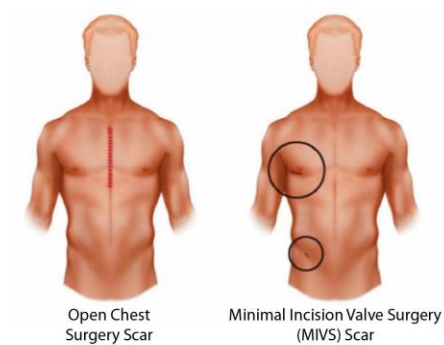


Minimal Incision Valve Surgery (MIVS)

Facing open-heart surgery to repair or replace a heart valve?



You are not alone. Heart valve disease is very common. Each year, more than 700,000 patients globally undergo some type of heart surgery. You may recognize some of their faces. Barbara Walters, Barbara Bush, Robin Williams, Arnold Schwarzenegger, and Elizabeth Taylor have all had heart valve surgery.

Surgery may be recommended if your doctor determines that one of your heart valves needs to be repaired or replaced.

Learn more about your heart valves, heart valve disease, and the surgical procedures that correct it.

What a heart valve does

Your heart is a powerful muscle that is designed to keep blood moving through every part of your body. Your heart continuously pumps blood that comes from the lungs, where the blood picks up oxygen, and is delivered to the rest of the body. When the blood returns to the heart after delivering the oxygen, the heart pumps it back to the lungs to pick up oxygen again.

For this process to work efficiently, the blood must move freely and in only one direction. Your heart valve opens to permit blood to move forward, and then closes to prevent blood from moving backward.

Blood is pumped through the mitral and tricuspid valves as it enters the heart. These two valves control blood flow between the upper and lower chambers of the heart. On its way out of the heart, blood passes through the pulmonary and aortic valves.

Valve Disease

Several things can go wrong with the heart's valves.

- A person can be born with a defective heart valve.
- In approximately 4 to 5% of the general population, a valve wears out and begins to leak, or fails to open completely.
- When a worn out valve fails to close properly or leaks (prolapses), blood flows backward (regurgitates) and the heart must work harder to pump the same amount of blood. Most often, it is the mitral valve that leaks.
- Calcium deposits may harden and narrow a valve. This narrowing (stenosis) keeps the valve from opening completely and reduces the amount of blood that can flow through it. The risk of blood clots increases and the heart has to work harder. This type of problem generally affects the aortic valve.
- Some types of infection may also lead to problems with a heart valve. The bacteria that cause rheumatic fever can damage the heart, especially its valves, and an infection called bacterial endocarditis can deform or damage heart valves.

The symptoms of valve disease

A worn out or damaged heart valve can cause some or all of these symptoms:

- Shortness of breath
- Feeling tired (fatigue) during exertion
- A cough, especially a cough at night or when lying down
- An irregular or abnormally fast heart beat (palpitations)
- Swollen feet or ankles
- Pain or tightness in chest
- Dizziness

Even a relatively insignificant leak in a valve can cause severe symptoms. If you have symptoms, you may require surgery to repair or replace the diseased valve.

Sometimes there are no symptoms

Some people who have serious heart disease are not aware there is a problem. Hidden symptoms may be uncovered when these people undergo an exercise test.

At this time, there is no specific medical treatment for patients who have not yet developed symptoms. Even if you are not yet aware of the symptoms, your doctor may recommend surgery if you are diagnosed as having heart valve disease.

Medical tests your doctor may use to diagnose valve disease

After discussing your symptoms and listening to your heart to check for a murmur, the doctor may use a number of different tests to “see” how it is working before diagnosing valve disease as the cause of your symptoms.

- A **chest x-ray** can determine the size of your heart.
- An **electrocardiogram (also called an ECG or EKG)** can detect a problem with your heart’s rhythm and some problems with how the blood flows.
- An ultrasound test called an **echocardiogram** makes it possible to watch each heart valve, checking on its structure and thickness, as it opens and closes. Your doctor may order a special type of this test, called a **transesophageal echocardiogram**.
- A special type of x-ray called a **radionuclide** scan uses a “tracer” chemical to produce images of a specific organ, such as the heart. The dye that is injected into the bloodstream during a cardiac catheterization allows the doctor to track the movement of blood and detect other heart problems that could be causing your symptoms.
- **Magnetic resonance imaging (MRI)** can produce detailed pictures of your heart and arteries and how they function.