



Work with Your Doctor

Common arrhythmias often need no treatment. If treatment is needed, it can be tailored to you and your needs. Work with your doctor to manage your arrhythmia. If lifestyle changes are recommended, ask for the help you need to make them. Having an arrhythmia should not stop you from being active and enjoying your life to the fullest.

Taking Your Pulse

You may be told to take your pulse (heart rate) from time to time to help track your arrhythmia. This can help determine whether treatment is working. If this is needed, you will be shown the right way to take your pulse and told how often to take it.

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COMMON ARRHYTHMIAS



Living with Fast Heart Rhythms

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A Common Problem



Your heart beats to pump blood through your body. At times, the speed or pattern of your heartbeat may change. This is called an **arrhythmia.** Certain fast arrhythmias are common in people of all ages. Most occur in people with perfectly healthy hearts. In most cases, they pose no risk to your health. You and your doctor can discuss what type of arrhythmia you have and whether it needs treatment. Read on to learn more.



How an Arrhythmia Might Feel

In many cases, you may not even notice an arrhythmia. If you do notice, you may feel palpitations (a strong, pounding, or fluttering heartbeat). Or you may feel as if your heart has skipped a beat. If the arrhythmia continues for an extended period, you may feel dizzy, light-headed, or short of breath.

> If you have arrhythmia symptoms, be sure to tell your doctor.

Treatment Options Medications

Most people with atrial fibrillation take **anticlotting medications** to prevent blood clots and stroke. These may be prescription blood thinners or low-dose aspirin. If atrial fibrillation causes symptoms, medications may be prescribed. Medications help control the speed (rate) and pattern (rhythm) of the heartbeat. You may take one medication or a combination.I Talk to your doctor about medication options.

Electrical Cardioversion

If medications don't work, your doctor may recommend

a procedure called electrical cardioversion. This can restore a normal heartbeat. During the procedure, a controlled electric shock is given to briefly stop all electrical activity in the heart. Then, the SA node takes over and sets a normal heart rhythm.

Catheter Ablation

If other treatments don't work for you, catheter ablation may be suggested. This is used to destroy (ablate) the source of the arrhythmia. Depending on what parts of the heart are ablated, a device called a pacemaker may be implanted after ablation to keep the heart from beating too slowly. If ablation is recommended, you and your doctor can discuss its benefits and risks.

Heart Surgery

In some cases of atrial fibrillation, a surgical procedure to reduce or stop the arrhythmia may be recommended. The most common is called the maze procedure. If this is an option for you, your doctor can tell you more.



Atrial Fibrillation

Atrial fibrillation can cause uncomfortable symptoms. It can also increase the risk of having a stroke (blood clot in the brain). So even if it doesn't cause symptoms, atrial fibrillation will likely be treated. You and your doctor can discuss the best treatment options for you.



Possible Symptoms

During atrial fibrillation, your heart may feel like it's racing. You may have a tightness in your chest or an anxious feeling. Other symptoms include feeling tired, rundown, weak, or faint. Climbing only a short flight of steps may make you breathless or dizzy. In some cases, atrial fibrillation causes no symptoms at all.

Your ECG

If you have atrial fibrillation, the pattern of your heartbeat may look similar to the ECG below.



Work with Your Doctor

Tell your doctor about your symptoms. Mention how often they happen and how they affect your life. Tests help find what type of arrhythmia you have. Based on the results of the tests, you and your doctor can discuss treatment options. In many cases, an arrhythmia needs no treatment at all. If symptoms trouble you, they can often be managed with lifestyle changes and medications. Work with your doctor and be involved in your care. Ask any questions you have. And be sure to get your concerns addressed. By being a partner in your care, you can help ensure you get the care you need.

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Normal Heart Rhythm

The heart is a muscle that pumps blood throughout the body. The muscle contracts and relaxes (beats) many times a minute. The speed and pattern at which the heart beats is the **heart rhythm.** Signals from the heart's electrical system control this rhythm.

The Heart Is a Pump

The heart contains four **chambers.** These chambers hold blood as it moves through the heart. The two upper chambers **(atria)** receive blood from the lungs and body. The atria contract to move blood into the two lower chambers **(ventricles).** The ventricles then contract to move blood out to your lungs and body.

Treatment Options

Special Techniques and Lifestyle Changes

If you have mild or infrequent attacks of PSVT, certain techniques may help interrupt the fast heart rhythm and slow it down. These are called **vagal maneuvers.** One is holding your nose and trying to breathe out through it. (Talk to your doctor before trying this.) Splashing ice water on the face may have a similar effect. Reducing or avoiding coffee and alcohol, quitting smoking, and getting enough sleep can help prevent PSVT or make it happen less often.

Medications

If PSVT occurs often or if symptoms interfere with your life, antiarrhythmic medications may be prescribed. They may slow your heart rate and help prevent PSVT.

Ablation

If medications don't help, a procedure called **catheter ablation** may be recommended. During this procedure, a catheter (thin, flexible tube) is guided through a blood vessel into the heart. The catheter then delivers energy to destroy (ablate) cells that are releasing or carrying the problem signals.

At rest, the normal heart beats about 60 to 100 times a minute.

PSVT

PSVT can greatly increase the heart rate. This can be a frightening feeling, but it generally is not harmful to your health. If **PSVT** is bothersome, it can be treated. You and your doctor can discuss the best treatment options for you.

Possible Symptoms

With PSVT, your heart suddenly begins beating very fast. The beats are rapid and regular. They may make you feel breathless, dizzy, or weak. You may also feel heaviness or pressure in your chest. The rapid heartbeat can last for seconds or go on for hours. Then, just as suddenly as it started, the arrhythmia will stop. Many people soon feel normal again.

Your ECG

If you have PSVT, the pattern of your heartbeat may look similar to the ECG below.

The Heart's Electrical System

Electrical signals control the heart rhythm. Groups of special cells called **nodes** create or send these signals. As the signals move through the heart, they tell the chambers when to contract and move blood. Signals:

- Start in the right atrium in the **SA node.**
- Travel through the atria to the **AV node**.
- Pass from the AV node to the ventricles along special pathways called **bundle branches**.

The SA (sinoatrial, or sinus) node is the heart's natural pacemaker. It starts each heartbeat by sending an electrical signal that tells the atria to contract.

> The AV (atrioventricular) node receives the signal from the SA node after the signal passes through the atria. The AV node then guides the signal to the ventricles.

> > The bundle branches are pathways of cells that carry the signal through the ventricles. As the signal moves through the ventricles, they contract.

Common Arrhythmias

There are many types of arrhythmias. Three of the most common are described on these pages. Each type of arrhythmia happens in a different way. All of them involve problems with the electrical signals that travel within the heart.

Premature Contractions

With premature contractions, an extra signal causes the heartbeat to start too soon, before the chambers have a chance to fill with blood. After this premature beat, there is a pause then an extra forceful beat that pumps more blood than usual. There may be only one premature contraction, or several in a row. Premature contractions can begin in the atria (called PACs) or the ventricles (PVCs).

Premature Contractions

Many people have premature contractions at some time in their lives. These abnormal heartbeats don't always produce symptoms. They are not serious and rarely need treatment.

Possible Symptoms

During a premature contraction, the heart contracts earlier than normal. There may be a pause before the next normal contraction. It may feel like your heart has "skipped a beat," and the next normal beat often feels stronger than usual.

Treatment Options

In many cases, certain lifestyle changes can help prevent premature contractions. These include getting enough sleep, reducing stress, and avoiding caffeine, tobacco, and alcohol. If premature contractions happen often, you and your doctor may discuss the option of taking medications to control them.

Your ECG

If you have premature contractions, the pattern of your heartbeat may look similar to the ECG below.

► Taking steps to reduce stress, such as practicing meditation or yoga, can help reduce premature contractions.

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More Diagnostic Tests

If needed, certain other diagnostic tests may be done. These can provide more detailed information about the heart and the causes of an arrhythmia. If these or other tests are needed, your doctor can tell you more.

Echocardiogram

Electrophysiology Study If more information is needed, an

An echocardiogram (echo) uses sound waves to create a moving picture of the heart. This test shows the size and shape of the heart. It helps your doctor learn whether your arrhythmia is linked to problems with the heart's structure. A transesophageal echo (TEE) is a special type of echo. It uses a flexible tube put into the mouth and down the esophagus. It can show more detail than a regular echo.

electrophysiology study (EPS) may be recommended. The test is done by a specially trained cardiologist called an electrophysiologist. During an EPS, special wires are put into a blood vessel. They are carefully guided into the heart, where they record electrical activity. The heart's electrical pathways can then be mapped out. This study can find an arrhythmia and also may help identify the cause of the problem.

Paroxysmal Supraventricular Tachycardia (PSVT)

PSVT is a series of very fast heart contractions that begin in the atria. PSVT is rarely serious, though it may cause uncomfortable symptoms. With PSVT, the AV node sends signals out along two pathways. One or both of these can form a small electrical loop (circuit). An electrical signal trapped in the loop can make the atria and ventricles contract over and over. This causes the heart rate to suddenly speed up. The heart has less time to fill between beats, so less blood is pumped during the arrhythmia. One type of PSVT, called Wolff-Parkinson-White syndrome, may be present from birth.

Atrial Fibrillation

With atrial fibrillation, the heart beats very fast and irregularly. The atria receive extra signals from abnormal electrical cells. The extra signals cause the atria to contract very quickly and out of sync with the ventricles. The signals to the atria may be so fast that the muscle quivers instead of beating. During the arrhythmia, less blood is pumped to the body. Atrial fibrillation can happen all the time (persistent), or just once in a while (paroxysmal).

Atrial Flutter

Like atrial fibrillation, atrial flutter is a too fast heartbeat. However, the heartbeat is still regular. Flutter can occur when the right atrium has an abnormal electrical loop (circuit), sending out too many signals.

Extra pathway

Diagnosing Arrhythmias

Each type of arrhythmia produces a specific abnormal heartbeat. This may cause a number of symptoms. To help diagnose your arrhythmia, your doctor will examine you and ask about your health. Tell your doctor about any symptoms you've noticed. Your doctor will likely order tests to record vour heartbeat and check for certain medical problems.

Health History

Your doctor will ask you about your symptoms and medical history. Tell your doctor:

- When your symptoms started, how often you notice them, how long they last, and what they feel like. Mention if symptoms begin slowly or start and stop quickly.
- If you have heart disease, lung disease, high blood pressure, or thyroid problems.
- What medications you take, including those you buy over the counter.
- Whether you smoke, drink alcohol, or drink caffeinated beverages.

Physical Exam

During your physical exam, the doctor will listen to your heart and take your pulse. Your doctor can tell if your heart is beating normally and if blood is passing through the atria and ventricles correctly. Arrhythmias may be linked with chronic high blood pressure (hypertension). So your blood pressure will also be taken during the exam.

Electrocardiogram

An electrocardiogram (ECG) is a test that records the electrical impulses from the heart. It takes just a few minutes and can be done in your doctor's office. During the test, small pads (electrodes) are placed on your chest, shoulders, and arms. A strip is then created showing the pattern of the heartbeat. In some cases, a stress ECG is done. For this test, your heartbeat is recorded while you exercise on a treadmill or exercise bike. In either case, the arrhythmia will be recorded only if it happens during the test.

ECG Heart Monitors

These devices record your heartbeat for a longer time than an office-based ECG. They help find arrhythmias that occur less often.

- A Holter monitor can be worn for up to 2 days. It provides a constant recording of heart activity.
- An event monitor can be worn for several weeks. One kind is a memory loop recorder. This records constantly, but stores the recording only when you press a button. Another kind turns on only when it senses an arrhythmia.

Recording the Electrical Signal

The ECG shows electrical signals as waves. Each series of waves, from the P wave through the T wave, reflects one heartbeat.

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(repolarizing) of the ventricles.

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