

HEART ARRHYTHMIA

Definition

Heart rhythm problems (heart arrhythmias) occur when the electrical impulses in your heart that coordinate your heartbeats don't work properly, causing your heart to beat too fast, too slow or irregularly.

Heart arrhythmias (uh-RITH-me-uhs) may feel like a fluttering or racing heart, and they're often harmless. However, some heart arrhythmias may cause bothersome — sometimes even life-threatening — signs and symptoms.

Heart arrhythmia treatment can often control or eliminate irregular heartbeats. In addition, because troublesome heart arrhythmias are often made worse — or are even caused — by a weak or damaged heart, you may be able to reduce your arrhythmia risk by adopting a heart-healthy lifestyle.

Symptoms

Arrhythmias may not cause any signs or symptoms. In fact, your doctor might find you have an arrhythmia before you do, during a routine examination. Noticeable signs and symptoms don't necessarily mean you have a serious problem, however.

Noticeable arrhythmia symptoms may include:

- A fluttering in your chest
- Shortness of breath
- A racing heartbeat (tachycardia)
- Lightheadedness
- A slow heartbeat (bradycardia)
- Dizziness
- Chest pain
- Fainting (syncope) or near fainting

When to see a doctor

Arrhythmias may cause you to feel premature heartbeats, or you may feel that your heart is racing or beating too slowly. Other signs and symptoms may be related to reduced blood output from your heart. These include shortness of breath or wheezing, weakness, dizziness, lightheadedness, fainting or near fainting, and chest pain or discomfort.

Seek urgent medical care if you suddenly or frequently experience any of these signs and symptoms at a time when you wouldn't expect to feel them.

Ventricular fibrillation (VF) is one type of arrhythmia that can be deadly. It occurs when the heart beats with rapid, erratic

electrical impulses. This causes pumping chambers in your heart (the ventricles) to quiver uselessly instead of pumping blood. Without an effective heartbeat, blood pressure plummets, cutting off blood supply to your vital organs. A person with ventricular fibrillation will collapse within seconds and soon won't be breathing or have a pulse. If this occurs, follow these steps:

- Call 10111 or from any cellphone 112 for an emergency.
- If there's no one nearby trained in cardiopulmonary resuscitation (CPR), provide hands-only CPR. That means uninterrupted chest compressions of about 100 a minute until paramedics arrive. To do chest compressions, push hard and fast in the center of the chest. You don't need to do rescue breathing.
- If you or someone nearby knows CPR, begin providing it if it's needed. CPR can help maintain blood flow to the organs until an electrical shock (defibrillation) can be given.
- Find out if an automated external defibrillator (AED) is available nearby. These portable defibrillators, which can deliver an electric shock that may restart heartbeats, are available in an increasing number of places, such as in airplanes, police cars and shopping malls. They can even be purchased for your home. No training is required. The AED will tell you what to do. They're programmed to allow a shock only when appropriate.

Causes

Many things can lead to, or cause, an arrhythmia, including:

- A heart attack that's occurring right now
- Scarring of heart tissue from a prior heart attack
- Changes to your heart's structure, such as from cardiomyopathy
- Blocked arteries in your heart (coronary artery disease)
- High blood pressure
- Diabetes
- Overactive thyroid gland (hyperthyroidism)
- Smoking
- Drinking too much alcohol or caffeine
- Drug abuse

- Stress
- Medications
- Dietary supplements and herbal treatments
- Electrical shock
- Air pollution

What's a normal heartbeat?

When your heart beats, the electrical impulses that cause it to contract follow a precise pathway through your heart. Any interruption in these impulses can cause an arrhythmia.

Your heart is divided into four chambers. The chambers on each half of your heart form two adjoining pumps, with an upper chamber (atrium) and a lower chamber (ventricle).

During a heartbeat, the atria contract and fill the relaxed ventricles with blood. This contraction starts when the sinus node — a small group of cells in your right atrium — sends an electrical impulse causing your right and left atria to contract.

The impulse then travels to the center of your heart, to the atrioventricular node that lies on the pathway between your atria and your ventricles. From here, the impulse exits the atrioventricular node and travels through your ventricles.

In a healthy heart, this process usually goes smoothly, resulting in a normal resting heart rate of 60 to 100 beats a minute. Conditioned athletes at rest commonly have a heart rate less than 60 beats a minute because their hearts are so efficient.

Types of arrhythmias

Doctors classify arrhythmias not only by where they originate (atria or ventricles) but also by the speed of heart rate they cause:

- **Tachycardia** (tak-ih-KAHR-dee-uh). This refers to a fast heartbeat — a resting heart rate greater than 100 beats a minute.
- **Bradycardia** (brad-e-KAHR-dee-uh). This refers to a slow heartbeat — a resting heart rate less than 60 beats a minute.
- **Premature heartbeats:** Although it often feels like a skipped heartbeat, a premature heartbeat is actually an extra beat. Even though you may feel an occasional premature beat, it seldom means you have a more serious problem. Still, a premature beat can trigger a longer lasting arrhythmia – especially in people with heart disease. Premature heartbeats are commonly caused by stimulants, such as caffeine from coffee, tea and soft drinks; over-the-counter cold remedies containing pseudoephedrine; and some asthma medications.

Not all tachycardias or bradycardias mean you have heart disease. For example, during exercise it's normal to develop tachycardia as the heart speeds up to provide your tissues with more oxygen-rich blood.

Risk factors

Certain factors may increase your risk of developing an arrhythmia. These include:

- **Coronary artery disease, other heart problems and previous heart surgery.** Narrowed heart arteries, a heart attack, abnormal heart valves, prior heart surgery, heart failure, cardiomyopathy and other heart damage are risk factors for almost any kind of arrhythmia.
- **High blood pressure.** This increases your risk of developing coronary artery disease. It may also cause the walls of your left ventricle to become stiff and thick, which can change how electrical impulses travel through your heart.
- **Congenital heart disease.** Being born with a heart abnormality may affect your heart's rhythm.
- **Thyroid problems.** Having an overactive or underactive thyroid gland can raise your risk for arrhythmias.
- **Drugs and supplements.** Certain over-the-counter cough and cold medicines and certain prescription drugs may contribute to arrhythmia development.
- **Diabetes.** Your risk of developing coronary artery disease and high blood pressure greatly increases with uncontrolled diabetes.
- **Obstructive sleep apnea.** This disorder, in which your breathing is interrupted during sleep, can increase your risk of bradycardia, atrial fibrillation and other arrhythmias.
- **Electrolyte imbalance.** Substances in your blood called electrolytes — such as potassium, sodium, calcium and magnesium — help trigger and conduct the electrical impulses in your heart. Electrolyte levels that are too high or too low can affect your heart's electrical impulses and contribute to arrhythmia development.
- **Drinking too much alcohol.** Drinking too much alcohol can affect the electrical impulses in your heart and can increase the chance of developing atrial fibrillation.
- **Caffeine or nicotine use.** Caffeine, nicotine and other stimulants can cause your heart to beat faster and may contribute to the development of more-serious arrhythmias. Illegal drugs, such as amphetamines and cocaine, may profoundly affect the heart and lead to many types of arrhythmias or to sudden death due to ventricular fibrillation.

Lifestyle and home remedies

Your doctor may suggest that, in addition to other treatments, you make lifestyle changes that will keep your heart as healthy as possible.

These lifestyle changes may include:

- **Eat heart-healthy foods:** Eat a healthy diet that's low in salt and solid fats and rich in fruits, vegetables and whole grains.
- **Exercise regularly:** Exercise daily and increase your physical activity.
- **Quit smoking:** If you smoke and can't quit on your own, talk to your doctor about strategies or programs to help you break a smoking habit.
- **Maintain a healthy weight:** Being overweight increases your risk of developing heart disease.
- **Keep blood pressure and cholesterol levels under control:** Make lifestyle changes and take medications as prescribed to correct high blood pressure (hypertension) or high cholesterol.
- **Drink alcohol in moderation:** For healthy adults, that means up to one drink a day for women of all ages and men older than age 65, and up to two drinks a day for men age 65 and younger.
- **Maintain follow-up care:** Take your medications as prescribed and have regular follow-up appointments with your doctor. Tell your doctor if your symptoms worsen.

Alternative medicine

Research is ongoing regarding the effectiveness of several forms of complementary and alternative medical therapies for arrhythmia.

Some types of complementary and alternative therapies may be helpful to reduce stress, such as:

- Yoga
- Meditation
- Relaxation techniques

Some studies have shown that acupuncture may help reduce irregular heart rates in certain arrhythmias, but further research is needed.

The role of omega-3 fatty acids, a nutrient found mostly in fish, in the prevention and treatment of arrhythmias isn't yet clear. But it appears this substance may be helpful in preventing and treating some arrhythmias.

Prevention

To prevent heart arrhythmia, it's important to live a heart-healthy lifestyle to reduce your risk of heart disease. A healthy *lifestyle may include:*

- Eating a heart-healthy diet
- Increasing your physical activity
- Avoiding smoking
- Keeping a healthy weight
- Limiting or avoiding caffeine and alcohol
- Reducing stress, as intense stress and anger can cause heart rhythm problems
- Using over-the-counter medications with caution, as some cold and cough medications contain stimulants that may trigger a rapid heartbeat

Source: The Mayo Clinic

Contact us

Please feel free to contact your Aon Healthcare Consultant if you have any concerns. You may also contact the **Aon Resolution Centre on 0860 835 272 or e-mail: arc@aon.co.za** for further information.

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