

# Surgical Aortic Valve Replacement (SAVR)

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## SAVR surgery for aortic stenosis and aortic regurgitation

For more than 50 years, surgical aortic valve replacement (SAVR) has been the standard treatment for severe symptomatic [aortic stenosis](#) and for aortic regurgitation. Minimally invasive approaches, including mini aortic valve replacement (mini AVR) and more recently, [transcatheter aortic valve replacement \(TAVR\)](#) are now available, reducing recovery time and more quickly improving quality of life for patients.

## Types of material used for aortic valve replacements

When the aortic valve is diseased or infected, there are several replacement options, including:

- **Mechanical** – This is an aortic valve replacement made of metal. The result is long lasting, but there is risk of clotting near the valve. People who have mechanical valve replacements must take blood thinners for the rest of their lives.
- **Tissue** – This is a biological or bioprosthetic valve made of tissue from pig or cow (or from other species). It also has prosthetic (artificial) parts to help the valve function better and make it easier to sew into place. The valve lasts for 15 to 20 years and there is no need for blood thinners.
- **Allograft** – This is an aortic or pulmonic valve from a donated human heart. An allograft may be used in cases of [endocarditis](#), when the aortic root is infected.

## Types of SAVR surgeries

All SAVR surgeries involve replacing a diseased aortic valve with a new one. The difference is in how the replacement is performed.

- **Open-chest** – Traditional, open-heart surgery requires use of a heart-lung (bypass) machine. The heart is stopped temporarily to give the surgeon access to the heart while the machine continues to pump blood for the heart. Open-heart surgery requires a six- to eight-inch incision (cut) down the chest. Because the chest wall is cut and the surrounding muscles and tissues are pulled and held apart, recovery from this surgery takes much longer than mini AVR surgeries.
- **Mini AVR** – There are two types of mini aortic valve replacement surgeries: mini sternotomy and mini thoracotomy. Both procedures involve a smaller (generally, two- to four-inch) incision. With a sternotomy the incision is made in the sternum (breastbone). With a thoracotomy the incision is made in the chest wall. After the surgery is complete, the heart is started again and the incision closed up. The recovery time, however, is generally shorter as the surgery is less damaging to the chest wall and surrounding areas. Mini AVR surgery at Lankenau Heart Institute is performed through a three-inch incision and greatly reduces the post-operative discomfort and recovery time.
- **TAVR** – Transcatheter aortic valve replacement may be for someone who is not a candidate for surgery, or is considered high risk or intermediate risk for open-chest surgery. TAVR is a minimally invasive option that enables our physicians to replace a diseased aortic valve by entering a catheter through the leg, ribs or aorta.

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In 2015, 88 percent of isolated aortic valve procedures at Lankenau were done minimally invasively.

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Your surgeon will evaluate your condition and medical history to determine which surgical approach is safest and most likely to be effective for you.

**To schedule an appointment with a Lankenau Heart Institute specialist, call 1.866.CALL.MLH (1.866.225.5654) or use our secure online appointment request form.**

[Lankenau Heart Institute](#)[Structural Heart and Valvular Disease Program](#)

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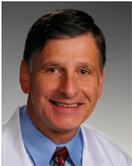
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