

BASIC LIFE SUPPORT (BLS)



By: Dr. Akshita (PT)

M.P.T (Cardiopulmonary), B.P.T (AJIPT, Delhi University),
D.C.P.T

In charge, Department of Physiotherapy, IPHI, New
Delhi

Former PT Yashoda Super Specialty Hospital & DCCW

Former Intern Sir Ganga Ram Hospital

Certified BLS & ACLS, AHA

WHAT IS BASIC LIFE SUPPORT ?



Basic Life Support (BLS) defines Sequences of procedures performed to restore the circulation of oxygenated blood after a sudden pulmonary or cardiac arrest until they can be given full medical care at a hospital.

BLS does not include the use of drugs or invasive skills.

GLOBAL BURDEN OF SUDDEN CARDIAC ARREST

Approximately 700,000 cardiac arrests per year.

Bystander CPR before arrival of emergency services - doubles survival from sudden cardiac arrest.

Early resuscitation can result in >60 % survival.



BASIC LIFE SUPPORT

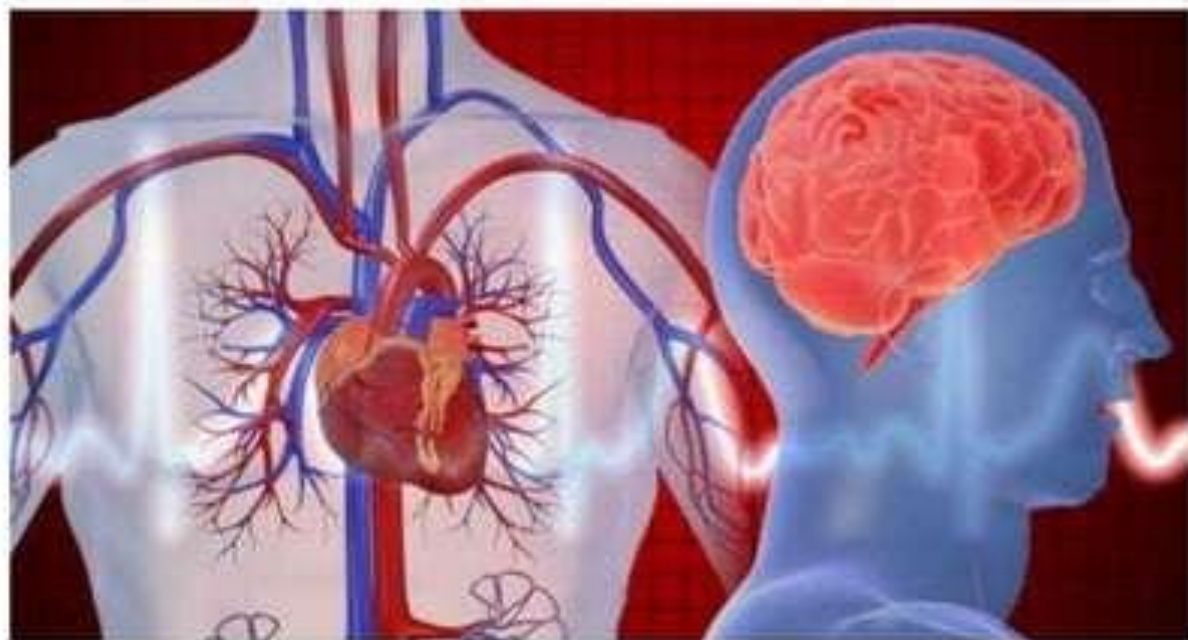


It can be provided by trained medical personnel, including paramedics, and by Anyone who knows, How To do it, anywhere, immediately, without any other equipment.



PURPOSES OF CPR

- ❑ Maintaining circulation and oxygenation in order to maintain a cardiac output to keep vital organs alive.



INDICATIONS OF CPR

CARDIAC ARREST

RESPIRATORY ARREST

COMBINATION OF BOTH



AHA GUIDELINES

The American Heart Association (AHA) is a non-profit organization in the United States.

They are known for publishing standards on basic life support and advanced cardiac life support (ACLS).

WHAT IS CAB APPROACH ?

There is a common acronym in BLS used to guide providers in the appropriate steps to assess and treat patients in respiratory and cardiac distress. This is **CAB-D** (**C**irculation, **A**irway, **B**reathing, **D**efibrillate)

CAB – Circulation Airway Breathing

Compression. **A**irway. **B**reathing



Compressions

Push hard and fast
on the center of
the victim's chest



Airway

Tilt the victim's head
back and lift the chin
to open the airway



Breathing

Give mouth-to-mouth
rescue breaths

CHAIN OF SURVIVAL

Chain of Survival



FIVE LINKS OF ADULT CHAIN OF SURVIVAL-

- Early recognition of cardiac arrest.
- Activation of the Emergency Response System.
- Early CPR, to provide blood supply to vital organs.
- Early defibrillation to restart the heart.
- Comprehensive post-cardiac arrest care to restore quality of life.

ACTIONS FOR PERFORMING ADULT CPR

- 1 Assess scene safety.
- 2 Determine responsiveness
- 3 Check carotid pulse
- 4 Perform chest compressions
- 5 Open Airway
- 6 Check Breathing and deliver breathe.

SCENE 1- YOU FIND AN ADULT LYING ON GROUND



ASSESS SCENE SAFETY



Assess to make sure the scene is safe for you to respond to the down patient.

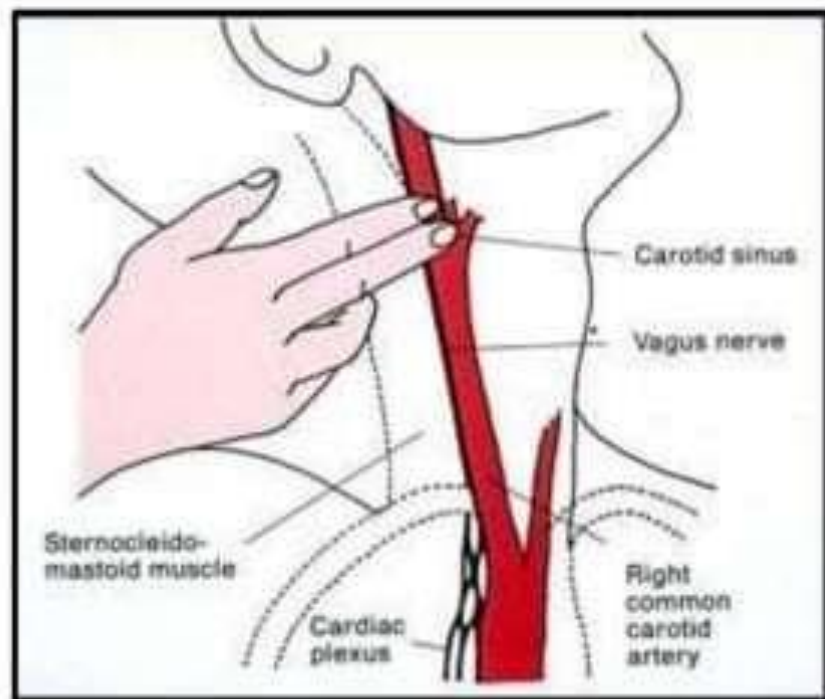
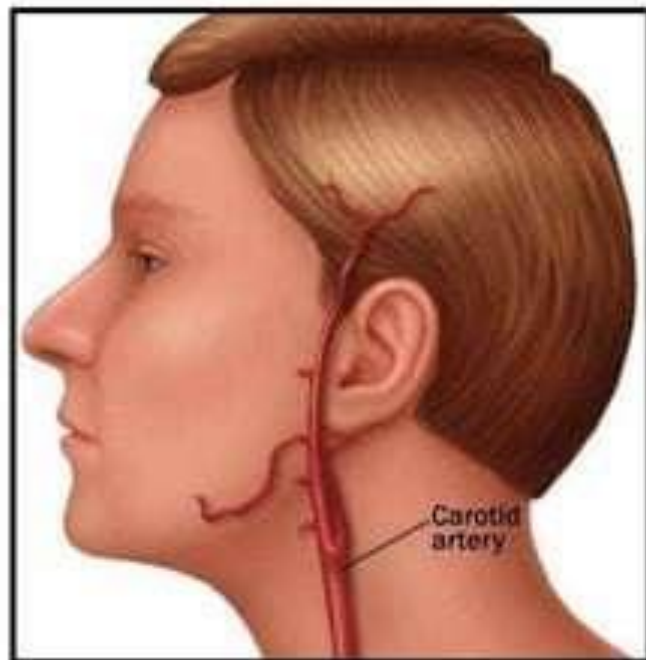
ASSESS RESPONSIVENESS

Shake the shoulder and speak to the adult asking **ARE YOU ALLRIGHT?** . Look at the chest and torso for movement and normal breathing simultaneously.



CHECK CIRCULATION

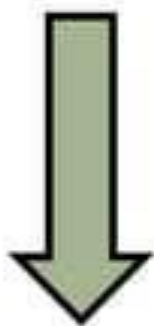
Check the patient for a palpable carotid pulse for 5-10 seconds. (Do not check for more than 10 seconds.)



SHOUT FOR HELP



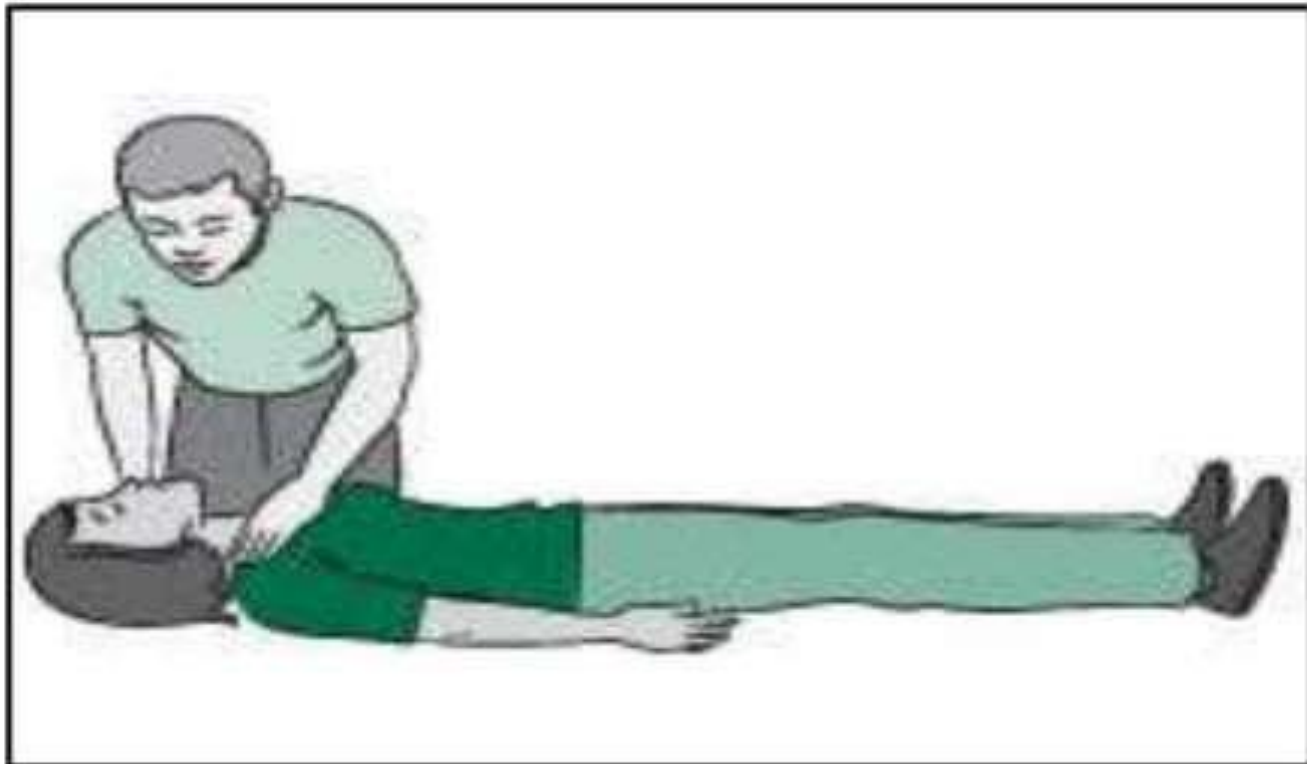
**IF THERE IS NO PULSE AND
NO/ABNORMAL BREATHING**



START CPR

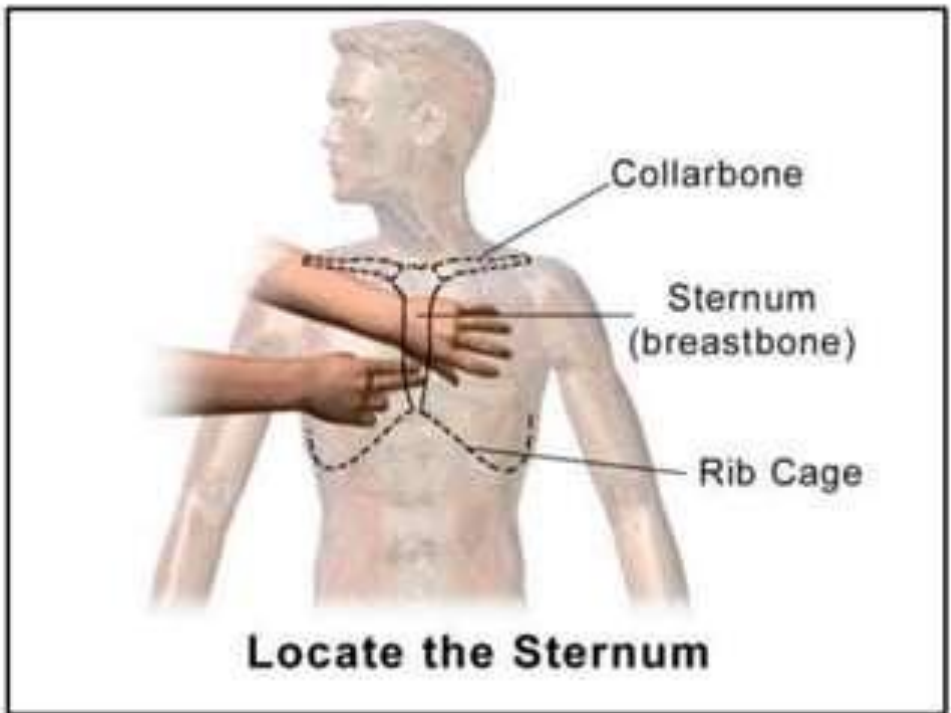
CARDIO-PULMONARY RESUSCITATION

- To start CPR, place patient in supine position on a firm and flat surface.
- Kneel down to the patient and locate the position for chest compression on person's chest.



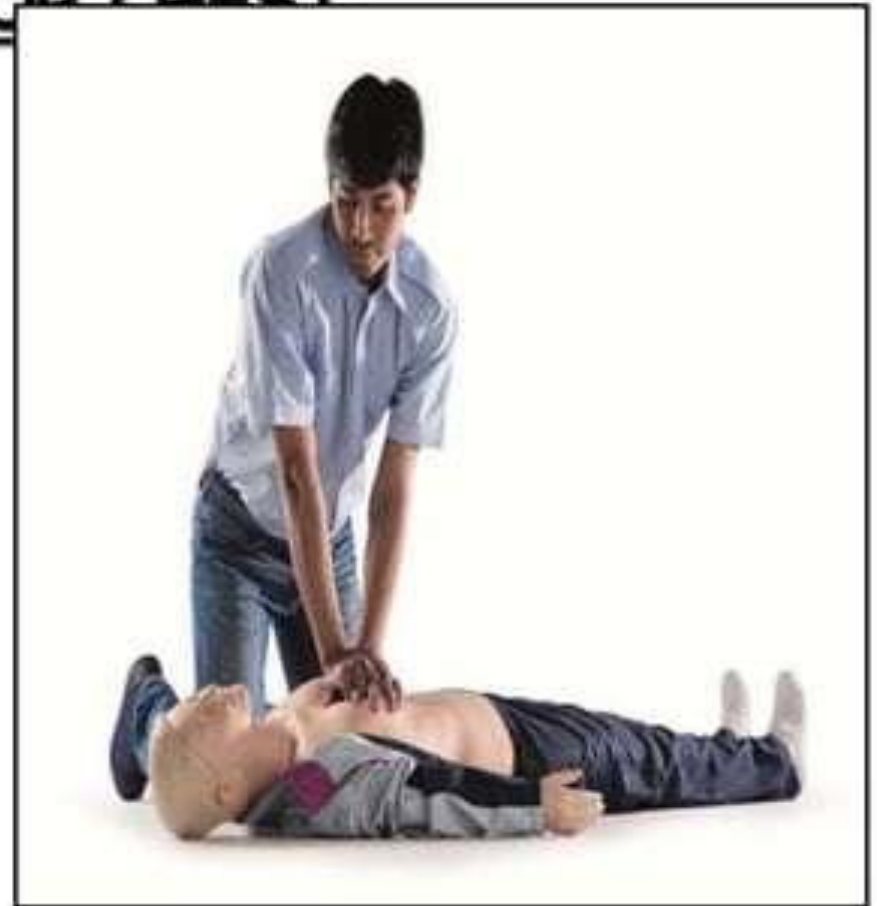
LOCATION OF CHEST COMPRESSIONS

Locate the lower 1/3 of the patient's sternum between the nipples in the midline of body.



HAND POSITIONING FOR CHEST COMPRESSIONS

1. Lock your arms.
2. Place the heel of one hand over the center of the person's chest, between the nipples. Place your other hand on top of the first hand.
3. Keep your elbows straight and position your shoulders directly above your hands.



CONTINUED.....

Use your upper body weight (not just your arms) as you push straight down on the chest at least 2 inches (approximately 5 centimeters) but not greater than 2.4 inches (approximately 6 centimeters).

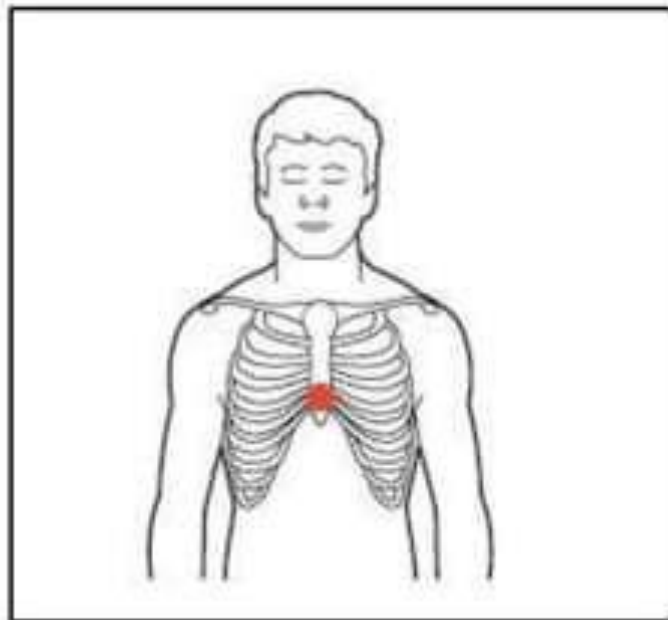


GOOD QUALITY CHEST COMPRESSIONS

Press hard and fast.

Allow for full chest recoil with each compression.

Allow for only minimal interruptions to chest compressions.



CHEST COMPRESSIONS

- Deliver 30 chest compressions initially.
- Push hard at a rate of 100 -120 compressions per minute.





AIRWAY

After initial 30 chest compressions, assess and establish airway.

Give 2 rescue breaths, each lasting for 1 second and assess for visible chest rise with each breath



AIRWAY : OPEN THE AIRWAY



After giving 30 chest compressions open victim's airway.

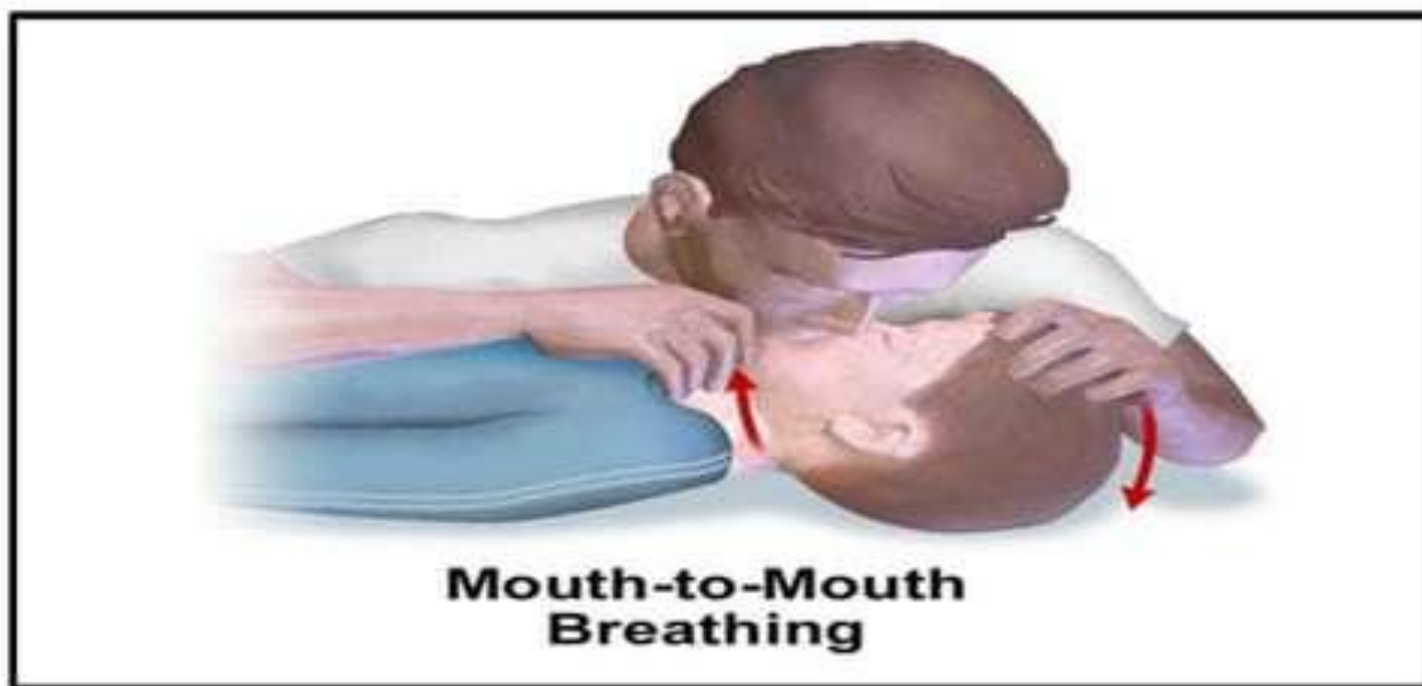
There are two maneuvers to open the airway-

HEAD- TILT CHIN-LIFT MANEUVER
(Or Jaw thrust maneuver if spinal cord injury is suspected).

JAW THRUST MANEUVER

RESCUE BREATHING

A technique used to resuscitate a person who has stopped breathing, in which the rescuer forces air into the victim's lungs at intervals of several seconds.



METHODS OF RESCUE BREATHS



- ❑ Mouth-to-Mouth Rescue Breathing
- ❑ Mouth-to-Nose and Mouth-to-Stoma Ventilation
- ❑ Ventilation With Bag and Mask
- ❑ Ventilation With an Advanced Airway



Mouth to Mouth Breathing

- ~~Use a barrier device if available.~~
- pinch the nostrils for mouth-to-mouth breathing.
- Make a seal using your mouth over the mouth of the patient or use a pocket mask or bag mask.



Bag and mask Ventilation: The one-hand E-C technique



Place the mask on the patient's face before attaching the bag. Using the non dominant hand, create a **C-shape** with the thumb and index finger over the top of the mask, and apply gentle downward pressure.

Hook the remaining fingers around the mandible, and lift it upward toward the mask, **creating the E.**



Cover the nose and the mouth with the mask without extending it over the chin. Change the size of the mask, as appropriate, to create a good seal.



RESCUE BREATHING

Each rescue breath should last approximately 1 second.

- Watch for chest rise.
- Allow time for the air to expel from the patient.

Cardio-Pulmonary Resuscitation

1 cycle of adult CPR is 30 chest compressions to 2 rescue breaths.

Perform 5 cycles of CPR (lasts approximately 2 minutes).



CONTINUE CPR



30



2

If two providers are present: switch rolls between compressor and rescue breather every 5 cycles.

High Quality CPR

30 compressions to 2 breaths

100-120 compressions per minute

RATE AND DEPTH OF CPR

**Not too fast;
Not too hard**



**100-120/min
5-6cm deep**

CONTINUE RESUSCITATION UNTIL

- Qualified help arrives and takes over
- The victim starts breathing normally
- Rescuer becomes exhausted

AUTOMATED EXTERNAL DEFIBRILLATOR

An AED, or automated external defibrillator, is a device that has the ability to detect irregular heart rhythm and it automatically delivers a defibrillation shock to stop irregular heart beat and allow a normal rhythm to resume.

AEDs are designed to be used by any laypersons.



ATTACH PADS TO CASUALTY'S BARE CHEST



©LRC



©LRC

DEFIBRILLATION



YOU CLEAR



I CLEAR

ALL CLEAR



**IF VICTIM STARTS TO BREATHE
NORMALLY PLACE IN RECOVERY
POSITION**



RECOVERY POSITION



COMPLICATIONS OF CPR

1. Rib Fracture
2. Internal injuries to organs
3. Laceration related to the tip of the sternum
4. Vomiting and aspiration
5. Gastric distension.

TAKE HOME MESSAGE

Taking the right action quickly and confidently can make the difference between life and death for a person dealing with cardiac arrest.

