CARDIO PULMONARY RESUSCITATION (CPR)

OR

Basic Life Support (BLS)-1

(First Lecture)

(It will be performed in our college skill lab, IA)

By
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Introduction

- Cardiopulmonary resuscitation (CPR) is a lifesaving technique useful in many emergencies, including heart attack or near drowning, in which someone's breathing or heartbeat has stopped.

Definition

- Cardio Pulmonary Resuscitation is a technique of Basic Life Support for oxygenating the brain and heart until appropriate, definitive medical treatment can restore normal heart and ventilatory action.

Learning Objectives

- How to save the life of a Patient ?
- How to provide basic life support till the medical and advanced life support arrives ?
- How to maintain an open and clear airway **(A)** ?
- How to maintain breathing by external ventilation **(B)** ?
- How to maintain Blood circulation by external cardiac massages **(C)?**
- How and when you will use Defibrillator **(D) ?**
- In short remember ABCD in CPR or BLS/ALS?
- What care you will do of a patient before, during and after CPR?

Indications

Cardiac Arrest

- Ventricular fibrillation (VF)
- Ventricular tachycardia (VT)
- Asystole
- Pulse less electrical activity

Respiratory Arresst

- This may be result of following:
- Drowning
- Stroke
- Foreign body in throat
- Smoke inhalation
- Drug overdose
- Suffocation
- Accident, injury
- Coma
- Epiglottis paralysis.

Other Indications

- Fluid imbalance
- extensive hemorrhage, hypotension, shock
- Neurological causes
  brain injuries, massive CVA
- Poisons substance and drug overdose co poisoning, propranolol over dose
- Hypothermia/ hyperthermia

Other causes
electrical shock, hypothermia, narcotic overdose

Principles of CPR

- To restore effective circulation and ventilation.
- To prevent irreversible cerebral damage due to anoxia. When the heart fails to maintain the cerebral circulation for approximately four minutes the brain may suffer irreversible damage.

Procedure of CPR

Sequences of procedures performed to restore the circulation of oxygenated blood after a sudden pulmonary and/or cardiac arrest

Chest compressions and pulmonary ventilation performed by **anyone** who knows how to do it, **anywhere, immediately, without** any other **equipment**

- Approach safely
- Check response
- Shout for help
- Open airway
- Check breathing
- Call 1122
- 30 chest compressions
- 2 rescue breaths
- Defibrillator

APPROACH SAFELY

WATCH AND OBSERVE

Approach safely
Check response
Shout for help
Open airway
Check breathing
Call 1122
30 chest compressions
2 rescue breaths
Defibrillator

CHECK RESPONSE

- Approach safely
- **Check response**
- Shout for help
- Open airway
- Check breathing
- Call 112
- 30 chest compressions
- 2 rescue breaths
- Defibrillator

CHECK RESPONSE

Shake shoulders gently

Ask “Are you all right?”

If he responds

- Leave as you find him.
- Find out what is wrong.
- Reassess regularly.

SHOUT FOR HELP

- Approach safely
- Check response
- **Shout for help**
- Open airway
- Check breathing
- Call 112
- 30 chest compressions
- 2 rescue breaths
- Defibrillator

OPEN AIRWAY

- Approach safely
- Check response
- Shout for help
- **Open airway**
- Check breathing
- Call 112
- 30 chest compressions
- 2 rescue breaths
- Defibrillator

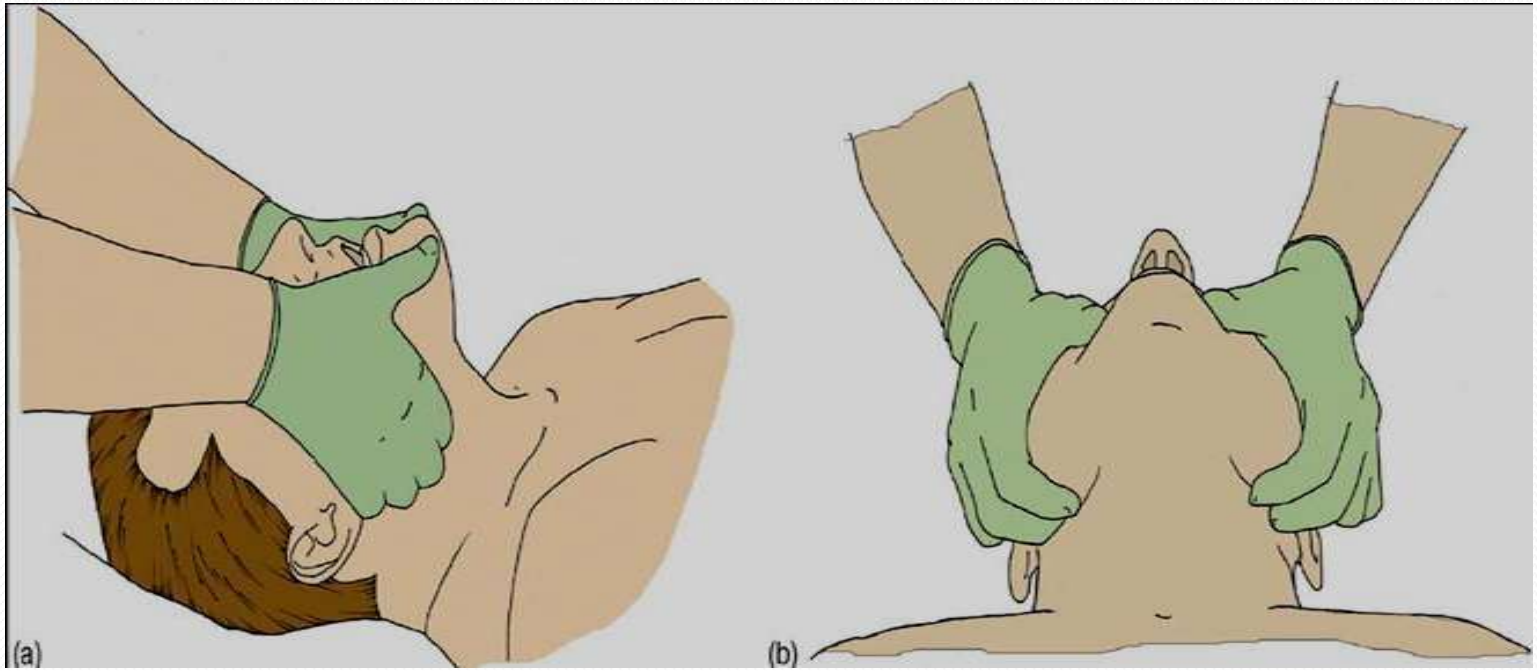
OPEN AIRWAY

Head tilt and chin lift

- lay rescuers
- non-healthcare rescuers

No need for finger sweep
unless solid material can be seen in the airway

OPEN AIRWAY



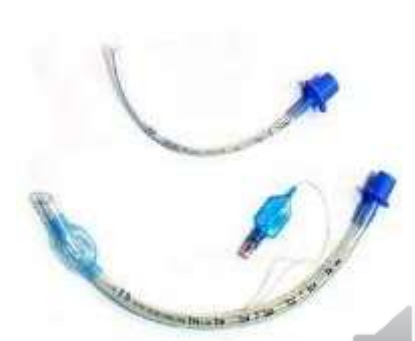
Head tilt, chin lift + jaw thrust

EQUIPMENTS

i. **Ambu bag and masks with different size.**

ii. **Oropharyngeal airways.**

iii. **Endotracheal tubes of appropriate sizes and stillet.**



E T TUBE

EQUIPMENTS

iv. **Paediatric laryngoscope with straight (Miller) and curved (McIntosh)**

blade - Appropriate sizes.

v. **Suction apparatus.**

vi. **NG tube.**

EQUIPMENTS

i. IV equipments & fluids
ii. Pulse-oxymetry
iii. Oxygen sources
iv. Automated external defibrillator

v. Emergency drugs
vi. Cardiac monitor

MOUTH TO MASK VENTILATION

BAG MASK VENTILATION

NEONATAL PEDIATRIC ADULT

CHECK BREATHING

- Approach safely
- Check response
- Shout for help
- Open airway
- **Check breathing**
- Call 1122
- 30 chest compressions
- 2 rescue breaths

CHECK BREATHING

- Look, listen and feel for NORMAL breathing
- Do not confuse agonal breathing with NORMAL breathing

AGONAL BREATHING

- Occurs shortly after the heart stops in up to 40% of cardiac arrests
- Described as barely, heavy, noisy or gasping breathing
- Recognise as a sign of cardiac arrest