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

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

Decomposition
- Rigor mortis
- Dependent lividity
- Injury incompatible with life or unwitnessed traumatic arrest with asystole
- Do not begin resuscitation
- Follow Policy 1004 – Determination of Death

Cardiac Arrest TG

Criteria for death / no resuscitation
Review DNR / POLST form

Begin continuous chest compressions
Push hard (> 2 inches) and fast (100-120/min)
Change compressors every 2 minutes
(Limit changes/pulse checks to < 5 seconds)

Shockable rhythm?

Search for reversible causes and treat appropriately
Establish IV/IO

Normal Saline bolus 1000ml IV/IO
Epinephrine (1:10,000) 1mg IV/IO
Repeat every 3 to 5 minutes

Consider Chest Decompression Procedure

Criteria for discontinuation?

No

No

Yes

Discontinue Resuscitation
Follow Policy 1004 – Determination of Death

AT ANY TIME
Return of spontaneous circulation
Go to Post Resuscitation TG

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

Consider early Base Hospital contact for transport decision for witnessed arrest with strong suspicion of pulmonary embolism or witnessed V. Fib arrest resistant to four (4) shocks

Notify receiving facility. Contact Base Hospital for medical direction

Determination of Death

Follow Policy 1004 – Determination of Death

Yes

No

No

Yes

Follow rhythm appropriate TG

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Contra Costa County Emergency Medical Services

Treatment Guideline AC02
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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.
- Passive ventilation for the first three cycles (6 minutes) of CPR. After that time, the patient should be ventilation using a BLS airway and BVM at a rate of 6 ventilation/minute (1:10 seconds) with continuous CPR.
- Placement of an advanced airway should be deferred unless a provider is unable to ventilate the patient with a BLS airway and BVM.
- Use a metronome during chest compression to ensure proper rate.
- Provide resuscitative efforts on scene for up to 30 minutes to maximize chance of ROSC.
- If resuscitative efforts do not attain ROSC, consider cessation of efforts per Policy 1004 – Determination of Death.
- The AutoPulse device is limited to 80 compressions/minute, which is acceptable when using this device during cardiac arrest.
- 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.
- Do not interrupt chest compressions to place ETT. Consider King Airway first to limit interruptions.
- 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.
- If the use of a BVM is ventilating the patient successfully, intubation should be deferred until the cardiac rhythm has changed to a perfusing rhythm.
- Discussion with the Base Hospital can be a valuable tool in developing a differential diagnosis and identifying possible treatment options.
- Potential TGs used during resuscitation include: Overdose/Toxic Ingestion and Diabetic.