

What is a transcatheter mitral valve-in-valve procedure?

Transcatheter mitral valve-in-valve replacement is a less invasive procedure that does not require open heart surgery. **Transcatheter** means we use a catheter (a small flexible, hollow tube) to place a new valve in your heart. The procedure allows a new valve to be inserted right over your diseased mitral valve. The new valve pushes the leaflets of your diseased valve out of the way.

How is a valve-in-valve procedure different from traditional open heart surgery?

In traditional open heart surgery, an incision is made in the center of your chest and the heart is opened to repair or replace your diseased valve. You are also placed on a heart-lung bypass machine to send blood flow away from your heart. The valve-in-valve procedure is performed through an incision in your leg (transfemoral approach) and does not require you to be connected to the heart-lung bypass machine.

How is the transcatheter valve-in-valve procedure performed?

The procedure is performed at the Frankel Cardiovascular Center in our hybrid operating room. A team of doctors work closely together to perform the procedure. They use a special x-ray machine and an ultrasound (through the esophagus) to guide the catheter during the procedure and to see your valve. The following describes the procedure:

1. The doctor makes a small opening in a large vein in the groin area at the top of your leg (femoral vein). An alternate approach makes a small incision in your chest between the ribs and enters through a large vein in your chest.
2. A small hollow tube (sheath) is placed into your vein.
3. A tube (thin catheter) with a balloon tip is threaded through the hollow tube up to your heart and into the mitral valve using special x-ray guidance and ultrasound through the esophagus.

4. The balloon tip is threaded into the mitral valve. Once in place, the balloon expands the new valve which moves the diseased valve out of the way.
5. Once the new valve is in place, the balloon and catheter are removed.

During the procedure a temporary pacemaker catheter is placed in a vessel in your neck and threaded up into your heart and placed in the right side of the heart to help control your heart rate during the procedure. It is removed after your procedure is complete.

What are the benefits of a transcatheter mitral valve-in-valve replacement?

With this less invasive valve procedure, you may experience the following benefits:

- Short hospital stay
- Shortened recovery time
- Quicker return to daily activities than with open heart surgery
- Improved quality of life in approximately 4 weeks following the procedure, including the ability to return to normal daily activities
- Relief of symptoms
- Reduced pain and anxiety
- Improved heart function

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