

Key Points

- Transcatheter mitral valve replacement (TMVR) has emerged as a viable option for high surgical risk patients who present with symptoms because of valve deterioration after tissue mitral valve replacement.
- This procedure can be performed via access in the blood vessels of the groin area or via chest (apex of the heart) and avoids the need for cutting open the chest wall, stopping the heart, and putting patients on bypass.
- In our experienced center, the procedure itself can take from two to three hours. Sometimes it can be longer if required depending on the complexity of the case.
- Mount Sinai has significant experience in successfully performing TMVR procedures with excellent safety and long-term outcomes.

Transcatheter Mitral Valve Replacement (TMVR)

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Transcatheter mitral valve replacement (TMVR) has emerged as an important option for high surgical risk patients who present with symptoms because of valve deterioration after tissue mitral valve replacement. These patients may present with shortness of breath, fainting, dizziness, tiredness, chest pains (angina), and atrial fibrillation.

TMVR can be performed via access in the blood vessels of the groin area or via chest (apex of the heart) and avoids the need for cutting open the chest wall, stopping the heart, and putting patients on bypass. Following access, a tube is then passed up through the leg vessels to the right side of the heart and then through the septum to the left side of the heart using a technique known as trans-septal puncture. The Edwards SAPIEN valve is then passed up through this tube and subsequently deployed in the desired position inside the frame of the failing surgical valve. The safety and efficacy of this procedure has been well documented but involves highly skilled personnel who can carry out this procedure in a safe and diligent manner.

Our structural heart team has extensive experience in looking after such complex patients. Once a patient is referred to our team, we meticulously evaluate and analyze the results of various investigations (such as cardiac CT and echocardiography) to determine suitability for the procedure. We remain in constant contact with the patient, family and referring physician during the workup as well as during the hospital stay before and after the procedure.

In our experienced center, the procedure itself can take from two to three hours. Sometimes it can be longer, depending on the complexity of the case.

Following the procedure, the patients are closely monitored for one to two days. We are particularly attentive to arrhythmias and changes in blood results. By performing a comprehensive echocardiogram of the heart within 24 hours of the procedure, we assess the function of the new mitral valve and rule out any possible complications.

Reference:

Percutaneous transvenous transeptal transcatheter valve implantation in failed bioprosthetic mitral valves, ring annuloplasty and severe mitral annular calcification. *J Am Coll Cardiology Interv.* 2016;9: 1161-74.

