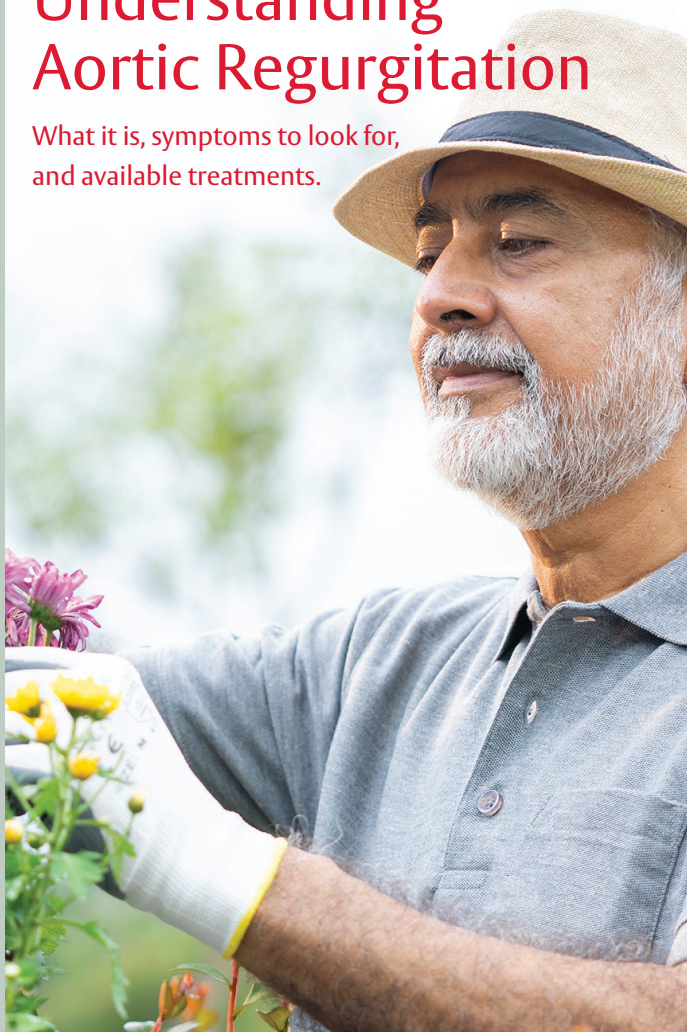


# Understanding Aortic Regurgitation

What it is, symptoms to look for,  
and available treatments.

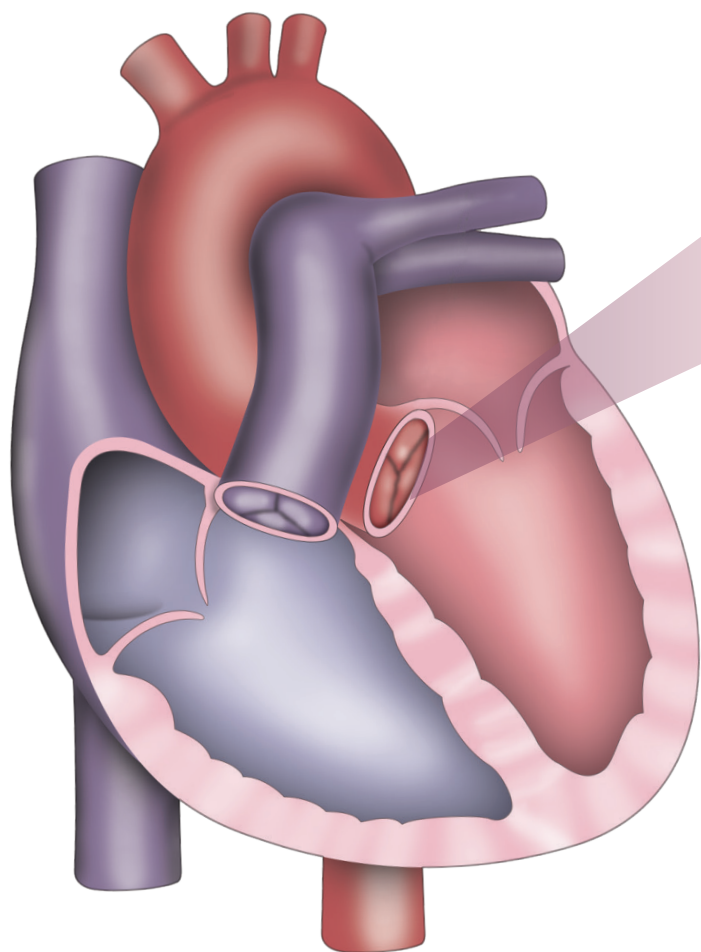


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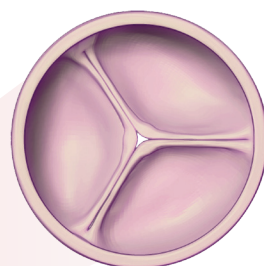
## What Is Aortic Regurgitation?

Also known as aortic insufficiency, it's a valve leak. Normally, heart valves open and close to allow blood to flow in the right direction. The aortic valve allows blood to flow from the left ventricle into the aorta. A leaky (or regurgitant) valve means your valve doesn't close all the way, letting blood flow backward.

In this case that's blood leaking back into the left ventricle. The backflow forces your heart to enlarge and have to work harder. Over time the enlarged heart and extra work can turn into symptoms and even lead to heart failure.

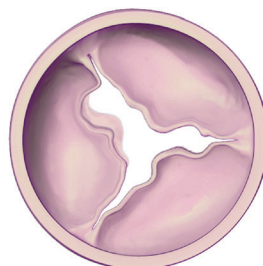


### Healthy Aortic Valve



Closed

### Example of Diseased Aortic Valve



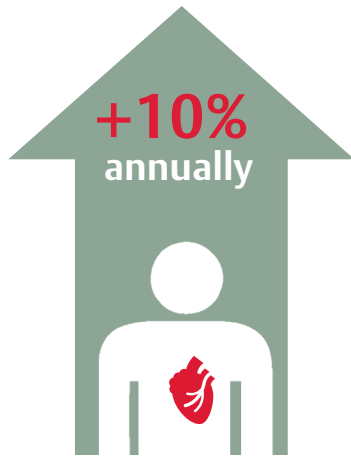
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## Who is Affected by Aortic Regurgitation?

In the United States it is estimated that up to 30% of the population experiences aortic regurgitation. Of those, 5–10% have severe regurgitation. The likelihood of being diagnosed with severe aortic regurgitation increases with age. It also seems to occur most commonly in men age 30–60. Once there are signs of symptoms, severe aortic regurgitation can be life-threatening.

## Severe Aortic Regurgitation

Once symptomatic, severe aortic regurgitation is accompanied by a high mortality rate. That rate increases by more than 10% every year without treatment.



Once symptomatic, the mortality rate increases by more than 10% every year without treatment.<sup>1</sup>

1. Bekerredjian, R. and Grayburn, P. Valvular heart disease. Aortic regurgitation. 2005;112:125-134.

Aortic Regurgitation occurs most commonly in men age 30–60. Once there are signs of symptoms, severe aortic regurgitation can be life-threatening.



## What Are the Most Common Symptoms of Aortic Regurgitation?

Symptoms of aortic regurgitation may include:

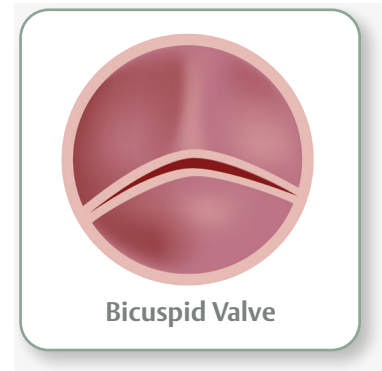
- A pounding or racing pulse, also known as palpitations
- Chest pain (angina)
- Lightheadedness or fainting
- Fatigue and weakness, especially when you increase your activity level
- Sensations of rapid, fluttering heartbeat (abnormal heart rhythm)
- Shortness of breath with activity, at rest, or when lying down
- Swelling of the feet, legs, or abdomen

Symptoms may come on gradually or can occur suddenly. Knowing what to look for can help you and your doctor stay on top of a potentially dangerous condition. Aortic regurgitation can also cause complications, including:

- Heart failure
- Infections that affect the heart
- Abnormal heart rhythms
- Life-threatening conditions

## What Causes Aortic Regurgitation?

The most common causes of aortic regurgitation include congenital (present at birth) heart valve disease and calcium build-up on your valves. Congenital diseases, like having a bicuspid valve (two cusps instead of the normal three cusps), put you at risk for developing aortic regurgitation at some point in your life.



Calcium deposits tend to be a problem for older adults where buildup has developed over time. This buildup causes the valve's leaflets to stiffen making it difficult for them to close properly.

Other causes of aortic regurgitation include:

- Rheumatic fever
- Damage to, or next to, the aorta or aortic valve
- Infection of the heart valve
- High blood pressure
- Rare conditions that can enlarge the aorta and aortic valve



## When Should I See a Doctor?

Like most valve diseases, aortic regurgitation is progressive which means it develops gradually. You may not have signs or symptoms for years. However, as soon as you notice or suspect symptoms you should contact your doctor. Sometimes the first indications of aortic regurgitation are symptoms associated with heart failure.

## What Should I Do If I think I Have Aortic Regurgitation?

Start by first seeing your family doctor or cardiologist. Before your appointment, check with your family members to find out if any close relatives have been diagnosed with cardiac disease. Knowing as much information as possible about your family's health history will help your doctor make informed decisions.



## What Tests Are Used to Diagnose Aortic Regurgitation?



**Physical examination:** Your doctor or cardiologist will use a stethoscope to listen to your heart beats.



**Electrocardiogram (ECG or EKG):** Sensors are placed on your skin to measure the electrical activity given off by your heart, displayed as waves on a monitor or printed on paper.



**Chest X-ray:** An X-ray image of your chest allows your doctor to check the size and shape of your heart. A chest X-ray can also reveal calcium deposits on the aortic valve.



**Echocardiogram:** This is also known as an ultrasound; it uses sound waves to produce an image of your heart, which helps your doctor closely examine the aortic valve.



**Exercise or stress test:** These tests look for signs and symptoms of regurgitation during physical activity and can determine the severity of your condition.



**Cardiac catheterization:** In this test, a dye is injected into your heart through your arm or groin to make your heart more visible on an X-ray.



**Cardiac MRI:** This test produces detailed pictures of your aortic valve and can also be used to determine the severity of your condition.

# What Are the Treatment Options for Aortic Regurgitation?

Treatment for aortic regurgitation depends on how far your disease has progressed. If your condition is mild, your doctor will look to monitor your condition and may prescribe medications.

However, there may come a time where the best option is to have surgery – this is usually the case once your condition has become severe and symptomatic. If you're already scheduled to have heart surgery, doctors may perform an aortic valve procedure at the same time.

## There are two types of surgical heart valves used for replacement procedures:

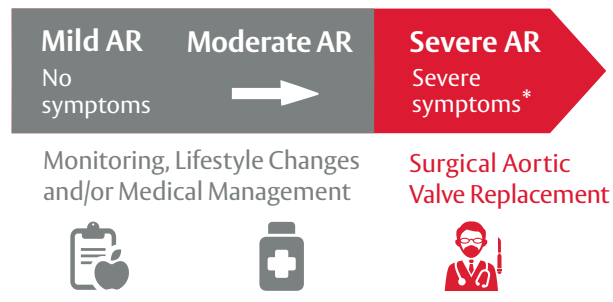
- **Mechanical valves** made from man-made material (metal)
- **Tissue valves** made mostly from animal tissue, such as bovine (cow) heart tissue (the tough sac around the heart), porcine (pig) tissue, or human valves from cadavers

If surgery is recommended, discuss these different valve options with your doctor to see which might be best for you.

## Medical Management

If your aortic regurgitation is mild or you aren't experiencing symptoms, your doctor may monitor your condition at regular intervals by an echocardiogram (heart scan). Additionally, you may need to make lifestyle changes and take medications to treat symptoms or reduce the risk of complications. Because aortic regurgitation is progressive, you may eventually need surgery to repair or replace the diseased aortic valve.

## Aortic Regurgitation (AR) Severity, Symptoms and Treatment



\* In some cases, your doctor may recommend surgery even if you're not experiencing symptoms.

## Surgical Aortic Valve Replacement

According to guidelines, people with severe aortic regurgitation and symptoms should get an aortic valve replacement. This is done through open heart surgery.

Open-heart surgeries are performed either through an incision across the full length of the breastbone, or sternum, or through smaller incisions. During the procedure, the surgeon will completely remove the diseased aortic valve and insert a new valve.

# Be Ready to Talk to Your Doctor About Aortic Regurgitation

Here are some questions you may want to consider asking:

- What is likely causing my symptoms?
- What tests do I need?
- How frequently will I need to have follow-up visits to monitor my aortic regurgitation?
- How long before my aortic regurgitation may become so severe that I need to have my valve replaced?

Your doctor can provide you with the best guidance and next steps. If surgery is recommended, you can learn more about your valve replacement options.

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