

Cardiac Arrest - Asystole/PEA

For non-traumatic cardiac arrest in which any resuscitation is initiated, NOT dead on arrival

History

- Events leading to arrest
- Estimated downtime
- Past medical history
- Medications
- End stage renal disease
- Suspected hypothermia
- Suspected overdose
 - Tricyclic
 - Digitalis
 - Beta blockers
 - Calcium channel blockers
- DNR, POLST, or Living Will

Signs and Symptoms

- Pulseless
- Apneic or agonal respirations
- No electrical activity on ECG
- No heart tones on auscultation

Differential

- Hypovolemia (e.g., trauma, AAA or other)
- Cardiac tamponade
- Hypothermia
- Drug overdose (e.g., tricyclic, digitalis, beta blockers, or calcium channel blockers)
- Myocardial infarction
- Hypoxia
- Tension pneumothorax
- Pulmonary embolus
- Acidosis
- Hyperkalemia

Adult Cardiac Arrest – Non-traumatic Treatment Protocols


AT ANY TIME
Return of spontaneous circulation

Go to Post Resuscitation

 **Cardiac Arrest-Non traumatic**

E
Begin continuous chest compressions
Push hard (> 2 inches) and fast (110/min)
Change compressors every 2 minutes
(Limit changes/pulse checks to < 5 seconds)

Shockable rhythm?



 **Appropriate Cardiac Dysrhythmia**

Reversible Causes
Hypovolemia
Hypoxia
Hydrogen ion (acidosis)
Hypothermia
Hypo/Hyperkalemia
Hypoglycemia
Tension pneumothorax
Tamponade (cardiac)
Toxins
Thrombosis (pulmonary)(PE)
Thrombosis (coronary)(MI)

P
Establish IV/IO
Epinephrine (1:10,000)
Normal Saline Bolus 500ml
Maximum 2L
Search for reversible causes and treat appropriately
Consider Chest Decompression Procedure for suspected tension pneumothorax

Criteria for discontinuation?

12 Lead EKG
ETCO₂ documentation
Base Hospital Contact for PEA
Discontinue Resuscitation
Follow Operations 10 – Determination of Death

 **Notify receiving facility.**
Consider Base Hospital for medical direction 

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Pearls

- Efforts should be directed at high quality and continuous chest compressions with limited interruptions and early defibrillation when indicated. Direct IV access is preferred over IO.
- Provide resuscitative efforts on scene for 30 minutes to maximize chance of ROSC.
- If resuscitative efforts do not attain ROSC, consider cessation of efforts in accordance with the Determination of Death policy.
- Epinephrine in doses of greater than 3mg has been shown to be detrimental to patient outcome.
- Survival from PEA or Asystole is based on identifying and correcting the CAUSE: consider a broad differential diagnosis with early and aggressive treatment of possible causes.
- Consider breathing and airway management after second shock or two (2) rounds of chest compression (2 minutes each round).
- Potential association of PEA with hypoxia may exist, so placing an effective BLS airway with oxygenation early may provide benefit.
- PEA caused by sepsis or severe volume loss may benefit from higher volume of normal saline administration.
- Return of spontaneous circulation after Asystole/PEA requires continued search for underlying cause of cardiac arrest.
- Treatment of hypoxia and hypotension are important after resuscitation from Asystole/PEA.
- Asystole is commonly an end stage rhythm following prolonged VF or PEA with a poor prognosis.
- Prior to termination of efforts, an advanced airway shall be established.
- Discussion with the Base Hospital can be a valuable tool in developing a differential diagnosis and identifying possible treatment options.
- Potential protocols used during resuscitation include: Overdose/Toxic Ingestion and Hypoglycemia.
- In the setting of renal failure, dialysis, suspected DKA or hyperkalemia, calcium chloride followed by sodium bicarbonate shall be administered.

