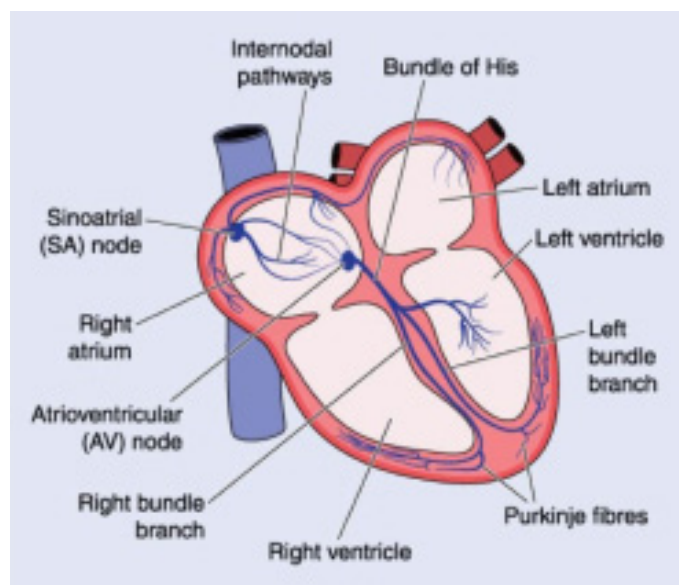


# HEART BLOCK

A normal heartbeat is initiated by an electrical signal that comes from the heart's natural pacemaker, the sinus node, located at the top of the right atrium. The electrical signal travels through the atria and reaches the atrioventricular (AV) node. After crossing the AV node, the electrical signal passes through the bundle of His. This bundle then divides into branches that extend into the right and left ventricles. The electrical signal travels down the left and right bundle branches and eventually reach the muscle cells of the ventricles, causing them to contract and pump blood to the body. Heart block occurs when this passage of electricity from the top to the bottom of the heart is delayed or interrupted.



## Symptoms of Heart Block

Some people with heart block will not experience any symptoms. Others will have symptoms that may include the following:

- Fatigue/excessive tiredness
- Feeling lightheaded
- Shortness of breath
- Pain, pressure, tightness, or discomfort in your chest
- Trouble with everyday exercises or activities
- Dizziness
- Fainting/syncope
- Decline in exercise capacity

## Risk Factors for Heart Block

Some medical conditions increase the risk for developing heart block. These medical conditions include:

- Heart failure
- Heart valve abnormalities
- Congenital heart diseases
- Aging
- Exposure to toxic substances
- Prior heart attack
- Heart valve surgery
- Lyme disease
- Some medications

## Different types of heart block

### First degree heart block

The electrical impulses are slowed as they pass through the conduction system, but they all successfully reach the ventricles. First-degree heart block rarely causes symptoms or problems.

### Second degree heart block (type I)

The electrical impulses are delayed further and further with each subsequent heartbeat until a beat fails to reach to the ventricles entirely. Your doctor may refer to this as Wenckebach. This type of heart block is usually seen at rest and during sleep. It rarely causes symptoms of feeling lightheaded or dizzy.

### Second degree heart block (type II)

With this condition, some of the electrical impulses from the atria are unable to reach the ventricles. This condition is less common than Type I and is more serious. Your doctor may recommend a pacemaker to treat type II second degree heart block, as it can progress to third degree heart block.

### Third degree heart block

Third-degree heart block, also called complete heart block, occurs when none of the electrical impulses from the atria reach the ventricles. When the ventricles (lower chambers) do not receive electrical impulses from the atria (upper chambers), they may generate some impulses on their own, called junctional or ventricular escape beats.

Ventricular escape beats, the heart's naturally occurring backups, are usually very slow. Patients frequently feel fatigue, lightheaded, and notice decreased stamina. Patients are usually treated by implanting a permanent pacemaker.

### Bundle branch block

With this condition, the electrical impulses are slowed or blocked as they travel through the specialized conducting tissue in one of the two ventricles. This type of block is detected on the electrocardiogram or ECG and does not usually cause any symptoms.

## Treatment

Treatment depends on the degree of heart block and symptoms. Your doctor will discuss what treatment is appropriate for you.