

Michigan
Adult Cardiac Protocols
BRADYCARDIA

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Bradycardia

This is a protocol for patients with serious symptomatic bradycardia. Serious symptomatic bradycardia may be defined as patients with heart rate less than 50 bpm and hypotension, or shock. Titrate treatments to a heart rate above 50 bpm. If the patient remains hypotensive refer to the **Shock Protocol**.

Pre-Medical Control

MFR/EMT/SPECIALIST/PARAMEDIC

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

PARAMEDIC

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 50 /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**.

Post-Medical Control

1. Consider Dopamine Drip 2-10 mcg/kg/min IV/IO. Mix drip by putting Dopamine 400 mg in 250 ml NS.
2. Consider Epinephrine Drip 2-10 mcg/min IV/IO. Mix drip by putting Epinephrine 1:1,000, 1 mg (1 ml) in 250 ml NS.

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 > 100. (See box)
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.