Pediatric Post Resuscitation Care

Return of Spontaneous Circulation (ROSC)

Optimize oxygenation and ventilation

- Appropriate ETT placement
  - End tidal CO2 or capnography – tube is in airway
  - CXR – depth of insertion
- Maintain O2 sat 94-99%
  - Ensures adequate oxygenation
  - Prevents risk of reperfusion injury related to excessive oxygen

Ventilate to maintain CO2 levels appropriate to patient’s condition
- Monitor indirectly by capnography
- Monitor directly by ABG

Optimize cardiac output - Cardiac output = stroke volume x heart rate
- Stroke volume is determined by preload, contractility, and afterload

Increase preload by administering fluid boluses

- May not tolerate 20mL/kg due to poor myocardial function post arrest; try 5-10mL/kg over 10-20 min
- Improve contractility by correcting hypoglycemia and/or electrolyte imbalances including hypocalcemia
- Inotropes (dopamine) and/or inodilators (milranone) may be needed
- Avoid hypotension – treat with fluids and/or vasopressors
- Maintain HR appropriate for age – aggressively treat any tachy or brady arrhythmias
- Maintain adequate hemoglobin concentrations

Optimize neurologic outcome

- Aggressively treat hyperthermia, hypotension, hypoglycemia, and hypoxia all of which can cause secondary brain injury.
- Aggressively treat seizures which may result from: hypoglycemia, electrolyte imbalance, or underlying brain injury. Seizures increase the metabolic demand; correct the cause if possible.

Mild hypothermia is common post arrest and should not be aggressively treated. Children resuscitated from out of hospital arrest should be maintained at either 5 days of normothermia (96.8-99.5oF) or 2 days of initial continuous hypothermia (89.6-93.2oF) then 3 days of normothermia.

Transport as needed for most appropriate level of care.