Cardiac Arrest - Asystole/PEA

**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)
- Massive myocardial infarction
- Hypoxia
- Tension pneumothorax
- Pulmonary embolus
- Acidosis
- Hyperkalemia

**Exit to Cardiac Arrest - Non-traumatic**

**AT ANY TIME**
Return of spontaneous circulation

Go to Post Resuscitation TP

**Search for reversible causes and treat appropriately**
- Establish IV/IO
- Normal Saline Bolus
- Epinephrine (1:10,000)
  - Refer to Adult Drug Card
- Consider Chest Decompression Procedure

**Shockable rhythm?**

Yes

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

No

**Criteria for discontinuation?**

Yes

Notify receiving facility.
Consider Base Hospital for medical direction

No

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

Pearls
• Efforts should be directed at high quality and continuous chest compressions with limited interruptions and early defibrillation when indicated. Consider early IO placement if available or direct IV access if anticipated.
• 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 TPs 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.