



HONORHEALTH[®]

Heart Care

YOUR HEART SURGERY JOURNEY

A patient and family guide

HEART CARE

Introduction

Dear patient and family,

Dealing with heart disease can feel overwhelming. You might not know where to start in managing your health.

At HonorHealth, we're here to assist you.

Our expert physicians and compassionate caregivers provide state-of-the-art treatments. We also offer information to help you understand heart disease, recovery and steps to improve your heart health.

This guide explains how a healthy heart functions and how we treat heart disease. It covers healing after procedures, lifestyle changes, dietary guidelines, medications and the importance of follow-up with your surgeon, cardiologist and cardiac rehabilitation team.

Remember, you're not alone. Our caring professionals can help you take vital steps to control heart disease. Our exercise physiologists, dietitians and counselors are ready to support you.

Let's embark on the journey to better health together.

— YOUR HEART SURGERY TEAM

My providers:

Cardiologist

Dr. _____

Phone _____

Pulmonologist

Dr. _____

Phone _____

Nurse practitioner

Name _____

Phone _____

Heart surgeon

Dr. _____

Phone _____

Hospitalist

Dr. _____

Dr. _____

Other

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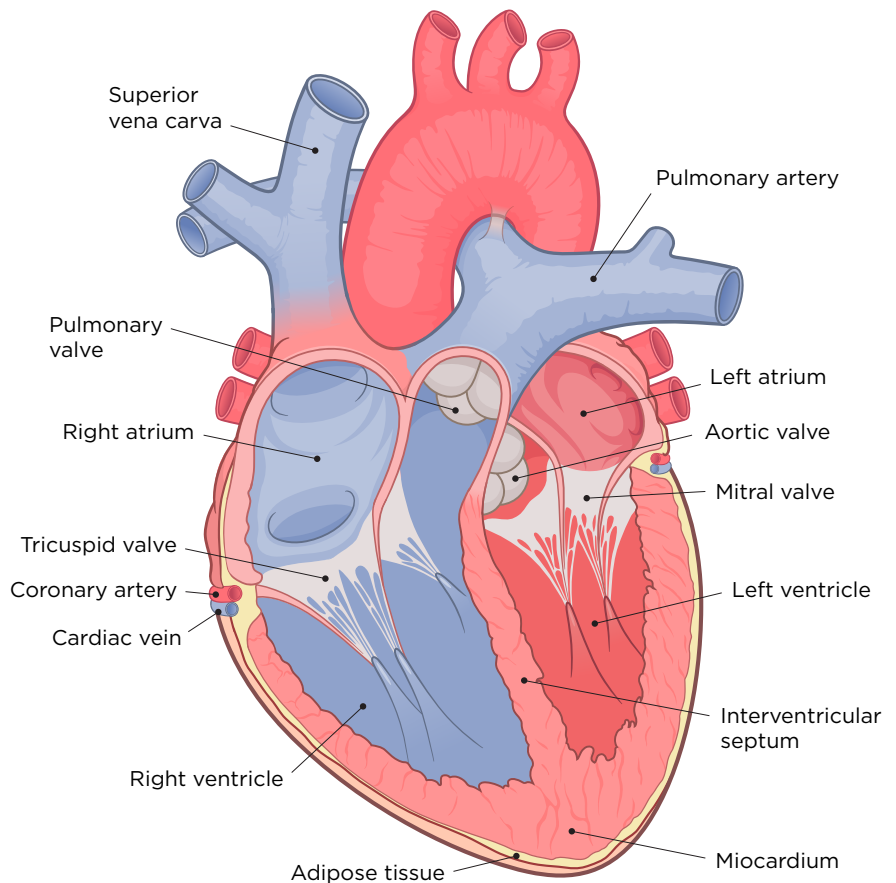
YOUR HEART AND HOW IT WORKS

The pumping action of the heart

The heart is like a pump. Its job is to move blood and nutrients throughout your body. It is about the size of two clenched fists and weighs around one and a half pounds. The heart is in your chest, between your lungs and behind your breastbone (sternum). Your ribs and sternum help keep your heart safe.

Here's how it works

- The right side of the heart receives blood that is low on oxygen from the body. It then pumps this blood to the lungs, where it gets fresh oxygen.
- From the lungs, the blood returns to the left side of the heart. It's then pumped through the aorta (a big blood vessel) to reach all parts of your body.
- The blood eventually comes back to the right side of your heart, starting the cycle again.
- There are two types of blood vessels: arteries and veins. Arteries carry oxygen-rich blood and nutrients, while veins bring back oxygen-depleted blood to the heart.



The heart has four chambers

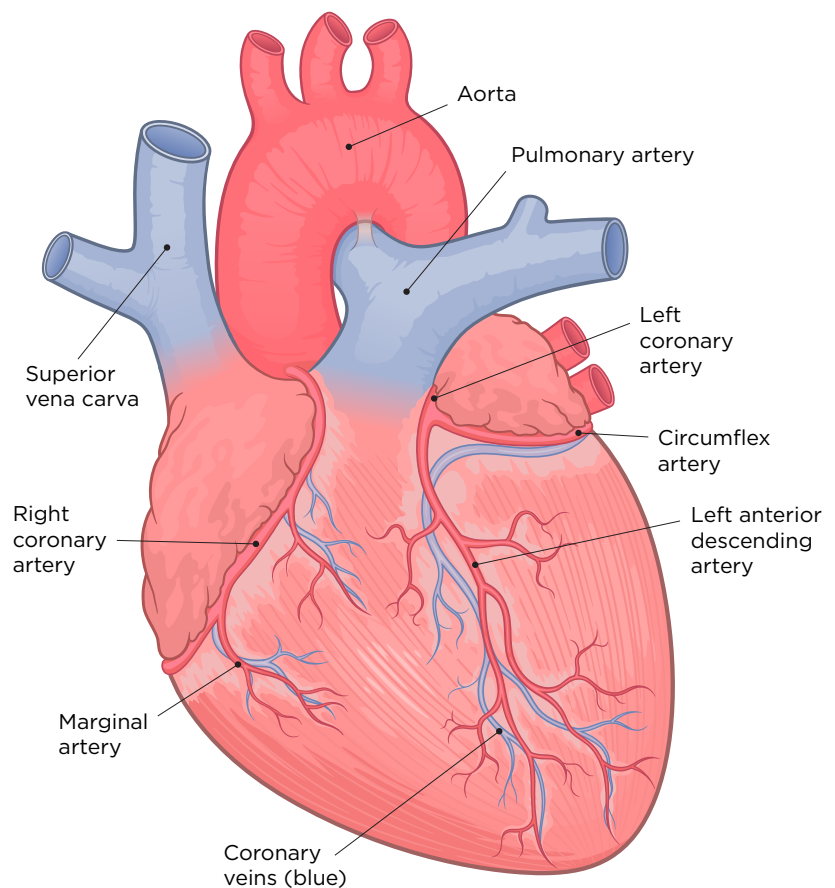
- The right atria and left atria are the upper chambers.
 - They receive blood and pump it into the lower chambers.
- The right ventricle and left ventricle are the lower chambers.
 - They are made of thicker muscle and pump blood to the lungs and the rest of the body.

The heart has four valves

- Valves help keep blood moving in the right direction.
- Valves are like special tissues that separate the heart's four chambers.
- When the heart squeezes, the valves open to let blood flow into the next chamber.
- Between each heartbeat, the valves close tightly to prevent blood from going backward.
- In a healthy heart, these valves work together to keep blood moving efficiently through the heart and out to the rest of the body.

Coronary arteries

- Coronary arteries are like special blood vessels.
- They carry oxygen-rich blood and important nutrients to the heart muscle.
- You can think of them as tiny highways on the surface of the heart.
- There are several main arteries and each one has its own branches. These branches feed the heart muscle.



Why is understanding your blood pressure important?

Blood pressure is important for your health.

Health risks

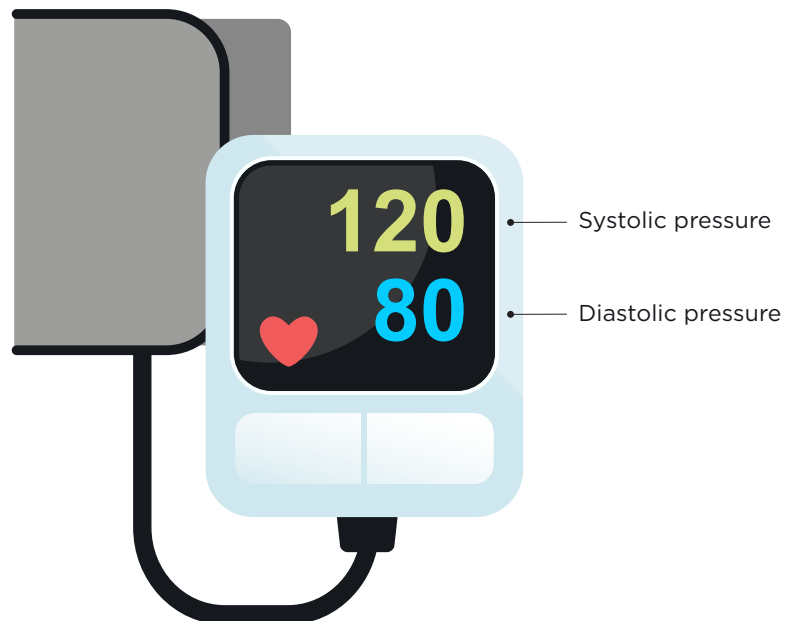
- High blood pressure, also known as hypertension, can lead to serious problems like a heart attack or stroke (blood blockage in the brain). Checking your blood pressure is the only way to know if you have high blood pressure.

Prevention

- You can prevent major health issues by monitoring and controlling your blood pressure. Lifestyle changes, such as eating a balanced diet and regular exercise, along with medication, if needed, can help manage blood pressure effectively.

Blood pressure measurements

- According to the American Heart Association, normal blood pressure is when the upper number (systolic pressure) is less than 120 and the lower number (diastolic pressure) is less than 80.
- Here's what that means:
 - The upper number shows the pressure on the artery walls during a heartbeat or when the heart squeezes.
 - The lower number represents the pressure on the artery walls when the heart is relaxing between contractions.

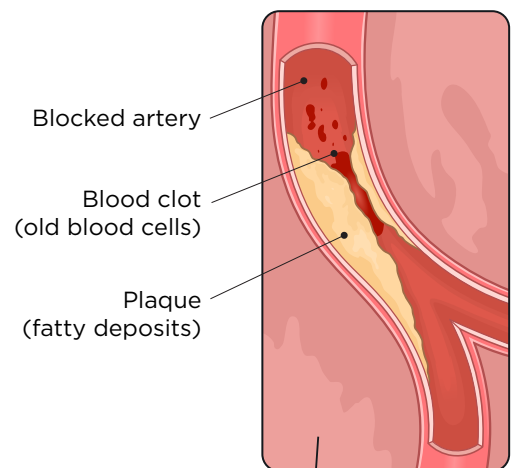


TYPES OF CARDIOTHORACIC PROCEDURES

Coronary artery bypass graft (CABG)

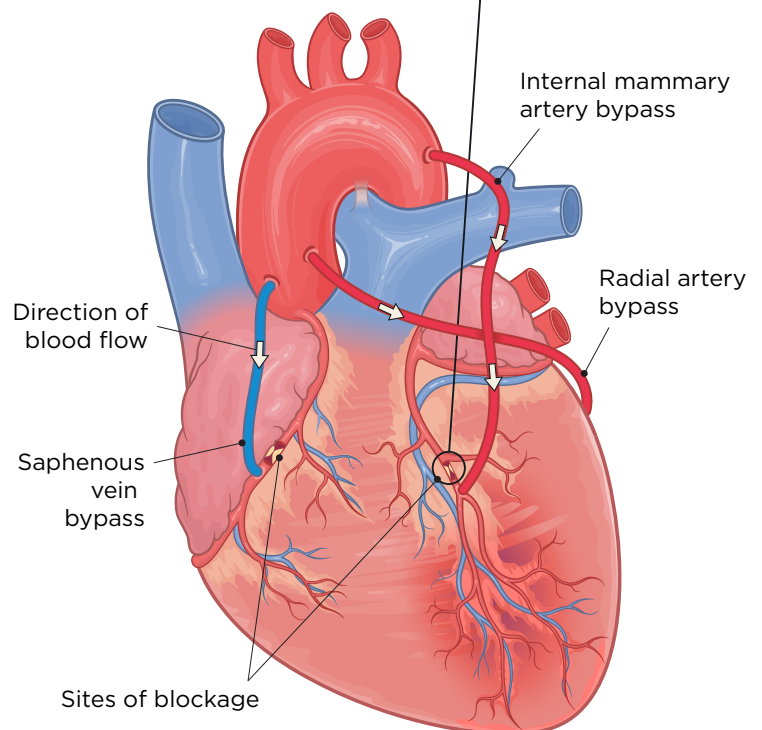
What is coronary artery disease (CAD)?

- CAD happens when plaque (fatty deposits and old blood cells) builds up in the body's arteries.
- Plaque narrows the artery, reducing oxygen-rich blood flow.
- This can cause angina (symptoms like chest pain).
- If an artery gets completely blocked, it can lead to a heart attack.
- Surgeons perform procedures to bypass the blocked area.



How is a CABG surgery performed?

- Bypass surgery is like fixing a road. The surgeon makes a cut in the chest to reach the heart and blood vessels. Sometimes, they use a smaller cut near the ribs.
- To fix the road, the surgeon uses new blood vessels. These act like detours, going around the blockage in your artery.
- During the surgery, you might be connected to a machine that helps blood flow. But sometimes, the surgeon can do the surgery without the machine.
- Your heart keeps beating throughout the whole process. Your surgeon will talk to you about the best way to fix the road.



Ascending thoracic aneurysm repair surgery

Ascending thoracic aneurysm

- An aneurysm is like a bulge or weak spot in the heart muscle or an artery.
- Cardiologists (heart doctors) use an echocardiogram to check how big the aneurysm is.
- If you have an aneurysm, you might feel a pulsing near your belly button, or have tenderness or pain in your chest or abdomen.
- To stay healthy, take your blood pressure medicine as directed, quit smoking if you smoke and get tested for plaque in your coronary arteries.

Why repair it?

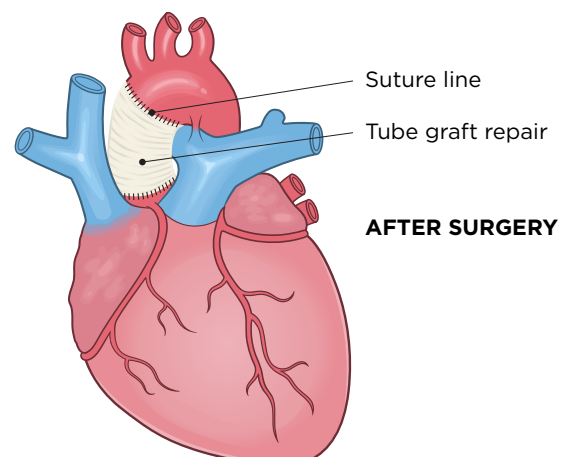
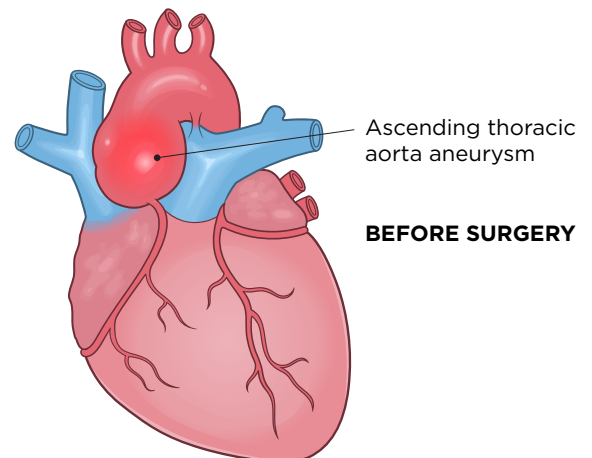
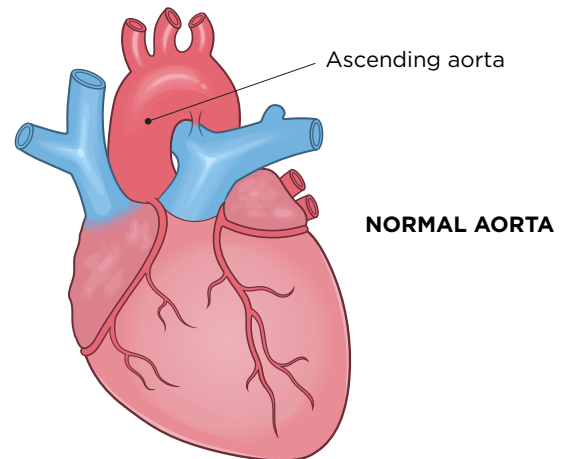
- If this bubble gets too big or starts causing trouble, doctors might need to fix it. They want to prevent it from bursting, which could be dangerous.

What Is sternotomy?

- It's like opening a door to your chest. The surgeon makes a large cut down the middle of your chest (called a **sternotomy incision**) to access and repair your aorta.

The repair

- During sternotomy, your doctors replace the weakened part of your aorta with a special tube (a **graft**) made of synthetic material. This graft acts as an artificial blood vessel. They also make sure all the branches of your aorta are reconstructed to maintain good blood flow throughout your body.



Maze and modified maze surgical procedures

What is atrial fibrillation (Afib)?

- Afib is when the upper chambers of your heart (called the atria) start sending out disorganized electrical signals, leading to an irregular heartbeat. Imagine a little “short-circuiting” of the heart.
- There are different reasons why this happens:
 - As we get older, our hearts can develop scars from everyday wear and tear.
 - Problems with heart valves can also cause atrial fibrillation.
 - Thyroid disease can lead to it, too.
 - Sometimes, it seems to run in families, but often, there isn't a clear answer why it happens. Afib affects how your heart pumps blood. It can be too slow or too fast. People with this condition are at risk for strokes.

Purpose of the maze procedure

- The primary goal is to restore normal heart rhythm in people with Afib. It helps lower the risk of complications associated with uncontrolled Afib, such as blood clots, stroke, dementia and heart failure.

How it works

- During the maze procedure, the surgeon intentionally causes scarring on the surface of the atria. The scarring changes the electrical patterns in the atria and directs the signals to a regular heart rhythm. The surgeon might also reshape or remove the left atrial appendage to prevent blood clots.
- The left atrial appendage is a small, pouch-like part of the heart. It's located in the upper left chamber of the heart, called the left atrium. Think of it like a little pocket or sac.

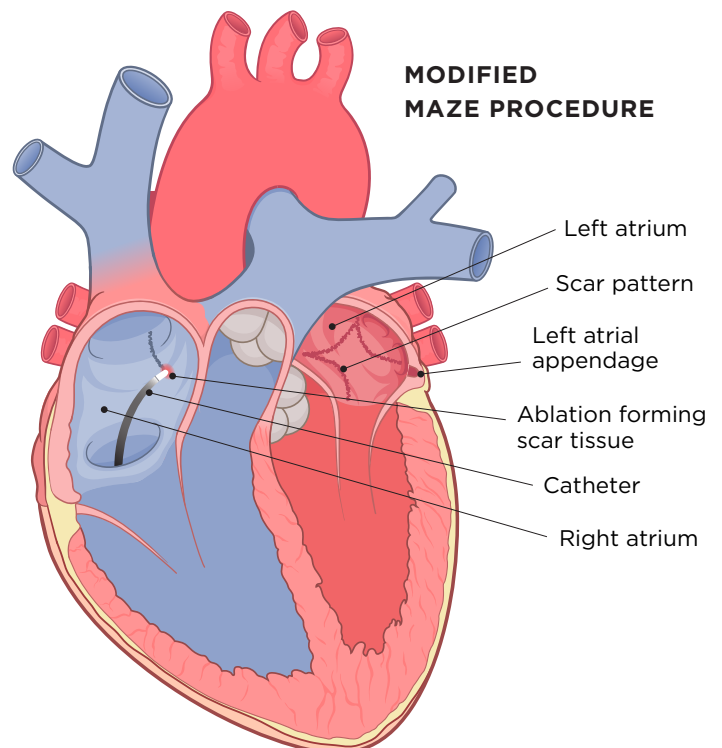
Types of maze procedures

Maze procedure

- It is a type of heart surgery.
- Doctors make small cuts into the heart to create a pattern like a maze.
- This surgery usually requires opening the chest.

Modified maze procedure

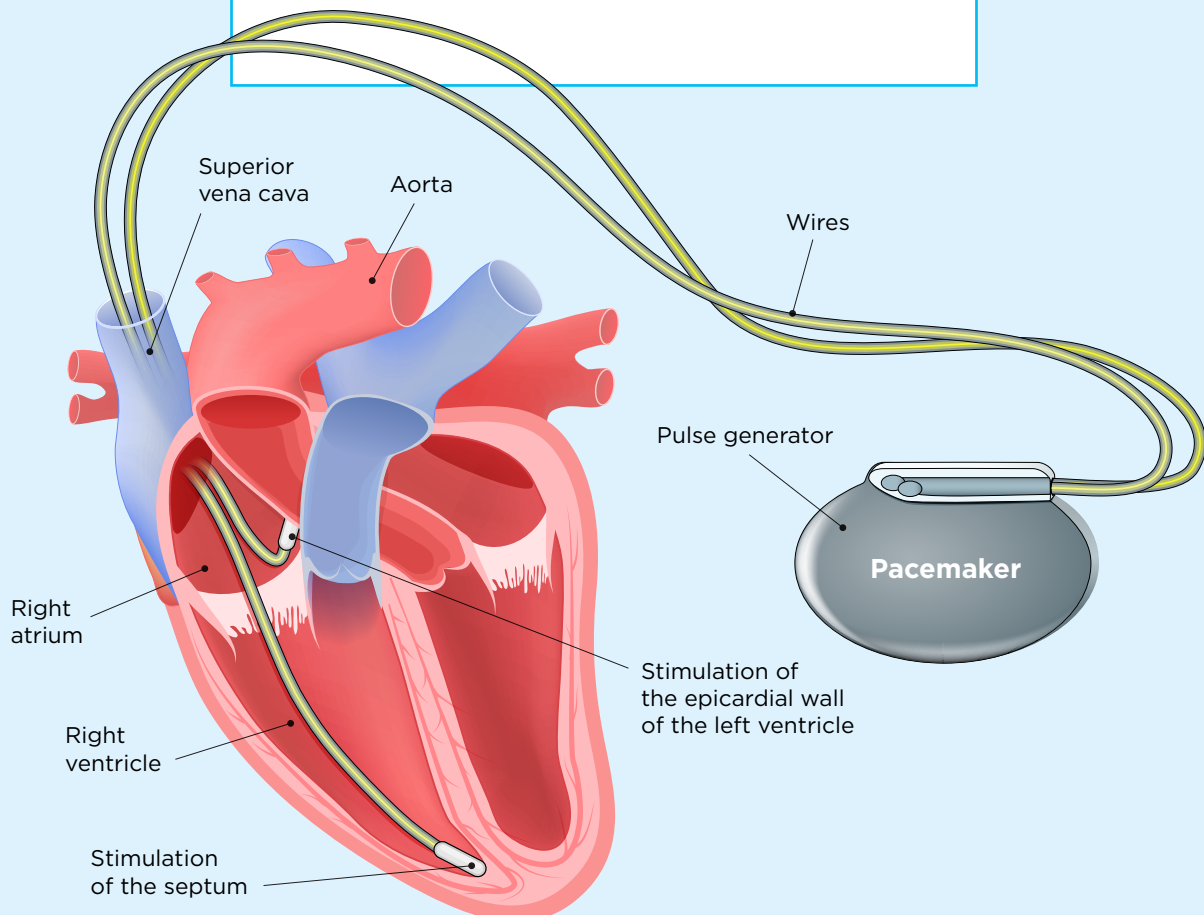
- Simpler version of the maze procedure.
- Instead of making cuts, the doctor uses special tools to freeze or burn small areas of the heart. This also creates scars to stop the irregular heartbeats.
- The surgery is less invasive, meaning it doesn't require opening the chest as much.





After heart surgery, you might have a temporary pacemaker.

- It is a small wire that comes from your heart to the outside of your chest.
- Usually, it's removed a few days after surgery.
- Sometimes, after bypass surgery, valve surgery or the maze procedure, patients need a permanent pacemaker.
- While you are in the hospital, doctors will decide if you need one.



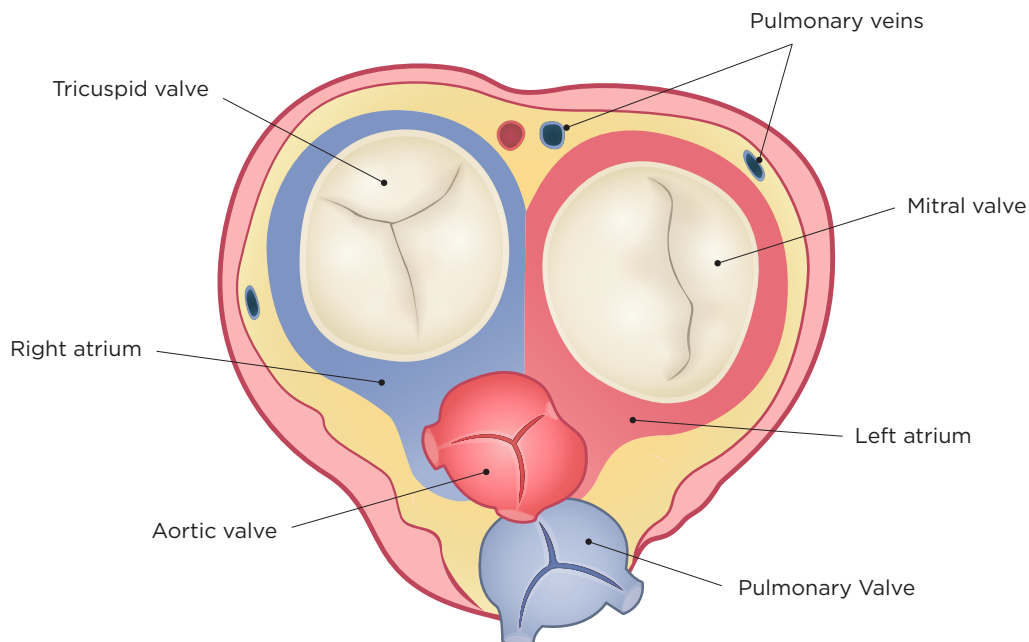
Valve surgery

Heart valve disease

- Heart valves act like one-way doors, opening and closing with each heartbeat.
- Healthy valves prevent blood from backing up and keep it flowing forward.
- Infections, heart disease or birth defects can affect valve function.
- Symptoms of valve problems include chest pain, weakness, palpitations, shortness of breath, dizziness, fainting and leg swelling.
- Treatment options include medications, dietary changes and sometimes valve repair or valve replacement surgery.

Valve surgery

- Valve disease happens when the valves don't work right. This can be caused by stiff and narrow valves or leaking valves.
- During valve surgery, you'll be connected to a machine that helps your blood flow.
- The surgery might be done through your chest or ribs.
- Your doctor will talk to you about whether you need a valve replacement or a valve repair.

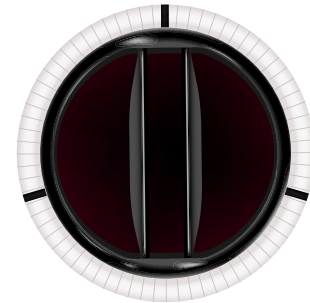


Types of artificial valves used for replacements

You'll talk to your heart doctor and surgeon about which valve to use. They'll consider things like what you prefer, your lifestyle, any risks related to blood thinners, your age and other health conditions.

Mechanical valves

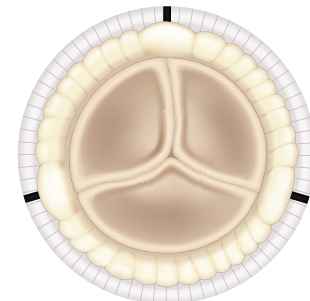
- They are made of man-made materials. Because of this, there may be a higher chance of small blood clots forming on the valve. As a result, you'll need to take a blood thinner for the rest of your life.



Mechanical replacement valve

Biological (tissue) valves

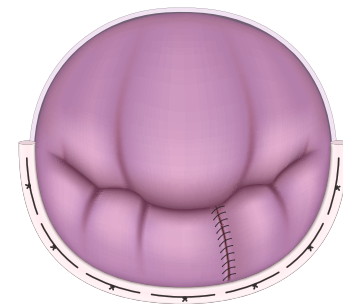
- These are made of human or animal tissue. These valves are less likely to cause blood clots, so you might not need a blood thinner. However, your doctors will talk to you about this based on your health conditions.



Biological replacement valve

Valve repair

- Valve repair is a surgery where the surgeon puts a band around the valve to make the weak parts stronger. The band helps the valve work better. Your doctors will decide if a valve repair or valve replacement is right for you.



Valve repair

Protect your valves

- Remember to talk to your surgeon before any surgery or procedure. They'll decide if you need an antibiotic.
- Also, see your dentist regularly and let them know if you have valve disease or have had heart surgery. It is important if you're taking a blood thinner to tell your dentist about that, too.

Minimally invasive valve surgery



This page only applies to you if you are having robotic surgery.

Minimally invasive valve surgery uses robotic tools through small incisions in your chest to fix your valve. After leaving the hospital, you can move your arms freely because you didn't have a sternotomy (chest incision). There are no limits on how far you can move your arms. You can lift them over your shoulders and use them to help you get in and out of a chair or bed. The only thing to watch out for is pain. If something hurts, stop doing it.

Shower

- Leave the shower door open about six inches and the bathroom door open to reduce steam.
- Use lukewarm water over the incisions.
- Gently pat the incisions with soap on your hand. Rinse with water and pat dry.
- Shower daily until the incisions are healed and the scab falls off.
- Avoid applying lotions, powders or bandages to the incisions. Keep them dry and open to air. If you notice drainage, contact your surgeon.
- Avoid tub baths, hot tubs, Jacuzzis and swimming for at least six weeks or until your doctor approves.
- Protect your incisions from excessive sunlight, especially during the first year.

Legs

- Avoid crossing your legs because it can affect blood flow.
- Don't sit in one position or stand for too long.
- Elevate your legs when sitting; put your legs up on a stool or coffee table.
 - You can also lie on a couch and rest your legs on the arm of the couch.

- If you were prescribed TED hose (compression stockings), wear them for at least two weeks after leaving the hospital.
 - Put them on in the morning and take them off in the evening.

Driving

- You can usually drive unless you are taking pain medications, however, follow your physician's driving instructions.
- Don't drive until you are off all pain medications.
- Always wear your seat belt when riding in a vehicle.

Stairs

- You can climb stairs unless your doctor says otherwise.
- Go slowly and take breaks if you get tired.

Sexual activity

- You can start having sex again when you feel ready.
 - For most people, this is about two to four weeks after leaving the hospital, unless your doctor says otherwise.

Work

- Before going back to work, talk to your surgeon.
 - Depending on your job, you might be ready for light work three to four weeks after surgery.

Exercise basics

- Balance rest and exercise during your recovery.
- Rest between activities and take short naps if needed.
- Walking is great exercise. It helps your whole body, including your heart.
- Begin with 10-minute walks and gradually increase to 20 minutes. Breathe normally during activity.
- Spread out your activities throughout the day.
- Use a home activity progress record.
- Do stretching exercises one to two times per day.
- Try walking your arm up the wall on the surgical side to improve motion.

SURGERY

Preparing for heart surgery



Before surgery

- Your doctor will talk to you about the risks and benefits of surgery. They'll answer any questions you have.
- Hospital team members will help you and your family understand what will happen during the operation and your recovery.
- Before surgery, you'll have some tests:
 - Blood tests to check your blood type, anemia, kidney function and for any infections.
 - A chest X-ray.
 - A carotid ultrasound.
 - An EKG (a heart test).
 - Information about any food or medication allergies.



Action plan items *(see Appendix, page 35)*

- Make a plan about your care in advance. You will need to share your plan with your surgical team before your surgery. Following surgery, you will need help.
- Arrange for someone to:
 - Take you to the hospital on the surgery day.
 - Pick you up when you leave the hospital.
 - Get your discharge medications.
 - Stay with you for the first few nights at home.
 - Help with meals, groceries, housekeeping and pet care during the first weeks.
 - Drive you to doctor appointments as needed.
- Should you stop smoking?
 - If you smoke, try to quit at least one week before surgery.
 - Tobacco can affect anesthesia during surgery.
 - The American College of Surgeons recommends quitting four to six weeks before the operation and staying smoke-free for four weeks afterward.
 - This can reduce wound complications by 50% and improve your overall health.
 - For more information, call the Arizona Smokers' ASHline at 800-556-6222 or visit them online at ashline.org.
- Alcohol and drug use:
 - Be honest about how much you drink.
 - Abruptly stopping alcohol or drugs can cause anxiety, confusion and agitation after surgery.
 - Your surgeon recommends no alcohol or drugs four weeks before surgery. This will reduce your risk of complications.





The night before surgery

- Take a shower or bath and wash your hair using antibacterial soap. This soap can be purchased at your local grocery store.
- Remove all jewelry and body piercings. For safety, leave these items at home.
- Remove all nail polish, artificial nails and make up.
- Follow instructions for eating and drinking.
- Take any pills as directed.

Personal items to bring to the hospital

- Pack personal items like a toothbrush, toothpaste and deodorant.
- Bring clean undergarments, glasses, hearing aids and dentures.
- Don't forget an electric shaver.
- Wear loose, comfy clothes for going home.

The day of surgery

- Follow eating and drinking instructions.
- Take your medications as directed.
- If you are on a beta blocker (i.e., metoprolol, Lopressor, carvedilol), it is okay to take the morning of surgery.
- Do not use makeup, perfume and do not wear or bring jewelry.
- Bring your insurance card and a photo ID.
- Have a contact person's phone number for the surgeon.
- Keep hearing aids and dentures on until nurses say otherwise. Give small items to your family. Other belongings go in a hospital bag.



At the hospital in pre-op

- You'll get a relaxing sedative.
- Body hair might be clipped from your chest and legs if you're having bypass surgery.

SURGERY



During surgery

- You will have intravenous (IV) lines placed in your neck and wrist to monitor your blood pressure and heart.
- A breathing tube will be inserted into your mouth and lungs to help control your breath during and after surgery.
- A catheter will be placed into your bladder to drain urine.
- When you are sleeping, there will be a small tube placed on both sides of your chest into your lungs to remove normal drainage.
- Temporary pacemaker wires might be attached to your heart.
- Your family will wait in the surgery lounge.
- After the procedure, the surgeon talks to them.
- After you are moved into the intensive care unit (ICU), a nurse will tell you when visitors can come.



Immediately after surgery

- When you wake up in the ICU:
 - You won't be able to talk because the breathing tube will be in your mouth.
 - The tube is connected to a ventilator machine that helps you breathe during surgery.
 - Usually, it's removed within two to six hours after surgery.
 - While the tube is in, nurses will ask you "yes" or "no" questions, and you can nod your head to answer.
 - Sometimes, the nurse or respiratory therapist will suction mucus from the tube. It might feel a little uncomfortable.
 - After the tube is taken out, the nurse will help you sit up in bed.
 - Eventually, you'll move to a recliner next to your bed.
 - Once the tube is out, you will use your incentive spirometer.
- While you have the breathing tube in, you'll get pain medicine through your IV.
- After the tube is removed, you'll take pain tablets by mouth.
- After surgery, your nurse will help you walk about 10-12 hours later. You will be expected to walk four to six times during the day. Walking helps your blood flow better and prevents blood clots and pneumonia.
- **You will also be expected to eat all your meals out of bed in the recliner or chair.**



Incentive spirometer

Blood glucose control

Why blood glucose matters

- Keeping blood glucose levels near normal is important during and after surgery, whether you have diabetes or not.
- Everyone having open heart surgery gets insulin through an IV or under the skin even if you do not have diabetes.

For people with diabetes

- If you have a history of diabetes: Your oral diabetes pills will be replaced with insulin while you're in the hospital.
- If your hemoglobin A1c level is near normal when you're admitted: You'll go home on your usual diabetes medications.
- If your blood glucose is high and needs more insulin: Your diabetes medications might change when you leave the hospital.

For people without diabetes

- If you don't have a history of diabetes and your blood glucose is normal during hospitalization: You won't need medication to control it when you leave.
- But if your blood glucose needs insulin every time it is checked: You'll need medication at home.

After discharge

- If you are diabetic, monitor your blood glucose closely.
- Stress from surgery might temporarily require more medication.
- If your blood glucose stays high, see your primary care provider for adjustments.



Recovering after surgery



Always follow your own surgeon's specific instructions, even if they are different from what you read in this booklet.

Everyone responds to surgery differently and how you recover from a specific surgery can vary.

What is normal for most people:

- It's okay if you're not very hungry.
- Sometimes it takes a few weeks for your appetite and sense of taste to get back to normal.
- Food smells might make you feel a bit sick.
- Your feet and legs might swell a little. Lifting them up will help.
- If you were given elastic TED hose (stockings for your feet or legs), wear them as directed.
- It's normal to have trouble falling asleep or staying asleep for a few days/weeks after surgery.
- Taking a pain pill before bed might help.
- If you're constipated, use a laxative (pick one you like).
- Don't strain when you go to the bathroom.
- Feeling moody or depressed is okay. It will get better.
- If you have a lump at the top of your incision, it will go away over time.
- Your shoulders and upper back might hurt. Doing exercises will help. Pain medicine can also help.
- It takes four to six weeks to start feeling better.
- Take all your medications as your doctor says. Make sure you ask about new or different medications if you need more information.
- After your sternotomy, you may feel numbness on both sides of your chest.
- Follow the exercise plan from therapy services and cardiac rehabilitation.
- Remember, keep your "move in the tube." You can move as normal, shower and get dressed but make sure that your arms are kept close to your body.
- You might feel confused because of anesthesia, pain meds or lack of sleep; this will improve.

Managing your pain after cardiothoracic surgery

How to communicate pain in the hospital

- When you are in the hospital, tell your doctor or nurse if you're in pain.
- They will ask you to rate your pain on a scale from zero to 10.
- Zero means no pain and 10 means the worst pain.
- The nurse will give you medicine to reduce your pain.

Pain relief

- It's important to treat pain as soon as it starts.
- It's harder to relieve pain once it becomes severe.

How to manage pain at home

- Take your pain medication as prescribed by your doctor.
- Staying active:
 - If you are in pain, you might not want to do activities like walking, showering or using the incentive spirometer. It is important that you continue to do these activities! Plan your activities to follow about 30-60 minutes after you take pain medications. This will help you stay on track and reduce your risk for infection or problems.

Keep Your Move in the Tube[®]

What is “Keep Your Move in the Tube[®]”?

After heart surgery

- We want to protect your surgical site but also let you move.
- Imagine a tube around your upper body.
- Keep your arms within six to 10 inches of your body.
- When you move your arms with weight (like pushing, pulling, lifting or carrying), keep your upper arms “in the tube.”
- If there’s no weight, you can move your arms outside the tube.
- If a movement hurts, you might not be ready for it yet.

Activities to avoid

Be careful

- Don’t push or pull with just one arm.
- Avoid lifting things with only one arm.
- Be cautious when reaching overhead.
- And don’t strain your breastbone (like when vacuuming or doing yardwork).

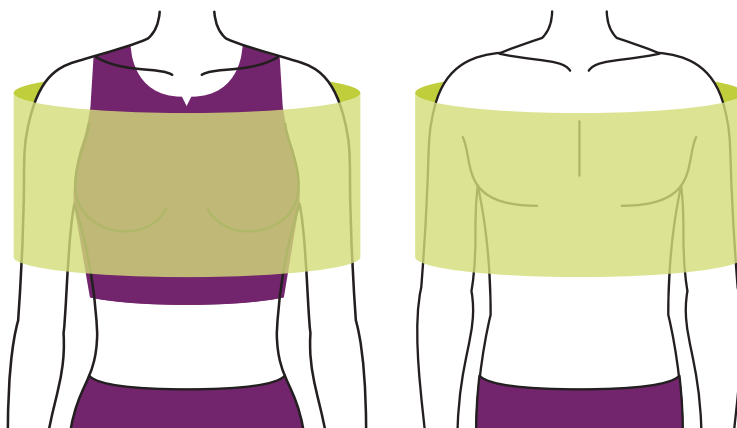
Activities you can do.

Activities you can do after surgery:

- **Toilet hygiene:** It’s okay to come out of your tube to use the toilet.
- **Washing your hair:** You can wash your hair.
- **Feeding:** You can feed yourself.
- **Waving goodbye:** You can wave goodbye to someone.
- **Dressing:** You can get dressed.
- **Hugging a loved one:** It’s okay to hug someone you care about.

Activities to do while inside the tube:

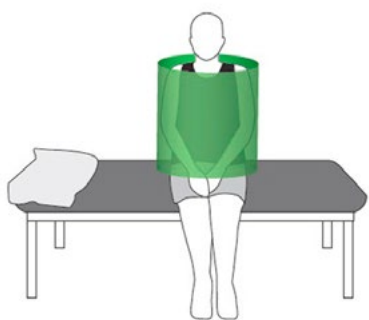
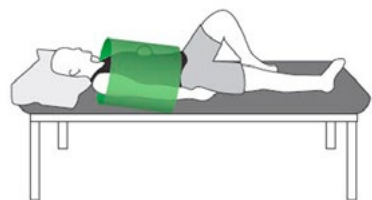
- **Standing up from a chair/commode:** You can push with your hands on the seat to stand up.
- **Getting out of bed:** Push with your arms to get out of bed.
- **Carrying a gallon of milk:** You can carry a gallon of milk from the fridge to the table using both hands.
- **Opening a door:** You can open a door.



Imaginary “tube” around your upper arms.

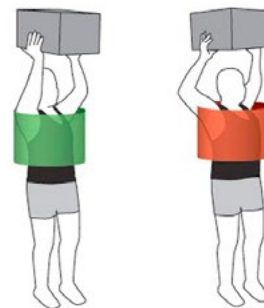
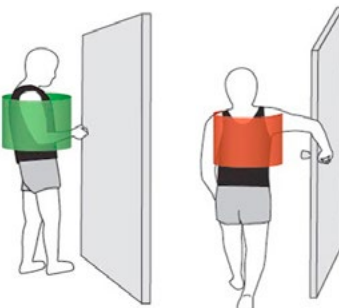
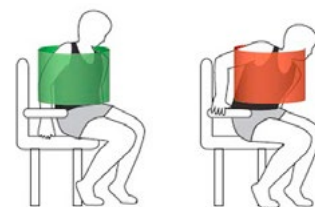
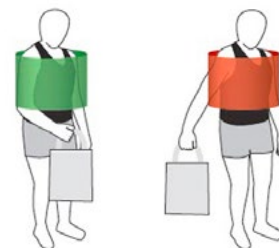
SURGERY

Keep Your Move in the Tube®



Green tube = “in the tube” movements for pushing, pulling and lifting

Red tube = “outside of the tube” movements that should be avoided



Scan the QR Code to watch a video demonstration of the “Keep Your Move in the Tube®” movements.

SURGERY

What should I expect with nursing and therapy during my hospital stay?

Wake and sleep cycle

- During the day: Lights will be on and window blinds open.
- At night: Lights will be off and window blinds closed.

Post-surgery instructions

- You will meet with physical therapy and occupational therapy care team members the day after your surgery or when your surgeon clears you for activity.
- Starting the day after surgery (or when your surgeon approves), you will be expected to follow these daily routines:
 - Sit in a chair at least three times a day (especially for meals). Most of your day will be spent in a recliner chair.
 - Walk four times a day (or stand up from the chair/bed) with nursing or therapy.
 - Take care of daily activities like dressing, bathing and brushing your teeth.
- For safety, nursing and therapy will use a gait belt during any movement out of bed.
- They will also teach you the Keep Your Move in the Tube® guidelines.






















Therapy will:

- Check how well you can move and share the results with your surgeon.
- Teach you exercises.
- Discuss any equipment or continued therapy you might need after leaving the hospital.
- Review your return to normal activities.
- Provide caregiver instructions as needed.




Remember, the main goal is for you to return home safely!

Postoperative cardiac surgery:

Timeline	Radiology	Laboratory	Activity	Education
ADMISSION DAY OF SURGERY	<ul style="list-style-type: none"> None 	<ul style="list-style-type: none"> Every few hours 	<ul style="list-style-type: none"> Sit in recliner once breathing tube comes out Start walking Sit in chair to eat 	<ul style="list-style-type: none"> Incentive spirometer Get moving more How to control your pain Heart book Heart pillow 
POST-OP DAY 1	<ul style="list-style-type: none"> Chest X-ray 	<ul style="list-style-type: none"> Daily (usually between 4-6 a.m.) 	<ul style="list-style-type: none"> Sit in chair to eat Walk four times a day Incentive spirometer every hour 	<ul style="list-style-type: none"> Daily plan of care Blood sugar control Move in your tube 
POST-OP DAY 2	<ul style="list-style-type: none"> Chest X-ray 	<ul style="list-style-type: none"> Daily (usually between 4-6 a.m.) 	<ul style="list-style-type: none"> Sit in chair to eat Walk four times a day Incentive spirometer every hour 	<ul style="list-style-type: none"> Daily plan of care What you can eat Cardiac rehab teaching Move in your tube 
POST-OP DAY 3	<ul style="list-style-type: none"> Chest X-ray 	<ul style="list-style-type: none"> Daily (usually between 4-6 a.m.) 	<ul style="list-style-type: none"> Sit in chair to eat Walk four times a day Incentive spirometer every hour 	<ul style="list-style-type: none"> Daily plan of care Plan for discharge Move in your tube 
POST-OP DAY 4	<ul style="list-style-type: none"> Going home 	<ul style="list-style-type: none"> Going home 	<ul style="list-style-type: none"> Sit in chair to eat Walk four times a day Incentive spirometer every hour 	<ul style="list-style-type: none"> Home care instructions Home medications Move in your tube Review discharge education and plans with you and your family

Patient goals of care

Nutrition	Tubes/line removal	Treatments	Family support	Pain medication
<ul style="list-style-type: none"> Remove tube from nose (NG) No drinking No food 	<ul style="list-style-type: none"> Breathing tube comes out The tube in your neck will be removed (Swan-Ganz) Wear heart monitor 	<ul style="list-style-type: none"> Use incentive spirometer every hour you are awake 	<ul style="list-style-type: none"> Begin teaching how to care for you at home 	<ul style="list-style-type: none"> All medication through the IV 
<ul style="list-style-type: none"> Food and fluids as tolerated 	<ul style="list-style-type: none"> Wear heart monitor 	<ul style="list-style-type: none"> Daily weight Measure intake (what you eat and drink) and output (what comes back out) Transfer to heart floor (tele) 	<ul style="list-style-type: none"> Assess home care needs 	<ul style="list-style-type: none"> Medication through IV and/or by mouth 
<ul style="list-style-type: none"> Food and fluids as tolerated 	<ul style="list-style-type: none"> Remove foley Remove pacer wires Wear heart monitor 	<ul style="list-style-type: none"> Daily weight Measure intake and output Shower 	<ul style="list-style-type: none"> Social work and case management as needed 	<ul style="list-style-type: none"> Less medication through the IV and more by mouth 
<ul style="list-style-type: none"> Food and fluids as tolerated 	<ul style="list-style-type: none"> Wear heart monitor 	<ul style="list-style-type: none"> Daily weight Measure intake and output Shower 	<ul style="list-style-type: none"> Social work and case management as needed 	<ul style="list-style-type: none"> All medication by mouth 
<ul style="list-style-type: none"> Food and fluids as tolerated 	<ul style="list-style-type: none"> Remove IV Remove heart monitor 	<ul style="list-style-type: none"> Daily weight Measure intake and output Shower Going home 	<ul style="list-style-type: none"> Social work and case management as needed 	<ul style="list-style-type: none"> All medication by mouth 

RECOVERING AT HOME

Activity overview after sternotomy precautions

Shower

- Leave the shower door open about six inches and the bathroom door open to reduce steam buildup.
- Use lukewarm water over the incisions.
- Use soap on your hand and gently pat the incisions. Rinse with water and pat them dry.
- Shower daily until the incisions heal and the scab falls off. You might have an incision in the middle of your chest (breastbone) or below a breast and under your arm.
- Don't remove the scab; let it heal naturally (about six weeks).
- Avoid lotions, powders and bandages on the incisions. Keep them dry and open to air. If you have drainage, call your surgeon.
- Don't take a tub bath, sit in a hot tub or swim for at least six weeks or until your surgeon says it's okay (don't submerge your incision).
- Protect your incisions from too much sunlight; they can sunburn easily in the first year.





Arms

- Don't lift more than 10 pounds (a gallon of milk weighs eight pounds).
- Avoid deep bending or holding your breath during activity.
- If you feel pulling or stretching in your chest, stop and don't repeat the motion.
- Tell your surgeon right away if you hear clicking or popping around your chest bone.



Legs

- Don't cross your legs; it affects circulation.
- Avoid sitting in one position or standing for too long.
- Elevate your leg on a stool or coffee table when sitting. You can also lie on a couch and elevate your legs on the armrest.
- If you have leg swelling, notify your cardiologist (heart doctor).
- If TED hose (compression stockings) are prescribed, wear them for at least two weeks after discharge. Put them on in the morning and remove them in the evening.



Driving

- Avoid driving until your follow-up appointment with the surgeon. Your surgeon must clear you to drive.
- Always wear your seat belt while riding in the vehicle.



Stairs

- Unless your surgeon tells you differently, you can climb stairs. Take them at a slow pace.
- Stop and rest if you get tired.
- When using the handrail, don't pull yourself up with your arms; use your legs.



Sexual activity

- You can resume sexual activity when you feel comfortable. For many people, this is about two to four weeks after discharge, unless instructed differently by your doctor.
- Remember that sternal precautions (Keep Your Move in the Tube®) still apply during sexual activity.



Work

- Check with your surgeon before returning to work.
- You can return to work with light duty four to six weeks after surgery.

Home activity progress record

Start filling out this form on the first morning after you leave the hospital.

Daily weight

- Weigh yourself daily, right after you wake up and use the bathroom.
- Write down your weight on the chart using the same scale each time.

Blood pressure

- Consider buying a good blood pressure cuff.
- Take your blood pressure every morning one to two hours after taking your morning medications.
- Write down your blood pressure and heart rate on the chart.

Daily shower

- Shower every day; avoid taking a bath.
- Don't apply lotion, creams, powder or bandages to the incision.

Walks

- Walk four times a day and write down how long you walk (in minutes) each time on the chart.
- Aim for at least 10 minutes per walk.
- Once you can walk for 20 minutes at once, reduce the number of walks to one to two times per day.

Diabetics

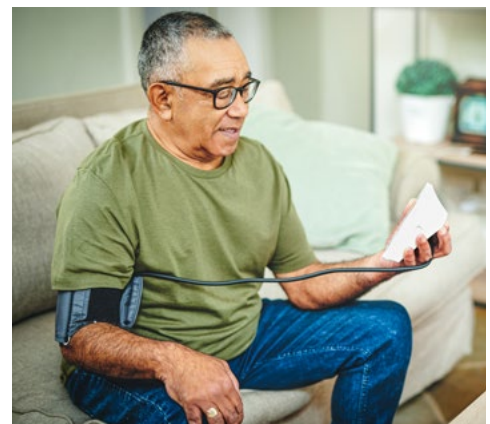
- Write down your morning blood sugar daily.

Incentive spirometer (IS)/flutter valve

- Use it for 10 slow breaths every hour while you're awake.
- Remember: Slow and steady wins the race!

Ted hose stocking

- Put them on in the morning and take them off at night.



Home activity progress record

	DAY 1	DAY 2	DAY 3	DAY 4	DAY 5	DAY 6	DAY 7	DAY 8	DAY 9	DAY 10	DAY 11	DAY 12	DAY 13	DAY 14
Date														
Daily weight														
Blood pressure														
Pulse/ heart rate														
Daily shower														
Walks Time/ minutes walked														
Incentive spirometer/ flutter valve 10 breaths /hour														
TED hose														

Home exercise guidelines



After leaving the hospital

- Keep doing the exercises you learned during your hospital stay.
- Exercise (like walking) is important because it:
 - Helps your blood flow better.
 - Lowers your resting blood pressure.
 - Helps your muscles get stronger.
 - Reduces stress.

Exercise basics

- You need a balance of rest and exercise while you recover.
- Walking is great because it helps your whole body and heart.
- Start slowly and increase your activity gradually.
- Walk at your own pace and rest if you get tired.
- Begin with five to 10-minute walks and work up to 20 minutes.
- Spread activities throughout the day and avoid doing too much at once.

Handling concerns or questions after discharge



A nurse will call you within two to four days after leaving the hospital to check on your well-being.

- They will make sure you have all the necessary follow-up appointments with your healthcare providers.
 - ☐ Schedule an appointment with your cardiologist (heart doctor) in *one to two weeks*.
 - ☐ Schedule an appointment with your heart surgeon in *two to three weeks*.
 - ☐ Schedule an appointment with your family doctor in *two to four weeks*.
- They will also discuss your progress with the outpatient cardiac rehab referral.
 - ☐ Cardiac rehab: If you haven't heard from one of the cardiac rehab team members, call them. You can participate once cleared by your providers, usually *two to four weeks after surgery*.
- Additionally, the nurse will review your heart rate, blood pressure, medications and any concerns related to pain or surgical incisions.

Go to the emergency room or call 911 if you have:	Call your primary cardiologist (heart doctor) for the following concerns:	Call your cardiac surgeon for the following concerns:
<ul style="list-style-type: none">• Chest pain (angina-like) like the pain you had before surgery• Heart rate faster than 150 beats/minute with shortness of breath or new irregular heart rate• Shortness of breath that does not go away by resting• Chills or fever• Coughing up bright red blood• Sudden numbness or weakness in arms or legs• Sudden, severe headache• Fainting spells• Severe pain in stomach• New onset of nausea, vomiting or diarrhea• Bright red stool	<ul style="list-style-type: none">• Weight gain of more than two to three pounds in a day or five or more pounds in a week• Worsening ankle swelling or leg pain• Worsening shortness of breath• Sharp pain when taking in deep breaths are normal. If pain worsens or you have other concerning symptoms• Elevated blood pressure greater than 160/90s• Heart rate greater than 120	<ul style="list-style-type: none">• Postoperative recovery• Discharge instructions• Elevated temperature more than 100° F or 38° C two times in 24 hours• Reddened wounds, warm to the touch• Swelling or any drainage from wounds• Persistent bleeding or oozing from incisions• Skin rash near incision

MEDICATIONS

Medications for your recovery

- Your doctor prescribed medicines to help you get better and prevent future problems.
- Each medication affects your body differently and some work together to improve your heart function.
- Remember to take your medicines exactly as your doctor says. Don't take other medicines without telling your doctor.



What you should know

- Learn the names, dosages and purposes of your medications.
- Know when and how often to take each medicine (try to take it at the same time each day).
- Follow any special instructions or things to watch out for.
- Keep an updated list of your medicines and their doses in your wallet. Show it to any healthcare provider you visit. Update it if your medications change.
- Don't skip doses or take extra doses without talking to your surgeon or cardiologist.
- If you think you're having side effects, call your surgeon or cardiologist.
- Even if you feel better, don't stop taking your medicine or change the dosage unless your surgeon or cardiologist tells you to.
- If your prescription is running low, call your surgeon or cardiologist to see if you need a refill.

Medication names and usage

Aspirin and antiplatelet agents (like Plavix or clopidogrel)

- These medicines help keep your arteries open and unblocked.
- They are important if you have had heart bypass surgery or other heart procedures.

How they work

- Aspirin and clopidogrel affect how your blood clots.
- When heart disease narrows an artery, a blood clot can block it and cause a heart attack.
- Taking aspirin or antiplatelet medicine makes blood less likely to clot and block narrowed arteries.
- Scientific studies show these medicines help prevent clots, especially after heart bypass surgery.

Angiotensin medications (ACE/ARB)

- These medicines help treat high blood pressure.
- They also prevent future heart attacks.
- If you have diabetes, these medications can reduce your risk of heart attacks, too.

How they work

- They block an enzyme in your body that makes blood vessels tighten.
- When the blood vessels relax, your blood pressure goes down.
- This allows more oxygen-rich blood to reach your heart.

Beta blockers

- Beta blockers (also called beta-adrenergic blocking agents) help lower your blood pressure.
- When you take beta blockers, your heart beats more slowly and with less force, which reduces blood pressure.
- Beta blockers also help open up blood vessels for better blood flow.

How they work

- Your body has beta receptors that adrenaline stimulates.
- Beta blockers stop adrenaline from affecting these receptors.
- This slows down nerve impulses in your heart.
- As a result, your heart needs less blood and oxygen, and it doesn't have to work as hard.
- Beta blockers also prevent nerve impulses that can cause an irregular heartbeat.

Statins

- Statins are used to treat high LDL cholesterol levels.
- High blood cholesterol increases your risk of heart disease and heart attacks.
- Too much LDL cholesterol (a fat-like substance) can build up in your arteries, narrowing them over time.
- Reduced blood flow to the heart can cause chest pain or even a heart attack.
- Lowering LDL cholesterol reduces your risk of heart problems.

How they work

- Statins slow down cholesterol production in your body.
- They also help your liver remove LDL cholesterol from your blood.



CARDIAC REHABILITATION

Getting your heart healthy again

Your heart's health can benefit from the cardiac rehab services provided by the HonorHealth team which includes:

- Doctors
- Nurses
- Exercise physiologists
- Counselors
- Nutritionists

Cardiac rehab is appropriate for patients who've experienced:

- Angioplasty/stents
- Coronary artery bypass grafts (CABG)
- Heart attacks
- Heart failure
- Peripheral artery disease (PAD)
- TAVR/mitral clip insertion, valve surgery and repair
- Other related heart issues

Cardiac rehab is offered in phases, depending on your specific heart issue. You'll enjoy:

- Exercise with a trained person to help get your energy back, feel better and lower your chances of heart problems in the future.
- Nutritional counseling about heart-healthy food.
- Social support.
- Ways to reduce your stress and anxiety.

Phase 1

You'll start rehab while in the hospital where your medical team will:

- Educate you about heart disease.
- Gradually introduce you to heart-healthy exercise.
- Explain your heart risk factors so you're prepared to go home and start Phase 2.

Phase 2

After you leave the hospital, the rehab team will arm you with the knowledge and tools necessary for a healthy lifestyle. Through counseling on exercise, nutrition, heart disease, stress and emotional well-being, you'll learn to stay healthy, regain your strength and reduce your risk for future heart issues.

Phase 3

The program builds upon your progress in Phase 2 with preventive education and rehabilitation support.

Phase 4

For people with heart disease risks who would like to have access to HonorHealth's cardiac rehab team.

**All phases require physician prescriptions. Insurance coverage options vary by phase.*



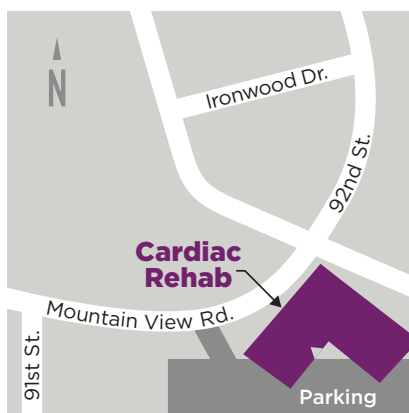
Outpatient cardiac rehabilitation appointment information

Date: _____ Time: _____ Location: _____

The cardiac rehab orientation helps you learn about healthy eating and exercise.

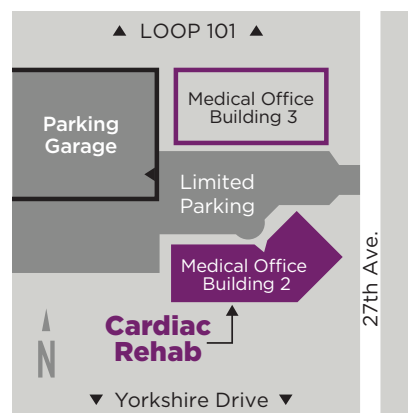
During the 90-minute session, you'll get:

- A 30-minute explanation of a heart-healthy eating plan.
- A copy of the nutrition program to use at home.
- Information about exercise goals.
- A calendar for education classes.
- Answers to insurance questions.
- Scheduling for your personalized assessment.



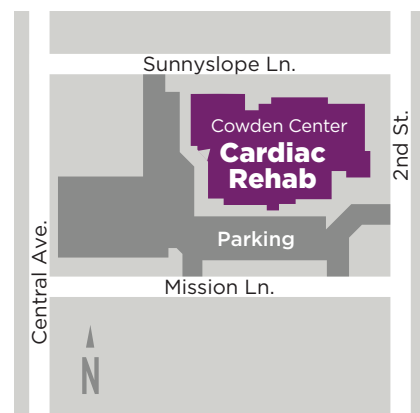
HonorHealth Heart Care Cardiac Rehab — Shea

9201 E. Mountain View Road
Suite 150
Scottsdale, AZ 85258
480-323-4600



HonorHealth Heart Care Cardiac Rehab — Deer Valley

Medical Office Building 2
19636 N. 27th Ave., Suite LL4
Phoenix, AZ 85027
623-879-1800



HonorHealth Heart Care Cardiac Rehab — John C. Lincoln

Cowden Center
9202 N. Second St.
Phoenix, AZ 85020
602-870-6368

NUTRITION

Nutrition overview

When you leave the hospital and go home, there are some nutrition tips that can help you. These are especially useful if you've had surgery or want to eat healthier after heart problems.

Loss of appetite

- After surgery, it's normal to not feel very hungry. But don't worry, your appetite will improve as you recover.

Small meals

- Instead of big meals, try eating smaller amounts more often. For example, have half of your usual breakfast and a snack later in the morning.

Cold foods

- Cold foods don't have strong smells like hot foods do. So, they might be easier to eat.

Nutritional drinks

- Sometimes, liquid drinks with balanced nutrition can help when you're not eating much.

Ask your surgeon

- During the first month of recovery, your surgeon might say it's okay to eat whatever tastes good. They want to make sure you get enough calories and protein.



Remember, you'll learn more about healthy eating at cardiac rehab. When you start the Cardiac Rehab Program, you'll get personalized guidelines for your situation and goals.



The Mediterranean diet

The Mediterranean diet is a way of eating that people in countries near the Mediterranean Sea follow.

Here are the common foods they eat:

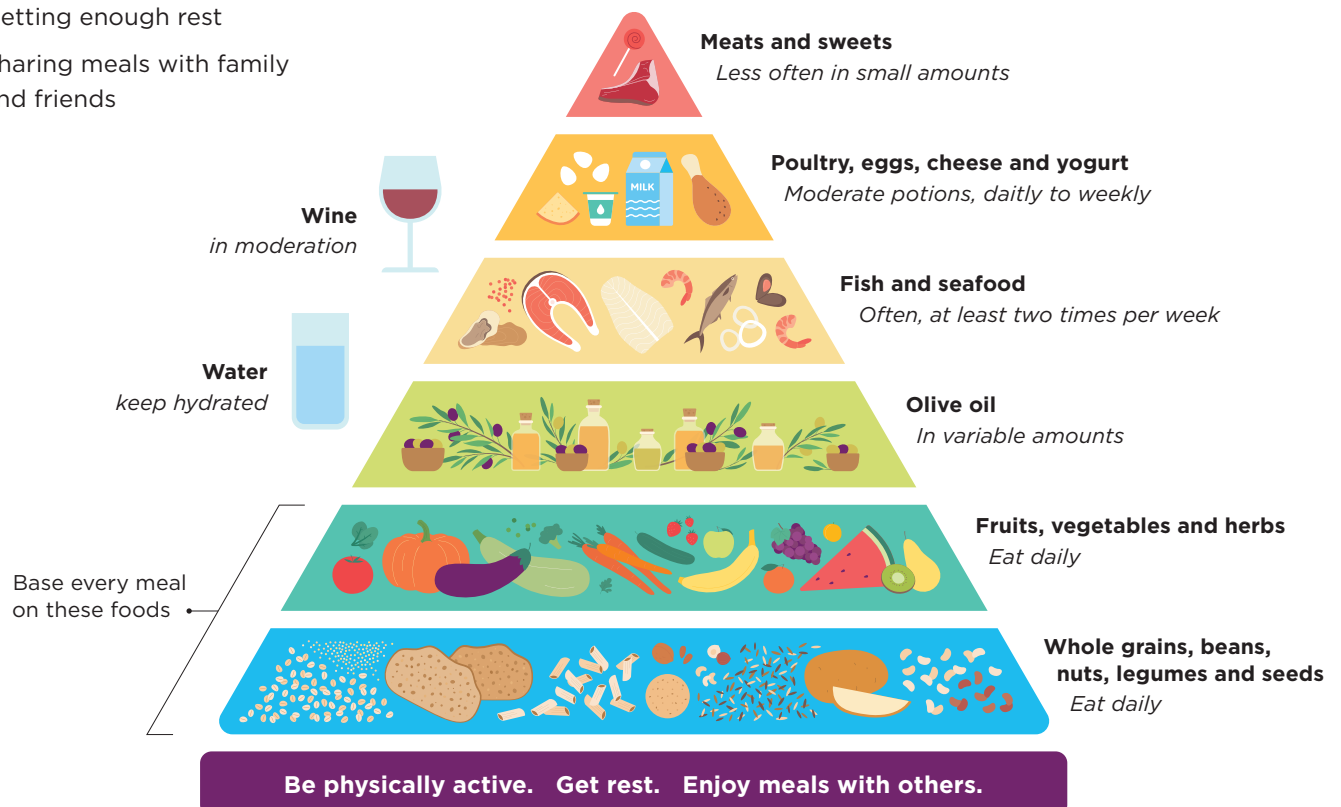
- Vegetables and fruit
- Whole grains
- Legumes (like beans, peas and lentils)
- Nuts, seeds and olives
- Fish and chicken (not too much red meat)
- Olive oil as the main fat
- Some wine with meals

Here are the good things about this diet:

- It lowers your chance of getting heart disease.
- It helps lower cholesterol in your blood.
- It can make your blood pressure go down.
- If you have Type 2 diabetes, it helps control your blood sugar.

The Mediterranean diet also focuses on a healthy lifestyle, which means:

- Being active
- Getting enough rest
- Sharing meals with family and friends



APPENDIX A

Cardiac surgery planning

There is a lot to think about before surgery. Your healthcare team and the information provided will help prepare you and your family for the surgery and your recovery. This checklist will help you plan for things you may not have thought of.

Work and finances

1. If you or your family members will be taking time off using the Family and Medical Leave Act (FMLA) make sure you:
 - ☐ Get all needed paperwork and complete your parts of the form.
 - ☐ Bring your FMLA paperwork to your surgery appointment.
2. Think about what you need to pay and plan on who will help with this task (e.g., set up automatic payments, write out checks to mail, etc.)

Transportation

1. Who will bring you to the hospital on the day of surgery? _____
2. Who will pick you up and take you home once discharged? _____
3. Who will bring you to all your post-surgery appointments? _____

Home and pets

1. Who will be staying with you for the first week after surgery? _____
2. Arrange for someone to:
 - Help you around the house when you get home.
 - Get the mail, water plants, take care of pets, etc.
 - Pick up groceries or shop for healthy foods and/or snacks.
3. Items to think about prior to surgery:
 - ☐ Make sure you have a thermometer and scale.
 - ☐ Consider making meals ahead of time and freezing them.
 - ☐ Stock up on paper products, detergent, etc.
 - ☐ Move small rugs and furniture that could get in your way and increase your risk of tripping or falling.
 - ☐ If needed, make arrangements for pet sitting or boarding.

Medications

1. Who will pick up your discharge medications? _____

NOTES

[illegible]

HONORHEALTH®

Heart Care