Advanced Life Support-I

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- Cardiac arrest
- Basic life support
- Advanced life support

What is a cardiac arrest ?

- For lay people

  Absence of normal breathing in a non- responsive victim

- Medical staff can feel for pulse

- Not-responding
- Not breathing
- Absence of pulse

No time to waste

- Brain – very vulnerable to Hypoxic/ Ischaemic injury (3-4 min)
- No time to learn/ refer to texts/ consult etc
- Whoever who is present has to perform Life support-at the site

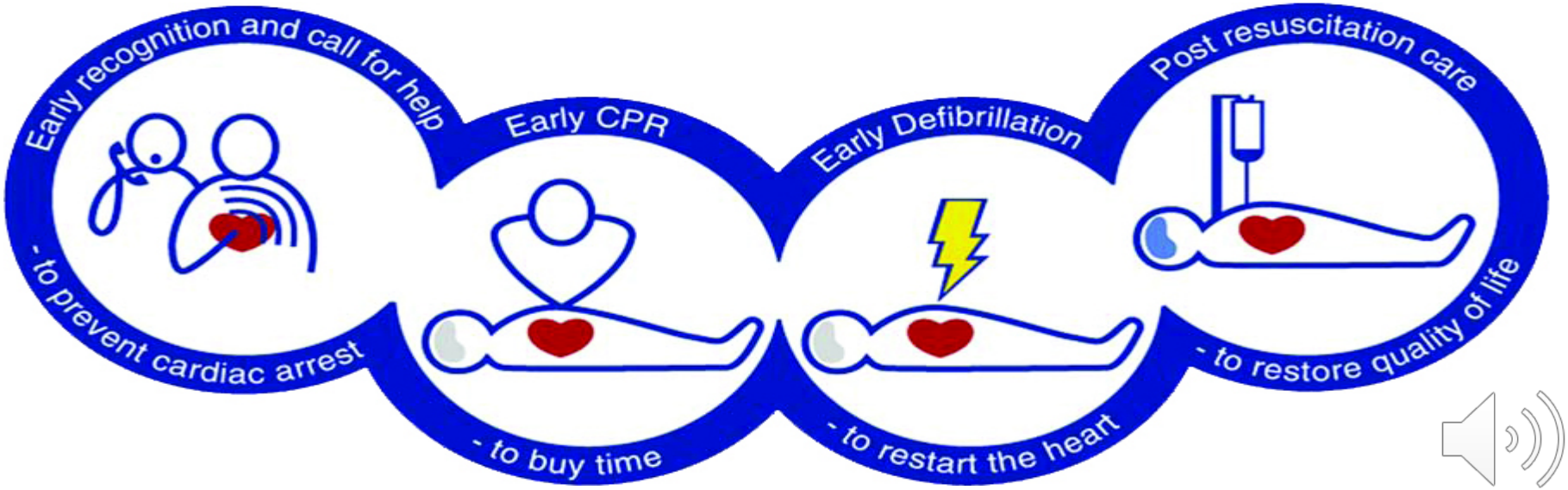
Why should we learn life support?

- Standardised approach to CPR
- All practicing the same protocol
- Well trained people
- Well equipped
- Equipment available at hand

- Better Handling of a crisis

Chain of Survival

- Early recognition and call for Help
- Early CPR (by the bystanders)
- Early Defibrillation
- Early ALS & Post resuscitation care



Basic Life Support vs Advanced Life Support

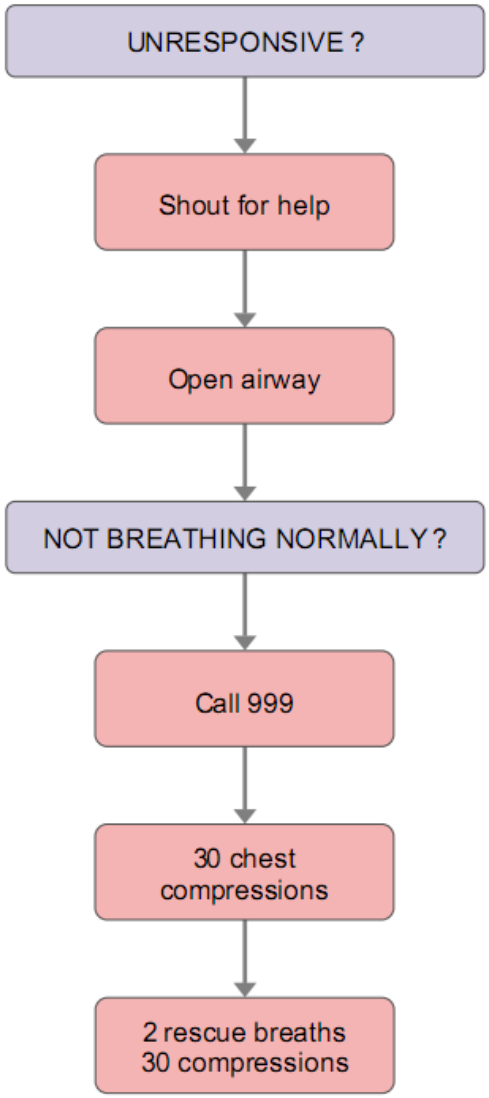
Why should we learn Life Support

Basic Life Support

- Maintaining airway, Supporting breathing & circulation without the support of equipment other than protective devices.

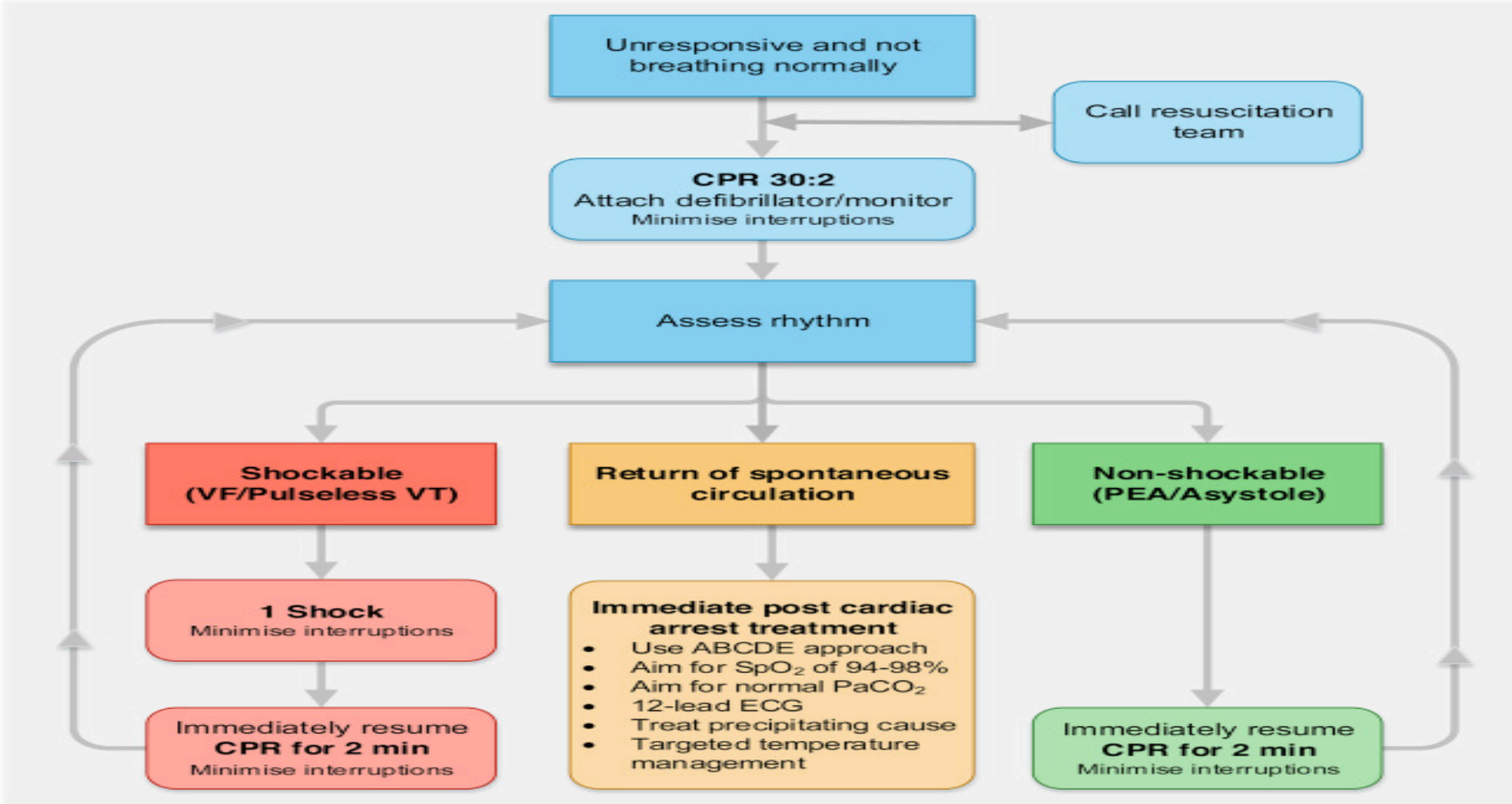
Resuscitation Council (UK)

Adult basic life support algorithm



Resuscitation Council (UK) GUIDELINES 2015

Adult Advanced Life Support



During CPR

- Ensure high quality chest compressions
- Minimise interruptions to compressions
- Give oxygen
- Use waveform capnography
- Continuous compressions when advanced airway in place
- Vascular access (intravenous or intraosseous)
- Give adrenaline every 3-5 min
- Give amiodarone after 3 shocks

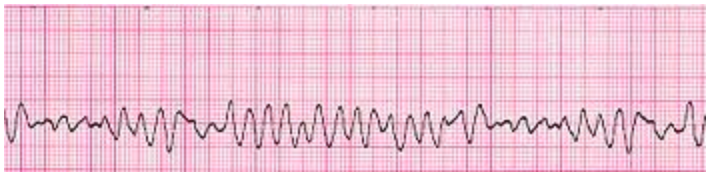
Treat Reversible Causes

- Hypoxia
- Hypovolaemia
- Hypo-/hyperkalaemia/metabolic
- Hypothermia
- Thrombosis - coronary or pulmonary
- Tension pneumothorax
- Tamponade – cardiac
- Toxins

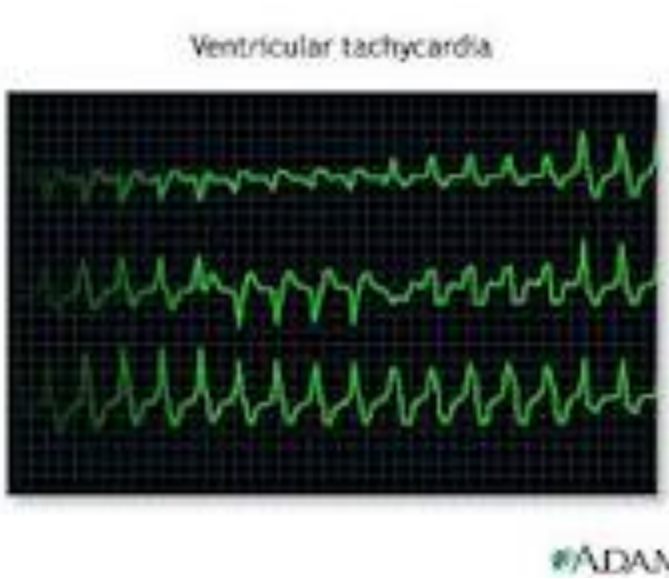
Consider

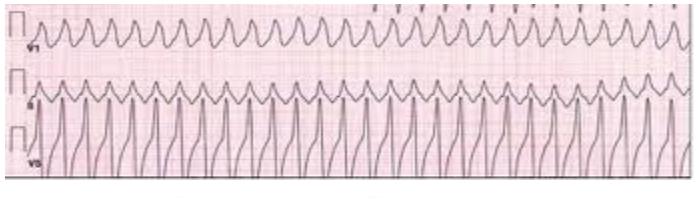
- Ultrasound imaging
- Mechanical chest compressions to facilitate transfer/treatment
- Coronary angiography and percutaneous coronary intervention
- Extracorporeal CPR

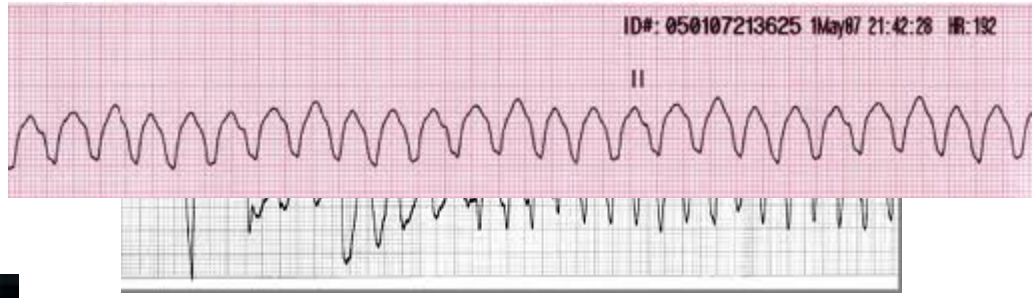
Shockable rhythms
Ventricular Fibrillation



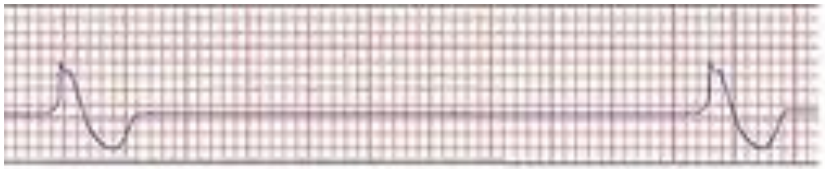
Shockable rhythms
Ventricular Tachycardia(Pulseless)

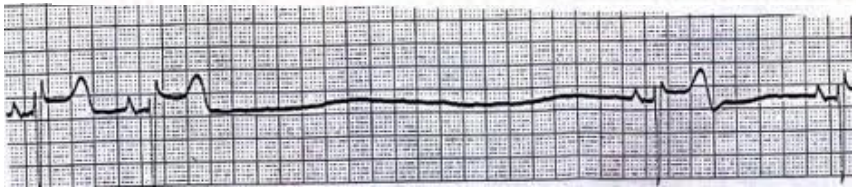


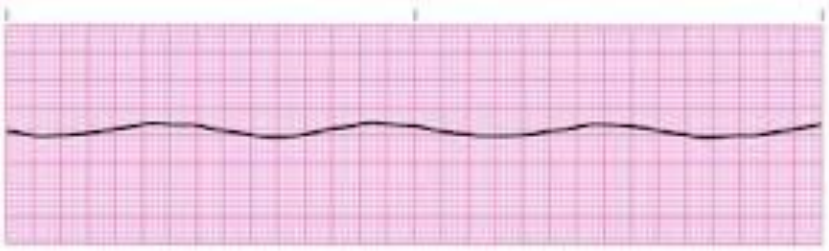




Non-shockable rhthms
Asystole & Pulseless Electrical activity







Shockable rhythms
VF/VT

- Defibrillate straightaway

if there is a defibrillator nearby

Otherwise start chest compressions, till a defibrillator arrives

ALS

- See whether its safe to approach
- Check for responsiveness
- Open the airway-head tilt & chin lift
- Check for breathing (& pulse by medical staff – simultaneously)
- Look, Listen & Feel (Listen & feel need not be done on unknown patients)
- If there is no response, no breathing & no pulse-it's a cardiac arrest.

Airway

1. Open the airway
    - Head tilt
    - Chin lift
    - Jaw thrust
2. Clear the airway
    - Suck out
    - Wipe
    - Finger sweep
3. Maintain patency

Airway

- Maintain patency of the airway
  - Manually- by head tilt, chin lift etc
- Airway adjuncts
  - Airways-Oropharyngeal, Nasopharyngeal
- Definitive airway
  - Intubation with an Endotracheal Tube
- Alternative airways with less skilled hands
  - Laryngeal Mask Airway LMA

Look, Listen, Feel
(with cautions-due to Covid)

Breaths
mouth to mouth breathing-not done now

- Start artificial breaths

With 2 rescue breaths

Open the airway

Pinch the nostrils

Take a deep breath

Tight seal around the victim's mouth

Deliver 2 breaths

Breaths

Breaths - Ventilation

Breaths

- See the chest rising and falling
- With chest compressions at a rate of 30:2
- After intubation- no need to co-ordinate with chest compressions

continue at a rate of 12-14/min

Modification for Covid

- Wear PPE (Personal protective gear)
- No need to do-listen & feel
- **For a loved one**-Cover the face by a cellophane, Chest compressions only CPR
- **For an unknown person**-wear PPE, no aerosol generation procedures, clean the area till help comes with PPE, iv cannula-drip, defibrillation
- **With PPE-**

  minimal airway suctioning
  can do mask ventilation by a trained person
  minimal mask ventilation
  can use a LMA
  even with LMA chest compressions to ventilation is 30:2
  early intubation and a viral filter