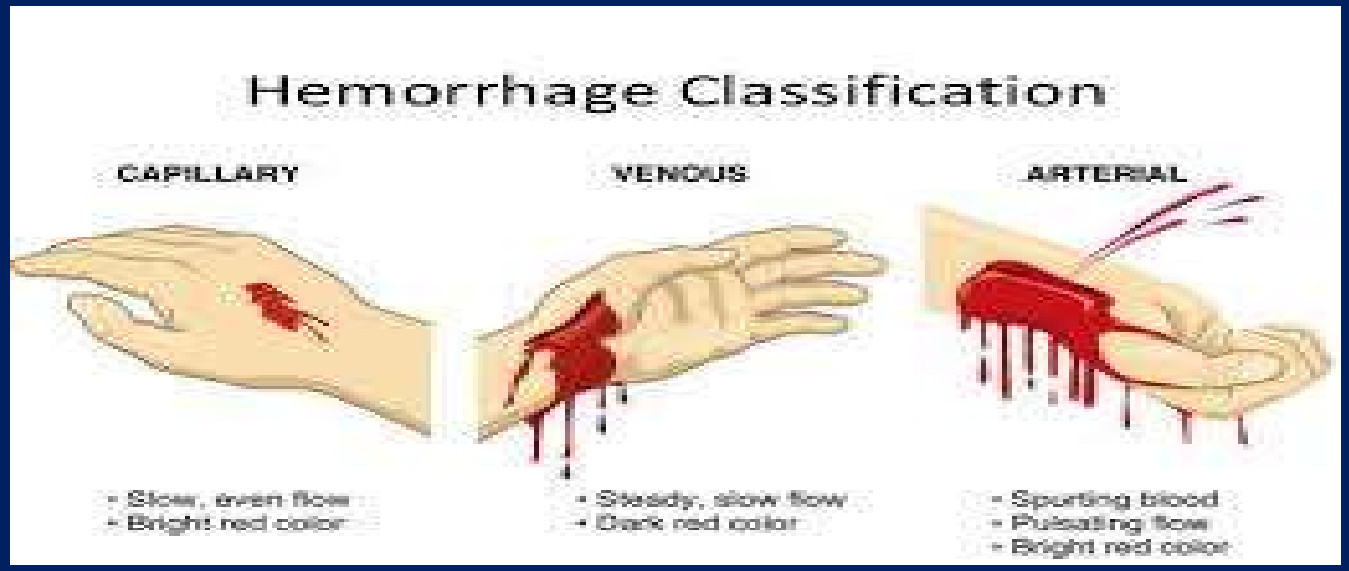
- **Infant:** (chest thrusts for infant)

CPR INFANT / CHILD / ADULT

Questions?

Serious Bleeding

Human Body contains about six litres of blood. Rapid loss of just one litre is dangerous and can lead to death. Because serious bleeding is life-threatening, you, as an Emergency Responder, need to be able to recognize and manage this during a primary assessment. Serious bleeding is the first S in AB-CABS Cycle of Care. It is estimated that there are over 60,000 miles of blood vessels in the human body. The blood vessels can be grouped into 3 groups: arteries, veins and capillaries.



Shock

Any injury or illness, serious or minor, which stresses the body may result in shock. In reaction to a medical condition, the body pools blood into one or more vital organs. This reduces normal blood flow to other body tissues depriving cells of oxygen. During shock, the body begins to shut down. Shock is a life-threatening condition that is easier to prevent from getting worse than it is to treat after it becomes severe. Shock management is the second S in AB-CABS Cycle of Care.

The Nine Indications of Shock are:

1.Pale , weak pulse

2.Pale or bluish tissue color

3.Moist, clammy skin- possibly with shivering

4.Mental confusion, anxiety, restlessness or irritability

5.Altered consciousness

6.Nausea and perhaps vomiting

7.Thirst

8.Lacklustre eyes, dazed look

9.Shallow, but rapid, laboured breathing

Hypovolaemic Shock

Hypovolaemic shock is a life-threatening medical condition characterised by a severe decrease in the volume of blood circulating in the body

It can be caused by:

- Severe Bleeding (internal or external)
- Severe diarrhoea and vomiting
- Severe cuts or wounds
- Severe burns
- Excessive sweating

First Aid of Hypovolaemic Shock

- Treat the cause if apparent
- Lay the casualty down on a flat surface and raise the legs
- Ensure legs are above the level of the heart
- Loosen tight clothing
- Keep the casualty warm with a blanket
- Monitor the casualty's airway and breathing
- Do not allow any food or drink
- Call 112

Spinal Injury

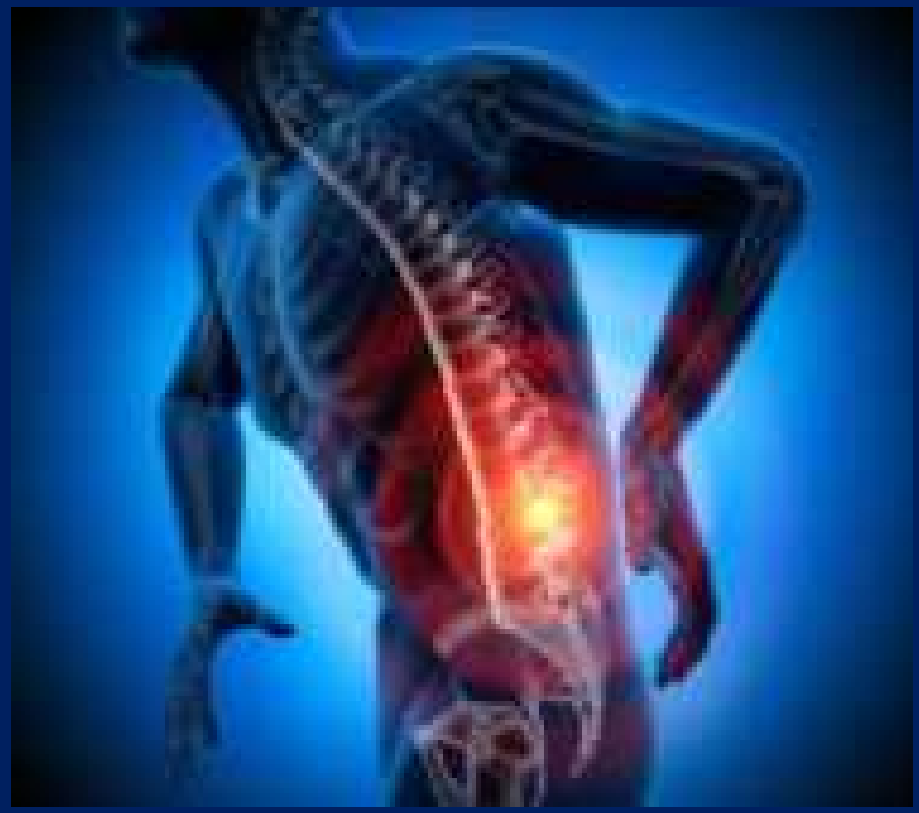
A spinal cord injury may result in permanent paralysis or death. The higher up in the spinal column the injury, the more likely it will cause a serious disability. This is why it's so important to guard the head, neck and spine when attending to an injured patient. C2 / Diaphragm

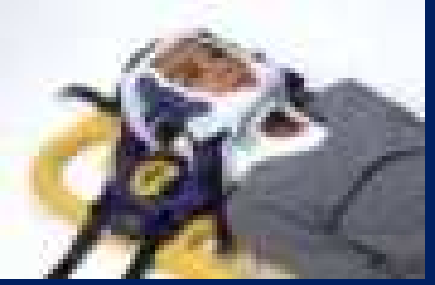
Mechanism of Injury

- Traffic / Car accident
- Being thrown from motorized vehicle
- Falling from height greater than patient's own height
- A penetrating wound, such as a gunshot
- Severe blow to the head, neck or back
- Swimming pool, head first dive accident
- Lightning strike
- Serious impact injury
- Patient complains of pain in neck or back.

Spinal Injuries

Spinal injuries are a serious medical concern that can have life-altering consequences. Understanding the types of spinal injuries and how to provide appropriate first aid is essential to prevent further damage and ensure the best possible outcome.





Signs and Symptoms of Spinal Cord Injury

- Bradycardia
- Hypotension (neurogenic shock)
- Breathing difficulties (If the spinal cord injury is in the thoracic region of the spinal cord – T1-T12) The higher the injury the greater the difficulty to breath.
- Respiratory arrest (Spinal Cord injury at C1-C3 will cause a loss of muscles for respiration)
- Paralysis and numbness
- Sensation of heaviness and tingling
- Pain or tenderness
- Deformity
- Priapism

Type of Spinal Injuries

Fractures: These involve the breaking of vertebrae and can be stable or unstable. Unstable fractures may cause spinal cord damage.

Dislocations: When the bones in the spine are forced out of their normal position, it can lead to spinal cord compression or damage.

Spinal Cord Injuries: These are often the result of trauma and can lead to partial or complete paralysis.

Management of Spinal Injuries

Assessment: Before providing any first aid, assess the situation for safety.

Ensure that the injured person and you are out of harm's way.

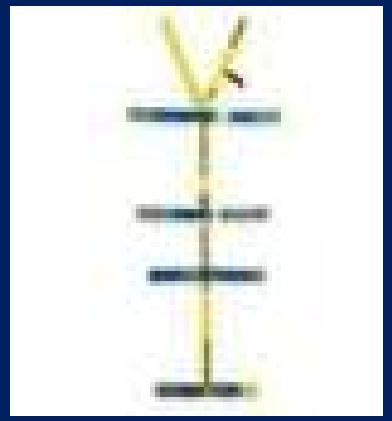
Immobilization: It's crucial to keep the spine as still as possible to prevent further injury.

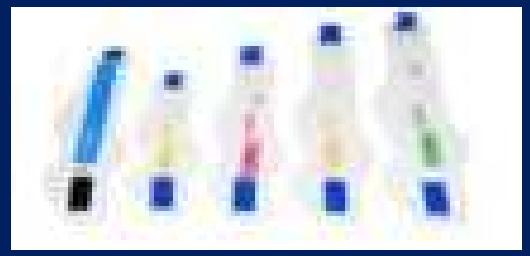
- Keep the person in the position they were found, as long as it is safe.
- If necessary, support the head and neck to maintain alignment.
- Use rigid materials, such as boards or rolled-up clothing, to stabilize the head, neck, and spine.
- Avoid moving the injured person unless it is necessary to prevent immediate danger.
- Dial emergency services immediately to ensure that medical professionals with specialized training in spinal injuries can assist.

Maintaining Airway and Breathing: If the person stops breathing, initiate cardiopulmonary resuscitation (CPR) while keeping the spine immobilized.

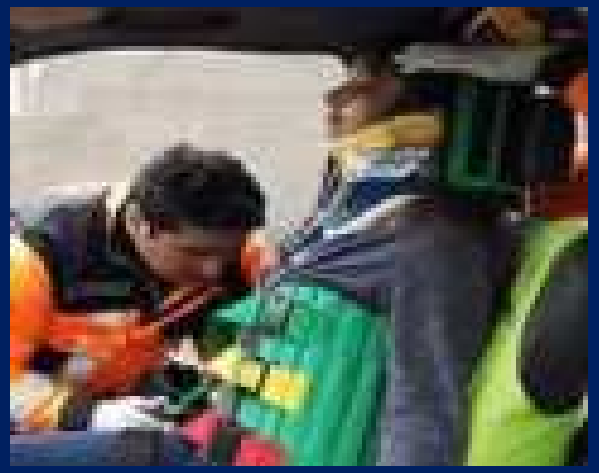
Comfort and Reassurance: Offer comfort and reassurance to the injured person while waiting for medical assistance.

DISCUSS Immobilisation Equipment





DISCUSS Immobilisation Equipment



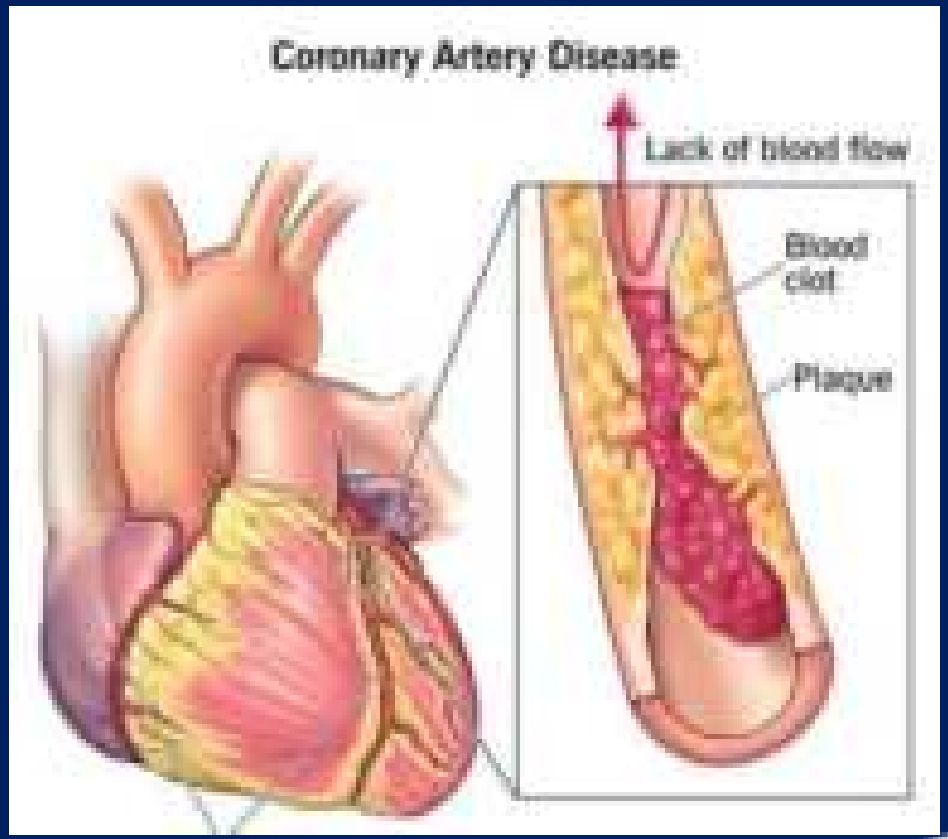
Chest Pain

- Chest pain is a common medical complaint and can have various causes, ranging from benign issues to life threatening emergencies.

Heart Attack

Signs and Symptoms

- Tightness and/or pain in the chest
- Clutching of chest
- Possible spreading of pain to the arms,neck and back
- Dizziness or a light headed feeling
- Possible shortness of breath
- May feel nauseous or be sick
- May have cold sweats



Management Of Chest Pain

- Call 112
- Sit the casualty down with the legs drawn up or in a position which is comfortable
- Loosen any restrictive clothing
- Keep the casualty warm and comfortable
- Monitor the casualty's airway and breathing
- If the casualty becomes unresponsive carry out BLS

The Musculoskeltal System

- Bones
- Joints
- Muscles
- Ligaments
- Tendons

Definitions

Muscle: A kind of tissue composed of fibres or cells that are able to contract, causing movement of body parts and organs

Ligament: A tough band of connective tissue that connects various structures, such as two bones

Joints: The area where two bones are attached for the purpose of permitting body parts to move

Tendons: White, glistening bands of dense fibrous connective tissue that attach muscle to the bone

Musculoskeletal Injuries

Skeletal and soft tissue injuries can range in severity from life or limb threatening to self limiting minor injuries.

Injuries that involve body tissues apart from bone are generally classified as soft tissue injuries.

Sprains, strains and bruises are all soft tissue injuries, although the cause and tissues involved in each injury are different.

Sprains and Strains

- Sprain: an injury that involves the ligaments and other soft tissues around a joint, such as ankle or wrist.

- Strain: occurs away from a joint and involves a torn or overstretched muscle or tendon, commonly in the calf, thigh or lower back.

- Bruise: a soft tissue injury that involves the skin and nearby tissues following a blow or other forces that break a blood vessel close to the surface of the body.

Secondary Care

Strains and Sprains

Injured, stretched or torn muscles, tendons and ligaments.

General treatment involves **RICE** – Rest, Ice, Compression and Elevation for the first 72 hours after injury.

Patients should consult a medical professional to determine the extent of the injury and to ensure no bones are broken.

- REST- take stress off injured area and avoid use as much as possible.
- ICE – apply cold compress to injured area for up to 20 minutes. Repeat icing at least four times a day.
- Compression – wrap area with elastic bandage.
- Elevate – raise injured area above the heart as much as possible.
- If patient must use injured area, tape or splint to provide stability and prevent further injury.
- Encourage patient to follow up with a doctor.

R.I.C.E

- Rest
- Ice
- Compression
- Elevation

Fractures

A fracture can be closed (no associated wound), open (the fracture has broken the skin) or complicated (the fracture is causing a further injury to vessels or organs for example).

Signs and Symptoms

- Pain, tenderness, bruising and swelling at the site of injury
- In the case of an open fracture, associated bleeding
- Possible loss of mobility
- Deformity
- Nausea, pale, cold clammy skin (shock)

First Aid of Fractures

- Stop bleeding, especially in the case of open fracture where the skin is torn, by wrapping the wound with a sterile bandage or a clean cloth.
- Avoid moving the affected area; any movement can result in serious complications—especially in the case of neck and back fractures.
- Cool the affected area by applying and ice pack or ice cubes wrapped in a clean cloth.
- Treat the patient's shock: help them get into a comfortable position, encourage them to rest, and reassure them. Cover them with a blanket or clothing to keep them warm.
- Call the ambulance, and help the patient get to the emergency department for examination and treatment.

Secondary Care

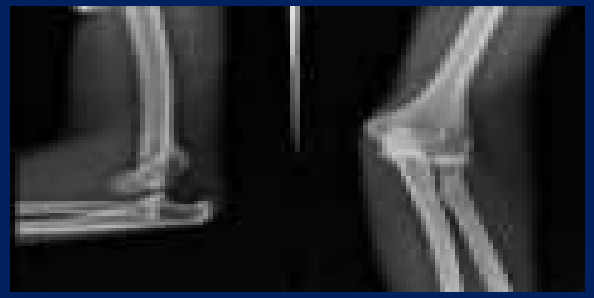
Dislocations and Fractures

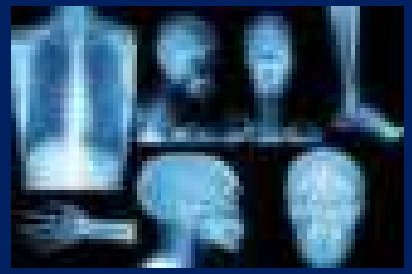
• Dislocations occur when a great deal of pressure is placed on a joint. The patient's joint appears deformed and the injury is very painful.

•Suspect a fracture if, after a fall or blow, a limb appears to be in an unnatural position, is unusable, swells or bruises rapidly or is extremely painful at a specific point.

•Only splint an injury if EMS care or transport to a medical facility is delayed and if you can do without causing more discomfort and pain to patient.

•All dislocations and fractures need professional medical attention.



Secondary Care

Dislocations and Fractures

Stop: Assess and observe the scene

Think: Consider your safety and form action plan

Act: Check responsiveness and ALERT EMS, as appropriate.

Conduct an injury assessment to determine extent of all injuries besides obvious dislocations or fractures.

Activate EMS and if delayed prepare patient for transport. Choose a splint that is long enough to immobilize the bones above and below the unstable joint.

Splint injury in a position found. Do not try to straighten. Minimize movement while splinting. Bandage splint in place.

Fractured fingers and toes may be taped to adjacent fingers or toes for support.

Check circulation before and after splinting. Loosen splint if it interferes with circulation.

For closed fractures or dislocation, apply cold compress to area during transportation to reduce swelling.

Secondary Care

Dental Injury

Fractured jaw, loose tooth, broken tooth, dislodged tooth, bitten lip or tongue.

➢Treat dental injuries resulting from trauma to the head, neck, face or mouth as medical emergencies. Follow primary and secondary care procedures.

➢Send patient to a dentist for treatment when dental injuries are due to wear and tear, or minor mishaps. Provide secondary care.

<u>Dislodged Tooth</u>

➢Wear gloves to protect yourself and patient from disease transmission.

➢Locate dislodged tooth. Do not touch the root.

➢Hold tooth by crown and rinse gently with saline solution, milk or water.

➢Keep tooth moist in saline solution, milk, water or injured person saliva while transporting to dentist.

First Aid Course at the Workplace Module

First Aid Course at the Workplace Module

Gesmond Micallef

Qualified Emergency Nurse Instructor

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