

What is subaortic stenosis?

Subaortic stenosis is the second most common form of left ventricular outflow obstruction. It occurs when there is a narrowing in the left ventricular outflow tract. This restricts blood flow from the heart's pumping chamber or left ventricle.

It is caused by the presence of a subaortic membrane, which is a shelf-like membrane that forms under the aortic valve. In turn, it prevents the normal flow of blood from the left ventricle into the aorta.

About 50% of patients with a subaortic membrane also have leakage of the aortic valve.

The subaortic membrane is twice as common in males. It has been reported to occur in families. It is more severe when diagnosed in children, rather than in adults. When detected in childhood it commonly worsens over time. It can occur alone or as part of another congenital heart defect (CHD), such as Shone syndrome or septal defects. About 50% of patients with a subaortic membrane also have leakage of the aortic valve.

What are the symptoms of subaortic stenosis?

Symptoms depend on how severe the narrowing is:

- Some people have no symptoms at all.
- Others may feel short of breath, light-headed, or tired—especially during exercise or physical activity.
- As the narrowing gets worse, some people may have chest pain or faint during physical activity. Others may develop fast heartbeats. In rare cases, fluid can build up in the heart, causing heart failure.
- In serious or untreated cases, there is a risk of sudden cardiac death.

How is subaortic stenosis diagnosed?

- When your doctor listens to your heart, he/she may hear a rumbling sound as blood goes through the narrow area under the aortic valve. This is a heart murmur. It is a key sign in suspecting and diagnosing subaortic stenosis.
- Lab tests are usually normal.
- Your doctor may order an echocardiogram or heart ultrasound. This will show the level and severity of narrowing. It will also show if the left ventricle is thickened or enlarged.

- If ordered, a magnetic resonance imaging (MRI) study, computed tomography (cardiac CT) or cardiac catheterization will help confirm the diagnosis and assess its severity.

What are the long-term outcomes for adults with subaortic stenosis?

- Subaortic stenosis can change and worsen over time. Progression is often very slow. It can take years before major symptoms occur or it interferes with a person's life. This is especially true in people who are not diagnosed until they are adults.
- Long term outcomes depend on the severity of the narrowing and the effects on the left ventricle. Patients who are seen in an adult congenital heart disease (ACHD) program generally have favorable outcomes.

How is subaortic stenosis treated?

Surgery may be necessary to stop the progression of subaortic stenosis. You should talk to your ACHD doctor about whether surgery is right for you. Your ACHD doctor may recommend surgery if you have one or more of these:

- Severe obstruction or associated symptoms
- Increasing aortic valve leakage (regurgitation)
- A left ventricle that is getting thicker (hypertrophy)
- An abnormal stress test

Subaortic Stenosis

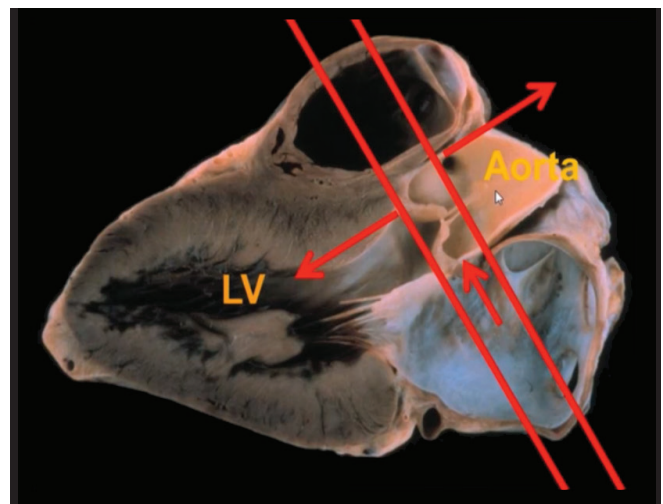


Illustration courtesy of Dr. Naser Ammash and the Mayo Clinic.

If you have surgery, the surgeon will remove the subaortic membrane. In about one-third of patients, the aortic valve may need attention or may need to be replaced.

Lifelong follow-up with an ACHD provider is important for all adults with CHD.

Surgical risks are lowest at centers with a high level of experience. If you have other serious medical problems, this can vary.

Reoperation may be needed in 25% of these patients if the obstruction comes back or the leaking of the valve worsens.

Can women with subaortic stenosis have children?

It is very important that you talk to your ACHD heart doctor before you get pregnant. In some instances, you may need to have surgery before you have a baby. Your doctors will develop a plan to care for and protect your heart during your pregnancy and delivery.

What kind of heart care is recommended for adults with repaired and unrepaired subaortic stenosis?

Lifelong follow-up with an ACHD provider is important for all adults with CHD. This includes adults with repaired or unrepaired subaortic stenosis. Your ACHD team will decide how often you need to be seen and how often you need specific testing.

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