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# Supraventricular tachycardia

## Overview

Supraventricular tachycardia (SVT), also called paroxysmal supraventricular tachycardia, is defined as an abnormally fast heartbeat. It's a broad term that includes many forms of heart rhythm problems (heart arrhythmias) that originate above the ventricles (supraventricular) in the atria or AV node.

A normal heart rate is 60 to 100 beats per minute. A heart rate of more than 100 beats per minute is called a tachycardia (tak-ih-KAHR-dee-uh). This occurs when the electrical impulses that coordinate your heartbeats don't work properly. It may feel like a fluttering or racing heart.

Most people with rare episodes of supraventricular tachycardia live healthy lives without restrictions or interventions. For others, treatment and lifestyle changes can often control or eliminate rapid heartbeats.

[Supraventricular tachycardia care at Mayo Clinic](#)

## Symptoms

Supraventricular tachycardia may come and go suddenly, with stretches of normal heart rates in between. Symptoms may last anywhere from a few minutes to a few days, and some people have no symptoms at all.

Supraventricular tachycardia becomes a problem when it occurs frequently and is ongoing, particularly if you have heart damage or other coexisting medical problems.

Signs and symptoms of supraventricular tachycardia may include:

- A fluttering in your chest
- Rapid heartbeat (palpitations)
- Shortness of breath
- Lightheadedness or dizziness

## Visited on 08/11/2020

- Sweating
- A pounding sensation in the neck
- Fainting (syncope) or near fainting

In infants and very young children, signs and symptoms may be difficult to identify. Sweating, poor feeding, pale skin and infants with a pulse rate greater than 200 beats per minute may have supraventricular tachycardia.

### **When to see a doctor**

Supraventricular tachycardia is generally not life-threatening unless you have other heart disorders, but you should talk to your doctor if you are experiencing bothersome symptoms.

Some signs and symptoms, such as shortness of breath, weakness, dizziness, lightheadedness and fainting or near fainting, may be related to a serious health condition.

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.

In extreme cases, an episode of SVT may cause you to pass out.

## **Causes**

For some people, a supraventricular tachycardia episode is related to an obvious trigger, such as psychological stress, lack of sleep or physical activity. For others, there may be no noticeable trigger. Things that may lead to, or cause, an episode include:

- Heart failure
- Thyroid disease
- Heart disease
- Chronic lung disease
- Smoking
- Drinking too much alcohol
- Consuming too much caffeine
- Drug use, such as cocaine and methamphetamines
- Certain medications, including asthma medications and over-the-counter cold and allergy drugs
- Surgery
- Pregnancy

## Visited on 08/11/2020

- Certain health conditions, such as Wolff-Parkinson-White syndrome

### What's a normal heartbeat?

Your heart is made up of four chambers — two upper chambers (atria) and two lower chambers (ventricles). The rhythm of your heart is normally controlled by a natural pacemaker (the sinus node) located in the right atrium. The sinus node produces electrical impulses that normally start each heartbeat.

From the sinus node, electrical impulses travel across the atria, causing the atria muscles to contract and pump blood into the ventricles.

The electrical impulses then arrive at a cluster of cells called the atrioventricular node (AV node) — usually the only pathway for signals to travel from the atria to the ventricles.

The AV node slows down the electrical signal before sending it to the ventricles. This slight delay allows the ventricles to fill with blood. When electrical impulses reach the muscles of the ventricles, they contract, causing them to pump blood either to the lungs or to the rest of the body.

In a healthy heart, this process usually goes smoothly, resulting in a normal resting heart rate of 60 to 100 beats a minute.

Supraventricular tachycardia occurs when faulty electrical connections in the heart or abnormal areas of electrical activity trigger and sustain an abnormal rhythm. When this happens, the heart rate accelerates too quickly and doesn't allow enough time for the heart to fill before it contracts again. These ineffective contractions of the heart may cause you to feel light-headed or dizzy because the brain isn't receiving enough blood and oxygen.

### Types of supraventricular tachycardia

There are three major types of supraventricular tachycardia:

- **Atrioventricular nodal reentrant tachycardia (AVNRT).** This is the most common type of supraventricular tachycardia in both males and females of any age, although it tends to occur more often in young women.
- **Atrioventricular reciprocating tachycardia (AVRT).** AVRT is the second most-common type of supraventricular tachycardia. It's most commonly diagnosed in younger people.
- **Atrial tachycardia.** This type of supraventricular tachycardia is more commonly diagnosed in people with coexisting heart disease. Unlike AVNRT and AVRT, which always involve the AV node as part of the faulty connection, atrial tachycardia doesn't involve the AV node.

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Other types of supraventricular tachycardia include:

- Sinus tachycardia
- Inappropriate sinus tachycardia (IST)
- Multifocal atrial tachycardia (MAT)
- Junctional ectopic tachycardia (JET)
- Nonparoxysmal junctional tachycardia (NPJT)

## Risk factors

Supraventricular tachycardia is the most common type of arrhythmia in infants and children. It also tends to occur twice as often in women, particularly pregnant women, though it may occur in either sex.

Other factors that may increase your risk of supraventricular tachycardia include:

- **Age.** Some types of supraventricular tachycardia are more common in people who are middle-aged or older.
- **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 increase your risk of developing supraventricular tachycardia.
- **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 increase your risk of supraventricular tachycardia.
- **Drugs and supplements.** Certain over-the-counter cough and cold medicines and certain prescription drugs may contribute to an episode of supraventricular tachycardia.
- **Anxiety or emotional stress**
- **Physical fatigue**
- **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 supraventricular tachycardia.
- **Nicotine and illegal drug use.** Nicotine and illegal drugs, such as amphetamines and cocaine, may profoundly affect the heart and trigger an episode of supraventricular tachycardia.

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## Complications

Over time, untreated and frequent episodes of supraventricular tachycardia may weaken the heart and lead to heart failure, particularly if you have other coexisting medical conditions.

In extreme cases, an episode of supraventricular tachycardia may cause unconsciousness or cardiac arrest.

## Prevention

To prevent an episode of supraventricular tachycardia, it's important to know what triggers the episodes to occur and try to avoid them. You might want to try:

- Eating a heart-healthy diet
- Increasing your physical activity
- Avoiding smoking
- Keeping a healthy weight
- Limiting or avoiding alcohol
- Reducing stress
- Getting plenty of rest
- Using over-the-counter medications with caution, as some cold and cough medications contain stimulants that may trigger a rapid heartbeat
- Avoiding stimulant drugs such as cocaine and methamphetamines

For most people with supraventricular tachycardia, moderate amounts of caffeine do not trigger an episode. Large amounts of caffeine should be avoided, however.

Consider keeping a diary to help identify your triggers. Track your heart rate, symptoms and activity at the time of an SVT episode.

[By Mayo Clinic Staff](#)

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