

Patient Education Guide: Severe Aortic Stenosis

In elderly patients, severe symptomatic aortic stenosis is often caused by the build-up of calcium (mineral deposits) on the aortic valve's leaflets (flaps of tissue that open and close to regulate the one-way flow of blood through the aortic valve). This build-up of calcium on the leaflets impairs the aortic valve's ability to fully open and close. As a result, the narrowed valve allows less oxygen-rich blood to flow from the lungs to the brain and rest of the body which may cause symptoms like severe shortness of breath and extreme fatigue.

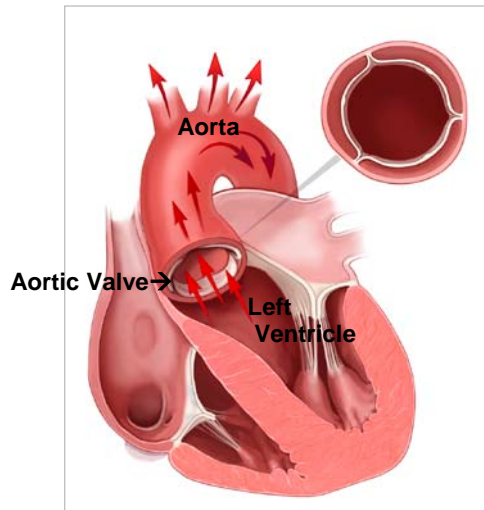


Fig. 1 depicts the leaflets of a healthy aortic heart valve which open wide to allow oxygen-rich blood to flow unobstructed in one direction. The blood flows through the valve into the aorta where it then flows out to the brain and rest of the body.

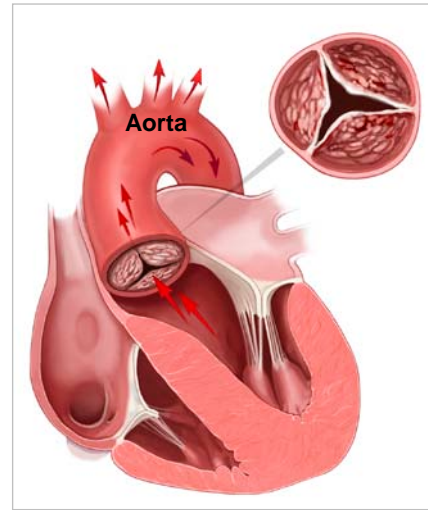


Fig. 2 depicts the leaflets of a stenotic or calcified aortic valve unable to open wide, obstructing blood flow from the left ventricle into the aorta.

Treatment

While open-heart aortic valve replacement surgery is the gold standard treatment for severe symptomatic native aortic valve stenosis, there are patients who are not candidates for open-chest surgery. These inoperable patients may be unable to undergo traditional surgery because of factors such as age, history of heart disease, frailty or other health issues. For these patients, a new therapy called transcatheter aortic valve replacement (TAVR) may be an option. TAVR is a procedure that allows Heart Teams to replace a diseased aortic heart valve without open-heart surgery. This procedure enables the placement of a balloon-expandable heart valve into the body with a tube-based delivery system (catheter), which allows the valve to be inserted through a small cut in the thigh into an artery.

A Heart Team will conduct a comprehensive evaluation to determine whether this procedure is an appropriate therapeutic option. In certain cases, TAVR may not be an option because of co-existing medical conditions or disease processes that would prevent the patient from experiencing the expected treatment benefit or because the risks outweigh the benefits. For those who are candidates for TAVR, this therapy may provide relief from the often debilitating symptoms associated with severe symptomatic native aortic valve stenosis. TAVR is a significant procedure involving general anesthesia, and placement of the valve is associated with specific contraindications as well as serious adverse effects, including risks of death, stroke, damage to the artery used for insertion of the valve, major bleeding, and other life-threatening and serious events. In addition, the longevity of the valve's function is not yet known.