

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

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?

No

P Establish IV; if unable, establish 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?

No

Notify receiving facility.
Consider Base Hospital for medical direction

Reversible Causes

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

Does 12-Lead EKG show asystole?;
Is patient apneic?
Is EtCO₂ < 20mmHg?

If all answers are yes,
discontinue resuscitation.

If PEA after 30 minutes of resuscitation, contact Base Hospital for direction

Follow Policy 507 – Determining Death



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Pearls

- Discussion with the Base Hospital can be a valuable tool in developing a differential diagnosis and identifying possible treatment options.
- Efforts should be directed at high quality and continuous chest compressions with minimal interruptions.
- IV access, including EJ, must be attempted. If unsuccessful, then attempt IO.
- Use pediatric BVM with EtCO₂ and ventilate at a rate of 10 ventilation per minute delivered on compression upstroke.
- 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.
- 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.

