Adult Asystole / Pulseless Electrical Activity

History
- SAMPLE
- Estimated downtime
- See Reversible Causes below
- DNR, MOST, or Living Will

Signs and Symptoms
- Pulseless
- Apneic
- No electrical activity on ECG
- No heart tones on auscultation

Differential
- See Reversible Causes below

Cardiac Arrest Protocol AC 3

Criteria for Death / No Resuscitation
Review DNR / MOST Form

YES

Decomposition
Rigor mortis
Dependent lividity
Blunt force trauma
Injury incompatible with life
Extended downtime with asystole

Do not begin resuscitation

Follow Deceased Subjects Policy

NO

Begin Continuous CPR Compressions
Push Hard (≥ 2 inches)
Push Fast (110 compressions/min)
Change Compressors every 200 compressions
(Limit changes / pulse checks ≤ 10 seconds)
Ventilate 1 breath every 10 seconds
Monitor ETCO2

P — **At compression #180 of each cycle:**
Charge defibrillator at 200 joules
If SHOCKABLE rhythm present, deliver shock and immediately continue chest compressions
If NONSHOCKABLE rhythm present, utilize DISARM soft key

AED Procedure
if available

Search for Reversible Causes

P — Consider Chest Decompression Procedure

P — Cardiac Monitor

A — IV / IO Procedure

A — **Epinephrine (1:10,000) 1 mg IV / IO**
Repeat every 5 minutes

A — **Normal Saline Bolus 500 mL IV / IO**
May repeat as needed
(Maximum 2 L)

Adult Rhythm Appropriate Protocol(s)
as indicated

P — **Sodium Bicarbonate 50 mEq IV / IO**

Only in dialysis/renal patients, known Hyperkalemia or Tricyclic Antidepressant overdose

On Scene Resuscitation / Termination of Resuscitation Protocol(s) AC 12
as indicated

Notify Destination or Contact Medical Control

Reversible Causes

Hypovolemia
Hypoxia
Hydrogen ion (acidosis)
Hypothermia
Hypo / Hyperkalemia

Tension pneumothorax
Tamponade; cardiac
Toxins
Thrombosis; pulmonary (PE)
Thrombosis; coronary (MI)

AT ANY TIME

Return of Spontaneous Circulation

Go to Post Resuscitation Protocol AC 9

Adult Cardiac Protocol Section

Adult Asystole / Pulseless Electrical Activity

Pearls

- **Team Focused Approach / Pit-Crew Approach recommended; assigning responders to predetermined tasks. Refer to optional protocol or development of local agency protocol.**
- **Efforts should be directed at high quality and continuous compressions with limited interruptions and early defibrillation when indicated.**
- **DO NOT HYPERVENTILATE: Ventilate 1 breath / 10 seconds with continuous, uninterrupted compressions.**
- **Do not interrupt compressions to place endotracheal tube. Consider BIAD first to limit interruptions.**
- **Passive oxygenation optional in agencies practicing Team Focused Approach / Pit-Crew Approach.**
- Reassess and document BIAD and / or endotracheal tube placement and EtCO2 frequently, after every move, and at transfer of care.
- **IV / IO access and drug delivery is secondary to high-quality chest compressions and early defibrillation**.
- **Defibrillation:** Follow manufacture's recommendations concerning defibrillation / cardioversion energy when specified.
- **End Tidal CO2 (EtCO2)**

  If EtCO2 is < 10 mmHg, improve chest compressions.
  If EtCO2 spikes, typically > 40 mmHg, consider Return of Spontaneous Circulation (ROSC)
- **Special Considerations**

  Maternal Arrest - Treat mother per appropriate protocol with immediate notification to Medical Control and rapid transport preferably to obstetrical center if available and proximate. Place mother supine and perform Manual Left Uterine Displacement moving uterus to the patient's left side. IV/IO access preferably above diaphragm. Defibrillation is safe at all energy levels.

  Renal Dialysis / Renal Failure - Refer to Dialysis / Renal Failure protocol caveats when faced with dialysis / renal failure patient experiencing cardiac arrest.

  Opioid Overdose - Naloxone 2 mg IM / IV / IO / IN. EMT may administer Naloxone via IN route only. May give from EMS supply.

  Drowning / Suffocation / Asphyxiation / Hanging / Lightening Strike – Hypoxic associated cardiac arrest and prompt attention to airway and ventilation is priority followed by high-quality and continuous chest compressions and early defibrillation.
- **Transcutaneous Pacing:**

  Pacing is NOT effective in cardiac arrest and pacing in cardiac arrest does NOT increase chance of survival
- Success is based on proper planning and execution. Procedures require space and patient access. Make room to work.
- Discussion with Medical Control can be a valuable tool in developing a differential diagnosis and identifying possible treatment options.