

Advanced Cardiac Arrest Algorithm Adult and Paediatric

HAZARDS

Ensure the scene is safe

HELLO

- Unresponsive?
- Not breathing or only gasping?
- Pulse?

HAS PULSE AND BREATHING

- Place in recovery position
- Check for continued breathing
- Reassess continuously

HELP

Call for assistance and AED/Defibrillator
Emergency No:

HAS PULSE BUT NO EFFECTIVE BREATHING

Give rescue breaths

- Adult: every 6 seconds
- Child: every 3 seconds
- Infant: every 2 seconds
- Reassess continuously

No Pulse or not sure
Pulse rate <60 in children and infants

START CHEST COMPRESSIONS

- Compress the chest fast (almost 2 per second)
- Push hard | Ensure full chest recoil
- Minimise interruptions
- Change or switch compressors every two minutes

HIGH QUALITY CPR

- Compression rate 100-120 per minute
- Avoid excessive ventilation
- Advanced airway in place: Adults: 1 breath every 6sec
Child: 1 breath every 3 sec
Infant: 1 breath every 2sec
- Consider capnography and arterial monitoring

BREATHS

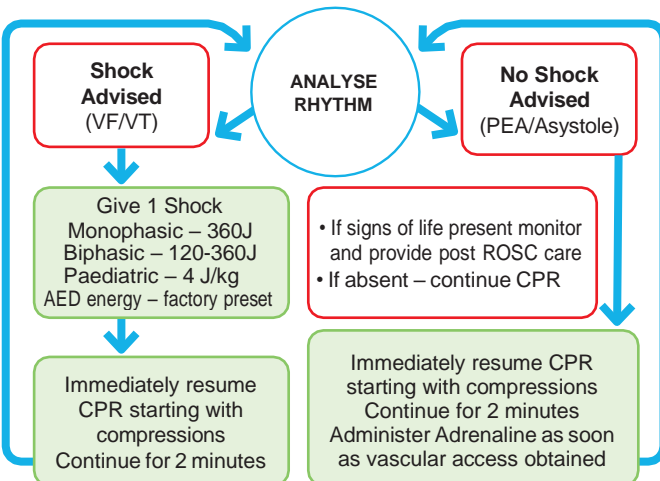
- Attempt 2 breaths at 1 breath/second (with O₂ if available) after every 30 compressions
- Adult ratio 30:2 | Children/Infants 30:2 (2-rescuer 15:2)
- Continue until AED/Defibrillator arrives

If unable to perform breaths, do continuous compressions until equipment arrives

ADVANCED CONSIDERATIONS

- Correct contributory causes
- Obtain IV/IO access, take ABG/VBG
- Give high levels of FiO₂ and consider advanced airway if required
- Continuous chest compressions after advanced airway in place
- Consider Adrenaline and antiarrhythmics (VF/pVT):
 - Adrenaline 1mg every 3-5 min (0.01mg/kg in paediatrics)
 - Amiodarone 300mg followed by 150mg (5mg/kg in paediatrics)
- OR**
- Lignocaine 1.5mg/kg initial, followed by 0.5mg/kg (max 3mg/kg)

Attach AED/Defibrillator immediately



CONTRIBUTORY CAUSES

• Hypoxia	• Tension Pneumothorax
• Hypovolaemia	• Tamponade (Cardiac)
• Hypothermia	• Toxins
• Hydrogen ion (Acidosis)	• Trauma
• Hypo/Hyperkalaemia	• Thrombosis (Coronary)
• Hypoglycaemia	• Thrombosis (Pulmonary)

ADDITIONAL CONSIDERATIONS:

- VA ECMO might be considered in appropriate centres when available;
- Ultrasound can be considered as a diagnostic and procedural tool where training and resources exist