



MEDICAL  
GROUP

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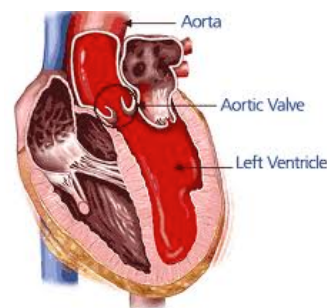
Diplomates American Board of Internal Medicine & Cardiovascular Diseases  
A medical practice dedicated to the prevention, diagnosis, and treatment of heart disease.

Cedars-Sinai Medical Office Towers  
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## AORTIC STENOSIS

The aortic valve is between the aorta (the large blood vessel that takes blood from the heart to the rest of the body) and the left ventricle, the heart's large pumping chamber. Aortic valve stenosis occurs when the leaflets or cusps of the aortic valve are restricted in their motion and, thus, do not fully open. That means that the opening of the aortic valve to allow blood to go from the heart to the aorta (and thus the rest of the body) is smaller or narrower than normal. When it is so narrow that it prevents blood flow from the heart, cardiac problems or symptoms can appear. Aortic stenosis may be due to many diseases and problems. One cause is rheumatic fever, which is a complication of strep throat (pharyngitis) and scarlet fever. Other causes include calcification of the aortic valve, which can occur with age. Congenital abnormalities can also cause aortic valve disease and stenosis.



Aortic stenosis is three times more common in men than in women. Symptoms generally do not appear until middle age or later.

### Prevention:

Aortic stenosis cannot be prevented, but some of the complications can. Tell the doctor if you have any history of heart valve disease. A dental procedure, including a professional cleaning, can introduce bacteria into the blood stream, which can infect a diseased heart valve. Unfortunately, for most patients, the newest guidelines suggest that there is no evidence that routine antibiotics for dental work will prevent infection. Rather, regular dental visits and good dental hygiene appear to be the most important way to prevent infections ([endocarditis](#)). Follow the treatment that the doctor recommends to you for conditions that can cause valve disease. Streptococcal infections (strep throat or pharyngitis) must be treated to prevent rheumatic fever. Tell the doctor if there is any history in your family of congenital heart diseases.

### Symptoms

The symptoms of aortic stenosis may not appear until the disease is quite advanced. If you have any of these symptoms, you must go to the doctor immediately. The symptoms include:

- fainting (syncope), weakness or shortness of breath with activity
- feeling that the heart is beating hard, fast or irregular ([palpitations](#))
- cough without being sick
- chest pain or discomfort which may radiate to the neck, back or arms (It often feels like a crushing, tightness, pressure or oppression and often increases with exercise and is relieved with rest).
- decreased urine production, even if normal amounts of liquid are drunk
- dizziness or lightheadedness

### Signs and examinations:

The heart examination may reveal palpable trembling or lifting (vibration or movement that is felt when holding a hand over the heart). A murmur, clicking or other abnormal heart sound is almost always heard upon auscultation (listening to the chest with a stethoscope). Mild pulses or changes in the quality of the pulse in the neck may be felt. Blood pressure may be low.

To confirm the diagnosis of aortic stenosis, medical tests are performed. The most common test for evaluating this condition is an [echocardiogram](#). An echocardiogram uses sound waves to take images of the heart and heart valves. The Doppler technique is performed to determine the severity of the stenosis and measure the amount of blood that flows through the valve. A chest x-ray may reveal an enlarged heart. An [electrocardiogram \(ECG\)](#) may also suggest an enlarged heart. Other diagnostic tests that are performed less frequently include angiography or cardiac catheterization (especially prior to considering surgery to replace the aortic valve), which consists of introducing a catheter into the heart, injecting a special contrast agent through the catheter and taking moving x-rays of the heart and blood vessels.



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## Treatment:

If there are no symptoms, or if symptoms are mild, observation only is required. If symptoms are serious, hospitalization may be needed. Medications may be needed to control heart failure. It may be recommended that symptomatic people avoid vigorous physical activities. People with symptoms of aortic stenosis who have difficulty breathing, chest pain and syncope must go to the doctor immediately. Patients who have mild symptoms or who have no symptoms must undergo a physical examination every 6 to 12 months, and they must have an electrocardiogram performed every 1 to 3 years. Generally, an echocardiogram is done each year to confirm that the aortic stenosis has not progressed.

The preferred treatment for symptomatic aortic stenosis is surgical repair or valve replacement. Aortic stenosis is cured with surgical treatment, although there could be ongoing risk of arrhythmias (abnormal heart rhythm). A person may not have symptoms until complications arise. The time to perform a surgical aortic valve replacement is when the risk of the aortic stenosis is higher than the risk of the surgery. Newer techniques are being developed that allow the implantation of a new aortic valve without surgery (via a minimally invasive procedure done through an artery in the groin). Doctors at the Cedars- Sinai Heart Institute enrolled the most patients in the United States in an experimental trial that had very promising results reported in 2010 ([click here](#) for more information).

If aortic stenosis is not treated, complications generally occur.

- Left ventricular hypertrophy (enlargement of the heart muscle) caused because the heart pumps blood through a narrow valve
- [angina pectoris](#) (chest pain) which generally worsens with physical exercise
- [heart failure](#)
- sudden death due to arrhythmias
- [endocarditis](#)

You must go to the doctor if you have symptoms of aortic stenosis. If you were diagnosed with aortic stenosis and the symptoms worsen or you have new symptoms, you must go to the doctor.

[Click here](#) for more information on heart valve disease.

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Written by and/or reviewed by Mark K. Urman, M.D. and Jeffrey F. Caren, M.D.

**PLEASE NOTE: The information above is provided for general informational and educational purposes only, and is not intended to be a substitute for medical advice, diagnosis or treatment. Accordingly, it should not be relied upon as a substitute for consultation with qualified health professionals who are familiar with your individual medical needs.**

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