

Mitral stenosis

Definition

Mitral stenosis is a heart valve disorder that involves the mitral valve. This valve separates the upper and lower chambers on the left side of the heart. Stenosis refers to a condition in which the valve does not open fully, restricting blood flow.

Alternative Names

Mitral valve obstruction

Causes

Blood that flows between different chambers of your heart must flow through a valve. The valve between the two chambers on the left side of your heart is called the mitral valve. It opens up enough so that blood can flow from one chamber of your heart (left atria) to the next chamber (left ventricle). It then closes, keeping blood from flowing backwards.

Mitral stenosis refers to when the valve cannot open as wide. As a result, less blood flows to the body. The upper heart chamber swells as pressure builds up. Blood may flow back into the lungs. Fluid then collects in the lung tissue (pulmonary edema), making it hard to breathe. See also: heart failure.

In adults, mitral stenosis occurs most often in those who have had rheumatic fever (a condition that may develop after strep throat or scarlet fever). The valve problems develop 5 - 10 years after the rheumatic fever. Rheumatic fever is becoming rare in the United States, so mitral stenosis is also less common.

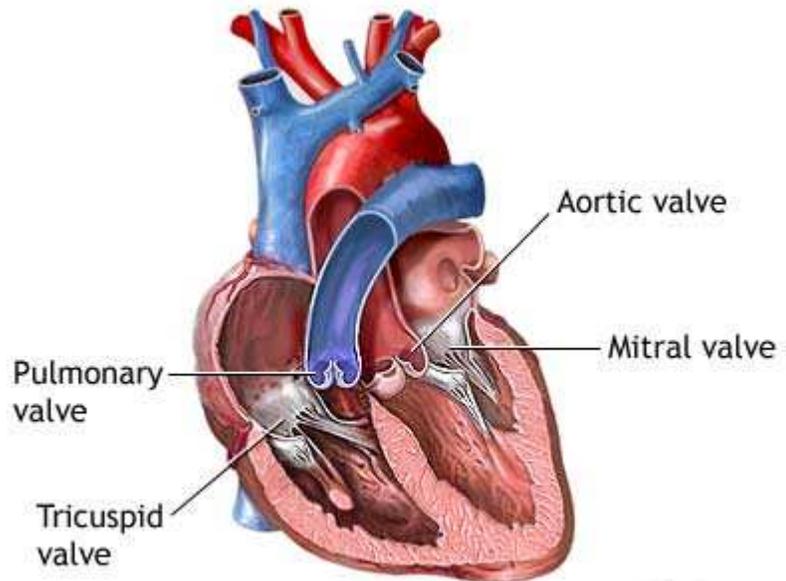
Only rarely do other factors cause mitral stenosis in adults. These include calcium deposits forming around the mitral valve, radiation treatment to the chest, and some medications.

Children may be born with mitral stenosis (congenital) or other birth defects involving the heart that cause mitral stenosis. Often, there are other heart defects present, along with the mitral stenosis.

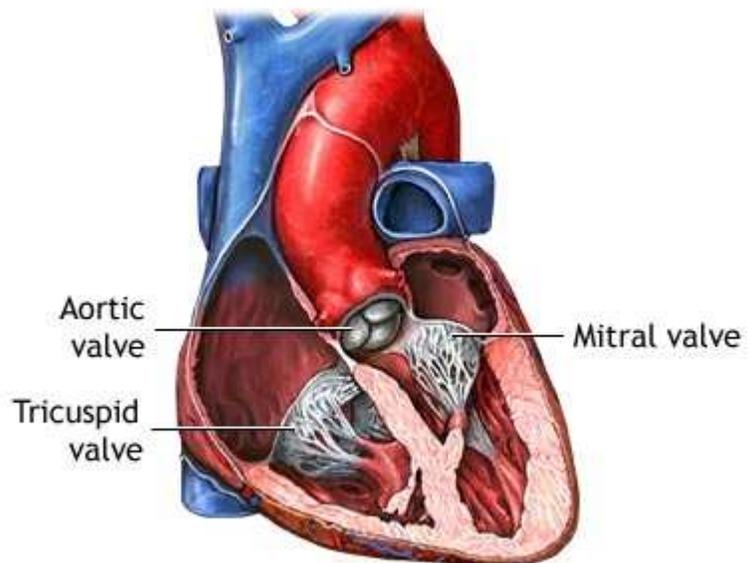
Mitral stenosis may run in families.

Symptoms

In adults there may be no symptoms. Symptoms may, however, appear or get worse with exercise or any activity that raises the heart rate. In adults, symptoms usually develop between ages 20 - 50.



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Symptoms may begin with an episode of atrial fibrillation, or may be triggered by pregnancy or other stress on the body, such as infection in the heart or lungs, or other heart disorders.

Symptoms may include:

- Chest discomfort (rare)
 - Increases with activity, decreases with rest
 - Radiates to the arm, neck, jaw, or other areas
 - Tight, crushing, pressure, squeezing, constricting
- Cough, possibly bloody (hemoptysis)
- Difficulty breathing during or after exercise or when lying flat; may wake up with difficulty breathing
- Fatigue, becoming tired easily
- Frequent respiratory infections such as bronchitis
- Sensation of feeling the heart beat (palpitations)
- Swelling of feet or ankles

In infants and children, symptoms may be present from birth (congenital), and almost always develop within the first 2 years of life. Symptoms include:

- Bluish discoloration of the skin or mucus membranes (cyanosis)
- Poor growth
- Shortness of breath

Exams and Tests

The health care provider will listen to the heart and lungs with a stethoscope. A distinctive murmur, snap, or other abnormal heart sound may be heard. The typical murmur is a rumbling sound that is heard over the heart during the resting phase of the heartbeat. The sound gets louder just before the heart begins to contract.

The exam may also reveal an irregular heartbeat or lung congestion. Blood pressure is usually normal.

Narrowing or obstruction of the valve or swelling of the upper heart chambers may show on:

- Cardiac catheterization
- Chest x-ray
- Doppler ultrasound
- Echocardiogram
- ECG (electrocardiogram)
- MRI of the heart
- Transesophageal echocardiogram (TEE)

Treatment

Treatment depends on the symptoms and condition of the heart and lungs. People with mild symptoms or none at all may not need treatment. Hospitalization may be required for diagnosis and treatment of severe symptoms.

Medications are used to treat symptoms of heart failure or abnormal heart rhythms (most commonly atrial fibrillation) and high blood pressure, as well as to prevent blood clots.

- These include diuretics (water pills), nitrates, beta-blockers, calcium channel blockers, ACE inhibitors, angiotensin receptor blockers (ARBs), or digoxin.
- Anticoagulants (blood thinners) are used to prevent blood clots from forming and traveling to other parts of the body.

Antibiotics may be used for some people with mitral stenosis:

- People who have had rheumatic fever may need long-term treatment with penicillin.
- In the past, most patients with heart valve problems such as mitral stenosis were given antibiotics before dental work or invasive procedures, such as colonoscopy. The antibiotics were given to prevent an infection of the damaged heart valve. However, antibiotics are now used much less often before dental work and other procedures.

Some patients may need heart surgery to repair or replace the mitral valve. Replacement valves can be made from different materials. Some may last for decades and others can wear out and require replacement.

For more information, see:

- Mitral valve surgery - minimally invasive
- Mitral valve surgery - open

Percutaneous mitral balloon valvotomy (also called valvuloplasty) may be tried instead of surgery in patients with a less damaged mitral valve. During this procedure, a catheter (tube) is inserted into a vein, usually in the leg, and threaded up into the heart. A balloon on the tip of the catheter is inflated, widening the mitral valve and improving blood flow.

Children often require surgery to either repair or replace the mitral valve.

Outlook (Prognosis)

The outcome varies. The disorder may be mild, without symptoms, or may be more severe and eventually disabling. Complications may be severe or life threatening. Mitral stenosis is usually controllable with treatment and improved with valvuloplasty or surgery.

Possible Complications

- Atrial fibrillation and atrial flutter
- Blood clots to the brain (stroke), intestines, kidneys, or other areas
- Heart failure
- Pulmonary edema
- Pulmonary hypertension

When to Contact a Medical Professional

Call your health care provider if:

- You have symptoms of mitral stenosis
- You have mitral stenosis and symptoms do not improve with treatment, or new symptoms appear

Prevention

Follow the health care provider's recommended treatment for conditions that may cause valve disease. Treat strep infections promptly to prevent rheumatic fever. Tell your health care provider if you have a family history of congenital heart diseases.

Mitral stenosis itself often cannot be prevented, but complications can be prevented. Inform your health care provider of your heart valve disease before you receive any medical treatment.

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