

Vincent Pallotti sets record for first keyhole mitral-valve replacement

Life Vincent Pallotti Hospital's specialist cardiac team recently performed the hospital's first keyhole mitral valve replacement, a minimally invasive heart surgery.



Source: Supplied. The specialist cardiac team at Life Vincent Pallotti Hospital.

The procedure is particularly beneficial to patients who are not candidates for open-heart surgery, where they may have already undergone other open-heart procedures and further open-heart surgery is discouraged.

Under the supervision of Farrel Hellig, interventional cardiologist and proctor for keyhole mitral valve replacement surgery; Charles Kyriakakis, interventional cardiologist, led this first cardiac procedure for Life Vincent Pallotti Hospital.

One other cardiologist, a cardiac anaesthetist, a cardiothoracic surgeon, and the highly skilled catheterisation laboratory nursing team at Life Vincent Pallotti Hospital assisted him with the procedure.

“The entire procedure takes approximately two hours and is a once-off intervention to improve a patient’s quality of life and reduce their risk of mortality from heart failure.

Ongoing research and development

“There is a significant amount of research going into the development of various 'keyhole' procedures to replace the mitral valve, even in individuals who have not previously had a surgical mitral valve replacement,” says Kyriakakis, an interventional cardiologist at Life Vincent Pallotti Hospital.

The mitral valve directs blood flow between the lower left heart chamber (left ventricle) and the upper left heart chamber (left atrium). In instances where the mitral valve becomes damaged or stops working, a cardiothoracic surgeon will replace a patient's own valve with a mechanical valve or one manufactured from pig or cow tissue.

The tissue valves have a lifespan of 10 to 15 years.



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Keyhole mitral valve replacement is performed by means of a small needle puncture into a large vein in the groin and does not require an incision into the chest wall. As a result, patients have a shorter hospital-stay, sometimes as little as one day after the procedure, as opposed to a few weeks following open-heart surgery.

The procedure is currently reserved for patients who have a degenerated surgical tissue valve in place, as in this case, or alternatively elderly patients whose mitral valves have become heavily calcified.

Who qualifies for this surgery?

Patients who develop mitral valve disease, either due to a leak or due to the valve opening becoming calcified, can experience an irregular heartbeat known as atrial fibrillation. Once this occurs, heart function is reduced by up to 30%, increasing the risk of clot-related stroke.

These patients are required to take blood thinners as chronic medication.

High blood pressure in the lungs is another serious complication of mitral valve disease, commonly referred to as pulmonary hypertension.

Patients with mitral valve disease may be candidates for a minimally invasive replacement of the valve, depending on several factors, including their age and underlying medical conditions.

"Keyhole mitral valve replacement is the only solution for patients who do not qualify for a repeat open-heart surgical procedure to replace the valve.

"Performing this minimally invasive procedure avoids the need for prolonged wound healing, allowing for a shorter hospital stay and an improved quality of life. We are excited to offer this potentially life-saving procedure to our patients who meet certain criteria for the procedure in future," says Kyriakakis.