HEART RATE < 50 BPM AND INADEQUATE FOR CLINICAL CONDITION

Treat per Universal Patient Care
Obtain 12-lead ECG

Are signs or symptoms of poor perfusion caused by the bradycardia present?
(Altered mental status, ischemic chest discomfort, acute heart failure, hypotension or other signs of shock)

No – Pt Stable
Observe and monitor patient.

Yes – Pt Unstable

- **Transcutaneous Pacing** per protocol. Use pacing without delay for high-degree heart blocks (2nd degree Type II, and 3rd degree with wide QRS complex) **OR**
- **Atropine 0.5 mg IV/IO**. May repeat every 3-5 minutes to a maximum of 3 mg
- Consider **Dopamine 5 to 20 mcg/kg/min** if no response to pacing or atropine. Titrate to effect.

- If capture is achieved and patient is uncomfortable, consider **Midazolam 2.5 mg IV/IO or 5 mg IM**. May repeat to a max of 5 mg. **OR** **Lorazepam 1 mg IV or 2 mg IM**.
- If capture is not achieved, try repositioning pads.
- Goal of therapy is to improve perfusion and maintain a BP of > 90 mmHg systolic.

NOTES & PRECAUTIONS:
A. Bradycardia may be protective in the setting of cardiac ischemia and should only be treated if associated with serious signs and symptoms of hypoperfusion.
B. Most pediatric bradycardia is due to hypoxia.
C. Hyperkalemia may cause bradycardia. If the patient has a wide complex bradycardia with a history of renal failure, muscular dystrophy, paraplegia, crush injury or serious burn > 48 hours prior, consider treatment per Hyperkalemia protocol.
D. Immediate transcutaneous pacing can be considered in unstable patients when vascular access is not available.
E. Transcutaneous pacing is not useful in asystole.

KEY CONSIDERATIONS:
Pain evaluation (PQRST), nausea and vomiting, drug overdose, speed of onset, previous MI, angina, fever or recent illness, medical history, medications.
PEDIATRIC PATIENTS:

BRADYCARDIA WITH A PULSE CAUSING CARDORESPIRATORY COMPROMISE

Treat per Universal Patient Care.
Support ABC’s

Is Bradycardia still causing cardiorespiratory compromise?

No – Pt Stable

• Continue to support ABC’s as needed.
• Monitor patient.
• Consider OLMC contact.

Yes – Pt Unstable

• Start CPR if patient's heart rate < 60bpm despite oxygenation and ventilation.
• Reassess after 2 minutes of CPR.

No

Persistent symptomatic bradycardia?

Yes

• Give 1:10,000 Epinephrine 0.01 mg/kg IV/IO. If no IV/IO give 1:1,000 Epinephrine 0.1 mg/kg via ET.
• Repeat epinephrine every 3-5 minutes.
• If increased vagal tone or AV block, consider Atropine 0.02 mg/kg IV/IO. Minimum single dose 0.1 mg, maximum single dose 0.5 mg. If no IV may give 0.04 mg/kg ET. May repeat once.
• Consider pacing per Transcutaneous Pacing protocol.
• If capture is achieved and patient is uncomfortable, consider Midazolam 0.1mg/kg IV to a maximum of 2.5 mg, or 0.2 mg/kg IM to a maximum of 5 mg
• If capture is not achieved, try applying a new set of pads and repositioning.
• Goal of therapy is to improve perfusion.