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Heart Valve Diseases

Also called: Valvular heart disease

What are heart valve diseases?

Heart valve disease happens when one or more of your heart valves don't work well.

Your heart has four valves: the tricuspid, pulmonary, mitral, and aortic valves. The valves have flaps that open and close. The flaps make sure that blood flows in the right direction through your heart and to the rest of your body. When your heart beats, the flaps open to let blood through. Between heartbeats they close to stop the blood from flowing backwards.

If one or more of your heart valves doesn't open or close correctly, it can affect your blood flow and strain your heart. Fortunately, treatment helps most valve diseases.

What are the types of heart valve diseases?

Heart valves can have three basic kinds of problems:

- **Regurgitation**, or backflow, happens when the flaps of a valve don't close tightly. This allows the blood to leak backwards. A common cause of regurgitation is prolapse, where the flaps of the valve flop or bulge back. Prolapse most often affects the mitral valve [<https://medlineplus.gov/mitralvalveprolapse.html>] .
- **Stenosis** happens when the flaps of a valve become thick, stiff, or stuck together. This prevents the heart valve from opening all the way. Not enough blood can pass through the valve. Aortic valve stenosis is a common type of stenosis. It affects the valve that controls blood flow into the large artery that carries blood out of the heart to the body.
- **Atresia** happens when a heart valve did not form properly and does not have an opening for blood to pass through.

Sometimes a valve can have both regurgitation and stenosis.

What causes heart valve diseases?

Some people are born with heart valve disease. This is called congenital heart valve disease. It can happen alone or along with other congenital heart defects [<https://medlineplus.gov/congenitalheartdefects.html>] . Heart valve disease can also develop over time as you get older or have certain conditions that affect the heart.

Who is more likely to develop heart valve diseases?

Your chance of having heart valve disease is higher if:

- **You are older.** With age, the heart valves can become thick and stiff.
- **You have or have had other conditions that affect your heart and blood vessels.** These include:
 - **Rheumatic fever.** An untreated strep [<https://medlineplus.gov/streptococcalinfections.html>] throat can become rheumatic fever, which can harm the heart valves. The damage may not show up for years. Today, most people take antibiotics [<https://medlineplus.gov/antibiotics.html>] to cure strep throat before it can cause heart valve damage.
 - **Endocarditis** [<https://medlineplus.gov/endocarditis.html>] . This is a rare infection in the lining of the heart and heart valves. It is usually caused by bacteria in the bloodstream.
 - **A heart attack.**

- Heart failure [<https://medlineplus.gov/heartfailure.html>] .
- Coronary artery disease [<https://medlineplus.gov/coronaryarterydisease.html>] , especially when it affects the aorta (the large artery that carries blood from the heart to the body).
- **High blood pressure.**
- High blood cholesterol [<https://medlineplus.gov/cholesterol.html>] .
- Diabetes [<https://medlineplus.gov/diabetes.html>] .
- Obesity [<https://medlineplus.gov/obesity.html>] **and overweight.**
- Lack of physical activity [<https://medlineplus.gov/healthrisksofaninactivelifestyle.html>] .
- **A family history of early heart disease:**
 - A father or brother who had heart disease younger than 55.
 - A mother or sister who had heart disease younger than 65.
- **You were born with an aortic valve that wasn't formed right.** Sometimes this will cause problems right away. Other times, the valve may work well enough for years before causing problems.

What are the symptoms of heart valve diseases?

Many people live their whole lives with a heart valve that doesn't work perfectly and never have any problems. But heart valve disease may get worse slowly over time. You may develop signs and symptoms, such as:

- Shortness of breath [<https://medlineplus.gov/breathingproblems.html>] (feeling like you can't get enough air)
- Fatigue [<https://medlineplus.gov/fatigue.html>]
- Swelling [<https://medlineplus.gov/edema.html>] in your feet, ankles, abdomen (belly), or the veins in your neck
- Chest pain [<https://medlineplus.gov/chestpain.html>] when you're physically active
- Arrhythmia [<https://medlineplus.gov/arrhythmia.html>] , a problem with the rate or rhythm of your heartbeat
- Dizziness [<https://medlineplus.gov/dizzinessandvertigo.html>] or fainting [<https://medlineplus.gov/fainting.html>]

If you don't get treatment for heart valve disease, the symptoms and strain on your heart may keep getting worse.

What other problems can heart valve diseases cause?

When the valves don't work well, your heart has to pump harder to get enough blood out to the body. Without treatment, this extra workload on your heart can lead to:

- Heart failure
- Stroke [<https://medlineplus.gov/stroke.html>]
- Blood clots [<https://medlineplus.gov/bloodclots.html>]
- Sudden cardiac arrest [<https://medlineplus.gov/suddencardiaccarrest.html>] or death

How is heart valve disease diagnosed?

Your health care provider may listen to your heart with a stethoscope and hear that your heart makes abnormal sounds, such as a click or a heart murmur. These sounds may mean a valve isn't working normally. The provider will usually refer you to a cardiologist, a doctor who specializes in heart diseases.

The doctor will also listen to your heart and will do a physical exam. You will also likely need to have one or more **heart tests** [<https://medlineplus.gov/hearthealthtests.html>] .

What are the treatments for heart valve diseases?

Most heart valve problems can be treated successfully. Treatment may include:

- **Medicines** to control your symptoms and keep your heart pumping well
- Heart-healthy lifestyle changes [<https://medlineplus.gov/howtopreventheartdisease.html>] to treat other related heart conditions
- Surgery [<https://medlineplus.gov/hearturgery.html>] to repair or replace a valve

It's possible that you may need surgery, even if you don't have symptoms. Fixing the valve can help prevent future heart problems.

There are many ways to do heart valve surgery. You and your doctor can decide what's best for you, based on your valve problem and general health. Heart valve repair surgery has fewer risks than heart valve replacement. So, when repair is possible, it's preferred over valve replacement.

In some cases, valve replacement is necessary. There are 2 types of replacement valves:



- **Biologic valves made from pig, cow, or human tissue.** These valves tend to wear out after 10 to 15 years, but some may last longer.
- **Mechanical (human-made) valves** usually don't wear out. But with a mechanical valve, you usually have to take blood thinners [<https://medlineplus.gov/bloodthinners.html>] for the rest of your life to prevent blood clots. And your risk of endocarditis (a heart infection) is higher than with a biologic valve.

NIH: National Heart, Lung, and Blood Institute

Start Here

- About Valvular Heart Disease [<https://www.cdc.gov/heart-disease/about/heart-valve-disease.html>] (Centers for Disease Control and Prevention)
- Heart Valve Problems and Causes [<https://www.heart.org/en/health-topics/heart-valve-problems-and-disease/heart-valve-problems-and-causes>]  (American Heart Association)
- Valve Disease [<https://www.texasheart.org/heart-health/heart-information-center/topics/valve-disease/>] (Texas Heart Institute)
Also in Spanish [<https://www.texasheart.org/heart-health/heart-information-center/topics/enfermedad-valvular/>]
- What Are Heart Valve Diseases? [<https://www.nhlbi.nih.gov/health/heart-valve-diseases>]  (National Heart, Lung, and Blood Institute)

Diagnosis and Tests

- Abnormal and "Innocent" Heart Murmurs [<https://www.heart.org/en/health-topics/heart-valve-problems-and-disease/heart-valve-problems-and-causes/innocent-heart-murmur>]  (American Heart Association)
- Heart Health Tests: MedlinePlus Health Topic [<https://medlineplus.gov/hearthealthtests.html>]  (National Library of Medicine)
Also in Spanish [<https://medlineplus.gov/spanish/hearthealthtests.html>]

Prevention and Risk Factors

- Risks for Heart Valve Problems [<https://www.heart.org/en/health-topics/heart-valve-problems-and-disease/heart-valve-disease-risks-signs-and-symptoms/risks-for-heart-valve-problems>] (American Heart Association)

Treatments and Therapies

- Medications for Heart Valve Symptoms [<https://www.heart.org/en/health-topics/heart-valve-problems-and-disease/understanding-your-heart-valve-treatment-options/medications-for-heart-valve-symptoms>] (American Heart Association)
- Newer Heart Valve Surgery Options [<https://www.heart.org/en/health-topics/heart-valve-problems-and-disease/understanding-your-heart-valve-treatment-options/newer-heart-valve-surgery-options>] (American Heart Association)
- Options for Heart Valve Replacement [<https://www.heart.org/en/health-topics/heart-valve-problems-and-disease/understanding-your-heart-valve-treatment-options/options-for-heart-valve-replacement>] (American Heart Association)
- Transcatheter Aortic Valve Replacement (TAVR) [<https://www.nhlbi.nih.gov/health/tavr>]  (National Heart, Lung, and Blood Institute)
Also in Spanish [<https://www.nhlbi.nih.gov/es/salud/tavr>]
- Valve Repair or Replacement [<https://www.texasheart.org/heart-health/heart-information-center/topics/valve-repair-or-replacement/>] (Texas Heart Institute)

Also in Spanish [<https://www.texasheart.org/heart-health/heart-information-center/topics/reparacion-o-sustitucion-valvular/>]

- What Is TAVR? (TAVI) [<https://www.heart.org/en/health-topics/heart-valve-problems-and-disease/understanding-your-heart-valve-treatment-options/what-is-tavr>] (American Heart Association)
- Why Do I Need Heart Valve Surgery? [<https://www.heart.org/-/media/files/health-topics/answers-by-heart/what-is-heart-valve-surgery.pdf>] (American Heart Association) - **PDF**

Living With

- Heart Valve Surgery Recovery and Follow Up [<https://www.heart.org/en/health-topics/heart-valve-problems-and-disease/recovery-and-healthy-living-goals-for-heart-valve-patients/heart-valve-surgery-recovery-and-follow-up>]  (American Heart Association)
- Recognizing the Symptoms of Worsening Heart Valve Disease [<https://www.heart.org/en/health-topics/heart-valve-problems-and-disease/heart-valve-disease-risks-signs-and-symptoms/recognizing-the-symptoms-of-worsening-heart-valve-disease>]  (American Heart Association)
- What to Expect After Heart Surgery [<https://www.sts.org/sites/default/files/AHSBrochureFinal.pdf>] (Society of Thoracic Surgeons) - **PDF**


Related Issues

- Rheumatic Fever [<https://www.texasheart.org/heart-health/heart-information-center/topics/rheumatic-fever/>] (Texas Heart Institute)
Also in Spanish [<https://www.texasheart.org/heart-health/heart-information-center/topics/fiebre-reumatica/>]

Specifics

- Aortic Calcification: An Early Sign of Heart Valve Problems? [<https://www.mayoclinic.org/diseases-conditions/aortic-stenosis/expert-answers/aortic-valve-calcification/FAQ-20058525?p=1>] (Mayo Foundation for Medical Education and Research)
Also in Spanish [<https://www.mayoclinic.org/es/diseases-conditions/aortic-stenosis/expert-answers/aortic-valve-calcification/faq-20058525?p=1>]
- Aortic Valve Regurgitation [<https://www.mayoclinic.org/diseases-conditions/aortic-valve-regurgitation/symptoms-causes/syc-20353129?p=1>] (Mayo Foundation for Medical Education and Research)
- Aortic Valve Stenosis [<https://www.mayoclinic.org/diseases-conditions/aortic-stenosis/symptoms-causes/syc-20353139?p=1>] (Mayo Foundation for Medical Education and Research)
- Diseases of the Tricuspid Valve [<https://www.texasheart.org/heart-health/heart-information-center/topics/diseases-of-the-tricuspid-valve/>] (Texas Heart Institute)
Also in Spanish [<https://www.texasheart.org/heart-health/heart-information-center/topics/enfermedades-de-la-valvula-tricuspid/>]
- Heart Murmurs [<https://www.mayoclinic.org/diseases-conditions/heart-murmurs/symptoms-causes/syc-20373171?p=1>] (Mayo Foundation for Medical Education and Research)
- Mitral Valve Stenosis [<https://www.mayoclinic.org/diseases-conditions/mitral-valve-stenosis/symptoms-causes/syc-20353159?p=1>] (Mayo Foundation for Medical Education and Research)
- Problem: Heart Valve Regurgitation [<https://www.heart.org/en/health-topics/heart-valve-problems-and-disease/heart-valve-problems-and-causes/problem-heart-valve-regurgitation>]  (American Heart Association)
- Problem: Heart Valve Stenosis [<https://www.heart.org/en/health-topics/heart-valve-problems-and-disease/heart-valve-problems-and-causes/problem-heart-valve-stenosis>]  (American Heart Association)
- Pulmonary Valve Stenosis [<https://www.mayoclinic.org/diseases-conditions/pulmonary-valve-stenosis/symptoms-causes/syc-20377034?p=1>] (Mayo Foundation for Medical Education and Research)
Also in Spanish [<https://www.mayoclinic.org/es/diseases-conditions/pulmonary-valve-stenosis/symptoms-causes/syc-20377034?p=1>]




Genetics

- Geleophysic dysplasia: MedlinePlus Genetics [<https://medlineplus.gov/genetics/condition/geleophysic-dysplasia>]  (National Library of Medicine)

Videos and Tutorials

- Heart Valve Anatomy [<https://watchlearnlive.heart.org/index.php?moduleSelect=anatom>] (American Heart Association)

Clinical Trials


- ClinicalTrials.gov: Aortic Valve Stenosis [<https://clinicaltrials.gov/search?cond=%22Aortic+Valve+Stenosis%22&aggFilters=status:not%20rec>]  (National Institutes of Health)
- ClinicalTrials.gov: Heart Murmurs [<https://clinicaltrials.gov/search?cond=%22Heart+Murmurs%22&aggFilters=status:not%20rec>]  (National Institutes of Health)
- ClinicalTrials.gov: Heart Valve Diseases [<https://clinicaltrials.gov/search?cond=%22Heart+Valve+Diseases%22&aggFilters=status:not%20rec>]  (National Institutes of Health)

Journal Articles


References and abstracts from MEDLINE/PubMed (National Library of Medicine)

- Article: Evaluation of the Presence of Native Valvular Disease in Patients With... [<https://www.ncbi.nlm.nih.gov/pubmed/40742123>]
- Article: A retrospective analysis of the prognostic implications of glycemic variability on... [<https://www.ncbi.nlm.nih.gov/pubmed/40727915>]
- Article: Early mobilisation to enhance recovery following cardiac valvular surgery in atrial... [<https://www.ncbi.nlm.nih.gov/pubmed/40670517>]
- Heart Valve Diseases -- see more articles [<https://pubmed.ncbi.nlm.nih.gov/?term=%22Heart+Valve+Diseases%22%5Bmajr%3Anoexp%5D+AND+humans%5Bmh%5D+AND+english%5Bla%5D+AND+%22last+1+Year%22+%5Bedat%5D+NOT+%28letter%5Bpt%5D+OR+case+reports%5Bpt%5D+OR+editorial%5Bpt%5D+OR+comment%5Bpt%5D%29+AND+free+full+text%5Bsb%5D+>]


Reference Desk

- How the Heart Works [<https://www.nhlbi.nih.gov/health/heart>]  (National Heart, Lung, and Blood Institute)
Also in Spanish [<https://www.nhlbi.nih.gov/es/salud/corazon>]

Find an Expert

- American Heart Association [<https://www.heart.org/en/>]
- National Heart, Lung, and Blood Institute [<https://www.nhlbi.nih.gov/>] 

Children

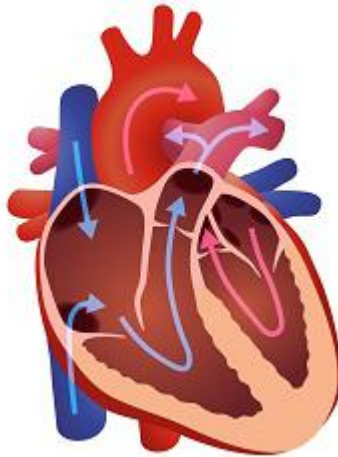
- Heart Murmurs (For Kids) [<https://kidshealth.org/en/kids/heart-murmurs.html>]  (Nemours Foundation)
Also in Spanish [<https://kidshealth.org/es/kids/heart-murmurs.html>]
- Heart Murmurs and Your Child (For Parents) [<https://kidshealth.org/en/parents/murmurs.html>] (Nemours Foundation)
Also in Spanish [<https://kidshealth.org/es/parents/murmurs.html>]

Patient Handouts

- Aortic regurgitation [<https://medlineplus.gov/ency/article/000179.htm>] (Medical Encyclopedia)
Also in Spanish [<https://medlineplus.gov/spanish/ency/article/000179.htm>]
- Aortic stenosis [<https://medlineplus.gov/ency/article/000178.htm>] (Medical Encyclopedia)
Also in Spanish [<https://medlineplus.gov/spanish/ency/article/000178.htm>]
- Aortic valve surgery - minimally invasive [<https://medlineplus.gov/ency/article/007407.htm>] (Medical Encyclopedia)
Also in Spanish [<https://medlineplus.gov/spanish/ency/article/007407.htm>]
- Aortic valve surgery - open [<https://medlineplus.gov/ency/article/007408.htm>] (Medical Encyclopedia)

Also in Spanish [<https://medlineplus.gov/spanish/ency/article/007408.htm>]

- Bicuspid aortic valve [<https://medlineplus.gov/ency/article/007325.htm>] (Medical Encyclopedia)
Also in Spanish [<https://medlineplus.gov/spanish/ency/article/007325.htm>]
- Heart murmurs [<https://medlineplus.gov/ency/article/003266.htm>] (Medical Encyclopedia)
Also in Spanish [<https://medlineplus.gov/spanish/ency/article/003266.htm>]
- Heart valve surgery [<https://medlineplus.gov/ency/article/002954.htm>] (Medical Encyclopedia)
Also in Spanish [<https://medlineplus.gov/spanish/ency/article/002954.htm>]
- Transcatheter aortic valve replacement [<https://medlineplus.gov/ency/article/007684.htm>] (Medical Encyclopedia)
Also in Spanish [<https://medlineplus.gov/spanish/ency/article/007684.htm>]
- Tricuspid regurgitation [<https://medlineplus.gov/ency/article/000169.htm>] (Medical Encyclopedia)
Also in Spanish [<https://medlineplus.gov/spanish/ency/article/000169.htm>]



MEDICAL ENCYCLOPEDIA

- Absent pulmonary valve [<https://medlineplus.gov/ency/article/007314.htm>]
- Aortic regurgitation [<https://medlineplus.gov/ency/article/000179.htm>]
- Aortic stenosis [<https://medlineplus.gov/ency/article/000178.htm>]
- Aortic valve surgery - minimally invasive [<https://medlineplus.gov/ency/article/007407.htm>]
- Aortic valve surgery - open [<https://medlineplus.gov/ency/article/007408.htm>]
- Bicuspid aortic valve [<https://medlineplus.gov/ency/article/007325.htm>]
- Chest x-ray [<https://medlineplus.gov/ency/article/003804.htm>]
- Ebstein anomaly [<https://medlineplus.gov/ency/article/007321.htm>]
- Heart murmurs [<https://medlineplus.gov/ency/article/003266.htm>]
- Heart valve surgery [<https://medlineplus.gov/ency/article/002954.htm>]
- Heart valve surgery - discharge [<https://medlineplus.gov/ency/patientinstructions/000291.htm>]
- Left heart catheterization [<https://medlineplus.gov/ency/article/003871.htm>]
- Mitral stenosis [<https://medlineplus.gov/ency/article/000175.htm>]
- Mitral valve regurgitation [<https://medlineplus.gov/ency/article/000176.htm>]
- Mitral valve surgery - minimally invasive [<https://medlineplus.gov/ency/article/007411.htm>]
- Mitral valve surgery - open [<https://medlineplus.gov/ency/article/007412.htm>]
- Pulmonic valve stenosis [<https://medlineplus.gov/ency/article/001096.htm>]
- Transcatheter aortic valve replacement [<https://medlineplus.gov/ency/article/007684.htm>]

Tricuspid regurgitation [<https://medlineplus.gov/ency/article/000169.htm>]

Related Health Topics

Cardiac Rehabilitation [<https://medlineplus.gov/cardiacrehabilitation.html>]

Heart Health Tests [<https://medlineplus.gov/hearthealthtests.html>]

Mitral Valve Prolapse [<https://medlineplus.gov/mitralvalveprolapse.html>]

National Institutes of Health

The primary NIH organization for research on *Heart Valve Diseases* is the National Heart, Lung, and Blood Institute [<http://www.nhlbi.nih.gov/>]

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