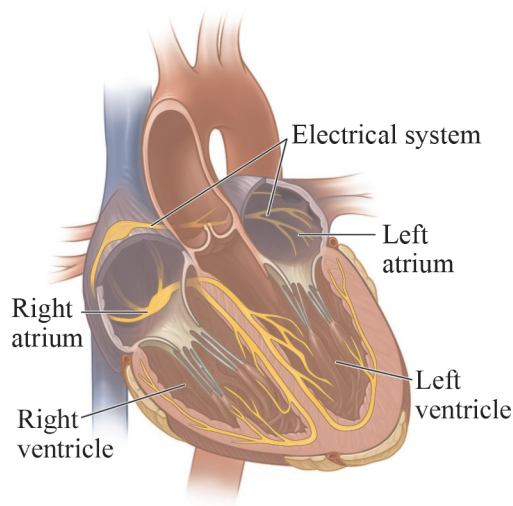


## Heart Failure: Heart Rhythm Problems



Your heart's electrical system controls the timing of your heartbeat. Problems with this system can cause a heart rhythm problem, or arrhythmia, that causes your heart to beat too fast, too slow, or in an ineffective way.

An abnormal heart rhythm may make you feel lightheaded, short of breath, or as though your heart is racing or fluttering. Or it may cause no symptoms. But it can make your heart failure worse and increase your chance of dying suddenly.

Learning more about abnormal heart rhythms can help you work with your doctor to get the right treatment.

### What are the types of heart rhythm problems?

The main heart rhythm problems are:

- **Supraventricular tachycardia.** "Supraventricular" means "above the ventricles." So this is an abnormal fast heart rhythm that starts in the upper chambers, or atria. **Atrial fibrillation** is the most common type of supraventricular tachycardia. Abnormal electrical signals cause the atria

to quiver, or fibrillate. A fibrillating heart may pump less blood than a normal heart. This can make heart failure worse.

- **Ventricular tachycardia.** This is a fast heart rhythm that starts in the ventricles. If left untreated, some forms of ventricular tachycardia may get worse. Ventricular tachycardia can lead to ventricular fibrillation, which can cause death.
- **Ventricular fibrillation.** This is an abnormal rhythm in one or both of your ventricles that makes it impossible for your heart to pump correctly. When your ventricles do not pump in a regular rhythm, blood cannot flow to the rest of your body, and your tissues quickly become starved for oxygen. This can cause fainting or sudden death.
- **Heart block.** This is a problem with the way electricity passes from the atria to the ventricles. The problem "blocks" the electrical impulse and usually results in a slower heart rate. Heart block can cause you to faint or feel lightheaded or weak.
- **Bundle branch block.** This is a problem with the way electricity passes down the main electrical pathways of the heart. These are called bundle branches. When a branch is diseased, it is called "blocked," because the electrical signals can't travel down the branch. This block can cause the heart to beat slower than normal.

### How are they diagnosed?

Your doctor may use several tests to find out what kind of abnormal heartbeat you have, such as:

- **Electrocardiogram (EKG or ECG).** An EKG measures the electrical signals that control the rhythm of your heartbeat. If your doctor does not find an abnormal rhythm during the test, you may wear a portable

EKG to record your heart rhythm, usually over a 24-hour period. Or you may wear a device called an event recorder, which allows you to record your heart rhythm whenever you have symptoms.

- **Stress test**, such as treadmill testing. A stress test compares your EKG while you rest to your EKG after your heart has been stressed by exercise or using a medicine.
- **Echocardiogram (echo)**. An echo is an ultrasound exam used to check the size, thickness, shape, and movement of the heart muscle. It also looks at blood flow.
- **Cardiac catheterization**. For this test, a dye is injected into the blood vessels of the heart (coronary arteries). This helps your doctor see whether a part of your heart is not getting enough blood.
- **Electrophysiology study**. In this test, flexible wires are inserted into a vein, usually in the groin, and threaded into the heart. Electrodes at the end of the wires send information about the heart's electrical activity.
- **Tilt table test**. This test checks to see how your blood flow adjusts when your body position changes. It can look for problems with your nervous system that make you faint or feel lightheaded.

## How are they treated?

Depending on the specific problem you have, your doctor may prescribe medicines, such as:

- A "blood thinner," or anticoagulant, like warfarin to keep blood clots from forming.

- Medicines to slow your heart rate or control your heart rhythm.

Sometimes your doctor may use cardioversion, which uses an electric current to stop the heart for a moment. This helps the heart return to a normal rhythm when it starts beating again.

A procedure called catheter ablation may be done to return the heart to a normal rhythm. Thin wires are inserted into a blood vessel and threaded to the heart. The wires send heat or freezing cold that destroy the heart tissue causing the abnormal heart rhythm.

Some people need a pacemaker or defibrillator device to keep the heart beating regularly.

- A pacemaker is an electrical device that is implanted under the skin of your chest wall. It sends electrical impulses to your heart to help it keep a regular beat and prevent it from beating too slowly.
- Biventricular pacemakers (also called cardiac resynchronization therapy, or CRT) can send electrical impulses to the right and left ventricles at the same time. This can improve the coordination of the beating heart and may greatly improve your symptoms.
- An implantable cardioverter defibrillator (ICD) sends a small electrical shock to the heart when the heartbeat gets too fast.
- Another option is a device that combines a defibrillator with a pacemaker. It can detect and stop life-threatening arrhythmias.