Pediatric Bradycardia (age <14) Administrative Guideline



History

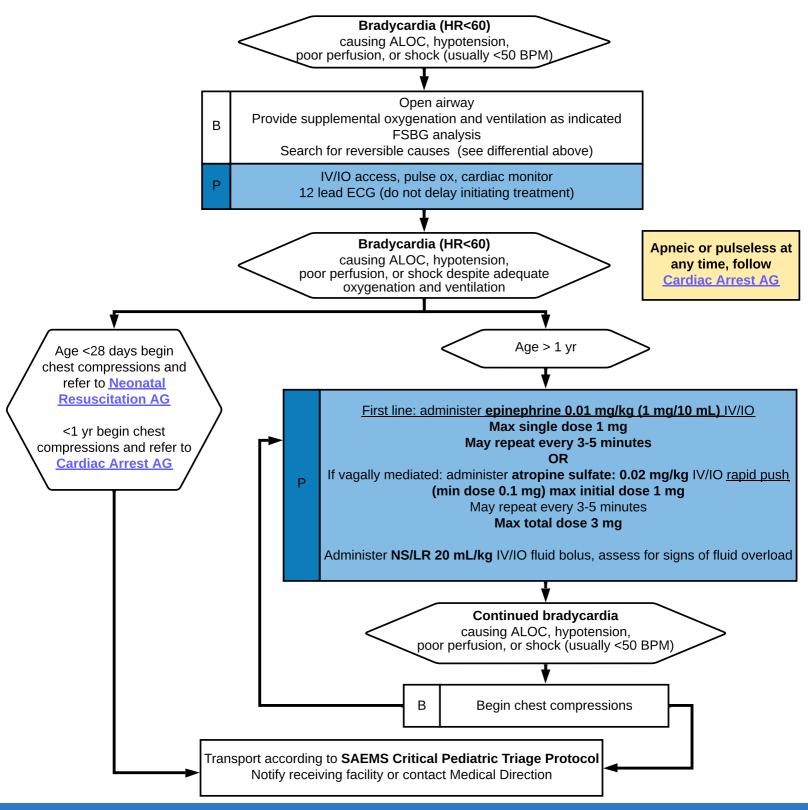
- · Past medical history
- Foreign body aspiration
- · Respiratory distress
- Apnea
- Possible toxic exposure or ingestion
- Congenital diseases
- Medication (maternal or infant)

Signs and Symptoms

- · Decreased heart rate
- Delayed capillary refill or cyanosis
- · Mottled, cool skin
- Hypotension or arrest
- · Altered level of consciousness

Differential

- Respiratory failure
- Foreign body/secretions
- Infection (croup, epiglottitis)
- Hypovolemia (dehydration)
- Congenital heart disease
- Trauma
- Hypothermia
- Toxin, medication
- · Hypoglycemia



Pediatric Bradycardia Administrative Guideline



Education/Pearls

The majority of pediatric bradycardia is caused by respiratory failure and hypoxia. Evaluate for signs of respiratory distress in all pediatric patients. Medication overdose is also a common cause of pediatric bradycardia, often due to unintentional ingestion of parental medications; in the setting of a breastfeeding child, consider overdose or intoxication via maternal breast milk.

- Hypoglycemia, severe dehydration, and opioids may produce bradycardia. Many other agents a child ingests can cause bradycardia, often in a single dose.
- Age appropriate minimal SBP = 70 + (2 x Age in Years)

Medications:

• <u>Epinephrine</u> is the drug choice for persistent, symptomatic bradycardia in pediatric patients.

• Atropine:

- Although atropine is effective in a broader range of patients and provides a greater amount of hemodynamic support, it can cause or worsen bradycardia.
- It is second choice in pediatric patients unless there is evidence of increased vagal tone or a primary
 AV conduction block. It is safer to use epinephrine in pediatric patients.
- Increased vagal tone can be caused by nasal or esophageal stimulation, coughing, sleep apnea, esophageal reflux, increased intracranial pressure.
- The paradoxical effects are the reason for the minimum dose and recommendation for rapid administration.

• <u>Transcutaneous pacing</u>:

- Indicated if bradycardia is due to complete heart block or other AV blocks which are not responsive to oxygenation, ventilation, chest compressions, or medications.
- Indicated with known congenital or acquired heart disease.
- Not indicated for asystole or bradycardia due to postarrest hypoxic / ischemic myocardial insult or respiratory failure.