

CARDIAC ARREST: PULSELESS ELECTRICAL ACTIVITY (PEA) and ASYSTOLE

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Information Needed:

- See Cardiac Arrest overview protocol

Objective Findings:

- Pulseless (check carotid and femoral pulses)
- Apneic
- Electrical activity on the monitor exclusive of ventricular fibrillation or ventricular tachycardia

Treatment:

- Assess patient and confirm pulselessness
- Start High Performance CPR and assure adequacy of compressions and ventilations. An emphasis on high quality CPR with minimal interruptions in chest compressions (See Procedure 27 High Performance CPR –Triangle of Life Procedure).
- Determine cardiac rhythm
- BLS should use Automatic External Defibrillator if available and shock as appropriate
- For Asystole or PEA, confirm in two ECG leads
- Establish large bore IV or IO of normal saline
- Give **epinephrine** (1:10,000) 1 mg IV/IO, repeat q 3 to 5 minutes until rhythm change or termination of resuscitation efforts
- Assess for possible causes of PEA and administer corresponding treatments (See Precautions and Comments)
- Consider advanced airway. Confirm ventilation with capnography
- Fluid challenge 250-1000 cc NS for suspected hypovolemia
- In the setting of renal failure, dialysis, DKA, or potassium ingestion (possible hyperkalemia), give **calcium chloride** 1 gm IV/IO over one minute **then flush** and then administer **sodium bicarbonate** 1 mEq/kg IV/IO
- Resuscitation efforts may be terminated after 30 minutes of HP CPR if patient is unresponsive to initial treatments (See Guidelines for Determining Death in the Field)
 - 12 Lead EKG required to verify Asystole prior to termination of resuscitation
 - If patient is in persistent PEA, contact Base Hospital MD on a recorded line and provide last recorded end tidal CO₂ value.

Precautions and Comments:

- External pacing has not been shown to be effective in PEA
- Consider possible causes of PEA and possible treatments

<u>Cause</u>	<u>Specific Field Treatment</u>
Myocardial Infarction	None
Acidosis	Secure airway and hyperventilate patient
Tension Pneumothorax	Perform pleural decompression if indicated
Cardiac Tamponade	None
Hypoxia	Secure airway and ventilate patient
Hypovolemia	Give fluid challenge, for any suspicion
Hypothermia	Limit aggressive handling of the patient
Hyperkalemia	Consider bicarbonate and calcium chloride
Hypokalemia	None
Hypoglycemia	Give glucose
Pulmonary Embolus	None
Drug Overdose (Toxins)	Obtain history- treat accordingly
Organophosphate Poisoning/ Nerve Gas	Consider Atropine 2mg IVP