

Pediatric Bradycardia

Aliases: Slow heart rate, heart block

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 (cardiopulmonary compromise).

1. If heart rate is < 60 despite adequate oxygenation and ventilation, perform CPR.
2. Establish vascular access
3. Apply cardiac monitor to identify rhythm
4. If HR continues to be less than 60, despite oxygenation & ventilation
 - A. Administer Epinephrine 1mg/ 10mL,
 - i. 0.01 mg/kg (0.1 ml/kg) IV/IO up to 1 mg (10 ml),
 - ii. Repeat every 3-5 minutes.
 - B. If HR is unresponsive to epinephrine:
 - i. Administer Atropine 0.02 mg/kg IV/IO (minimum dose 0.1 mg, maximum single dose 0.5 mg)
 - ii. May repeat once in 5 minutes, if effective.
 - C. If HR is unresponsive to Epinephrine and Atropine:
 - i. Consider transcutaneous pacing at rate up to 100 bpm per **Electrical Therapy Procedure**.
 - ii. Sedation may be used to facilitate transcutaneous pacing per MCA selection. Refer to **Patient Sedation Procedure**.

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 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.
3. If severe hypothermia follow **Hypothermia Cardiac Arrest Protocol**