



الجامعة الإسلامية العالمية ماليزيا
INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA

Laboratory First Aid Module:

Providing Basic 'Cardiopulmonary Resuscitation (CPR)' In Emergency Situation



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Outlines

- Emergency Action Plan
- CPR
- Recovery Position

The Emergency Action Plan

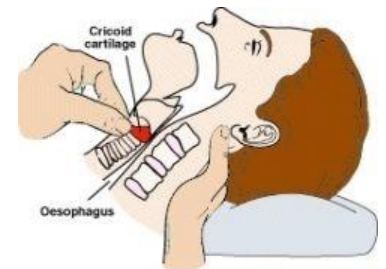
Action plan

- Emergency Personnel
- Emergency Communication
- Emergency Equipment
- Medical Transportation
- Non-medical Transportation

Cardiopulmonary Resuscitation (CPR)

2010 AHA guidelines for CPR

- Change from A-B-C to C-A-B
- Emphasis of high quality CPR
- Check breathing but **No** look listen feel
- Routine use of cricoid pressure is not recommended
- Continued de-emphasis of pulse check
- Use of AED in infants



is a technique applied during endotracheal intubation

HIGH QUALITY CPR

- Start compressions within 10 seconds of recognition of cardiac arrest
- Push hard, push fast ATLEAST 100/min with depth
 - 2 inches (5 cm) for adults,
 - 2 inches (5cm) for children,
 - 1 ½ inches (4 cm) for infants.
- Allow complete chest recoil after each compression
- Minimize interruptions in compressions (< 10 sec)
- Avoid excessive ventilation.

CPR FOR ADULT

What to do...



ERS: Emergency Response Service

Scene safety

Check response & breathing

Shout for help

Activate ERS and Get AED

Check pulse

30 compression

2 breaths



Approach safely

Safe scene

Rescuer

Victim

Scene safety

Check response & breathing

Shout for help

Activate ERS and Get AED

Check pulse

30 compression

2 breaths

CHECK RESPONSE



Scene safety

Check response & breathing

Shout for help

Activate ERS and Get AED

Check pulse

30 compression

2 breaths

CHECK RESPONSE



Tap the shoulders and
shout
“Are you all right ?”

CHECK BREATHING



- ✓ Look breathing
 - ✓ non breathing
 - ✓ Normal breathing
 - ✓ Abnormal breathing- gasping
- ✓ DO NOT CONFUSE AGONAL BREATHING WITH NORMAL BREATHING

agonal breathing or gasping respiration is an abnormal pattern of breathing

AGONAL BREATHING

- Present in first minutes after sudden cardiac arrest
- Mouth may be open & the jaw, head or neck may move with gasps.
- May sound like a snort, snore or groan
- Recognise as a sign of cardiac arrest

Shout for Help



Scene safety

Check response

Shout for help

Activate ERS and Get AED

Check pulse

30 compression

2 breaths

Activate ERS and Get AED



Scene safety

Check response

Shout for help

Activate ERS and Get AED

Check pulse

30 compression

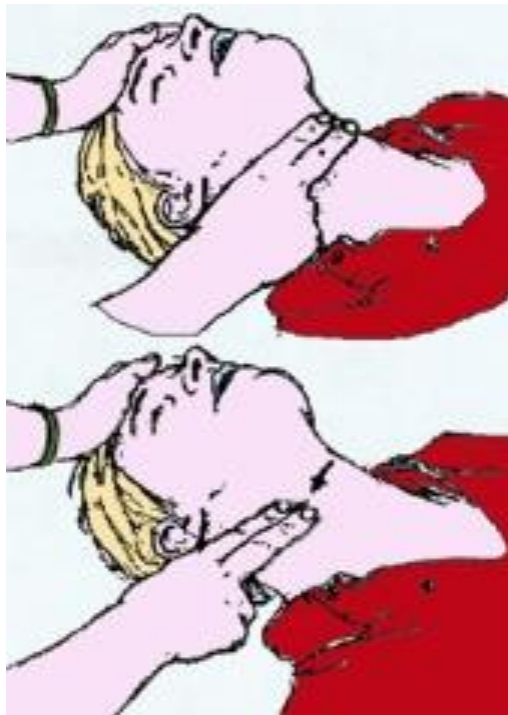
2 breaths

Activate ERS and Get AED



- ✓ If another rescuer responds, send him/ her to activate ERS and get AED
- ✓ If no one responds, activate the ERS and get AED
- ✓ Return to victim

CHECK PULSE



Scene safety

Check response

Shout for help

Activate ERS and Get AED

Check pulse

30 compression

2 breaths

CHECK PULSE



- ✓ Locate trachea using 2 or 3 fingers
- ✓ Slides fingers into groove between trachea and muscle at the side of neck
- ✓ Feel carotid pulses
- ✓ At least 5 seconds but not more than 10 seconds
- ✓ Do not feel pulse- start CPR (C-A-B)

30 chest compressions



©ERC

Scene safety

Check response

Shout for help

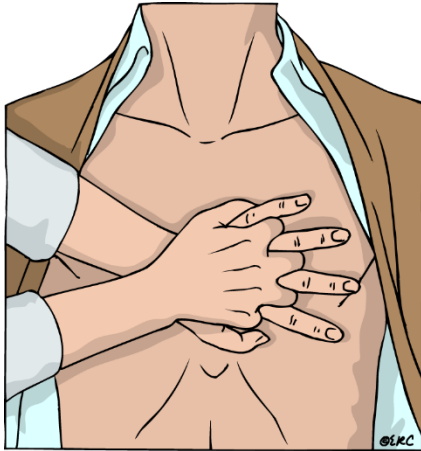
Activate ERS and Get AED

Check pulse

30 compression

2 breaths

Chest compression

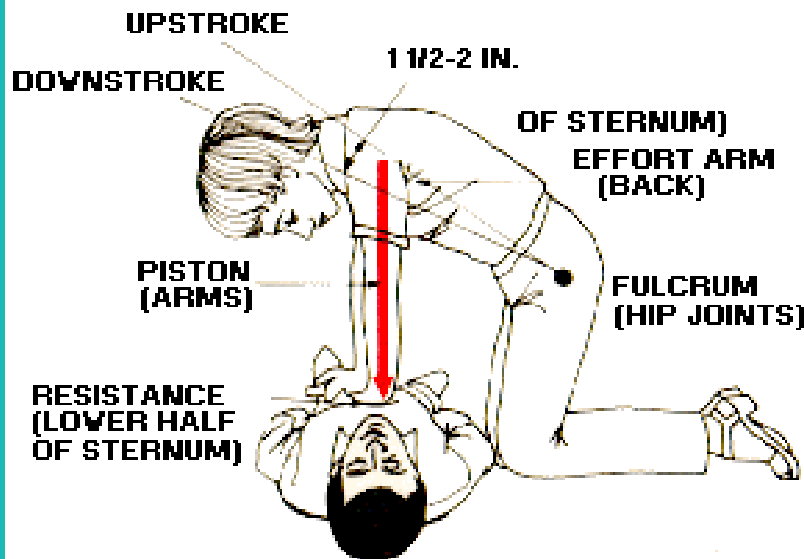


- ✓ Place the heel of one hand on the center of the chest on lower half of sternum
- ✓ Put other hand on top
- ✓ Interlock fingers
- ✓ Straighten arms and position your shoulders directly over hands

Push hard push fast



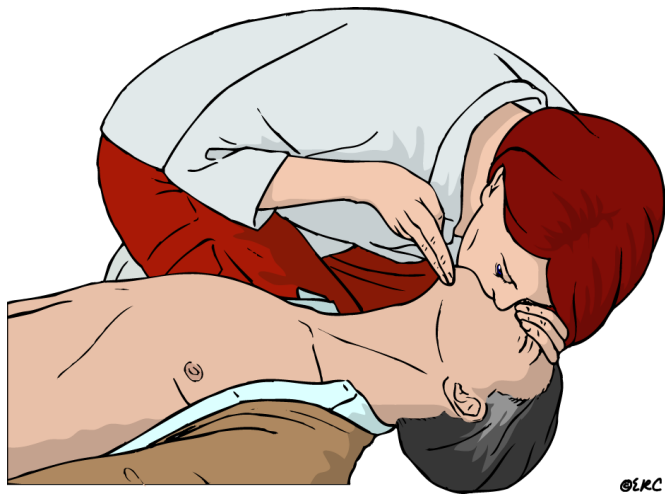
- ✓ Chest compression
- ✓ At least 2 inches (5cm) down
- ✓ Rate 100/ min
- ✓ Compression: relaxation
- ✓ Minimize interruptions
- ✓ Count loudly
- ✓ 5 cycles (30:2)



Precautions

- Surface should be firm
- Rescuers with arthritis- put one hand on sternum to push, grasp the wrist with other hand
- Do not move victim while CPR unless in dangerous environment

2 breaths



Scene safety

Check response

Shout for help

Activate ERS and Get AED

Check pulse

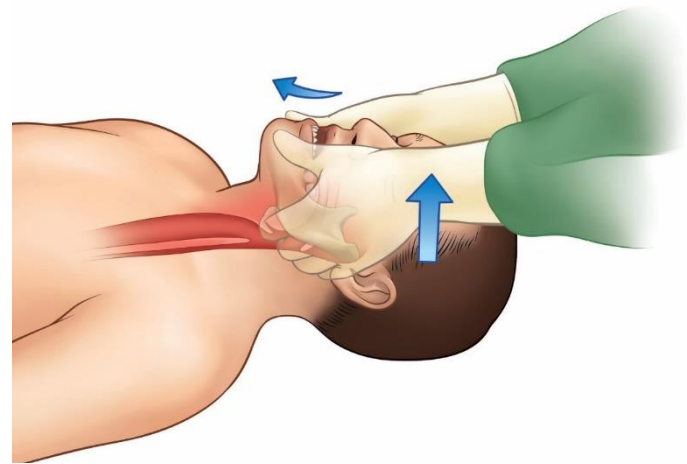
30 compression

2 breaths

Opening airway



Head tilt chin lift



Jaw thrust

Head tilt chin lift



- ✓ Place one hand on victim's forehead and push with your palm to tilt the head back
- ✓ Place the fingers of the other hand under the bony part of the lower jaw near the chin.
- ✓ Lift the jaw to bring the chin forward

Head tilt chin lift

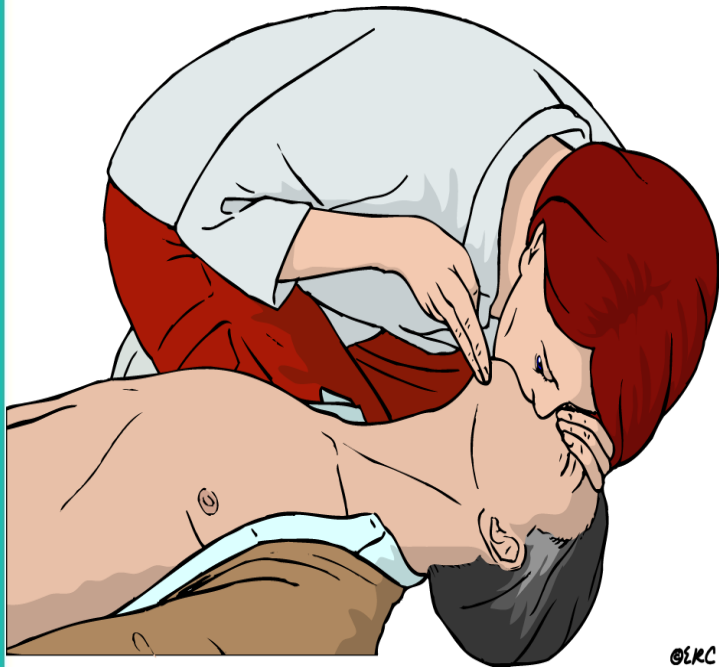
Precautions



- Do not press deep to soft tissue as it may obstruct the airways.
- Do not use thumb to lift the chin.
- Do not close the victims mouth completely.

Mouth to mouth breaths

- Open airway
- Pinch nose take regular breath
- Blow for 1 second , watch chest rise
- If no chest rise, repeat method
- If unable to ventilate after 2 attempts, return to chest compression
- Precaution: gastric inflation



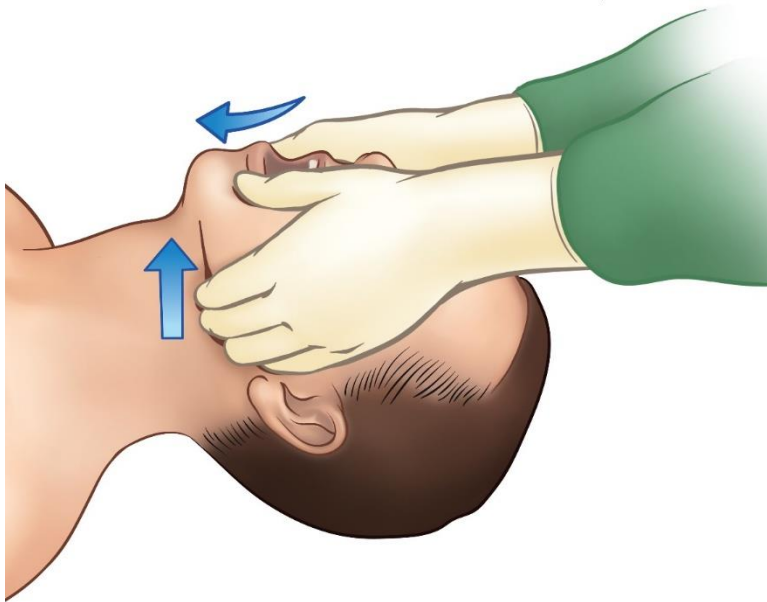
Mouth to mask breaths



- Position yourself
- Place mask
- Seal mask- hand closer to head-
index finger and thumb along the
edge
 - Thumb of 2nd hand along the
bottom edge, remaining
fingers- bony, margin of jaw
- Head tilt chin lift to open airway
- Deliver air over 1 second to make
the victim's chest rise

Jaw thrust

- Head, neck injury, you suspect spine injury
- 2 rescuer
- Place one hand on each side of victim's head
- Resting elbows on the surface on which victim is lying
- Place fingers under angle of lower jaw, lift with both hands, displace jaw forward
- Use thumbs to open lips





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CPR for infants

Key differences for infant BLS

- Pulse check- **brachial artery**
- Technique of compression- 2 fingers for single rescuer, 2 thumb encircling hands technique for 2 rescuers
- Compression depth- 1 ½ inches (4cm)
- Rate & ratio of 2 rescuers- 15:2
- activation of ERS same as child

What to do...



Scene safety

Check response & breathing

Shout for help

Activate ERS and Get AED

Check pulse

30 (15) compression/ 1 (2) rescue

2 breaths

Check pulse



Scene safety

Check response & breathing

Shout for help

Activate ERS and Get AED

Check pulse

30 (15) compression/ 1 (2) rescuer

2 breaths

Check Pulse

- ✓ Brachial pulse
- ✓ 2-3 fingers on inside of upper arm between elbow and shoulder
- ✓ At least 5 sec NOT > 10 sec



Chest compression



Scene safety

Check response & breathing

Shout for help

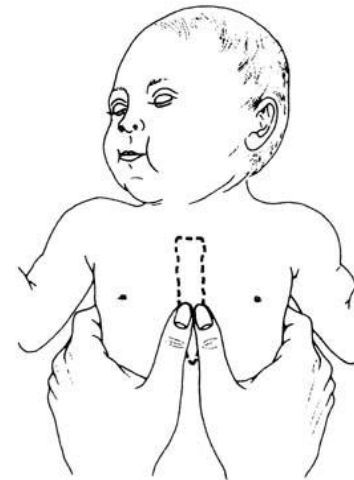
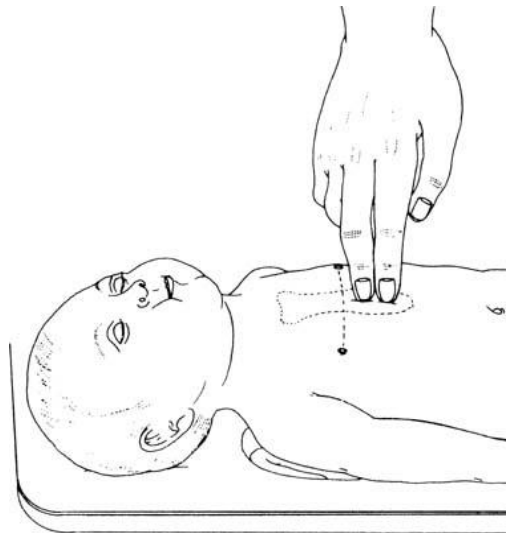
Activate ERS and Get AED

Check pulse

30 (15) compression/ 1 (2) rescuer

2 breaths

- Compression depth a 1½ inches (4 cm)
- Rate 100/min; 30 : 2 for 1 rescue, 15:2 for 2 rescue
- 2-finger chest compression technique- 2 fingers in center of infant's chest just below nipple line



Rescue breaths



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Neck- neutral position,
External Ear canal is level with
top of infant's shoulder

Scene safety

Check response & breathing

Shout for help

Activate ERS and Get AED

Check pulse

30 (15) compression/ 1 (2) rescue

2 breaths

Mouth to mouth and nose breath

- Preferred method
- Head tilt chin lift
- Place your mouth over infant's mouth and nose and make airtight seal
- Blow to make chest rise, give 2 breaths
- Repeat procedure if no chest rise

Mouth to mouth

- If can't cover the nose and mouth with your mouth
- Head tilt chin lift
- Pinch victim's nose
- Make mouth to mouth seal, give 2 breaths

2- rescuer infant CPR



- Place both thumb side by side in center of the chest on the lower half of sternum (thumbs may overlap in small infants)
- Encircle the chest and support the infant's back with the fingers of both hands
- Ratio 15:2, switching roles every 2 minutes

WHEN CAN I STOP CPR ?

- VICTIM REVIVES
- TRAINED HELP ARRIVES
- TOO EXHAUSTED TO CONTINUE

The Recovery Position



- **Make sure the person's legs are straight**
- **Place the arm nearest to you as though it is waving.**



- Bring the other arm across her body.
- Hold the back of her hand against her cheek.



- With your other hand, pull up the knee furthest from you. Make sure the foot is flat on the ground.
- Then roll the person towards you.



•Call 999 and ask for an ambulance.

Thank You !!

