

Facing Mitral Valve Surgery?

Learn about minimally invasive
da Vinci® Surgery

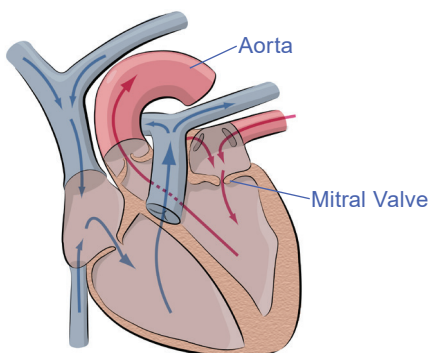
The Condition:

Mitral Valve Prolapse

Your mitral valve separates the upper and lower chambers of the left side of your heart. Your mitral valve has two flaps that control blood flow. When the valve opens, it allows blood to flow into your heart's main pumping chamber. When this chamber contracts to push blood out of your heart, your mitral valve closes to stop blood from flowing backwards.

If your mitral valve flaps do not work properly, some blood flows backwards. This is called regurgitation or prolapse. It makes the heart work harder and can increase the risk of heart failure.

Mitral valve prolapse is a very common condition and occurs in women more often than men. It can occur over time or your mitral valve can be abnormal at birth. Many people have no symptoms at all and treatment is never needed. If you do have symptoms, they may include rapid heartbeat, chest pain, fatigue, difficulty breathing after activity, or shortness of breath.



The Heart: Arrows show direction of blood flow in and out of the heart.

The Surgery:

Mitral Valve Surgery

Treatment and surgical options for mitral valve prolapse depend on how severe your symptoms are and your overall health. If your symptoms are mild, your doctor may suggest medication or lifestyle changes. If your symptoms become worse, your doctor may recommend mitral valve surgery. The goal of surgery is to allow your valve to open and close properly. There are two common types of mitral valve surgery: valve repair and valve replacement.

With valve replacement, your surgeon cuts out the damaged valve and replaces it with a new, artificial valve. The new valve may be mechanical (from man-made materials) or biological (from human or animal tissue). With valve repair, your surgeon rebuilds one or more of the valve flaps/leaflets using your own tissue.

Your doctor will fully explain the pros and cons of replacing your valve versus repairing your valve.

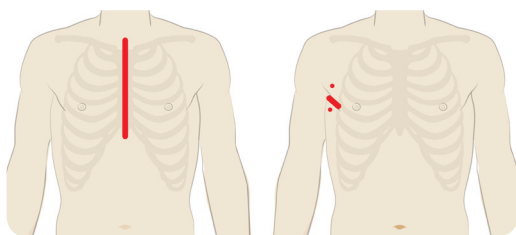
During mitral valve surgery, a heart-lung machine is used. This machine temporarily takes over the function of your heart and lungs during surgery. It provides surgeons with a still surface.

Whether repairing or replacing your valve, surgery may be performed using open surgery through a large incision or minimally invasive surgery through a few small incisions.

During open surgery, doctors make a large chest incision and cut through your breastbone (sternum) to reach your heart. The incision must be large enough for your surgeon to fit his or her hands and surgical instruments inside your chest. Open surgery allows your surgeon to see and touch your heart and tissues.

During minimally invasive surgery, specifically thoracoscopic surgery, doctors repair or replace your valve through one or more small incisions instead of a large incision. Long, thin surgical instruments and a tiny camera are inserted through the incisions to reach your heart. The camera sends images to a video monitor to guide surgeons as they operate.

Another minimally invasive option for patients facing valve surgery is *da Vinci* Surgery.



Open Surgery
Incision

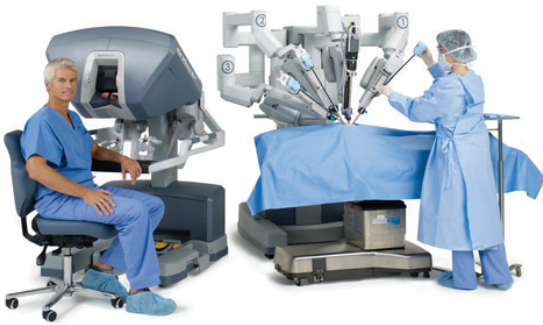
da Vinci Mitral Valve
Repair Incisions

***da Vinci* Surgery :**

A Minimally Invasive Surgical Option

Using the *da Vinci* Surgical System, your surgeon makes a few small incisions between your ribs - similar to thoracoscopic (minimally invasive) surgery. The *da Vinci* System features a magnified 3D high-definition vision system and tiny wristed instruments that bend and rotate far greater than the human wrist. These features enable your doctor to operate with enhanced vision, precision, dexterity and control.

As a result of *da Vinci* technology, *da Vinci* Mitral Valve Repair Surgery offers the following potential benefits compared to open surgery:



- › Less blood loss and need for transfusions
- › Less time in intensive care
- › Shorter hospital stay
- › Lower rate of atrial fibrillation after surgery (rapid/irregular heartbeat)
- › Lower rate of pleural effusions after surgery (excess fluid around the lung)
- › Faster recovery and return to normal daily activities, including work
- › Faster improvement of physical & mental health following surgery
- › Small incisions for minimal scarring

Risks & Considerations Related to Mitral Valve Repair Surgery & *da Vinci* Surgery:

Potential risks of mitral valve repair surgery include:

- Heart attack or stroke
- Heart rhythm problems
- Infection in the kidneys, chest, valves or bladder
- Fever and chest pain (together called post-pericardiotomy syndrome)
- Memory loss and/or loss of mental clarity

In addition to the above risks, there are risks related to minimally invasive surgery, including *da Vinci* Mitral Valve Repair Surgery, such as damage to nearby organ or nerves.