

Bradycardia

This is a protocol for patients with serious symptomatic bradycardia, defined as patients with heart rate less than 60 bpm and hypotension, or shock. Titrate treatments to a heart rate above 60 bpm. If the patient remains hypotensive, refer to the **Shock Protocol**.

1. Follow the **General Pre-Hospital Care Protocol**.



2. Administer Atropine 0.5 mg IV/IO repeating every 3-5 minutes to a total dose of 3 mg IV/IO, until a heart rate of greater than 60 /minute is reached.
3. Transcutaneous pacing (TCP) when available may be initiated prior to establishment of IV access and/or before Atropine begins to take effect. Pacing is the treatment of choice for high degree A-V block. Follow the **Electrical Therapy Procedure**.
4. Per MCA selection, provide sedation per **Patient Sedation Procedure**.
5. For patients with persistent symptomatic bradycardia, administer Epinephrine by push dose (dilute boluses)
 - a. Prepare (10 mcg/mL) by adding 1mL of 1mg/10mL Epinephrine in 9mL NS, then
 - b. Administer 1-2 mL
 - c. Repeat every 3 to 5 minutes
 - d. Titrate SBP greater than 90 mm/Hg

Notes:

1. Some patients may not tolerate the pacing stimulus to the skin and chest wall that occurs with transcutaneous pacing. In these cases, consider sedation if SBP > 90. (See **Patient Sedation Procedure**)
2. Consider possible etiologies:
 - A. Hyper/hypokalemia, other metabolic disorders
 - B. Hypothermia
 - C. Hypovolemia (including vomiting/diarrhea)
 - D. Hypoxia
 - E. Toxins/ overdose (e.g. beta-blocker or calcium channel-blocker)
 - F. Tamponade
 - G. Tension pneumothorax
3. Transcutaneous pacemaker electrode pads may be applied to these patients without initiating pacing so that the pacemaker is ready if patient condition deteriorates.
4. For symptomatic high-degree (second-degree or third-degree) AV block, begin pacing without delay.
5. Atropine 0.5 mg should be administered by rapid IV/IO push and may be repeated every 3-5 minutes, to a maximum dose of 3 mg. Atropine is ineffective and should be avoided in heart transplant patients.