



# 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 (100 - 120 / min)**  
**Change Compressors every 2 minutes**  
**(sooner if fatigued)**  
**(Limit changes / pulse checks ≤ 10 seconds)**

Ventilate 1 breath every 6 seconds  
30:2 Compression:Ventilation if no Advanced Airway  
**Monitor EtCO2**  
**if available**

AED Procedure  
**if available**

P

Cardiac Monitor



IV or IO Access Protocol UP 6

A

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

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

Search for Reversible Causes

Blood Glucose Analysis Procedure  
**if applicable**

P

Available for Agency Medications



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

## Reversible Causes

Hypovolemia  
Hypoxia  
Hydrogen ion (acidosis)  
Hypothermia  
Hypo / Hyperkalemia

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

## Suspected Opioid Overdose

Administer Naloxone per  
Overdose / Toxic Ingestion  
Protocol TE 7

**AT ANY TIME**

Return of  
Spontaneous  
Circulation



Go to  
Post Resuscitation  
Protocol AC 10



Notify Destination or  
Contact Medical Control





# Adult Asystole / Pulseless Electrical Activity

## Pearls

- **Team Focused Approach / Pit-Crew Approach recommended; assigning responders to predetermined tasks. Refer to optional Team Focused CPR Protocol AC 11 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: If no advanced airway (BIAD, ETT), compression to ventilation ratio is 30:2. If advanced airway in place, ventilate 10 breaths per minute 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 EtCO<sub>2</sub> frequently, after every move, and at transfer of care.**
- **IV / IO access and drug delivery are secondary to high-quality chest compressions and early defibrillation.**
- **IV access is preferred route. Follow IV or IO Access Protocol UP 6.**
- **Defibrillation:** Follow manufacture's recommendations concerning defibrillation / cardioversion energy when specified.
- **End Tidal CO<sub>2</sub> (EtCO<sub>2</sub>)**
  - If EtCO<sub>2</sub> is < 10 mmHg, improve chest compressions. Goal is ≥ 20 mmHg.
  - If EtCO<sub>2</sub> 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 AM 3 caveats when faced with dialysis / renal failure patient experiencing cardiac arrest.
  - **Opioid Overdose** - If suspected, administer Naloxone per Overdose / Toxic Ingestion Protocol TE 7 while ensuring airway, oxygenation, ventilations, and high-quality chest compressions.
  - **Drowning / Suffocation / Asphyxiation / Hanging / Lightning 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.