Contra Costa County Emergency Medical Services

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

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**Cardiac Arrest TG**

**Criteria for death / no resuscitation**
- Review DNR / POLST form

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**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**

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**AT ANY TIME**

**Return of spontaneous circulation**
- Go to Post Resuscitation TG

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

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

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**Criteria for discontinuation?**
- Yes
  - Discontinue Resuscitation
  - Follow Policy 1004 – Determination of Death

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

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**Histories**
- Decomposition
- Rigor mortis
- Dependent lividity

**Signs and Symptoms**
- Injury incompatible with life or unwitnessed traumatic arrest with asystole
- Do not begin resuscitation
- Follow Policy 1004 – Determination of Death

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**AT ANY TIME**

**Return of spontaneous circulation**
- Go to Post Resuscitation TG

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**Reversible Causes**
- Hypovolemia
- Hypoxia
- Hydrogen ion (acidosis)
- Hypothermia
- Hypo/Hyperkalemia
- Hypoglycemia
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**Considers early Base Hospital contact for transport decision**
- for witnessed arrest with strong suspicion of pulmonary embolism or witnessed V. Fibrillation resistant to four (4) shocks

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**Criteria for discontinuation?**
- Yes
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**Notify receiving facility. Contact Base Hospital for medical direction**

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Contra Costa County Emergency Medical Services

Adult Cardiac Treatment Guidelines

Treatment Guideline AC02

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Effective Jan. 2017
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.
• DO NOT HYPERVENTILATE: Without an advanced airway, the compression to ventilation ratio is 30:2. If an advanced airway is in place, ventilate the patient every 8-10 seconds in conjunction with continuous, uninterrupted chest compressions.
• Use a metronome during chest compression to ensure proper rate.
• Provide resuscitation efforts on scene for up to 30 minutes to maximize chance of ROSC.
• If resuscitation 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.