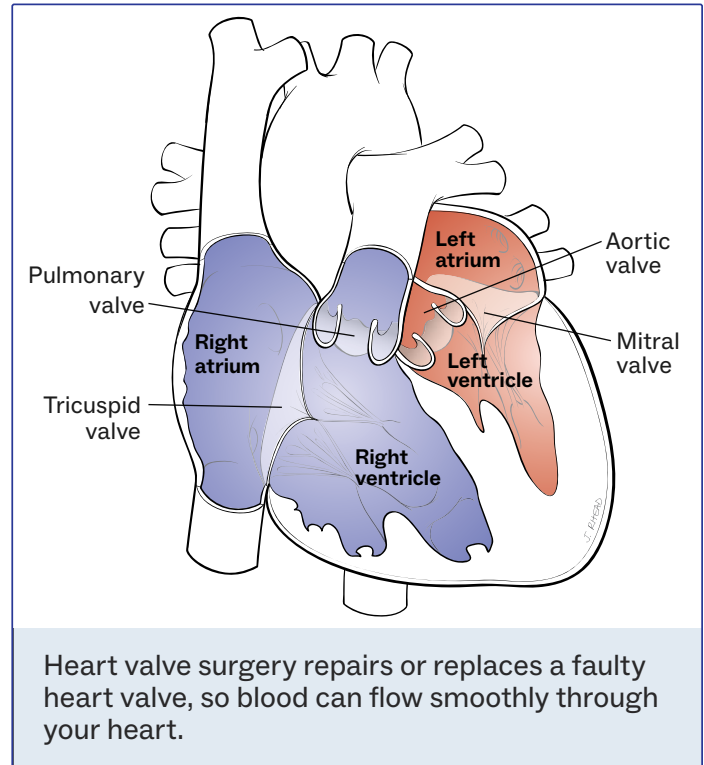


# Heart Valve Surgery: Preparing for surgery

## What is this surgery and why do I need it?

Heart valve surgery is a treatment for a diseased or damaged heart valve. In a healthy heart, valves open and close in a certain order so that blood flows correctly through the heart. But if your heart valves are damaged or diseased, they may not work correctly. This places extra strain on your heart muscle. If this is the case, your doctor may recommend one of these solutions:

- **Repair.** In a repair, your surgeon will reshape the faulty valve to make it work better.
- **Replacement.** If repairing your valve isn't possible, your surgeon may choose to replace it with a **mechanical valve** (a valve made of mechanical parts) or with a **tissue valve** (a valve from a human donor or an animal). See page 3 for more information on the different types of valves.



## How do I prepare for the surgery?

- You will have tests**, such as a chest x-ray, blood tests, and urine tests. These tests help the team assess how your body will respond to surgery.
- You will meet with members of your healthcare team** to go over the surgery plan with you and answer your questions.
- You may be given a special soap to use on the day before surgery.** Your doctor may also tell you to avoid shaving your legs or chest area for a few days before surgery, to prevent infection.
- Your doctor or nurse will ask you to fast** (go without food or drink) after 11:00 PM the night before your surgery.
- Your healthcare providers will ask about your medicines.** Be sure to tell them about **ALL** of the medicines you take. Include any over-the-counter remedies (like cough syrup or allergy pills), vitamins, herbal remedies, and supplements.
- You may need to change your medicines.** You may be asked to stop taking blood-thinning medicines, such as Coumadin, before your surgery. They may prescribe other medicines before surgery, such as antibiotic or a beta blocker. You'll also be told whether or not to continue your other medicines.

## What happens during valve surgery?

Heart valve surgery usually takes 4 hours or more. Here's what happens:

- You'll have **general anesthesia**. This is medicine to make you sleep through the procedure. You won't feel anything, and you won't remember it afterward.
- Healthcare providers will place several tubes:
  - A **breathing tube**, a tube inserted into your throat and connected to a machine that will breathe for you
  - A **Foley catheter**, a tube to empty your bladder
  - One or more **chest tubes or drains**, inserted to drain excess blood or other fluids after the surgery
  - A **Swan-Ganz catheter**, a tube inserted into your neck, used to measure pressures inside your heart
- **The surgeon will make an incision (cut) to reach the heart** in one of two ways:
  - **In traditional surgery**, the incision is down the middle of your chest and it's as long as your breastbone (sternum). The surgeon then separates your sternum.
  - **In minimally invasive surgery**, the incision is smaller. It may be in the middle of your chest — but shorter than your breastbone, or it may be on the right side between your ribs.
- **Your heart will be stopped during the surgery**. You will be connected to a **heart-lung bypass machine**, which takes over the work of your heart and lungs.

## Talking with your doctor before valve surgery

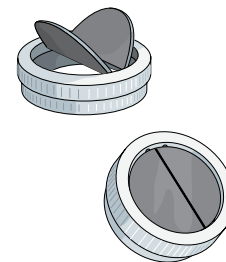
The table below lists the most common potential benefits, risks, and alternatives for valve surgery. There may be other benefits or risks in your unique medical situation. Talking with your doctor is the most important part of learning about these risks and benefits. If you have questions, be sure to ask.

Possible benefits	Risks and possible complications	Alternatives
<p>The main benefit of valve surgery is the smooth flow of blood through your heart. This can bring relief from heart valve disease symptoms such as shortness of breath, weakness, dizziness, chest pain while you exercise, or rapid heartbeat.</p>	<p><b>Risks and potential complications for the surgery:</b></p> <ul style="list-style-type: none"> <li>• Problems that can happen with any surgery. These include surgical site pain, infection, bleeding that requires a blood transfusion, blood clots, or reactions to general anesthesia (including vomiting, trouble urinating, sore throat, cut lips, headache, heart problems, stroke, or pneumonia).</li> <li>• Heart attack during or after the surgery.</li> <li>• Memory or thinking problems after the surgery.</li> <li>• Low-grade fever and chest pain that can last up to 6 months after surgery.</li> <li>• Heart rhythm problems.</li> <li>• Kidney or lung failure.</li> <li>• Stroke.</li> <li>• Death (extremely rare).</li> </ul> <p><b>Risks and potential complications for a replacement valve:</b></p> <ul style="list-style-type: none"> <li>• Mechanical valve: Blood clots forming on the valve — you'll take anticoagulant medicine for the rest of your life to help prevent this.</li> <li>• Tissue valve: The valve wearing out, which means you would need another surgery to replace it. (Biological valves last around 20 years.)</li> <li>• Either type of valve: In rare cases, the valve can have a problem and need to be replaced. This can happen right after the surgery or much later.</li> </ul>	<p>Many people with heart valve disease can manage it without surgery. Alternatives include:</p> <ul style="list-style-type: none"> <li>• Protecting your heart valve from infection (your doctor will explain what to do).</li> <li>• Taking medicine, along with having regular appointments to check on your heart valve function and symptoms.</li> </ul>

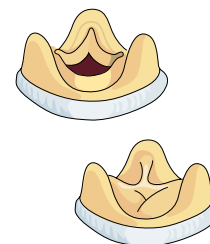
- **The surgeon will repair or replace the valve.**
  - **Repair.** To repair the valve, your surgeon may:
    - Reshape valve sections or “leaflets”
    - Remove hardened calcium deposits from the valve
    - Sew a ring made of tissue or synthetic material around the edge of the valve to strengthen it
  - **Replacement.** The surgeon will replace your diseased heart valve with a mechanical valve or tissue valve (see the illustration at right).
- **The surgeon will place temporary pacer wires near your heart.** These can be used to regulate your heartbeat as you recover from surgery, if needed.
- **Your incisions are closed with stitches.** If your breastbone was separated for your surgery, the surgeon will first close up the breastbone with stainless steel wires.

### Replacement heart valves: pros and cons

Mechanical valves contain man-made materials, such as metal or ceramic. Mechanical valves are usually quite durable. They can last 20 to 30 years. However, you'll need to take anticoagulant medicine (blood thinners) for the rest of your life to prevent blood clots from forming on the valve. (If you have to take blood thinners for another reason, this may not be an important consideration.)



Tissue valves come from human donor hearts or from animals (usually pigs). With a tissue valve, you won't have to take blood thinners. However, while most tissue valves last up to 20 years, they are a bit less durable than mechanical valves.



## What happens after the surgery?

You will stay in the hospital around 3 to 7 days after the surgery. Here's what you can expect:

- **You'll be taken to the intensive care unit (ICU) after surgery.** Your family members will move to the ICU waiting room, where your surgeon will tell them how the surgery went. The ICU staff will monitor you closely. When you're stable, your family can visit you.
- **You may be swollen from fluids given during surgery.**
- **You'll have a breathing tube.** It will be taken out as soon as you can breathe safely on your own.
- **You'll be connected to a heart monitor and other tubes.** As you recover and improve, they will be removed one by one.
- **You'll move from the ICU to a regular hospital room** as soon as your doctor feels your condition is stable and improving.
- **You will have pain medicine.** Controlling your pain helps you do the activities that are important for healing. Your healthcare providers will ask you if you have pain and to rate your pain level. You might have pain medicine through an IV at first. You will switch to pain pills later. Ask for the Intermountain handout [\*\*Managing Your Pain after a Medical Procedure\*\*](#) to learn more.
- **You may have IV medicine to control your blood glucose (blood sugar).** Blood glucose naturally rises when the body is under stress. High blood glucose levels can slow healing. If your blood glucose is high, you may be given insulin to stabilize it.
- **You'll work with a respiratory therapist.** A respiratory therapist will visit regularly to check your lung function and help you do exercises to improve it. You will learn how to use a device called an **incentive spirometer** to help you breathe deeply.

- **You'll be encouraged to eat well.** While your appetite may be less after surgery, it's important for your body to get good nutrition to promote healing. You may also receive nutritional supplements.
- **You will get up and walk** several times a day, and sit in a chair as much as possible. Cardiac rehab staff will guide you as you increase your activity. They will help you do stretches and gentle calisthenics, and you might use a stair-step machine you can operate while you're sitting.
- **You can go home when your doctor says it's okay.**

## How should I care for myself at home?

**Your recovery may take around 4 to 8 weeks.** When you are ready to go home from the hospital, your nurse will give you a full set of instructions. You may also receive Intermountain's [Heart Care Handbook](#) after your surgery. Chapter 1, "Going Home," covers what you need to do during your recovery at home.

Other chapters in the Heart Care Handbook explain heart disease, heart disease risk factors, heart tests, and treatments for heart disease. The handbook also covers lifestyle changes to improve your heart health.

**Outpatient cardiac rehab** is recommended after surgery. This program focuses on exercise, education, and support to help you build a stronger heart. Research has shown that people who attend cardiac rehab have better outcomes after heart surgery. Most heart surgery patients attend outpatient cardiac rehab a few times a week for several months.

## When to seek medical care

**Call your healthcare provider** if you have any of the following after valve surgery:

- Signs of infection or a blood clot:
  - Temperature over 100.4° F for 3 days in a row, or any fever over 101.5° F
  - Chest incisions that are red or hot to touch
  - Swelling or soreness around incisions that gets worse
  - Drainage that increases, changes color, or smells bad
  - Calf swelling, tenderness, warmth, or pain
- Signs of heart or lung problems:
  - Angina (chest discomfort) or a smothering feeling
  - Racing or irregular heartbeat
  - Shortness of breath (trouble breathing) that started recently or is getting worse
  - Dizziness, lightheadedness, or weakness
  - Weight gain of more than 2 pounds in one day or more than 5 pounds in a week
  - Excessive swelling in the hands or feet
- Other problems:
  - Nausea, vomiting, or diarrhea that doesn't go away
  - Pain that limits your daily activities
  - Clicking or movement in your sternum (breastbone) after 6 to 8 weeks
  - Feelings of depression that don't improve or that get in the way of daily activities
  - Bleeding gums, or blood in your urine or stools

**Seek emergency care** if you have any of the following:

- Chest pain that's not relieved by resting a few minutes, pain medicine, or nitroglycerin (if prescribed)
- Shortness of breath that suddenly gets worse
- Resting heart rate that is very slow (below 50 beats per minute) or very fast (over 130 beats per minute), unless your healthcare providers tell you otherwise
- Sudden numbness or weakness in your arms or legs
- Sudden, severe headache
- Fainting spells

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