

Don't assume it's your age, it could be your heart^{1,2}



Fatigue



Shortness
of breath



Palpitations



Chest pain
or tightness

Your guide to heart valve health



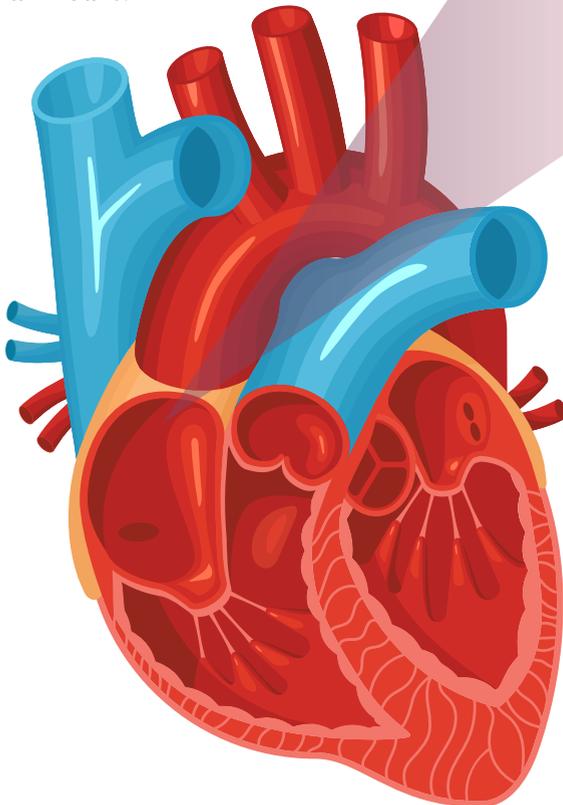
NewHeartValve.com.au

Brought to You by Edwards Lifesciences

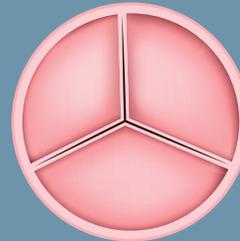
Your heart

Your heart pumps blood through your body, collects it back, pumps it to the lungs to add oxygen, and starts all over again. The heart has four chambers and four valves that open and close to control the flow of blood in and out of the heart. Your valves operate like one-way gates. They open to allow blood flow through your heart and out to your body. They close to stop blood from flowing back into the heart after it has been expelled. The valves permit blood to flow in only one direction, or pathway, through your heart.³

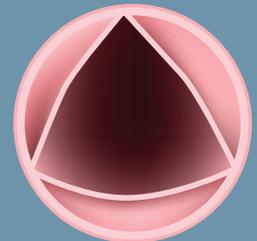
Diseased
aortic valve



Healthy aortic valve

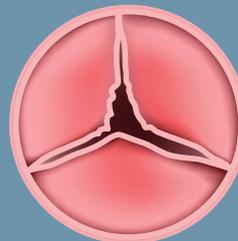


Closed

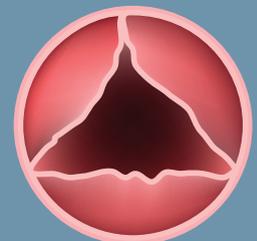


Open

Diseased aortic valve



Closed



Open

What is aortic stenosis?

Did you know 1 in 8 people over the age of 75 have aortic stenosis?⁴

The aortic valve is positioned at the top of the left ventricle and leads to the aorta, the major large vessel that circulates oxygenated blood to your body. The valve has leaflets which control when the blood flows into the aorta. Aortic stenosis is a heart valve disease that occurs when calcium deposits on the valve cause the leaflets to become stiff. As the condition progresses, the valve opening narrows, making it harder for your heart to pump blood through the valve and around the body. As your heart is having to work a lot harder, you may notice the common symptoms of aortic stenosis.²



Symptoms of severe aortic stenosis include:^{2,5}

- Chest pain or tightness (angina)
- Feeling faint upon exertion
- Shortness of breath upon exertion
- Reduced exercise capacity

Remember however, that aortic stenosis often occurs with no outward symptoms and may go undetected. If you are over the age of 75, it is important you ask your doctor to listen to your heart.^{4,5}

What causes aortic stenosis?²

Calcium build-up on the valve:

With age, heart valves may accumulate calcium deposits.

Birth defect: Some people are born with an aortic valve that has only one or two leaflets instead of three. This may not cause any problems until adulthood, at which time the valve may begin to narrow or leak.

Rheumatic fever: This may result in scar tissue on the aortic valve, which can narrow it or can create a rough surface where calcium deposits can collect.

Radiation therapy: In rare cases, calcification of the aortic valve can occur more quickly in patients who have received radiation treatment to the chest.

What are the treatment options for aortic stenosis?

The only effective treatment method for severe aortic stenosis is to replace your aortic valve. Today there are two options to replace your diseased aortic valve.⁸ Only professionals who have received extensive training are qualified to perform a valve replacement procedure, such as a multidisciplinary heart team. A properly trained and dedicated team will conduct a thorough evaluation to determine the most appropriate treatment option for you.

Transcatheter Aortic Valve Implantation (TAVI)¹¹

TAVI is a treatment option for severe aortic stenosis, that is designed to replace a diseased aortic valve through a catheter. TAVI is a minimally-invasive procedure that uses a catheter to implant a new valve within your diseased aortic valve. TAVI can be performed through multiple approaches; however, the most common approach is the transfemoral approach (through a small incision in the leg). Please consult a heart team for more information on TAVI and its associated risks.

Open heart surgical aortic valve replacement¹²

Aortic valve replacement through open heart surgery is another option for treating severe aortic stenosis. Most open heart surgeries are performed through an incision across the full length of the breast bone, or sternum. Occasionally open heart surgeries can be performed through smaller incisions. Open heart surgeries, including those performed through smaller incisions, require the use of a heart lung machine which temporarily takes over the function of the heart. During the procedure, the surgeon will completely remove the diseased aortic valve and insert a new valve. There are two different types of surgical valves: mechanical (man-made material) and biological (animal or human tissue). Please consult a heart team for more information on surgical aortic valve replacement and its associated risks.



What are the risk factors for aortic stenosis?⁶

Factors associated with aortic stenosis include:

- Increasing in age
- High blood pressure
- High cholesterol
- Smoking
- Deformed aortic valve
- Family history



What should I do if I think I have aortic stenosis?

You'll probably start by first seeing your family doctor who may then refer you to a multidisciplinary heart team at a specialised heart centre near you who can evaluate you for all your treatment options.⁸ Before your appointment, knowing as much as possible about your family's health history will help your doctor make informed decisions.⁵

Severe aortic stenosis has a worse prognosis than many metastatic cancers^{9,10}

The 5-year survival rate of untreated symptomatic SAS is worse than for several metastatic cancers, including colorectal, breast, ovarian and prostate cancer.



What tests are used to diagnose aortic stenosis?⁵



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.



Auscultation: Your cardiologist will use a stethoscope to listen to the sounds of your heart.



Electrocardiogram (ECG): Sensors are attached to your skin to measure the electrical impulses 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.



Cardiac catheterisation: 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.

Questions to ask your doctor:

- What could be causing my symptoms?
- What tests do I need to be diagnosed?
- Should I see a cardiologist or Heart Team that is specially trained in the diagnosis and treatment of aortic stenosis?
- How frequently will I need to have follow-up visits to monitor my aortic stenosis?
- How long before my aortic stenosis may become so severe that I need to have my valve replaced?

For a free doctor discussion guide, go to NewHeartValve.com.au



Your doctor can refer you to a multidisciplinary Heart Team who will recommend the best treatment option for you, based on your overall health.⁸

To learn more about aortic stenosis, visit www.NewHeartValve.com.au and order a free information kit



NewHeartValve.com.au

Brought to You by Edwards Lifesciences

References:

1. Alliance for Aging Research. Aortic Stenosis: Under-Diagnosed and Under-Treated. 2008. <https://www.agingresearch.org/press-release/alliance-launches-aortic-stenosis-awareness-campaign/>. Accessed November 24, 2020.
2. Mayo Clinic Staff. HYPERLINK "<http://www.mayoclinic.com>" [www.mayoclinic.com https://www.mayoclinic.org/diseases-conditions/aortic-stenosis/symptoms-causes/syc-20353139](https://www.mayoclinic.org/diseases-conditions/aortic-stenosis/symptoms-causes/syc-20353139). Accessed December 7, 2020.
3. Weinhaus AJ, Roberts KP, Anatomy of the Human Heart. Handbook of Cardiac Anatomy, Physiology, and Devices. 2005(51-79)
4. Nikomo VT, Gardin JM, Skelton TN et al. Burden of valvular heart diseases: a population-based study. *Lancet* 2006;368:1005-11.
5. Grimard BH, Larson JM. Aortic Stenosis: Diagnosis and Treatment. *Am Fam Physician* 2008;78:717-24.
6. Kamath AR, Pai RG. Risk factors for progression of calcific aortic stenosis and potential therapeutic targets. *Int J Angiol* 2008;17:63-70.
7. Otto CM. Timing of aortic valve surgery. *Heart*. 2000;84:211-21.
8. Baumgartner H, Falk V, Bax JJ et al. 2017 ESC/EACTS Guidelines for the management of valvular heart disease: The Task Force for the Management of Valvular Heart Disease of the European Society of Cardiology (ESC) and the European Association for Cardio-Thoracic Surgery (EACTS). *Eur Heart J*. 2017; 38:2739-91.
9. Barnhart GR, Martin RP, Thomas JD, McCarthy PM. The Need for Echocardiography Alerts for Aortic Stenosis: The Time Has Come. *American Society of Echocardiography* 2019;33(3): 355-357
10. Clark MA, Arnold SV, Duhay FG et al. Five-year Clinical and Economic Outcomes Among Patients with Medically Managed Severe Aortic Stenosis. Results From a Medicare Claims Analysis. *Circ Cardiovasc Qual Outcomes*. 2012;5:697-704.
11. "TAVI." Heart Treatments – British Heart Foundation, HYPERLINK "<https://www.bhf.org.uk/information-support/treatments/tavi>" www.bhf.org.uk/information-support/treatments/tavi. Accessed November 25, 2020.
12. Heart Valve Surgery." British Heart Foundation, HYPERLINK "<http://www.bhf.org.uk/information-support/treatments/valve-heart-surgery>" www.bhf.org.uk/information-support/treatments/valve-heart-surgery. Accessed November 25, 2020.

Edwards, Edwards Lifesciences, the stylised E logo and NewHeartValve.com.au and design logo are trademarks of Edwards Lifesciences Corporation. All other trademarks are the property of their respective owners. © 2020 Edwards Lifesciences Corporation. All rights reserved. AU-2020-236 Unit 2, 40 Talavera Road, Macquarie Park NSW 2113 Australia



Edwards