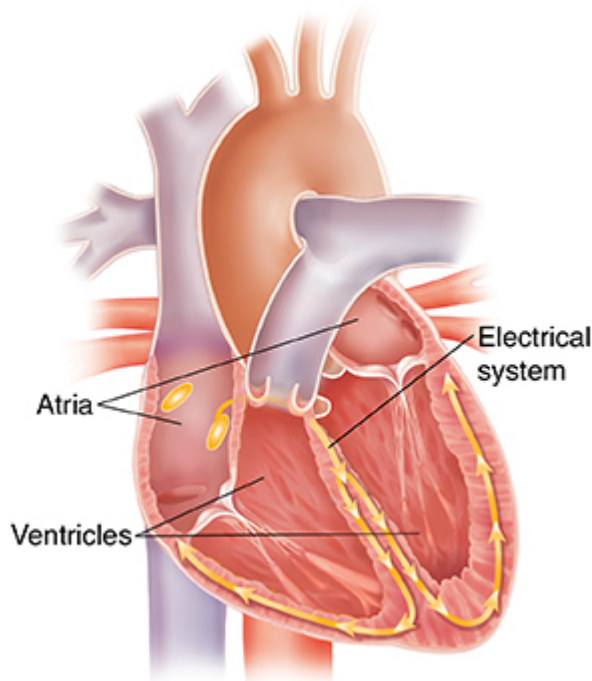


Understanding Second-Degree Heart Block

Heart block is a problem with the electrical pathway of the heart. Signals may be too slow. They may not complete their circuit. This can cause sudden changes in your heartbeat.

A normal heart

Normally, an electrical signal is started by the heart's natural pacemaker. This is called the sinoatrial node (SA). The SA is in the upper right atrium. This is one of the upper chambers of the heart. The signal then goes through the atria to the atrioventricular (AV) node. From there, it travels to a group of cells near the top of the ventricles. The ventricles are the lower chambers of the heart. The group of cells is called the bundle of His. The electrical path then splits into branches. These branches go down into each of the ventricles. They carry the electrical signal to the heart's muscle cells. This makes the heart pump.



What is heart block?

If you have heart block, the electrical signal is delayed or blocked as it goes through the heart. There are different types of heart block. First-degree heart block is the mildest form and is not technically a block. The signals are delayed, but they eventually reach the ventricles. Third-degree heart block is more serious: No signals are able to reach the ventricle. Second-degree heart block is moderate: Some of the signals reach the ventricles. There are two types of second-degree heart block:

- **Type I second-degree heart block.** The electrical signals take longer and longer to move from the upper chambers of the heart (atria) to the lower chambers (ventricles). Finally the signals can no longer reach the ventricles. This causes a missed heartbeat. Then the process starts over again.
- **Type II second-degree heart block.** Some electrical signals are at times suddenly blocked from passing from the upper chambers to the lower chambers. This may

happen in a very regular pattern. It can cause regularly missed heartbeats. This is a more serious condition. It may mean more severe damage to the heart's electrical system.

What causes second-degree heart block?

Second-degree heart block may be caused by:

- Natural aging process
- Damage to the heart from surgery
- Damage to the heart muscle from a heart attack
- Other types of heart disease that damage the heart muscle
- Low thyroid levels
- Electrolyte problems
- Inflammatory or infectious heart conditions
- Other diseases, including rheumatic fever and sarcoidosis
- Some medicines

Some babies are born with heart block. Heart block may also run in families.

What are the symptoms of second-degree heart block?

You may not have symptoms. But symptoms often include:

- Feeling lightheaded or dizzy
- Fainting
- Feeling tired
- Shortness of breath
- Less ability to exercise

How is second-degree heart block treated?

Second-degree heart block with no symptoms may not need treatment. Your healthcare provider is likely to ask you to have regular follow-up visits. You may need to take your own pulse and be alert to changes in your heart rate.

Treatments for second-degree heart block with symptoms include:

- Taking medicines to increase your heart rate in the short-term (acutely) to ease symptoms. This is usually done in the emergency room or hospital setting.
- Stopping medicines, if they are causing the heart block
- Getting a pacemaker

Most people who have type II second-degree heart block will need a pacemaker. This is the case even if they have no symptoms. This is because this type of heart block can often progress to a more dangerous type of heart block.

What are possible complications of second-degree heart block?

Second-degree heart block may turn into a more serious type of heart block. It may cause a sudden loss of consciousness. Or it may cause the heart to suddenly stop beating.

When should I call my healthcare provider?

Call your healthcare provider right away if you have any of these:

- Weakness or dizziness
- Pain that gets worse
- Symptoms that don't get better with treatment, or that get worse
- New symptoms

Call 911

Call 911 if you have:

- Shortness of breath
- Chest pain
- Fainting