

Symptoms and Health Risks

Aortic stenosis develops slowly and usually causes no symptoms until it is more advanced. As the condition worsens, the heart must work harder to pump blood through the narrowed valve, resulting in symptoms. The extra work also causes the heart to weaken. Without treatment, severe (advanced) aortic stenosis can lead to heart failure and death.

Severe Aortic Stenosis Symptoms

- ▶ Shortness of breath
- ▶ Chest pain
- ▶ Weakness
- ▶ Fatigue
- ▶ Heart palpitations
- ▶ Dizziness or fainting

Diagnosis

An echocardiogram (echo) is the main test used to diagnose aortic stenosis. This ultrasound-based test also tells doctors the severity of the problem.

Treatment

Aortic stenosis often is monitored closely until it is more advanced or starts to cause symptoms, at which time treatments are prescribed. Drugs and treatments to open the valve, such as balloon aortic valvuloplasty, may improve symptoms, but they do not treat the root cause of the problem. The only effective long-term treatment for severe aortic stenosis is to replace the diseased aortic valve with a new valve. The standard approach to valve replacement is with open-heart surgery. For patients who are inoperable or at high risk for surgery, transcatheter aortic valve replacement (TAVR) may be an option.

VALVE CLINIC AT LANKENAU MEDICAL CENTER

The Valve Clinic at Lankenau Medical Center offers comprehensive diagnostic and treatment services for patients with heart valve disease. Learn more about transcatheter aortic valve replacement (TAVR) and the full range of treatment options available at the Valve Clinic:

VISIT

www.mainlinehealth.org/valve

CALL

855-820-VALVE (toll free) to speak with the Heart Valve Coordinator

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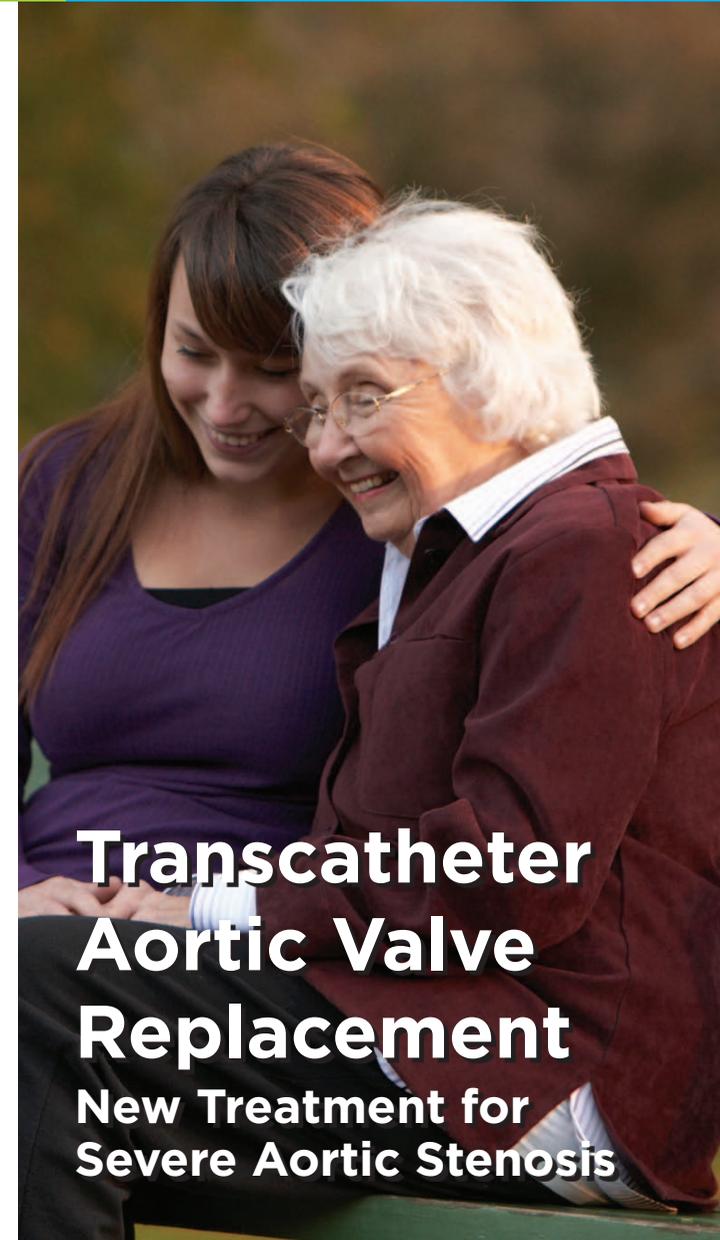
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VALVE CLINIC AT LANKENAU MEDICAL CENTER



Transcatheter Aortic Valve Replacement New Treatment for Severe Aortic Stenosis

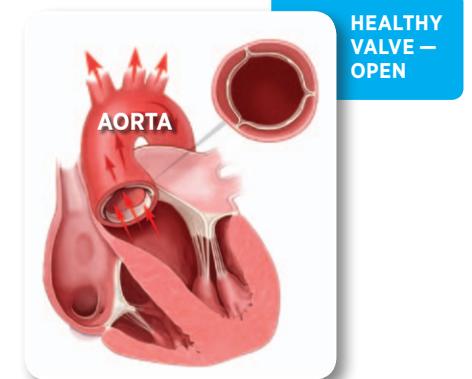


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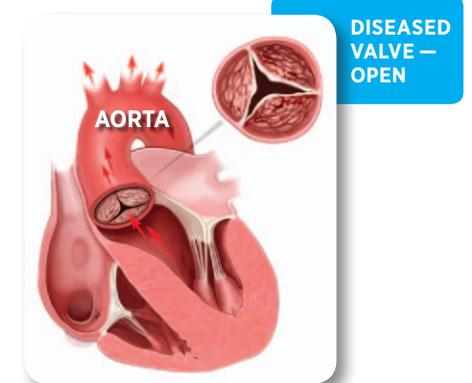
Severe aortic stenosis is a serious heart valve condition. Learn about a less invasive valve replacement option available at the Lankenau Medical Center Valve Clinic.

WHAT IS SEVERE AORTIC STENOSIS?

Aortic stenosis is a narrowing of the aortic valve—the heart valve that controls the flow of oxygen-rich blood from the heart into the bloodstream. Aortic stenosis prevents the valve from opening properly.



A normal healthy aortic valve has three flaps of tissue (called leaflets) that open wide to allow blood to pump freely from the heart into the large blood vessel called the aorta. From the aorta, blood is carried to the rest of the body.



In aortic stenosis, the valve leaflets are stiff and cannot open fully, limiting the flow of blood to the body. In older people, the most common cause of aortic stenosis is a buildup of calcium on the valve leaflets.

WHAT IS TAVR?

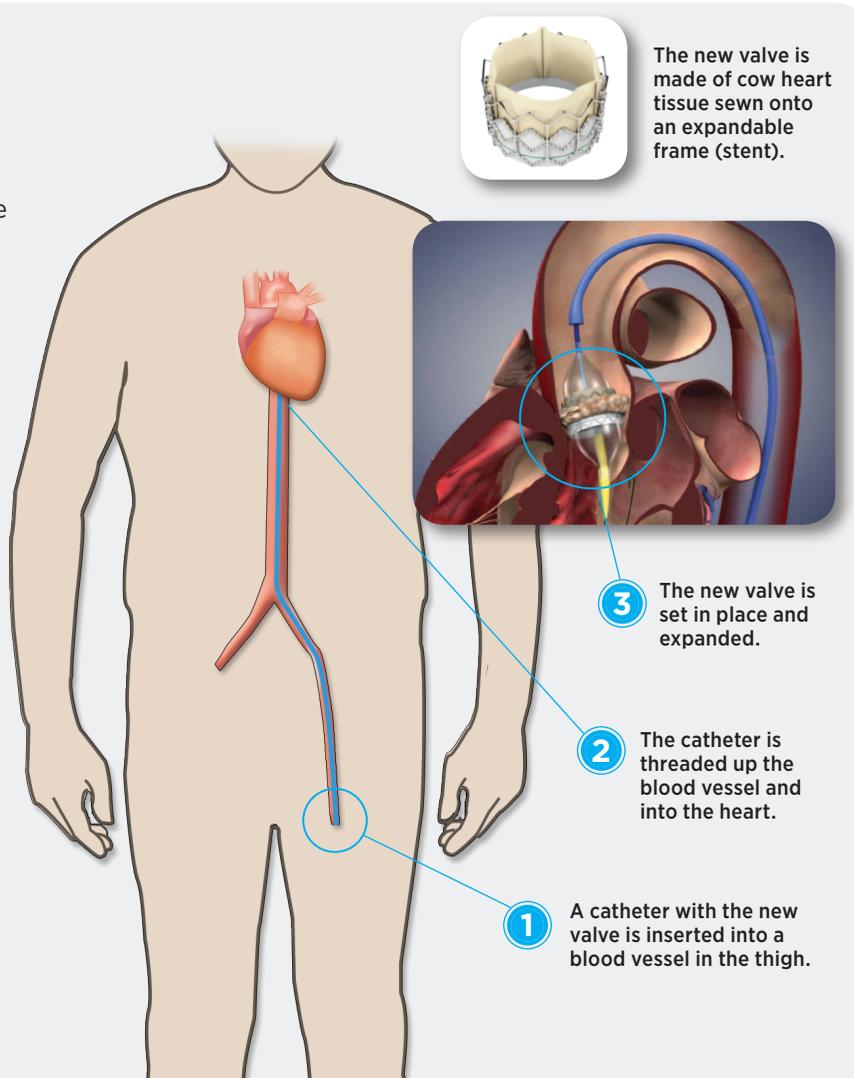
TAVR is a procedure that allows a diseased aortic valve to be replaced without open-heart surgery. Physicians at the Valve Clinic at Lankenau Medical Center perform TAVR using a transfemoral approach. With this approach, a new valve is implanted using a long flexible tube (catheter) that is inserted into a blood vessel in the upper thigh.

WHO IS ELIGIBLE FOR TAVR?

Treatment of aortic stenosis varies depending on how severe the condition is, a patient's overall health, and other medical factors. A thorough evaluation is needed to determine whether TAVR—or another treatment—is best. A multidisciplinary team of heart care specialists from the Valve Clinic participates in this important evaluation.

TAVR Procedure

- 1 After a patient is under general anesthesia, a small incision is made in the upper thigh, and a catheter with a tiny balloon at the end is threaded up the blood vessel into the heart. The balloon is inflated to open the diseased aortic valve, deflated, and then removed.
- 2 The new valve is placed at the end of the catheter and is threaded up the blood vessel to the diseased valve. The new valve is inserted within the walls of the diseased valve by inflating a tiny balloon. The balloon is then deflated, leaving the new valve in place.
- 3 The new valve should begin to work immediately, opening and closing to regulate proper blood flow. Once the valve is working properly, the catheter is removed and the incision in the thigh is closed.



The new valve is made of cow heart tissue sewn onto an expandable frame (stent).

TAVR Evaluation

TAVR evaluation begins with an examination by both a heart surgeon and an interventional cardiologist (a cardiologist with special training and skills in catheter-based heart procedures). At the visit, the two physicians review a patient's medical history and results of any recent tests. An echo test is important in the initial evaluation for TAVR.

If a patient is found to be a possible candidate for TAVR, further tests are done to evaluate the patient's aortic valve, heart vessels, and the blood vessels used to reach the heart during the TAVR procedure. Once all tests are completed, the Valve Clinic team meets to review the results of the patient's evaluation and to recommend a specific treatment plan.

Patient Selection for TAVR

TAVR is recommended only if the evaluation shows the following:

- ▶ The patient has aortic stenosis that is severe in nature and is causing symptoms.
- ▶ The patient either is not a candidate for surgical aortic valve replacement or is at high risk for surgery and would be expected to benefit from TAVR therapy.
- ▶ The patient's aortic valve is the appropriate size for the TAVR procedure.

TAVR is not an appropriate treatment option for every patient with severe aortic stenosis. For example:

- ▶ Surgical valve replacement may be recommended rather than TAVR if a patient is determined to be well enough to have surgery.
- ▶ Other health problems or medical factors may prevent TAVR from being performed or from offering the expected treatment benefits.

LANKENAU MEDICAL CENTER VALVE CLINIC

At the Lankenau Medical Center Valve Clinic, the skills and expertise of an entire team of heart care specialists are focused on each patient from initial consultation through evaluation, treatment, and follow-up. Each specialist plays an important role in making sure that the patient receives a customized care plan that best supports his or her needs and that offers the best-possible outcomes.

Physicians

The Valve Clinic team is led by heart surgeons, interventional cardiologists, and non-invasive cardiologists who are highly experienced and skilled in treating complex disorders of the heart. Lankenau's expertise and experience in heart valve surgery and catheter-based treatments of heart problems were important factors in being selected to offer TAVR. In addition to performing TAVR, Valve Clinic physicians offer expertise in traditional and minimally invasive approaches to surgical aortic valve replacement as well as medical therapies for aortic stenosis.

Nurse Coordinator

A key player on the Valve Clinic team is the Heart Valve Coordinator, a dedicated nurse practitioner who facilitates each step in the care process. The Coordinator serves as the primary point of contact, along with other clinical team members, helping patients navigate the process from the time of referral through follow-up care and ensuring streamlined communication within the team and with patients and their referring physicians.