



Pediatric Post Resuscitation

History

- Respiratory arrest
- Cardiac arrest

Signs/Symptoms

- Return of pulse

Differential







- Continue to address specific differentials associated with the original dysrhythmia

Transport Destination Decision

Post-resuscitation patient is medically complex.

Consider facility capabilities:

- Pediatric ICU service
- Pediatric Cardiology service
- Pediatric Neurology service
- Targeted Temperature Management

	 Pediatric Airway Protocol(s) AR 5 - 7 as needed
	Monitor Vital Signs / Reassess
	Blood Glucose Analysis Procedure
	Optimize Ventilation and Oxygenation <ul style="list-style-type: none"> • Maintain SpO2 ≥ 92 – 98% • Advanced airway if indicated • Age Appropriate Respiratory Rate • Remove Impedance Threshold Device DO NOT HYPERVENTILATE
	ETCO2 ideally 35 – 45 mm Hg
B	12 Lead ECG Procedure
	IV or IO Protocol UP 6
P	Cardiac Monitor
	Pediatric Diabetic Protocol PM 2 if indicated
	Pediatric Hypotension / Shock Protocol PM 3 if indicated
	Pediatric Bradycardia Protocol PC 2 if indicated
	Pediatric Tachycardia Protocol PC 5, 6 as indicated

Hypotension Age Based

0 – 31 Days
< 60 mmHg

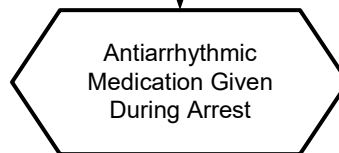
1 Month to 1 Year
< 70 mmHg

> than 1 Year
< 70 + (2 x age) mmHg


Arrhythmias are common and usually self limiting after ROSC





If Arrhythmia Persists follow Rhythm Appropriate Protocol



P	Continue Antiarrhythmic Utilized Refer to Appropriate Pediatric Arrhythmia Protocol
	Amiodarone IO/IV dose: 5 mg/kg bolus during cardiac arrest. May repeat up to 2 times for refractory VF/pulseless VT

	Post-intubation / BIAD Management Protocol AR 8
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	Notify Destination or Contact Medical Control	
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Pediatric Post Resuscitation

Pearls

- **Recommended Exam: Mental Status, Neck, Skin, Lungs, Heart, Abdomen, Extremities, Neuro**
- **Goals of care are to preserve neurologic function, prevent secondary organ damage, treat the underlying cause of illness, and optimize prehospital care. Frequent reassessment is necessary.**
- **Hyperventilation is a significant cause of hypotension and recurrence of cardiac arrest in the post resuscitation phase and must be avoided. Titrate FiO₂ to maintain SpO₂ of 92 - 98%.**
- **Use length-based or weight-based pediatric resuscitation system for medication, equipment, cardioversion, and defibrillation guidance. Pediatric paddles should be used in children < 10 kg.**
- **Pain/sedation:**
 - Patients requiring advanced airways and ventilation commonly experience pain and anxiety. Unrelieved pain can lead to increased catecholamine release, ischemia, immunosuppression, and prolonged hospitalization.
 - Ventilated patients cannot communicate pain / anxiety and providers are poor at recognizing pain / anxiety.
 - Vital signs such as tachycardia and / or hypertension can provide clues to inadequate sedation, however they both are not always reliable indicators of patient's lack of adequate sedation.
 - Pain must be addressed first, before anxiety. Opioids are typically the first line agents before benzodiazepines. Ketamine is also a reasonable first choice agent.
- **Ventilator / Ventilation strategies:**
 - Tailored to individual patient presentations. Medical Control can indicate different strategies above.
 - In general ventilation with BVM should cause chest rise. With mechanical ventilation a reasonable tidal volume should be about 6 mL/kg and peak pressures should be < 30 cmH₂O.
 - Continuous pulse oximetry and capnography should be maintained during transport for monitoring.
 - Head of bed should be maintained at least 10 – 20 degrees of elevation when possible to decrease aspiration risk.
- **EtCO₂ Monitoring:**
 - Initial End tidal CO₂ may be elevated immediately post-resuscitation, but will usually normalize.
 - Goal is 35 – 45 mmHg but DO NOT hyperventilate to achieve.
 - EtCO₂ should be continually monitored with advanced airway in place.
- Administer resuscitation fluids and vasopressor agents to maintain SBP at targets listed on page 1. This table represents minimal SBP targets.
- Targeted Temperature Management is recommended in pediatrics, but prehospital use is not associated with improved outcomes. Transport to facility capable of intensive pediatric care.
- Consider transport to facility capable of managing the post-arrest patient including hypothermia therapy, cardiology / cardiac catheterization, intensive care service, and neurology services.
- The condition of post-resuscitation patients fluctuates rapidly and continuously, and they require close monitoring. Appropriate post-resuscitation management may best be planned in consultation with Medical Control.