ADVANCED CARDIAC ARREST ALGORITHM
Adult and Paediatric

Hazzards?
Ensure scene is safe

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

Help!
Call for assistance
and AED / Defib
Emergency number:

Has pulse and breathing
• Place in recovery position
• Check for continued breathing
• Reassess continuously

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

Has pulse but no effective breathing
• Give rescue breaths
• Adult: every 6 seconds
• Child: every 5 seconds
• Infant: every 4 seconds
• Reassess continuously

Start Compressions
Compress the chest fast (almost 2 per second)
Push hard / Ensure full chest recoil /
Minimize interruptions

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 / Defib arrives
Attach AED / Defib immediately

High Quality CPR:
• Compression rate 100 – 120 per minute
• Avoid excessive ventilation;
  1 breath every 6 seconds if advanced airway
• Rotate compressors every 2 minutes
• Consider capnography and arterial monitoring

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

Analyse Rhythm

Shock Advised
(VF/VT)
Give 1 Shock
Monophasic – 360J
Biphasic – 120-360J
Paediatric – 4J/kg
Immediately resume CPR starting with compressions. Continue for 2 minutes

No Shock Advised
(PEA/Asystole)
• If signs of life present monitor and provide post ROSC care
• If absent - continue CPR
Immediately resume CPR starting with compressions. Continue for 2 minutes

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:
  • Adrenaline 1mg every 3 - 5 min (0.01mg/kg in paed)
  • Amiodarone 300mg followed by 150mg (5mg/kg in paed)
  or if not available
  Lignocaine 1.5mg/kg initial, followed by 0.5mg/kg (max 3mg/kg)

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

Additional considerations:
1) VA ECMO might be considered in appropriate centres when available;
2) Ultrasound can be considered as a diagnostic and procedural tool where training and resources exist.