Cardiac Arrest: Treatable Causes

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:

- Continue to address specific differentials associated with signs, symptoms, and/or dysrhythmia.

Clinical Management Options

PL1 PL2 PL3 PL4 PL5 PL6

- Hypoxia: Airway Management and Oxygenation
- Hypothermia: Active warming strategies

- Hypovolemia: Fluid bolus with Isotonic Solution as needed
- Hypoglycemia: Dextrose infusion
- Calcium Channel / Beta Blocker Overdose: Glucagon

- Hyperkalemia
  - Adult – Calcium Chloride, Sodium Bicarbonate
  - Pediatric – Sodium Bicarbonate
- Calcium Channel / Beta Blocker Overdose
  - Adult – Calcium Chloride

- Calcium Channel / Beta Blocker Overdose
  - Pediatric – Epinephrine infusion
- Tension Pneumothorax:
  - Needle Decompression
  - Simple Thoracostomy

Consult Online Medical Control As Needed

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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 ETCO2 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.