



# Cardiac Arrest: Asystole & PEA

## Assessment

### Pediatric Pearls:

- Use pediatric dosing of medications or electrical therapy for a pediatric patient < 37 kg and as defined by the PEDIA Tape.
- Focus on rapid and early BLS airway and ventilation tools. Intubation may not be the best option for these patients.
- Pediatric pads should be used in children < 10 Kg or PEDIA tape color purple.

### Signs & Symptoms:

- Unresponsive
- Abnormal breathing (gasps)
- Pulseless
- Absent heart sounds
- Obvious death

### Differential:

- Respiratory failure
- Foreign body airway obstruction
- Hyperkalemia
- Infection (Croup, epiglottitis)
- Hypovolemia
- Congenital heart disease
- Trauma
- Tension pneumothorax
- Hypothermia
- Toxins or Overdose
- Hypoglycemia
- Acidosis
- Acute MI or PE

## Clinical Management Options

P	P	P	P	P	P	<ul style="list-style-type: none"> <li>• Assess for unresponsiveness, absence of normal breathing, and pulselessness</li> <li>• Assess for obvious death criteria</li> <li>• <a href="#">Begin Pit Crew CPR</a> procedure</li> <li>• BLS Airway Management and <a href="#">BVM</a> with <a href="#">Oxygen</a> as available</li> <li>• Passive oxygenation with nasal cannula at 25 LPM</li> </ul>
L	L	L	L	L	L	<ul style="list-style-type: none"> <li>• Airway management with <a href="#">iGel</a> as needed</li> <li>• Monitor <a href="#">ETCO<sub>2</sub></a></li> </ul>
1	2	3	4	5	6	<ul style="list-style-type: none"> <li>• Vascular access</li> <li>• <a href="#">Epinephrine</a></li> <li>• Fluid bolus with <a href="#">isotonic crystalloid</a> as needed</li> </ul>
						<ul style="list-style-type: none"> <li>• Monitor and interpret ECG</li> <li>• Narrow PEA QRS <math>\leq 0.12</math> seconds:               <ul style="list-style-type: none"> <li>○ Consider mechanical causes - <a href="#">Cardiac tamponade</a>, <a href="#">Tension pneumo</a>, <a href="#">Mechanical hyperinflation</a>, <a href="#">PE</a>, <a href="#">Hypovolemia</a>, <a href="#">Acute MI</a>, <a href="#">Pump failure</a></li> </ul> </li> <li>• Wide PEA QRS <math>\geq 0.12</math> seconds or Asystole:               <ul style="list-style-type: none"> <li>○ Consider metabolic causes - <a href="#">Tricyclic OD</a>, <a href="#">Severe hyperkalemia</a>, <a href="#">Acidosis</a>, <a href="#">Calcium Channel Blocker OD</a>, <a href="#">Acute MI</a>, <a href="#">Pump failure</a>.</li> </ul> </li> </ul>
						<ul style="list-style-type: none"> <li>• Advance Airway Management as needed. Intubation is not required if iGel is functioning appropriately with continuous waveform capnography.</li> <li>• Perform <a href="#">Needle Decompression</a> for the asthmatic patient in arrest.</li> <li>• Perform <a href="#">Simple Thoracostomy</a> for the asthmatic patient in arrest.</li> <li>• If <a href="#">ROSC</a> then <a href="#">declare a resuscitation alert</a> and use <a href="#">Post Resuscitation Checklist</a>.</li> <li>• <a href="#">Targeted Temperature Management</a> procedure if patient qualifies.</li> </ul>

**Consult Online Medical Control As Needed**



## Cardiac Arrest: Asystole & PEA

### Pearls:

- Refer to drug formulary charts for all medication dosing for both adults and pediatric patients.
- In order to be successful in adult or pediatric arrests, a cause must be identified early and corrected. Resuscitation should include targeted therapies to address the underlying cause of the arrest.
- Respiratory arrest is a common cause of pediatric cardiac arrest. Unlike adults early oxygen and ventilation is critical.
- In most cases pediatric airways can be managed by basic interventions.
- Effective CPR is critical: 1) Push hard and fast at appropriate rate 2) Ensure full chest recoil 3) Minimize interruptions in CPR. Pause CPR < 10 seconds only.
- Effective CPR and treatment of underlying causes are the keys to successful resuscitation.
- Prolonged cardiac arrests may lead to tired providers and decreased compression quality. Ensure compressor rotation, summon additional resources as needed, and ensure provider rest and rehab during and post-event.
- For pediatrics use volume control device (IV Burette) for Dextrose and Fluid infusions
- Always quickly confirm asystole in more than one lead and, trouble shoot for Equipment settings/problems
- Reassess and document ETT/BIAD placement continuously after every move and at transfer of patient care.
- Continuous ETCO<sub>2</sub> should be initiated as soon as practicable.
- Calcium and sodium bicarbonate should be given early if hyperkalemia is suspected (renal failure, dialysis)
- Continue to use primary monitor for all event recording and data capture.
- All monitor event data and recordings are uploaded into e-PCR.
- Ultrasound to determine cardiac wall motion at pulse check; DO NOT interrupt compressions for ultrasound.