

# Advanced Cardiac Arrest Algorithm for Covid-19 Pandemic

## PREPARATION + HAZARDS

Ensure environment is safe → Alert for Covid 19 → Pre- cardiac arrest discussion on DNAR-CPR  
**Don all appropriate PPE** → Advisable to have pre-arrest readiness teams to not delay PPE & Resus

## HELLO

- Look from a distance, keep others safely away
- Do not feel for breathing, but look for visible chest rise and feel for pulse

## HELP

Call either 112 or local ambulance, Call for assistance, Defib/AED

EMERGENCY NUMBER

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

### HAS PULSE AND BREATHING

- Place in recovery position
- Look from a distance for continued breathing and reassess regularly
- Maintain "Crowd control" at least 2m from the patient

### HAS PULSE BUT NO EFFECTIVE BREATHING

- Give rescue breaths
- Two handed mask technique, tight seal + viral filter
- Definitive airway ASAP
- Supraglottic or Video laryngoscopy

Single rescuer – cover face with surgical mask/3 ply cloth  
 Team rescuer – cover face with BVM + tight seal + filter

## START CHEST COMPRESSIONS

- Push Hard and Fast (almost 2/second)
- Ensure full chest recoil
- Minimize interruptions
- If witnessed arrest continuous compressions while waiting immediate ECG analysis (100% O<sub>2</sub> via tight fitting mask)

## BREATHS

- Early intubation/SGD is preferable (depending on competency)
- Preferably - delay breaths with continuous compressions until full PPE donned for airway manager
- Attempt 2 breaths at 1 breath/second with 100% Oxygen
- Adult ratio 30:2/Children 30:2 if alone, 15:2 2-rescuer
- Continue until AED/Defib arrives and attach immediately

## ATTACH AED / DEFIB IMMEDIATELY

### ANALYSE RHYTHM

Shock Advised  
(VF/VT)

No Shock Advised  
(PEA/Asystole)

Give 1 Shock  
 Monophasic – 360J  
 Biphasic – 120-360J  
 Paediatric –2- 4J/kg

If signs of life are present, monitor and provide post ROSC care.  
 If absent continue CPR

Immediately resume CPR starting with compressions.  
 Continue for 2 minutes

## AIRWAY MANAGEMENT

- NB – highest risk of viral contamination to rescuers
- Rescuer must have full PPE
- Early definitive airway with attachment to ventilator
- Viral filter protection placed on BVM and ventilator
- Video laryngoscopy is recommended to distance rescuer from the pt's mouth and nose (if competent) - otherwise SGD (LMA/iGel)
- Cover the patients mouth and nose after the airway procedure

## 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 (or 1 min if in full PPE)
- Consider capnography and arterial monitoring

## ADVANCED CONSIDERATIONS

- Correct the cause as soon as possible
- Avoid prolonged resuscitations (if no cause found)
- Obtain IO/IV access, take ABG/VBG
- Early intubation with viral protection due to aerosol generation
- Continuous chest compressions after definitive airway – place on ventilator as soon as possible with viral protection (adjust alarm settings)
- Consider Adrenaline and other anti-arrhythmics
- Adrenaline 1mg every 3-5mins (0.1 mls/kg of 1:10 000 in paed)

## CONTRIBUTORY CAUSES

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