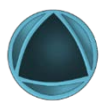


More than 5 million Americans are living with heart valve disease.

What Is Heart Valve Disease?

Your heart has **four valves** that keep blood flowing in the right direction. The valves make the heartbeat sound you can hear through a stethoscope.



open



closed

HEALTHY VALVES

Heart valve disease means one or more of your heart valves isn't working properly. The most common problems involve keeping the valve opened to allow blood flow or fully closed to avoid leakage.

TYPES: Heart valve disease can occur in any of the four heart valves. Most common forms involve **stenosis**, or narrowing of a valve, or **regurgitation**, when the valve doesn't close completely and blood flows backward. Both make the heart work harder and can lead to serious complications.

RISK FACTORS: These health concerns can increase the risk for developing heart valve disease:

- Old age
- Rheumatic fever
- Heart attack
- Heart failure
- Smoking
- High blood pressure
- High cholesterol
- Diabetes
- Congenital heart defects

How Is It Diagnosed?

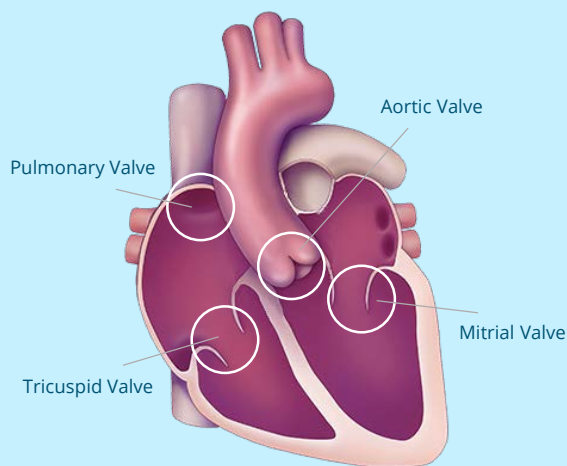
Your doctor can detect and evaluate a heart valve problem by:

TALKING WITH YOU about your symptoms

LISTENING TO YOUR HEART with a stethoscope to hear the valves opening and closing

CONDUCTING TESTS to determine the nature and extent of the valve damage using one or more of the following:

- › An **MRI** (magnetic resonance image), which provides a detailed image of the inside of your heart
- › An **x-ray** of your chest to check for any abnormalities in your heart, the major blood vessels, and your lungs
- › An **ECG or EKG** (electrocardiography), which measures your heart's rhythm, rate, and the strength of the heart's electrical impulses.



A healthy heart beats up to 100,000 times a day and pumps about 2,000 gallons of blood. Valve disease affects how well the heart works. Congenital heart valve disease often involves pulmonary or aortic valves that don't form properly. Acquired heart valve disease usually involves aortic or mitral valves.

What Are the Symptoms?



Symptoms can be mild or not noticeable at all. People with a serious heart valve condition may not notice symptoms.

While both stenosis and regurgitation can develop gradually over decades, regurgitation can also come on suddenly.

SYMPTOMS MAY INCLUDE:

Often feeling **dizzy** or too weak or tired to do your regular activities

Cough, **tightness in the chest** or chest pain

Shortness of breath or having a hard time catching your breath

Having a **heart murmur** (doctor diagnosed)

Odd or **irregular heart beats**, such as rapid beats, skipping beats, or a feeling of flip-flopping in your chest

How Is It Treated?



Treatment will depend on the condition of the heart valves, and may include:



MONITORING: Keeping a watch on your heart's health if valve issues are not severe and no symptoms are present. Regular check-ups and tests are important to detect possible changes.



TAKING MEDICINE: Medicines may lessen symptoms, but cannot repair the valve or prevent it from getting worse.



REPAIRING THE VALVE: In some cases, valves may be repaired using surgical techniques alone or along with medical devices to open a valve (stenosis) or reduce valve leakage (regurgitation).



REPLACING THE VALVE: When repair is not an option, valve replacement may be the solution. Valves can be replaced through open-heart surgery or using newer, much less invasive replacement procedures, including transcatheter aortic valve replacement (TAVR).

The Burden of Heart Valve Disease

Vulnerable and Growing Populations

Heart valve disease is a significant and underdiagnosed medical condition.



Though **more than five million Americans are living with heart valve disease**, it is not well-known among the public, can be asymptomatic and under-treated.¹



More than **1 in 8 people aged 75 and over** in the US have moderate to severe valve disease.

Congenital heart defects, many affecting heart valves, are the most common types of birth defects in the U.S. About **40,000 newborns each year have congenital heart defects**.⁶

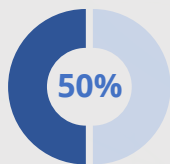


Under-Diagnosis and Under-Treatment

Despite its prevalence, heart valve disease awareness remains low.



Common symptoms of heart disease – **fatigue, shortness of breath, dizziness** – are often associated with other conditions and may be overlooked as a part of aging.



Although 1.5 million people in the US have **aortic stenosis (AS)**, a common and serious heart valve disease, fewer than half exhibit symptoms.



Despite American College of Cardiology/American Heart Association practice guidelines recommending that people with severe, symptomatic heart valve disease be evaluated for **valve repair or replacement**, many are not.⁵

Although men and women suffer equally from heart valve disease, women are less likely to be diagnosed.²



Severe Health Consequences

The personal and public health impact of heart valve disease is immense.

If not treated, advanced heart valve disease can cause heart failure, stroke, blood clots, and even death.

In the United States in 2005, heart valve disease accounted for:³

93,000

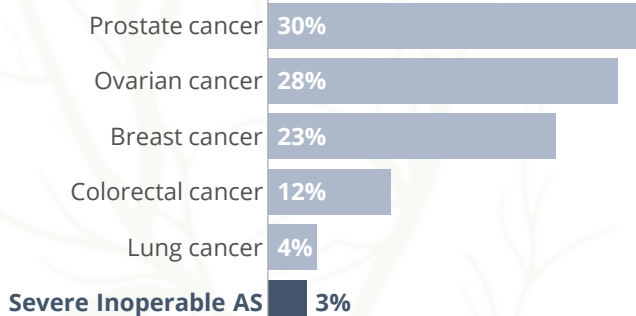
hospital discharges

21,000

deaths

As many as half the patients with **severe aortic stenosis** will not survive an average of two years after symptoms start without a valve replacement.⁴

5-YEAR SURVIVAL RATES



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