

Rhythm disturbances

MANAGING BRADYCARDIAS

Bradycardias result from either decreased activation of the heart, or interrupted propagation of the electrical signal.



This most commonly occurs from

- Excessive parasympathetic stimulation
- Ischemia
- Electrolyte abnormalities
- Medication effects

Parasympathetic stimulation may be blunted by parasympatholytic agents like atropine or glycopyrrolate.

Ischemia should be addressed by optimizing oxygenation and perfusion, and may require revascularization.

Electrolyte abnormalities should be evaluated, and corrected, in patients with bradycardia. These are especially common in patients with renal failure, or those taking diuretic medications (e.g., furosemide).

Specific **medication** effects should be addressed where possible. This is discussed in detail in another chapter.

A mnemonic to remember many of the causes of bradycardia is the **5 H's and T's**

- Hypoglycemia
- H⁺ (acidosis)
- Hyper / hypokalemia
- Hypoxemia
- Hypothermia
- Thrombosis (including coronary)
- Toxins
- Tamponade
- Tension pneumothorax
- Trauma (including hemorrhage)

Transcutaneous or transvenous pacing may provide temporary support for symptomatic bradycardia while other interventions take effect. It is important to ensure **mechanical** capture by confirming a pulse or using echocardiography to ensure contraction of the ventricles.

