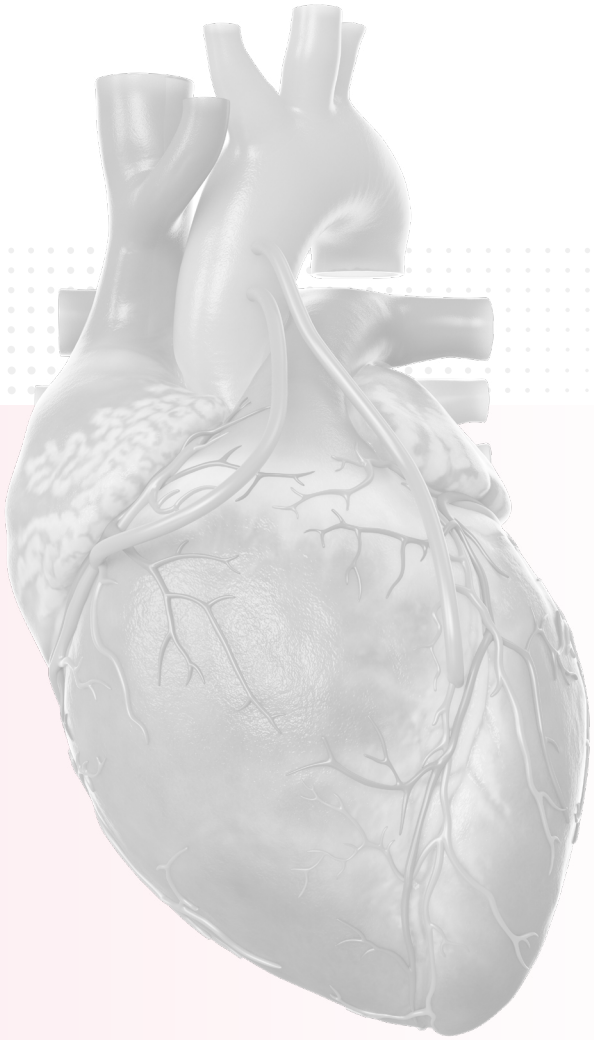
IHH Healthcare

CARDIOLOGY

Transcatheter Aortic Valve Implantation (TAVI)



KEY PROCEDURE HIGHLIGHTS

1. **Alternative to open heart surgery** for valve replacement.
2. **Significantly lower risk of death, stroke and rehospitalisation** compared to surgery for low risk patients. [4]
3. **Non-inferior to surgical aortic valve replacement** for intermediate and high risk patients. [2,3]
4. Viable option for **patients who are elderly, high risk and those previously deemed inoperable**. [1-4]

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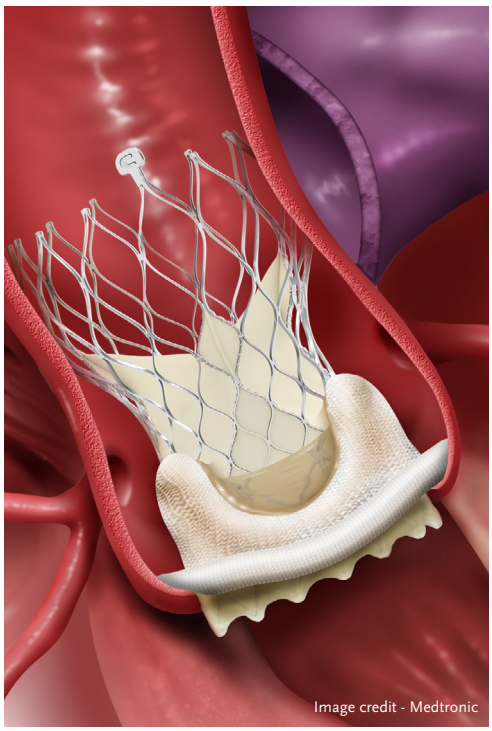


Image credit - Medtronic

TRANSCATHETER AORTIC VALVE IMPLANTATION (TAVI)

Aortic stenosis is commonly caused by the build up of calcium on a normal aortic valve that occurs with age. It may also be caused by congential heart defects or inflammation from rheumatic heart disease.

TAVI is a minimally invasive, catheter-based procedure to replace the function of the diseased aortic valve. This technique is an alternative treatment to surgical aortic valve replacement (SAVR).

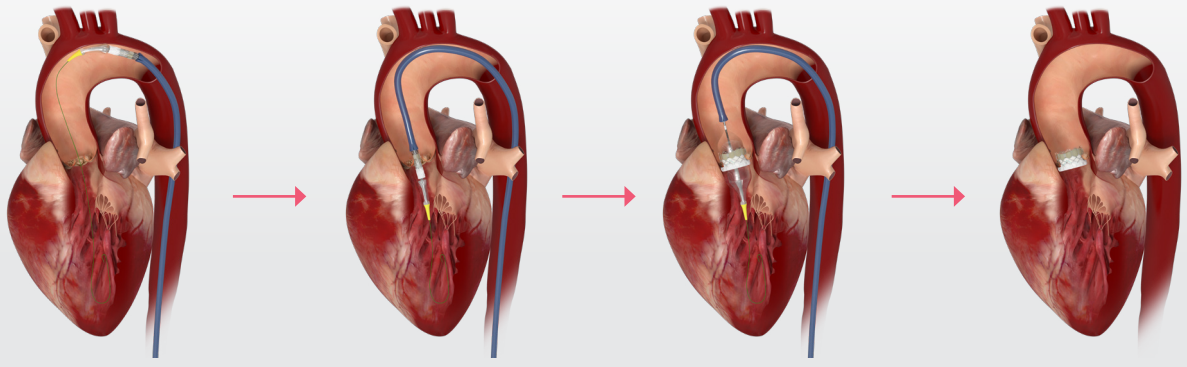
As a minimally invasive procedure, TAVI results in

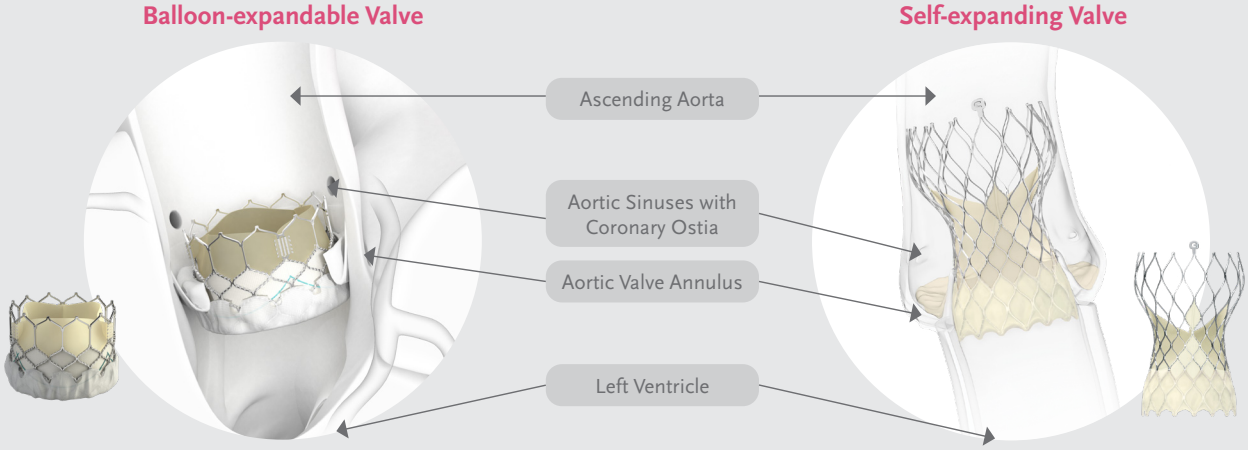
- Quicker recovery
- Less post procedure pain and discomfort
- Reduced chances of infection

HOW IT WORKS

A catheter is introduced to deliver and implant a new valve within the diseased aortic valve. TAVI can be performed through multiple approaches. The most common approach is the transfemoral approach - through a small incision in the leg.

Image credit - Edwards Lifesciences





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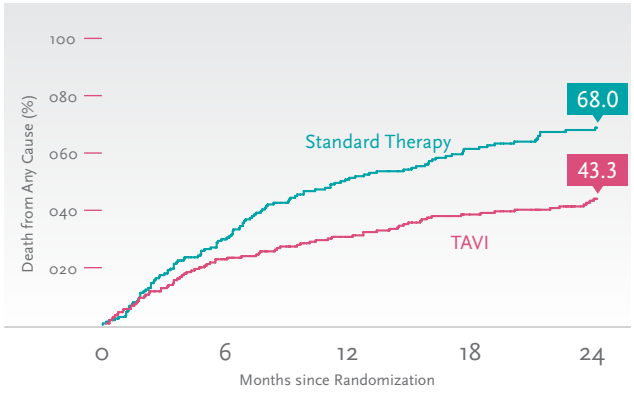
CLINICAL OUTCOMES FOR TAVI VS. SAVR

Studies have shown that all-cause mortality rates for TAVI are consistently below or non-inferior to SAVR or standard therapy across multiple patient cohorts.

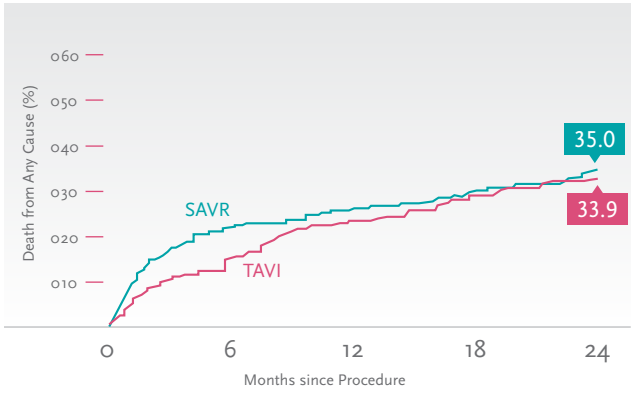
1. Inoperable[1]

Hazard ratio, 0.56 (95% CI, 0.43–0.73)
P<0.001



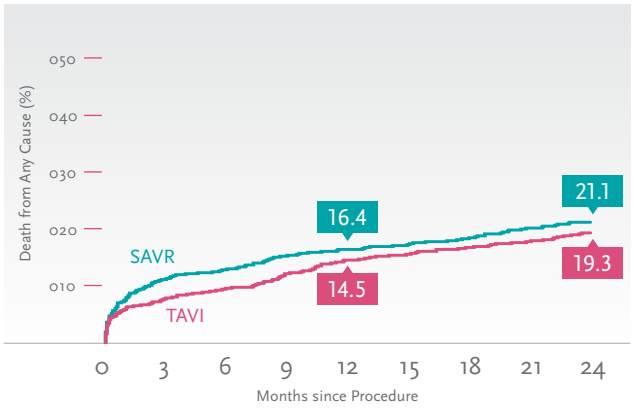
2. High Risk[2]

Hazard ratio, 0.90 (95% CI, 0.71–1.15)
P=0.41



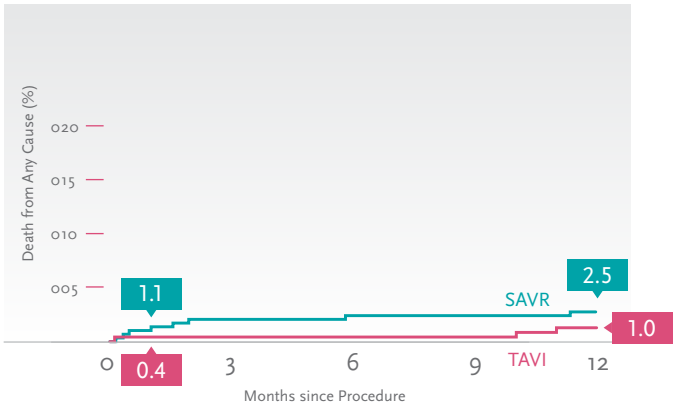
3. Intermediate Risk[3]

Hazard ratio, 0.89 (95% CI, 0.73 - 1.09)
P = 0.25

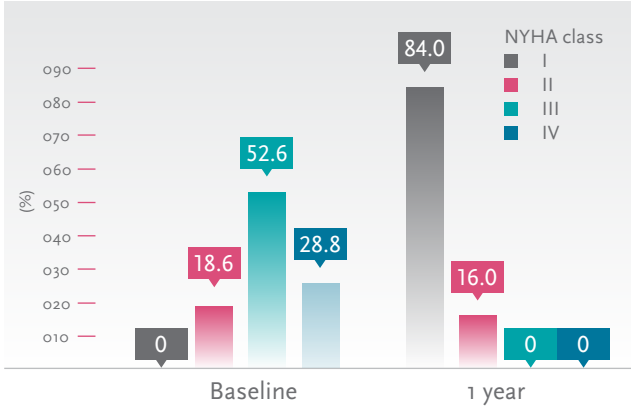


4. Low Risk[4]

Hazard ratio, 0.41 (95% CI, 0.14–1.17)



5. Significant Improvement of NYHA Classification at 1-year after TAVI[5]



5 Patients were identified to have severe aortic stenosis and classified under high risk or inoperable.

0%

Mortality rate of patients who underwent TAVI in Parkway Hospitals.^

^ 2016-2019 Clinical outcomes data provided by Dr Chiam Toon Lim, Paul.

PATIENT SELECTION

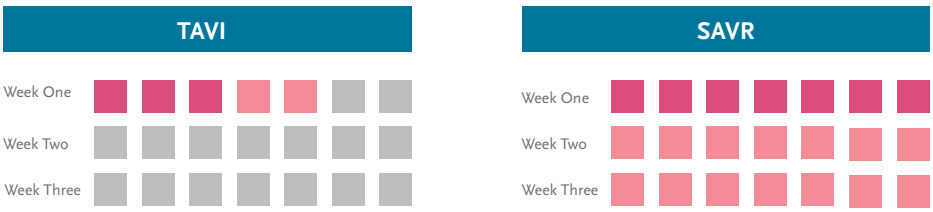
TAVI is suitable for most patients, especially for the patients with:

- Severe aortic stenosis and are not suitable for SAVR due to multiple medical problems (e.g. advanced age, poor heart function)
- Preference for minimally invasive method

TAVI VS SAVR

Length of Stay

Average min. LOS
Average max. LOS



1 day in HDU/ICU

2-5 days in HDU/ICU

Average Hospital Bill

$73,000 to $85,000

* In case of complications, cost of SAVR is expected to be higher than TAVI.

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