Pediatric Bradycardia

Bradycardia should be considered to be due to hypoxia until proven otherwise. This protocol applies to pediatric patients with bradycardia, a pulse and poor perfusion. Identify and treat the underlying causes:

- Maintain patent airway; assist breathing as necessary
- Oxygen
- Cardiac monitor to identify rhythm; monitor blood pressure and pulse oximetry
- IV/IO access
- 12-lead ECG if available; don't delay therapy

Pre-Medical Control

PARAMEDIC

1. Follow the **Pediatric Assessment & Treatment Protocol**.
2. If signs of Cardiorespiratory compromise are evident:
   A. Perform chest compression / CPR.
   B. If HR less than 60 despite oxygenation & ventilation, administer Epinephrine 1:10,000, 0.01 mg/kg (0.1 ml/kg) IV/IO up to 1 mg (10 ml), repeat every 3-5 minutes.
3. If suspected increased vagal tone or primary AV block:
   A. Administer Atropine 0.02 mg/kg IV/IO (minimum dose 0.1 mg, maximum single dose 0.5 mg), may repeat once in 5 minutes.
   B. Consider transcutaneous pacing at rate up to 100 bpm.
4. Sedation may be used to facilitate transcutaneous pacing per MCA selection. Refer to **Patient Sedation Procedure**.

Post-Medical Control

5. Additional orders as appropriate.

Notes:

1. Signs of cardiopulmonary compromise include:
   A. Hypotension is SBP less than 70 + (age x 2).
   B. Acutely altered mental status.
   C. Signs of shock - indicated by absent or weak peripheral pulses, increased capillary refill time, skin cool/mottled.
   D. Respiratory difficulty (respiratory rate greater than 60/minute) indicated by increased work of breathing (retractions, nasal flaring, grunting), cyanosis, altered level of consciousness (unusual irritability, lethargy, failure to respond to parents), stridor, wheezing.
2. When CPR is required, a precise diagnosis of the specific bradyarrhythmia is not important. Perform chest compressions if, despite oxygenation and ventilation, the heart rate is less than 60/minute and associated with cardiopulmonary compromise in infant or child. If severe hypothermia follow **Hypothermia Cardiac Arrest Protocol** and appropriate **Pediatric Cardiac protocols**.

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CONTACT MEDICAL CONTROL

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Additional orders as appropriate

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