

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

Patient with bradycardia

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
- Assist breathing with positive pressure ventilation and oxygen as necessary
- Cardiac monitor to identify rhythm; monitor pulse, BP, and oximetry

Box 4

Start CPR if heart rate is less than 60 per minute despite oxygenation and ventilation.

Box 5

Does bradycardia persist?

If No, proceed to [Box 9](#).

If Yes, proceed to [Box 6](#).

Box 6

- Continue CPR if heart rate is less than 60 per minute
- IV or IO access
- **Epinephrine**
- **Atropine** for increased vagal tone or primary AV block
- Consider transthoracic or transvenous pacing
- Identify and treat underlying causes

Box 7

Check pulse every 2 minutes. **Is a pulse present?**

If Yes, return to [Box 5](#).

If No, proceed to [Box 8](#).

Box 8

Go to **Pediatric Cardiac Arrest Algorithm**.

Box 9

- Support ABCs
- Consider oxygen
- Observe
- 12-lead ECG

- Identify and treat underlying causes

Sidebar

Doses and Details

- **Epinephrine IV/IO dose:** 0.01 milligram per kilogram (0.1 milliliter per kilogram of the 0.1 milligram per milliliter concentration). Repeat every 3 to 5 minutes. If IV/IO access is not available but endotracheal tube is in place, you may give endotracheal tube dose of 0.1 milligram per kilogram (0.1 milliliter per kilogram of the 1 milligram per milliliter concentration).
- **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
- Medications