

Aortic Valve Regurgitation

What is aortic valve regurgitation?

Aortic valve regurgitation is leaking of a valve in the heart called the aortic valve.

The aortic valve is located at the opening from the left side of the heart (left ventricle) into the aorta. The aorta is the big blood vessel that carries blood to all the tissues of the body. The job of the aortic valve is to keep blood moving from the heart into the aorta and to the rest of the body. When the heart beats and pushes blood into the aorta, the valve opens. At the end of the beat, the valve closes.

Normally, in between heartbeats, the valve closes tightly, so that no blood goes back into the heart. When you have valve regurgitation, the valve does not close completely between heartbeats. This lets blood from the aorta move back into the heart. This means the heart must work harder to pump more blood than normal with each beat. Over time, this extra work can cause the heart to get bigger and it becomes weaker.

Aortic valve regurgitation is also called aortic regurgitation or aortic insufficiency.

How does it occur?

Aortic valve regurgitation can happen really fast or it can happen slowly over time. When it happens quickly, it is called acute. Acute regurgitation is not very common. If the regurgitation slowly gets bad over time, it is called chronic.

The most common cause of acute regurgitation is an infection of the valve called infectious endocarditis. Other causes are chest injury and tearing of the aorta (aortic dissection).

The most common cause of chronic regurgitation is high blood pressure. Other causes are Marfan syndrome, rheumatic fever, and valve problems that you were born with.

What are the symptoms?

When the regurgitation is acute, the heart cannot keep up with the body's need for blood. Fluids may collect in the lungs and other body tissues, making it hard to breathe. You can become sick very quickly and need surgery right away.

Chronic regurgitation rarely causes symptoms unless the leak is bad. The heart can begin to weaken before symptoms start. Over several years, the added work on the heart can cause the left

ventricle to get bigger. This causes symptoms such as:

- shortness of breath or chest pain when you exert yourself
- discomfort when you are lying down
- waking up at night feeling very short of breath.

How is it diagnosed?

Your healthcare provider may see signs of an enlarged heart during a physical exam. He or she will listen to your heart for a sound called a murmur. Your provider will also listen for changes in the sounds normally heard when your blood pressure is checked.

You may have a chest X-ray to see if your heart has enlarged. An electrocardiogram (ECG or EKG) will measure the electrical activity of your heart. The best test is the echocardiogram, which uses ultrasound waves to take pictures of the heart. This test measures the heart size and muscle thickness. A special part of the ultrasound test, called a Doppler exam, measures how severe the valve leak is.

How is it treated?

Acute regurgitation is usually an emergency. It must be quickly treated, usually with surgery to put in a new valve.

If you have chronic regurgitation, your heart is only mildly enlarged, and you have few or no symptoms, you may be treated with medicines such as:

- diuretics to help get rid of extra fluid
- vasodilators to lower blood pressure so the heart does not have to work as hard.

If tests show that the heart muscle is getting weak, your healthcare provider may advise you to have surgery whether or not you are having symptoms. Surgery may be done to:

- fix the aorta, if it is pulling on the valve
- fix or replace the leaking valve with an artificial valve.

Two types of artificial heart valves are available: mechanical and biological.

- Mechanical, man-made valves work well, but you will need to take blood-thinner medicine for the rest of your life to prevent blood clots. These drugs cause a small increase in the risk of bleeding. You will need to see your provider regularly for checkups.
- Biological valves are made from body tissue. You do not have to take blood thinners if you have a biological valve, but the valve will not last as long as a mechanical valve.

Surgery to replace the aortic valve at the right time can improve both the quality and length of your life.

How long will the effects last?

Once you start having symptoms from aortic regurgitation, they do not go away until the valve is replaced.

How can I take care of myself?

Follow the treatment your healthcare provider prescribes.

In addition:

- If you smoke, stop.
- Get regular checkups.
- With your healthcare provider's supervision, take antibiotics to prevent infections that could spread to the heart valve if you are having any kind of dental work or surgery. This includes having your teeth cleaned or procedures involving the bladder, vagina, or rectum. Damaged valves are more likely to become infected by bacteria. Infection of the valve can damage it more and may destroy it. Antibiotics can prevent this. If there is any doubt, be sure to ask if you should take antibiotics.
- Lose weight if you are overweight.
- Learn ways to reduce or manage stress.
- Avoid taking aspirin if you're taking an anticoagulant (blood-thinning drug).
- Exercise regularly according to your provider's advice.
- Talk to your provider before you use any other medicines, including nonprescription medicines.
- Cut back on the salt in your diet if recommended by your provider.
- Ask your provider about a potassium supplement if you're taking diuretics that could cause potassium loss.
- Tell all other healthcare providers you see that you have aortic valve regurgitation.

How can I help prevent aortic valve regurgitation?

If you have high blood pressure, make sure your blood pressure is under control. Follow the plan you and your healthcare provider have made about medicines, diet, and exercise.

If you have Marfan syndrome, medicines called beta blockers can decrease the chance you will develop aortic regurgitation.

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