

Mosaic Heart Valve

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A Mosaic heart valve is a bioprosthetic valve carefully crafted from porcine tissue and preserved with innovative techniques.

A pig's heart anatomy is similar to that of a human heart, therefore porcine tissue is used. After the new valve is implanted, human cells start taking over where the pig cells once were. The goal is that, "when implanted, the valve will be slowly remodeled with the patient's own cells. The device is used either to control blood flow through or from the heart into the aorta (the main artery leading from the heart). It is used when either the heart's natural valves, or a previously implanted artificial valve, is not working properly and needs to be replaced. This technology includes two tissue technologies: the AOA (alpha amino oleic acid) treatment and the Physiologic Fixation process. Studies have shown that the Physiologic Fixation process helps preserve the structure and function found in fresh aortic valves. Whereas AOA tissue treatment has been shown in animal studies to result in significant reductions in calcium deposits on the valve. Calcium buildup is what usually causes heart valve transplants to malfunction. These two technologies have not been available together in previous stented tissue valves. Both of these technologies have been shown in animal studies to maintain the natural leaflet structure of the valve and to reduce the potential for calcification of the animal tissue. The porcine tissue undergoes several chemical procedures in order to

make it suitable for implantation in the human heart

A pig heart valve with the pig's genetic material removed. What's left is a sort of cellular framework called a collagen matrix. The porcine tissue is attached to a cloth-covered, flexible plastic frame, called a stent. The bioprosthesis is then sewn into place where the patient's diseased valve used to be.

Risks

- Abnormal heart beat (cardiac arrhythmia and dysrhythmia).
- Blood leaking around the outside of the prosthetic valve. Damage to red blood cells that can result in anemia.
- Death. & Inflammation of the lining of the heart (endocarditis).
- Heart failure & Any problem with the prosthetic valve that causes narrowing of the valve opening (stenosis).
- Blood clots that develop in the heart or on the replacement valve. These clots may break loose and travel through the bloodstream that may cause a stroke or heart attack.

Facts

Mosaic valve is only for Aortic and Mitral valve.

The size of this valve is 25mm.

The Mosaic valve is made by Medtronic, Inc. is the world's leading medical technology company.

These valves don't require the daily doses of sometimes-risky blood-thinning drugs