2040 ADULT (AGE ≥ 12 years) CARDIAC ARREST
GENERAL PRINCIPLES

Specific Information Needed For Patient Care Report

- Onset (witnessed or unwitnessed), preceding symptoms, bystander CPR, downtime before CPR and duration of CPR
- Past History: medications, medical history, suspicion of ingestion, trauma, environmental factors (hypothermia, inhalation, asphyxiation)
- Lack of DNR orders if elderly or infirm.
- Initial rhythm on placement of cardiac monitor

Document Specific Objective Findings

- Unconscious, unresponsive
- Agonal, or absent respirations
- Absent pulses
- Any signs of trauma, blood loss
- Skin temperature

General Guidelines: Chest Compressions

- Push hard (2” compressions is adults) and push fast (100-120/minute)
- Ensure full chest recoil
- Rotate compressors every 2 minutes with rhythm checks (CPR Cycle)
- During CPR, any interruption in chest compressions deprives heart and brain of necessary blood flow and lessens chance of successful defibrillation
  o Continue CPR while defibrillator is charging, and resume CPR immediately after all shocks. Do not check pulses except at end of CPR cycle and if rhythm is organized at rhythm check
  o Try to coordinate to make analyze/rhythm checks and defibrillation pauses < 10 sec.

General Guidelines: Defibrillation

- In unwitnessed cardiac arrest, give first 2 minutes of CPR without interruptions for ventilation. During this time period passive oxygenation is preferred with OPA and NRB facemask.
- If arrest is witnessed by EMS, immediate defibrillation is first priority, CPR should be performed while attaching defibrillator.
- All shocks should be given as single maximum energy shocks
  o Manual biphasic: follow device-specific recommendations for defibrillation. If uncertain, give maximum energy (e.g. 200J)
  o Manual monophasic: 360J
  o AED: device specific

General Guidelines: Ventilation during CPR

- If suspected cardiac etiology of arrest, during first approximately 5-6 minutes of VT/VF arrest, passive oxygenation with OPA and NRB facemask is preferred to positive pressure ventilation with BVM or advanced airway
- EMS personnel must use good judgment in assessing likely cause of pulseless arrest. In patients suspected of having a primary respiratory cause of cardiopulmonary arrest, (e.g.: COPD or status asthmaticus), adequate ventilation and oxygenation are a priority
- In general, patients with cardiac arrest initially have adequately oxygenated blood, but are in circulatory arrest. Therefore, chest compressions are initially more important than ventilation to provide perfusion to coronary arteries
- Do not interrupt chest compressions and do not hyperventilate. Hyperventilation decreases effectiveness of CPR and worsens outcome.
General Guidelines: Timing Of Placement Of Advanced Airway

- Advanced airway (e.g. King, LMA, ETT) may be placed at any time after initial 3 rounds of chest compressions and rhythm analysis, provided placement does not interrupt chest compressions
- Once an advanced airway is in place, compressions are given continuously and breaths given asynchronously at 8-10 per minute
- Always confirm advanced airway placement with ETCO₂
  - Use continuous waveform capnography if available. In low flow states such as cardiac arrest, colorimetric CO₂ detector may be inaccurate and not sense very low CO₂ level

General Guidelines: Pacing

- Pacing is not indicated for asystole and PEA. Instead start chest compressions according to Universal Pulseless Arrest Algorithm.
- Pacing should **not** be undertaken if it follows unsuccessful defibrillation of VT/VF as it will only interfere with CPR and is not effective

General Guidelines: ICD/Pacemaker patients

If cardiac arrest patient has an implantable cardioverter defibrillator (ICD) or pacemaker: place pacer/defib pads at least 1 inch from device. Biaxillary or anterior posterior pad placement may be used

Transport of Cardiac Arrest Patients

- The best chance of survival for out of hospital cardiac arrest is by providing high quality, uninterrupted CPR and early defibrillation
- It is virtually impossible to perform adequate CPR in a moving ambulance
- Patients should generally have resuscitation attempts performed on scene and patients not transported without return of spontaneous circulation (ROSC) unless scene safety or other extreme circumstances dictate otherwise.
- Patients who do not have ROSC should be considered for termination of resuscitation (TOR) efforts according to TOR Policy.