**Pediatric 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
- Airway obstruction/respiratory disease
- Hypovolemia (e.g., trauma 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 TP

### Pediatric V-Fib/ Pulseless V-Tach

Yes

### Cardiac Arrest - Non traumatic

Begin chest compressions (15:2 ratio)
- 1.5 inches for infants; 2 inches for children
- Change compressors every 2 minutes (Limit changes/pulse checks to < 5 seconds)

Shockable rhythm?

No

Search for reversible causes and treat appropriately

Establish IV/IO

Normal saline bolus

Use Broselow Tape; refer to dosing guide

May repeat x2

Epinephrine (1:10,000)

Use Broselow Tape; refer to dosing guide

Criteria for discontinuation?

No

Return of spontaneous circulation?

Yes

Notify receiving facility. Consider Base Hospital for medical direction

Go to Post Resuscitation

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

12 Lead EKG

ETCO₂ documentation

Base Hospital Contact for PEA

Discontinue Resuscitation

Follow Operations 10 – Determination of Death

Yes

Pediatric Cardiac Arrest Treatment Protocols
Pediatric Asystole/PEA

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Pearls

- Airway is a more important intervention in pediatric arrests. This should be accomplished quickly with a BVM, airway adjunct, and appropriately sized mask. Patient survival is often dependent on proper ventilation and oxygenation.
- Efforts should be directed at high quality chest compressions with limited interruptions.
- Use appropriately sized pediatric BVM with EtCO$_2$.
- Do not delay chest compressions while applying any device or intervention.
- Use a metronome during chest compression to ensure proper rate.
- Provide resuscitative efforts for 30 minutes to maximize chance of ROSC.
- If resuscitative efforts do not attain ROSC, consider cessation of efforts per Operations 10 – Determination of Death.
- Resuscitation is based on proper planning and organized execution. Procedures require space and patient access. Make room to work. Utilize a team focused approach assigning responders to predetermined tasks.
- Reassess airway and document EtCO$_2$ frequently.
- Defibrillation vests should be removed by EMS personnel before compressions, but do not cut vests. Once removed, disengage battery to prevent alarming.
- Pediatric pads should be used in children < 10kg or measurement of Purple.