

SECTION: C-07

TITLE: Adult Bradycardia

REVISED: May 01, 2022

**General Comments:** The 2020 AHA ECC guidelines define adult bradycardia as a heart rate < 50 bpm in adults other than well trained *asymptomatic* athletes. Providers should differentiate between asymptomatic and symptomatic, and stable vs. unstable.

**BLS-SPECIFIC CARE:** See Adult General Cardiac Care/ACS Protocol C-3

**AEMT/O.M. Specific Care:** See Adult General Cardiac Care/ACS Protocol C-3

**ALS-SPECIFIC CARE:** See Adult General Cardiac Care/ACS Protocol C-3

For hemodynamically **STABLE** patients presenting with *asymptomatic* bradycardias, supportive care and observation is recommended.

For hemodynamically **STABLE** patients presenting with *symptomatic* bradycardias, pharmacologic therapy is indicated.

Atropine sulfate:

- Hold (not indicated) for complete and high degree heart blocks
- IV/IO: 1.0 mg as needed every 3-5 minutes
- Maximum total dose 3 mg

For hemo-dynamically **UNSTABLE** patients presenting with *symptomatic* bradycardia:

*Cardiac Pacing:* Perform immediate transcutaneous pacing (TCP)

- Start at 80 ppm and 30 mA, titrate to mechanical capture
- Consider administering Atropine 1.0 mg IV/IO while preparing TCP (nothing should delay TCP in an unstable patient)
- Consider sedation/analgesia with transcutaneous pacing if it will not cause unnecessary delays and patients hemodynamic status allows.

*Sedation:* Consider sedation

- **DO NOT** administer if:
  - Systolic BP < 90 mmHg
  - Low respiratory rate, SpO<sub>2</sub> and/or diminished mental status
- Midazolam (Versed) IV/IM/IO:
  - IV/IO/IM: 0.5-2.5 mg slow IV push every 5-10 minutes (max dose 5 mg)
  - IN: 2.5 mg every 10 minutes (max dose of 5 mg)

*Analgesia:* Consider Analgesia

- **DO NOT** administer/discontinue administration if:

# Protocol C-07

## ADULT BRADYCARDIA

- Systolic BP < 90 mmHg
- Respiratory rate, SpO<sub>2</sub> and/or mental status diminishes
- Fentanyl IV/IO/IM/IN
  - 1 mcg/kg initial dose (max initial dose 100 mcg)
  - Give slowly over 2 minutes (with the exception of IN route)
  - May repeat every 10 minutes as needed (max total dose of 200 mcg)
- Morphine sulfate IV/IM/IO
  - 0.1 mg/kg as initial dose (max initial dose 10 mg)
  - Give slowly over 2 min
  - May repeat every 10 minutes as needed with 0.05 mg/kg (max dose of 20 mg)
- Dilaudid IV/IM:
  - *Adult Only: 0.5 mg slow IV push over 2-3 minutes. Repeat every 10 minutes PRN max of 2 mg.*

*Vasopressors:* For bradycardia or hypotension unresponsive to other therapies, chronotropic drug infusions are recommended *as an adjunct to pacing*. Titrated to maintain adequate HR, MAP>65 or SBP >100. A provider must choose the most appropriate vasopressor for the situation.

- *Epinephrine Infusion:*
  - IV/IO: 0.05-1 mcg/kg/min, titrate for effect
  - **To Mix:** 1 mg epinephrine in 250 cc NS bag
  - An IV pump is required
- *Dopamine Infusion:*
  - IV/IO: 2-20 mcg/kg/min, titrate for effect
  - Start at 5 mcg/kg/min
  - **To Mix:** 400mg in 250cc for a 1600mcg/ml
  - An IV pump is required