Pediatric Bradycardia With a Pulse Algorithm

Text in cascading boxes describes the actions that providers should perform in sequence when treating pediatric bradycardia. Arrows guide the provider from one box to the next as the provider performs the actions. Some boxes have 2 arrows that lead outward, each to a different pathway depending on the outcome of the most recent action taken. Pathways are hyperlinked.

Box 1

Child with bradycardia and a pulse

Box 2

Cardiopulmonary compromise?

- Acutely altered mental status
- Signs of shock
- Hypotension

If Yes, proceed to Box 3.
If No, proceed to Box 9.

Box 3

Assessment and support

- Maintain patent airway and provide oxygen
- Assist breathing with positive-pressure ventilation as necessary
- Attach cardiorespiratory monitor
- Monitor pulse

Box 4

Does bradycardia persist with cardiopulmonary compromise?

If No, proceed to Box 9.
If Yes, proceed to Box 5.

Box 5

Start CPR if heart rate is less than 60 per minute

- IV/IO access
- Epinephrine
- Atropine for increased vagal tone or primary AV block

Box 6

- Identify and treat underlying causes
- Consider transthoracic or transvenous pacing

Box 7

Check pulse every 2 minutes. **Is a pulse present?**
If Yes, return to Box 4.
If No, proceed to Box 8.

Box 8

Go to the **Pediatric Cardiac Arrest Algorithm.**

Box 9

- Identify and treat underlying causes
  - Support ABCs
  - Consider oxygen
  - Consider 12-lead ECG
- Observe

Sidebar

Doses and Details

Epinephrine IV/IO dose: 0.01 milligram per kilogram (0.1 milligram per milliliter concentration. Maximum dose 1 milligram).

Atropine IV/IO dose: 0.02 milligram per kilogram. May repeat once. Minimum dose is 0.1 milligram and maximum single dose is 0.5 milligram.

Possible Causes

- Hypothermia
- Hypoxia
- Toxins/medications
- Increased intracranial pressure
- Increased vagal tone
- Heart block
- Physiologic/appropriate