

HEALTHEAST MEDICAL TRANSPORTATION MEDICAL OPERATIONS MANUAL

2G BRADYCARDIA/AV BLOCK

PATIENT CARE GOALS

- Identify and treat underlying causes and contributing factors to the bradycardia/AV block.^{1, 2}
- Maintain adequate oxygenation and ventilation, and treat unstable rhythms involving bradycardia/AV block, to promote adequate perfusion.

EMT

ADULT	PEDIATRIC (less than 60 kg)
<ol style="list-style-type: none"> 1. Assess the patient and provide initial care, including oxygen and vascular access, per 1B General Assessment and Care. 2. Identify and treat underlying causes and contributing factors to the bradycardia/AV block.^{1, 2} 3. For <u>stable</u> patients, transport and monitor for signs of deterioration.³ 4. For <u>unstable</u> patients, BLS providers should ensure rapid transport/access to ALS-level treatments.⁴ 	<ol style="list-style-type: none"> 1. Assess the patient and provide initial care, including oxygen and vascular access, per 1B General Assessment and Care. 2. Identify and treat underlying causes and contributing factors to the bradycardia/AV block.^{1, 2} 3. For <u>stable</u> patients, transport and monitor for signs of deterioration.³ 4. For <u>unstable</u> patients, BLS providers should ensure rapid transport/access to ALS-level treatments.⁴

PARAMEDIC

ADULT	PEDIATRIC (less than 50 kg)
<ol style="list-style-type: none"> 5. If possible, obtain a 12-lead ECG. Acquisition should not delay or interfere with emergent or life-saving care. Repeat the 12-lead ECG during transport, if appropriate. 6. If the patient is <u>unstable</u> with signs and symptoms related to the bradycardia/AV block:⁴ <ol style="list-style-type: none"> a. If <u>NOT</u> in 3rd degree Heart Block⁵, administer atropine 0.5 to 1 mg rapid IV push. Repeat every 3 to 5 minutes as needed, to a maximum total dose of 3 mg. <p>AND</p> 	<ol style="list-style-type: none"> 5. If possible, obtain a 12-lead ECG. Acquisition should not delay or interfere with emergent or life-saving care. Repeat the 12-lead ECG during transport, if appropriate. 6. If the patient is <u>unstable</u> with signs and symptoms related to the bradycardia/AV block:⁴ <ol style="list-style-type: none"> a. Administer epinephrine (Adrenalin) 1:10,000 0.01 mg/kg IV/IO push. Repeat every 3 to 5 minutes as needed. b. Start a dopamine (Intropin) infusion at 2 to 10 mcg/kg/minute via IV pump. c. If epinephrine is ineffective, give atropine

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<p>b. Start a dopamine (Intropin) infusion at 2 to 10 mcg/kg/minute via IV pump.</p> <p>c. If in 3rd degree Heart Block, start a dopamine (Intropin) infusion at 2 to 10 mcg/kg/minute via IV pump.</p> <p>7. If patient remains unstable, perform 7I Transcutaneous Pacing. For responsive patients, treat pain and provide sedation as outlined in 1C Pain and Nausea Management and 1D Anxiety and Sedation Management.</p>	<p>0.02 mg/kg rapid IV/IO push. Minimum dose 0.1 mg. The dose may be repeated once after 3 to 5 minutes.</p> <p>7. If patient remains unstable, perform 7I Transcutaneous Pacing. For responsive patients, treat pain and provide sedation as outlined in 1C Pain and Nausea Management and 1D Anxiety and Sedation Management.</p>

DOCUMENTATION KEY POINTS

- Rationale for treating bradycardia/heart block including signs and symptoms.
- ECG rhythm interpretation
- Rate and voltage of pacing (if used) including assessment for mechanical capture.
- Initial and on-going assessment, monitoring, interventions, patient response, and complications (if any) encountered.

NOTES

¹ **Potential life threats** that may present with clinically significant bradycardia include:

- ACS/AMI
- Aortic dissection
- Tension pneumothorax
- Pulmonary embolus
- Pericardial tamponade
- Esophageal rupture

² **Potential causes and contributing factors** of bradycardia may include:

- Hypovolemia
- Hypoxia
- Hydrogen ion excess (acidosis)
- Hypokalemia or hyperkalemia
- Hypoglycemia
- For suspected Beta-Blocker or Calcium Channel Blocker overdose refer to **3K Overdose**

³ **Stable** patients include those without signs and symptoms of impaired consciousness or hypoperfusion. All patients, especially those with high-degree AV block (second degree type II or third degree) should be monitored carefully for deterioration.

⁴ **Unstable** patients include those with bradycardia accompanied by chest pain, hypotension or other signs of shock, congestive heart failure, syncope or acute altered mental status.

⁵ Atropine is most effective when P waves are conducted as in sinus bradycardia and slow 1st and 2nd degree heart block.