Adult Bradycardia With a Pulse Algorithm

Cascading numbered boxes correspond to actions the provider should perform in sequence. Each box is separated by an arrow that signifies the pathway the provider should take. Some boxes are separated by 2 arrows that lead to different boxes, meaning that the provider should take a different pathway depending on the outcome of the previous action. Pathways are hyperlinked.

Box 1

Assess appropriateness for clinical condition.
Heart rate typically less than 50 per minute if bradyarrhythmia.

Box 2

Cardiopulmonary compromise?

- Hypotension?
- Acutely altered mental status?
- Signs of shock?
- Ischemic chest discomfort?
- Acute heart failure?

If Yes, proceed to Box 3.
If No, proceed to Box 7.

Box 3

Assessment and support

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

Box 4

Bradycardia persists with cardiopulmonary compromise?

If Yes, proceed to Box 5.
If No, proceed to Box 7.

Box 5

Atropine

If atropine ineffective:

- Transcutaneous pacing

and/or

- **Dopamine** infusion *or*
  epinephrine infusion

Box 6

Consider:

- Expert consultation
- Transvenous pacing

Box 7

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

Sidebar: Doses/Details

Atropine IV dose:

First dose: 1 milligram bolus.
Repeat every 3 to 5 minutes.
Maximum total dose: 3 milligrams.

Dopamine IV infusion:

Usual infusion rate is 5 to 20 micrograms/kilograms per minute.
Titrate to patient response; taper slowly.

Epinephrine IV infusion:

2 to 10 micrograms per minute infusion.
Titrate to patient response.

Possible Causes:

- Myocardial ischemia/infarction
- Drugs/toxicologic (eg, calcium-channel blockers, beta blockers, digoxin)
- Hypoxia
- Electrolyte abnormality (eg, hyperkalemia)