Mitral valve surgery - open

Definition

Mitral valve surgery is used to repair or replace the mitral valve in your heart.

Blood flows between the different chambers in the heart through valves that connect the chambers. One of these is the mitral valve. The mitral valve opens so blood can flow from the left atrium to the left ventricle. The valve then closes, keeping blood from flowing backward.

In this type of surgery, the surgeon makes a large cut in your breastbone to reach the heart. Other types of surgery use several smaller cuts.

Alternative Names

Mitral valve replacement - open; Mitral valve repair - open; Mitral valvuloplasty

Description

Before your surgery, you will receive general anesthesia. You will be asleep and pain-free during the procedure.

- Your surgeon will make a 10-inch-long (25.4 centimeters) cut in the middle of your chest.
- Next, your surgeon will separate your breastbone in order to see your heart.
- Most people are connected to a heart-lung bypass machine or bypass pump. Your heart is stopped while you are connected to this machine. This machine does the work of your heart while your heart is stopped.
- A small cut is made in the left side of your heart so your surgeon can repair or replace the mitral valve.

If your surgeon can repair your mitral valve, you may have:

- Ring annuloplasty -- The surgeon repairs the ring-like part around the valve by sewing a ring of metal, cloth, or tissue around the valve.
- Valve repair -- The surgeon trims, shapes, or rebuilds one or more of the three flaps (leaflets) of the valve.

If your mitral valve is too damaged to be repaired, you will need a new valve. This is called replacement surgery. Your surgeon will remove your mitral valve and sew a new one into place. There are two types of mitral valves:

- Mechanical, made of man-made (synthetic) materials, such as titanium. These valves last the longest. You will need to take blood-thinning medicine, such as warfarin (Coumadin) or aspirin, for the rest of your life.
- Biological, made of human or animal tissue. These valves last 10 to 12 years. You may not need to take blood thinners for life.

Once the new or repaired valve is working, your surgeon will:

- Close your heart and take you off the heart-lung machine.
- Place catheters (tubes) around your heart to drain fluids that build up.
- Close your breastbone with stainless steel wires. It will take about 6 weeks for the bone to heal. The wires will stay inside your body.

You may have a temporary pacemaker connected to your heart until your natural heart rhythm returns.

This surgery may take 3 to 6 hours.

Why the Procedure Is Performed

You may need surgery if your mitral valve does not work properly.

- A mitral valve that does not close all the way will allow blood to leak back into the left atrium. This is called mitral regurgitation.
- A mitral valve that does not open fully will restrict blood flow. This is called mitral stenosis.

You may need open-heart valve surgery for these reasons:

- Changes in your mitral valve are causing major heart symptoms, such as angina (chest pain), shortness of breath, fainting spells (syncope), or heart failure.
- Tests show that the changes in your mitral valve are reducing your heart function.
- You are having open-heart surgery for another reason, and your doctor may need to replace or repair your mitral valve at the same time.
- Your heart valve has been damaged by endocarditis (infection of the heart valve).
- You have received a new heart valve in the past, and it is not working well.
- You have problems such as blood clots, infection, or bleeding after getting a new heart valve.

Risks

Risks for any surgery are:

- Blood clots in the legs that may travel to the lungs
- Blood loss
- Breathing problems
- Infection, including in the lungs, kidneys, bladder, chest, or heart valves
- Reactions to medicines

Possible risks from having open-heart surgery are:

- Heart attack or stroke.
- Heart rhythm problems.
- Infection in the cut (more likely to happen in people who are obese, have diabetes, or have already had this surgery).
- Memory loss and loss of mental clarity, or "fuzzy thinking."
- Post-pericardiotomy syndrome, which includes a low fever and chest pain. This could last for up to 6 months.
- Death.

Before the Procedure

Always tell your health care provider:

- If you are or could be pregnant
- What medicines you are taking, even drugs, supplements, or herbs you bought without a prescription

You may be able to store blood in the blood bank for transfusions during and after your surgery. Ask your provider if you and your family members can donate blood.

You may need to stop taking medicines that make it harder for your blood to clot for 2 weeks before the surgery. These might cause increased bleeding during the surgery.

- Some of these medicines are aspirin, ibuprofen (Advil, Motrin), and naproxen (Aleve, Naprosyn).
- If you are taking warfarin (Coumadin) or clopidogrel (Plavix), talk with your provider before stopping your medicines or changing how you take them.

Get your house ready before you go to the hospital so things will be easier when you return.

The day before your surgery, take a shower and wash your hair. You may need to wash your whole body below your neck with a special soap. Scrub your chest 2 or 3 times with this soap. You also may need to take an antibiotic to guard against infection.

During the days before your surgery:

- Ask which medicines you should take on the day of your surgery.
- If you smoke, you need to stop. Ask your provider for help.
- Always let your provider know if you have a cold, flu, fever, herpes breakout, or any other illness before your surgery.

On the day of the surgery:

- Follow your provider's instructions about when to stop eating and drinking.
- Take the medicines you have been told you to take with a small sip of water.
- You will be told when to arrive at the hospital.

After the Procedure

Most people spend 4 to 7 days in the hospital after surgery.

You will wake up in the intensive care unit (ICU). You will recover there for 1 to 2 days. You will have 2 to 3 tubes in your chest to drain fluid from around your heart. The tubes are most often removed 1 to 3 days after surgery.

You may have a flexible tube (catheter) in your bladder to drain urine. You may also have intravenous (IV) lines to get fluids. Monitors that show vital signs (pulse, temperature, and breathing) will be watched carefully.

You will be moved to a regular hospital room from the ICU. Your heart and vital signs will be monitored until you go home. You will receive pain medicine to control pain around your surgical cut.

Your nurse will help you begin activity slowly. You may go to a physical therapy program to make your heart and body stronger.

Outlook (Prognosis)

Mechanical heart valves last a lifetime. However, blood clots may develop on them. This can cause them to become infected or clogged. If a blood clot forms, you may have a stroke.

Valves made from human or animal tissue fail over time. They have an average lifespan of 10 to 20 years before needing to be replaced. They have a lower risk of blood clots.

References

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