



## Patient and Family Guide to Heart Surgery



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# Welcome to Ochsner

Thank you for choosing Ochsner Medical Center for your cardiac surgery.

At Ochsner, we understand that serious health conditions can bring up a lot of questions. This guide contains important information about your treatment plan. It will give you a basic understanding of how your heart works. It will also help you better prepare for heart surgery. And, it will help you care for yourself or your loved one after heart surgery.

*Please read this guide carefully. Feel free to ask a member of your Cardiothoracic Surgery team any questions that come to mind from this or other information.*

Our Cardiothoracic Surgery department consists of a multidisciplinary team. This means we bring together skilled professionals from a variety of specialty areas to ensure you and your family receive the highest quality care. We strive to treat everyone with dignity and respect. We follow the highest ethical standards to ensure you and your loved ones can have confidence in the care they receive.

Please let us know if we can do anything to make your time with us even better.

## The Ochsner Cardiothoracic Surgery Team

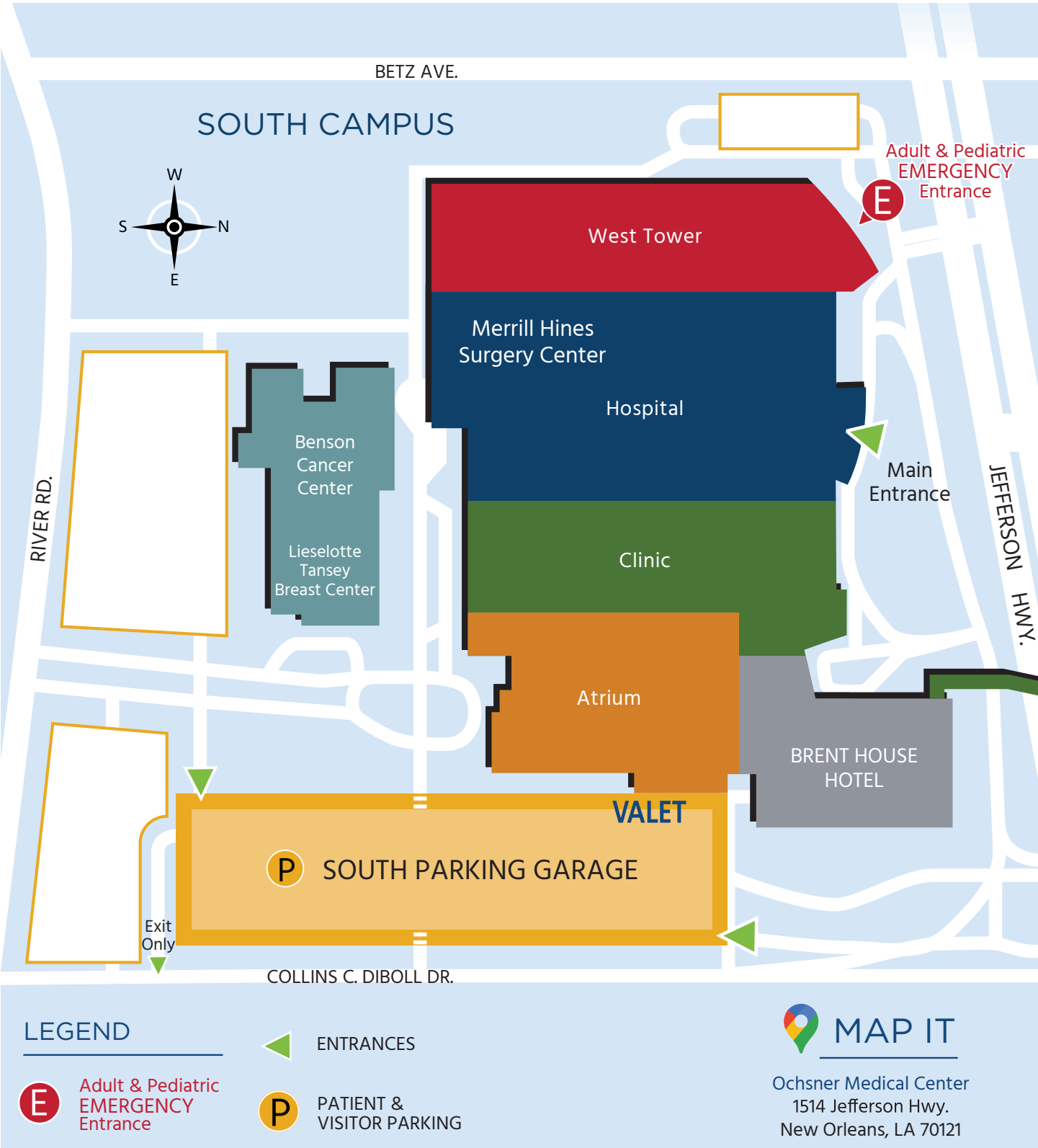


### Important Phone Numbers

Hospital Main Number (Operator) .....	504-842-3000
Cardiothoracic Surgery Clinic .....	504-842-3966
Surgery Center .....	504-842-3033
Pre-Operative Medical Clearance Center .....	504-842-4599
Admission/Prior Authorization.....	504-842-0550

# Ochsner Medical Center - New Orleans Campus Map

1514 Jefferson Highway, New Orleans, LA 70121



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## Confirming Your Arrival Time

The day before your surgery, a member of our team will call to tell you what time to arrive at the hospital.

- If you have not heard from us by 2:00 p.m. the day before your surgery, call us at 504-842-3966.
- Be sure to confirm your surgeon's office has your correct phone number.

Patient Name: \_\_\_\_\_

Date of Surgery: \_\_\_\_\_

Location of Surgery: \_\_\_\_\_

Arrival Time: \_\_\_\_\_

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## Financial and Insurance Information

At Ochsner, we realize the financial aspects of hospital services are often complicated and difficult to understand. Try not to worry. Ochsner personnel will contact your insurance company for detailed information about any coverage related to your surgery.

We want to make sure we meet your insurance company's billing requirements. When needed, we will get their authorization for our services. Your insurance company will tell us what your out-of-pocket payment will be. The amount you owe may include co-payments, deductibles, coinsurance, non-covered services or other insurance limitations. Call the phone number on your insurance card if you have additional questions about your coverage.



Ochsner financial counselors are available to assist you whether you have insurance or not.

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## How the Heart Works

The heart is a remarkable muscle just a little larger than your fist. Every day the heart beats an average of 100,000 times. It pumps about 2,000 gallons of blood throughout the body. By the end of a person's life, the heart will have beaten more than 3.5 billion times. It is the central part of your circulatory system which delivers blood, oxygen, and nutrients throughout the body.

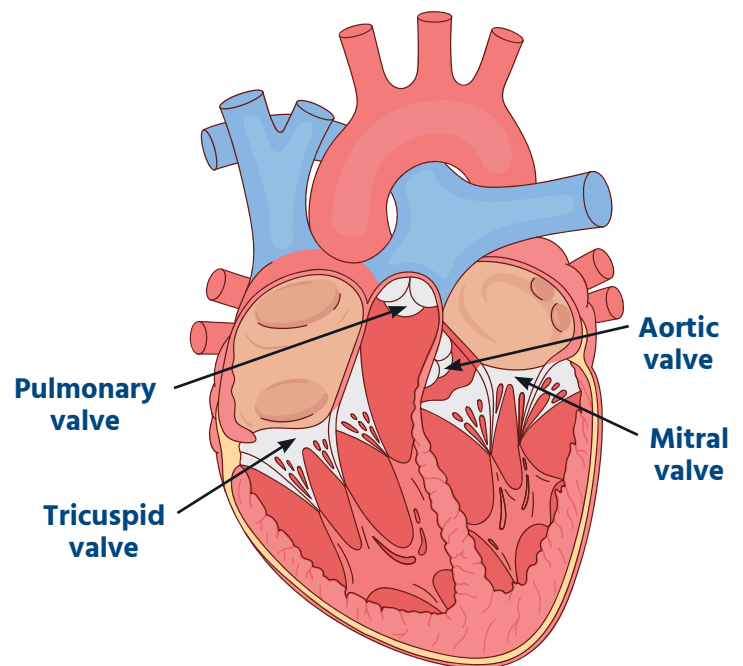
The heart is made up of four chambers. The two upper chambers (left atrium or right atrium) receive blood from the veins. The two lower chambers (left ventricle or right ventricle) pump blood out of the heart.

Valves between the chambers control the flow of blood from one chamber to the next.

### A View Inside the Heart

The four valves inside the heart work as one-way doors. When the valves work correctly, they only allow blood to flow in one direction.

1. **Tricuspid valve** maintains blood flow between the right atrium and the right ventricle.
2. **Pulmonary or pulmonic valve** maintains blood flow between the right ventricle and the pulmonary artery. (The pulmonary artery sends blood to the lungs to gather oxygen.)
3. **Mitral valve** maintains blood flow between the left atrium and the left ventricle.
4. **Aortic valve** maintains blood flow between the left ventricle and the aorta. (The aorta is the main artery sending blood that is rich in oxygen and nutrients out to the body.)



To continue its work of supplying oxygen and nutrients to the body, the heart itself also needs a continuous supply of oxygen and nutrients. The coronary arteries lie on the outside of the heart. They are responsible for bringing oxygen and nutrients that keep the heart muscle healthy.

For you to stay healthy, all parts of your heart must be healthy and function correctly. There are many different reasons parts of your heart may not function properly.

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# Why Do I Need Heart Surgery?

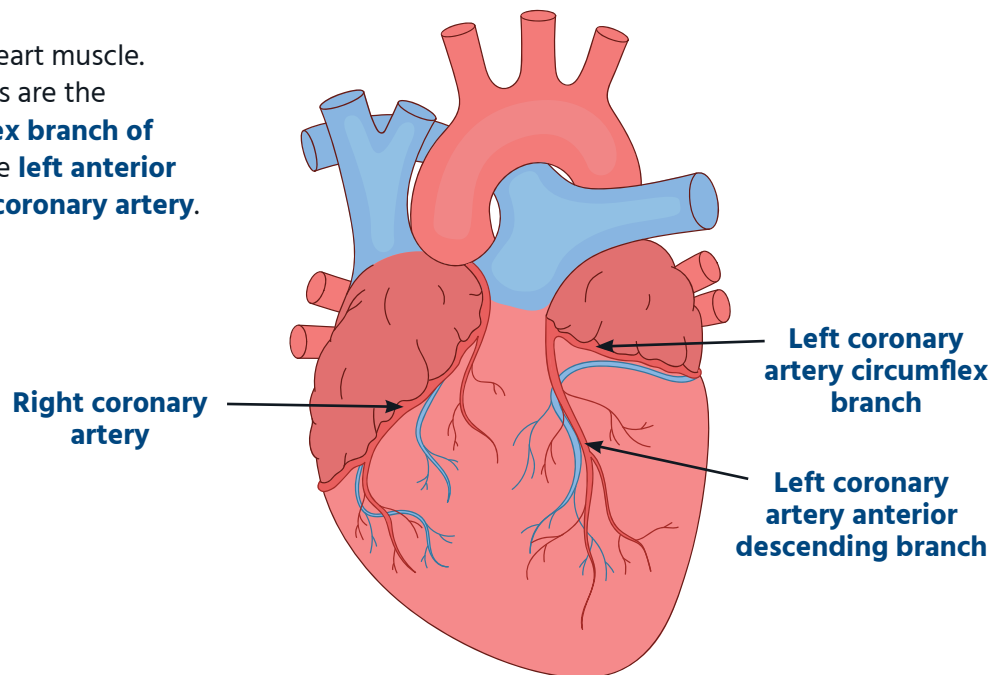
Heart surgery may be the right course of action when other treatments have not worked or can't be used.

The primary reasons people need heart surgery are to

- Correct damage from disease such as coronary artery disease or heart valve disease
- Correct a defect

## Coronary Artery Disease

The coronary arteries feed the heart muscle. The three major coronary arteries are the **right coronary artery**, **circumflex branch of the left coronary artery**, and the **left anterior descending branch of the left coronary artery**.



The inside of an artery is normally smooth and firm, like a hollow tube. This shape allows blood to easily flow through. As we grow older, fat begins to deposit in the artery walls.

As the fat builds up, it injures the walls of the artery. When the artery attempts to heal itself, it releases chemicals that make the walls "sticky."

When this happens, substances that flow through the bloodstream begin sticking to the blood vessel walls. This forms a material called plaque. The plaque formation process is called atherosclerosis or hardening of the arteries.

In atherosclerosis, the artery becomes narrow. A narrower artery restricts the flow of blood. This means less oxygen and fewer nutrients can pass through to the heart muscle. Over time, the coronary artery can become partially or completely blocked.

## What is coronary artery bypass surgery?

If you have a blocked coronary artery that is limiting the oxygen and nutrients going to your heart, you may need coronary artery bypass surgery. This surgery creates a detour that allows the blood to go around the blocked artery and continue to the heart. This improves the heart function.

To bypass the blockage your surgeon may take a large vein from your leg or an artery from your chest to form the detour. This is called a graft. The number of blockages and their location will determine what type of graft your surgeon will choose.

## Will the surgeon open my heart to do this?

Coronary artery bypass surgery does not require the surgeon to open your heart. The surgeon will work outside of your heart to attach one end of the graft (from your leg) to the aorta and the other to the coronary artery below the blockage. The graft restores blood flow beyond the blocked artery.

Your leg will still function normally without the arteries or veins used to create the graft.

If your surgeon uses an artery from your chest (also called an internal mammary artery) the artery will simply be detached from the chest wall and sewn to the coronary artery below the blockage.

## Heart Valve Disease

If one or more of your heart valves does not function properly, this is considered heart valve disease. Some people are born with heart valve disease (called congenital heart valve disease). Others develop it over time with age or certain health conditions that impact the heart.

You may need surgery to either repair or replace your damaged heart valve. If possible, your own valve will be repaired. However, sometimes the damaged valve has to be completely replaced.

## What are replacement valves made of?

Replacement valves come in two common types: mechanical or tissue valves.

- **Mechanical valves** are made from synthetic materials. These are typically the most long-lasting.
- **Tissue valves** are typically made from animal tissue (pig or cow). Tissue valves generally last 10-20 years.

Your cardiothoracic surgery team will recommend the best valve type for your replacement valve. Talk to a member of your care team if you have questions or concerns about the type of valve used.

# Three Ways to Help Ensure a Strong Recovery

## 1. Choose a Heart Health Champion.

Throughout life, we all need to know someone is in our corner. Someone who understands our circumstances and can help us reach our goals. The same is true when patients undergo heart surgery. You need a champion in your corner as you recover after heart surgery.

Your Heart Health Champion will help you and your care team make sure your surgery is successful. Your Heart Health Champion can be your spouse, a family member, or a friend.

Your Heart Health Champion will

- Join you for all educational and discharge information classes
- Assist staff with
  - getting you in and out of bed
  - walking in the hallways
  - using the incentive spirometer and taking proper sternal precautions
- Help you manage your comfort level
- Motivate, comfort, and reassure you before and after surgery
- Consult with staff to identify concerns, assess your readiness to leave the hospital, and follow up after discharge



## 2. Do your breathing exercises to keep your lungs strong.

After heart surgery, it's important to be sure your lungs stay clear of fluid. Breathing exercises that involve taking slow deep breaths will help you avoid pneumonia or other fluid-related problems.

Your doctor will prescribe a device called an incentive spirometer to help you exercise your lungs. These exercises help simulate normal daily activities that keep your lungs free of mucous or fluid.



Always follow your doctor's instructions when using your incentive spirometer.



## How to properly use an incentive spirometer

1. Sit on the edge of your bed if possible. If you can't, sit up as far as you can in bed.
2. Hold the incentive spirometer in an upright position.
3. Place the mouthpiece in your mouth and tightly seal your lips around it.
4. Breathe in as slowly and deeply as possible. You'll notice a green piston rising toward the top of the column. The green piston should reach the blue outlined area.
5. Hold your breath for as long as possible, or at least five seconds. Exhale slowly and allow the piston to fall to the bottom of the column.
6. Rest for a few seconds, and then repeat the first five steps at least 10 times every hour you are awake.
8. After each set of 10 deep breaths, cough deeply to clear your lungs. Firmly press a pillow against your incision when coughing to provide support.



Slide the indicator on the side of your incentive spirometer to mark your best breath. Use the indicator as a goal to work toward during each slow, deep breath.

Once you can get out of bed safely, take frequent short walks and practice coughing. Continue to use the incentive spirometer as instructed, unless otherwise instructed by your provider.

## 3. Follow a heart-healthy diet at home.

- Limit your sodium (salt) intake to no more than 2,000 mg per day.
- Include lean proteins such as turkey, chicken, fish, and beans. Eating enough of the right proteins will help your wound heal.
- Eat lots of fruits and vegetables, which are rich in vitamins and minerals, antioxidants, and fiber.
- Limit the amount of saturated and trans fats that you eat. This helps lower your cholesterol.
  - Trim fat from meat and choose lean meats like turkey breast and skinless chicken.
  - Use less butter, margarine, and shortening when cooking.
  - Use low-fat substitutions when you can.
- Choose whole grains like brown rice, oats, and whole-wheat bread. Whole grains provide fiber, which helps to regulate cholesterol and blood sugar levels.

Learn more about the cardiac diet on page 27.



# Preparing for Heart Surgery

You will be asked to begin preparing for your heart surgery a few weeks in advance. Your surgeon may also give you more specific instructions. Be sure to follow all instructions to ensure your surgery can proceed as planned.

If you use any kind of nicotine products, try to quit *at least* 6 weeks before surgery. Stay nicotine-free after surgery. Nicotine increases your risk of complications after surgery. Smoking slows down wound healing. It also increases your risk of infection, blood clots and other complications.

**Ochsner has free programs to help you quit.** Talk to your provider about how to enter one of these programs, or scan the code to the right to learn more.



## 4 Weeks Before Surgery

- ☐ Once you return home, you will need assistance and support. Begin talking to your loved ones about how they can help you after you return home. Think about who will best motivate, support, and assist you as you learn to keep your heart healthy after heart surgery. Talk to that person in advance about what you may need.
- ☐ Some patients may go to another healthcare facility after surgery. This may be a rehab or skilled nursing facility. Talk to your provider about whether this will be necessary.
- ☐ Quit using nicotine – cigarettes, cigars, nicotine gum, vaping (e-cigarettes), patches.

## 2 Weeks Before Surgery



Arrange for a friend or loved one to accompany you home. **You will not be allowed to drive yourself home from the hospital.** You will not be allowed to take a taxi or rideshare (Uber®, Lyft®) alone.

- ☐ Arrange for help getting to and from follow up appointments and cardiac rehab until you have been given the okay to drive.
- ☐ Stock up on foods that are easy to prepare and follow your cardiac diet.
- ☐ Begin limiting or stop drinking alcohol.
- ☐ Stop taking all herbal medications, remedies or supplements at least 1 week before surgery. Many herbal medications and herbal supplements can interfere with anesthesia.
- ☐ Talk to your doctor about your medications. If you take blood thinners or anti-platelet medications such as those listed below, you may need to stop this medication 7 days prior to surgery. Your surgeon and the provider who prescribed the blood thinner will decide when you should restart it.
  - rivaroxaban (Xarelto®)
  - warfarin (Coumadin®)
  - heparin
  - apixaban (Eliquis®)
  - Lovenox®
  - clopidogrel (Plavix®)

## 1 week before surgery

- ❑ Make sure to tell your healthcare team about all the medicines you take. They will let you know which ones you can keep taking and which ones you need to stop before surgery. This includes diabetes or weight loss medications (GLP-1 drugs), which usually need to be stopped before surgery. Your doctor will help you know when to stop them.

## 1 day before surgery

- ❑ During your pre-op appointment, you will receive your arrival time for surgery and your surgery location. The day before surgery, we will contact you to confirm this information. **If you have not heard from us by 2:00 PM the day before your surgery, call us at 504-842-3966.**
- ❑ **Do not drink alcoholic beverages of any kind 24 hours before surgery.**
- ❑ Pack your bag for the hospital. See the list on the next page of things to bring and leave at home.



What to Bring to the Hospital	What to Leave at Home
<ul style="list-style-type: none"> <li>• Photo ID and health insurance cards</li> <li>• Copy of advance directives, such as a Living Will or Durable Power of Attorney for Healthcare (Ask your care team if you do not have these. They can provide you with Ochsner's forms.)</li> <li>• Up-to-date medication list that includes drug name, dosage, and how often you take it. Be sure to include any over-the-counter medications or herbal supplements.</li> <li>• Inhaler for asthma or COPD</li> <li>• Hearing aids and case</li> <li>• Glasses and case. If you must wear contacts, you will need to remove them before surgery. Bring a lens case and lens solution.</li> <li>• If you use a CPAP/BIPAP machine, bring your mask.</li> <li>• Documentation or information card for implants or medical devices such as the following. If the device is controlled by a remote, please bring the remote. <ul style="list-style-type: none"> <li>• Pacemaker</li> <li>• Internal defibrillator</li> <li>• Artificial joint</li> <li>• Internal pain pump</li> <li>• Stimulator</li> <li>• Wire leads</li> <li>• Shrapnel</li> <li>• Insulin pump</li> <li>• Shunt</li> </ul> </li> <li>• Pajamas or nightgowns (preferably ones that close or fasten in the front)</li> <li>• Robe or housecoat (preferably one that closes or fastens in the front)</li> <li>• Undergarments</li> <li>• Comfortable, nonskid shoes (tennis shoes, rubber-soled shoes, or slippers that cover the entire foot)</li> <li>• Personal toiletry items: toothpaste, toothbrush, denture cream, shampoo, lotion, makeup, etc.</li> </ul>	<ul style="list-style-type: none"> <li>• Jewelry including body piercings</li> <li>• Valuables</li> <li>• Large amounts of cash</li> <li>• Wigs, hairpieces, hairpins, hair clips</li> <li>• False eyelashes</li> <li>• Remove fingernail and toenail polish. If you have acrylic or gel nails, remove at least one finger on each hand.</li> </ul>

## Night Before Surgery

It is normal to be a little nervous the night before any surgery. If you and your Heart Health Champion are well prepared ahead of time, it can ease your worries and reduce your anxiety.

- ☐ **NO FOOD OF ANY KIND AFTER MIDNIGHT.** This includes gum, hard, candy, and mints.
- ☐ Do not drink alcoholic beverages of any kind.
- ☐ Practice with your incentive spirometer.
- ☐ Wash your body with Hibiclens® or other antibacterial soap. You do not need to use Hibiclens on your face or hair.
- ☐ Remove nail polish and hair extensions. If you have artificial nails, remove at least one on each hand to enable us to monitor your oxygen level during surgery.
- ☐ Sleep in clean clothes on clean sheets.

## Morning of Surgery

- ☐ **NO FOOD THE MORNING OF SURGERY.**
- ☐ **DRINK PLENTY OF CLEAR FLUIDS UNTIL 2 HOURS BEFORE YOUR ARRIVAL TIME.**

For example, if you are told to arrive at the hospital at 7:00 AM, do not drink fluids of any kind after 5:00 AM.



Example of when to stop drinking fluids on the morning of surgery

**Example arrival time: 7:00 AM**  
**Stop drinking: 5:00 AM**

Clear Fluids OK to Drink	Fluids NOT OK to Drink
<ul style="list-style-type: none"><li>• water</li><li>• Gatorade® or Powerade®</li><li>• clear soda like Sprite® or 7UP®</li><li>• black coffee or black tea</li></ul>	<ul style="list-style-type: none"><li>• dairy like milk, cream, 1/2 &amp; 1/2</li><li>• creamer of any kind (NO CREAMER in coffee or tea)</li><li>• juices with pulp, like orange juice</li><li>• broths</li></ul>

- ☐ **Medicines:** If your surgeon or anesthesiologist advises that you take medication, swallow only the smallest amount of water with it. Be sure to inform the anesthesiologist or nurse on the day of surgery.
- ☐ **Brush your teeth:** You may brush your teeth and rinse your mouth. Do not swallow any water or toothpaste.
- ☐ **Shower:** Wash your body with Hibiclens or other antibacterial soap. You do not need to use Hibiclens on your face or hair.
- ☐ **Makeup, Perfume, Creams, Lotions and Deodorants:** Do not use any of these products on the day of surgery, including mascara. Remove any false eyelashes and body piercings.
- ☐ **Clothing:** A button front shirt and loose-fitting clothes are the most comfortable before and after surgery. We also recommend comfortable walking or tennis shoes.
- ☐ **Hair:** Avoid buns, ponytails or hairpieces at the back of the head. Remove or avoid any clips, pins or bands that bind hair. Do not use hairspray. Before going into the surgery room, you will need to remove any wigs or hairpieces. We will cover your hair during surgery. Your privacy regarding personal appearance will be respected.
- ☐ **Glasses and Contact Lenses:** Wear glasses when possible. If contact lenses must be worn, bring a lens case and solution. If glasses are worn, bring a case for them.
- ☐ **Hearing Aids:** If you rely on a hearing aid, wear it to the hospital on the day of surgery. This will ensure you can hear and understand everything we need to communicate with you.

## + How to shower with Hibiclens

1. Washing your hair is optional. If you do, wash your hair with your normal shampoo. Rinse your hair and body thoroughly afterward to remove the residue.
2. Do not shave the area of your body where your surgery will be performed.
3. Turn the water off. Apply Hibiclens to your entire body from the jaw down. **Do not get Hibiclens in your eyes, ears, nose, mouth or genital area.** Wash thoroughly for five minutes, paying special attention to the area where your surgery will be performed. Do not scrub your skin too hard. Do not use regular soap.
4. Turn the water back on and rinse your body well.
5. Pat yourself dry with a clean, soft towel. Do not apply any lotions, creams, deodorants, perfumes or powders. Put on clean clothes.



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## What to Expect the Day of Surgery

### Where to go when you arrive at Ochsner Medical Center – New Orleans

You will report to the Surgery Center on the second floor (504-842-3033) to check in. Once you have checked in and provided any additional information needed, a member of the team will escort you to your Pre-Operative Holding Room.

There we will give you any additional instructions and the team will prepare you for surgery. **Your family members (age 12 and older) may stay in the pre-op area with you.**

When you arrive in the Pre-Op holding area, a member of the team will check your vital signs and instruct you to change into your hospital gown. There, you will see several members of your care team.

- Your nurse will verify your medical history and do a complete assessment. **Please bring a list of all the medications that you are currently taking and inform your nurse of any medicines you have taken that day.** These medications should include prescription medications and over-the-counter medications.
- An attendant will prep the surgical site following your surgeon's orders. This may include clipping or shaving hair. Most patients are clipped from the chin area to their feet. The attendant will help you settle into bed. At this point, a member of the team will start your IV line.
- Your nurse will discuss your post-surgery instructions with you, including deep breathing, rating your pain and bed mobility. Feel free to ask any questions.
- Your nurse will make sure you understand the sequence of events for your surgery. This may be the same information covered during your pre-op education.
- Just before surgery, a member of the anesthesia team will give you medication to help you relax. This may cause you to feel warm and sleepy.

## Where can my family wait during my surgery?

When it is time for you to go to the Operating Room, a member of the team will direct your family to the correct waiting area.

Where your family waits will depend on where your surgeon will see them in-person to update them immediately after your surgery.

Your surgeon will update your loved ones in one of these two places

- The Surgery Center waiting area on the 2nd floor
- The waiting area of the Thoracic Surgery Cardio Vascular Intensive Care Unit (TCVICU)

## How long will my surgery last? How will my family know how it's going?

Your surgery may last 5 to 8 hours. The length will depend on many factors unique to your situation and your surgeon. Our surgeons do not provide updates during the surgery.

Your family may receive text messages with basic updates throughout the procedure. When you first check in at the Surgery Center, someone will explain how to get these messages.

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# What to Expect After Surgery

## Where will I go after surgery?

When you wake up, the surgery will be over, and you will be in the Thoracic Cardio Vascular Intensive Care Unit (TCVICU). The TCVICU is a specialized monitored unit for cardiac surgery patients immediately after surgery. The staff is trained to detect the early signs and symptoms of complications, initiate emergency life-saving measures, and use advanced critical equipment. Registered nurses staff the TCVICU 24 hours a day.

## Can my loved ones visit me?

Once you are stabilized in the TCVICU, you will be allowed to have three visitors (12 years of age and older), in the TCVICU, about 2 to 2.5 hours after your procedure is complete, at the discretion of the team.

## Hospital Visiting Hours: 8:00 AM - 8:00 PM



Foam-In / Foam-Out: Visitors must sanitize their hands.

Your hospital room will have a hand sanitizer station just outside the door. **Anyone who wants to visit you must sanitize their hands before AND after seeing you to reduce the risk of infection.** If a loved one has a cold, the flu, or other respiratory infection, they will be asked not to visit.

## How long will I stay in the TCVICU?

You should expect to stay in the TCVICU 24-48 hours after surgery. A nurse will monitor your progress closely and provide regular updates to your surgeon.

## Will I feel different when I wake up?

When you first wake up in the TCVICU, you may notice a few things seem different.

- **You may have blurry vision.** During surgery, your anesthesiologist places an ointment in your eyes to keep them from drying out. As a result, things may look blurry at first when you wake up. The ointment will wash out slowly as you blink.
- **You may not feel able to talk.** You will have a tube in your mouth, which is attached to a machine to help you breathe (ventilator) until you are awake enough to breathe on your own. This generally takes four to six hours. You will not be able to talk until the tube is removed.

Your respiratory therapist will remove the tube once you are awake and breathing well on your own. The respiratory therapist will replace it with an oxygen tube (cannula) in your nose. Even though you no longer have the tube in your mouth, your throat may feel sore for a day or two.

- **You may feel some pain or discomfort.** Some discomfort immediately after surgery is normal. A nurse will administer pain medications to help relieve any pain or discomfort.
- **You will be connected to multiple tubes and wires.** The tubes and wires attached to your body help your care team monitor your breathing, heartbeat, and other vital signs. They also deliver medication. All of these help keep you safe and ensure you get the right care when you need it.

You may have

- **A continuous heart monitor:** Your heart rate and rhythm will be continuously monitored to note any changes. Changes in rate and/or rhythm are common after surgery and will be treated by your doctor.
- **An intravenous (IV) tube:** Your heart pressure and body temperature will be recorded through an IV tube in your neck.
- **Other IV lines:** Lines will be in your arm to give you fluids and medications. Once the fluids are finished, the lines will be converted to an access port.
- **An arterial line:** This small, plastic tube will be in your wrist to help monitor blood pressure and allow nurses to draw blood easily and painlessly for tests.
- **Chest tubes:** These tubes will drain blood or fluid from your chest caused by the surgery. It is expected that the fluid will look like blood.
- **A urinary catheter:** This flexible tube will keep your bladder empty and measure how much urine your kidneys are producing. Should you feel a strong urge to urinate, press down as if you are going to the bathroom and relieve the pressure. You will not wet the bed.
- **Temporary pacemaker wires:** These will be removed within a few days.
- **A nasogastric tube:** This tube is inserted into your nose or mouth and goes down the esophagus and into the stomach to prevent bloating, nausea, and vomiting. This tube is removed when the ventilator tube is removed.

*NOTE: Your care team will remove most of this equipment within the first 24 - 36 hours after surgery. The pacemaker wires and heart monitor will stay in place longer. Your doctor may decide you need certain equipment longer. This is not unusual.*

- **Your appetite may be off.** Don't be surprised if your appetite isn't the same after surgery. You may not feel well and this can affect your appetite. This is normal.

Expect to begin eating a clear liquid diet of gelatin, broth and juice some time after the breathing tube has been removed. Once you can tolerate this, your doctor will advance you to solid foods.

Tell your nurse if you would like a snack. You can also ask to speak with a dietitian about your food preferences. You may also want to try a nutrition supplement.

### Will my diet be different in the hospital?

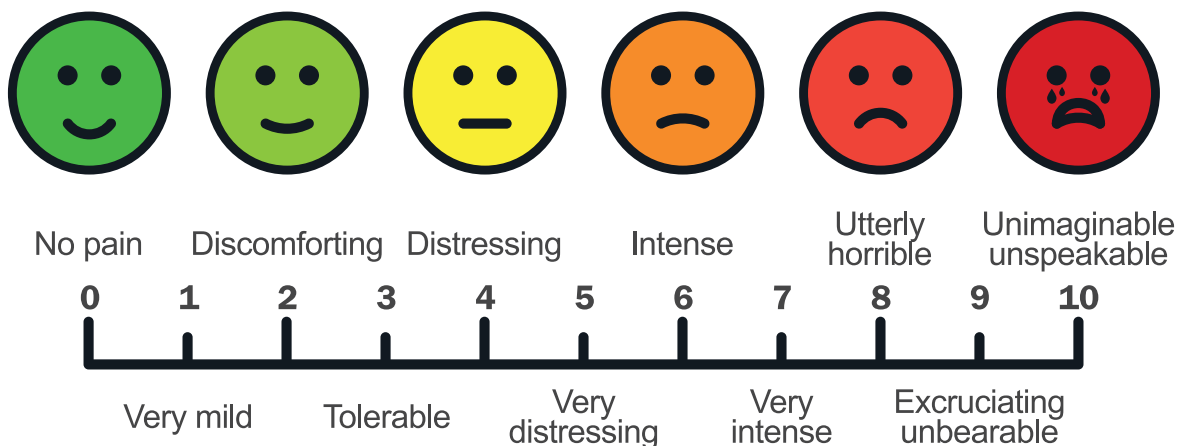
After heart surgery, your heart is very sensitive to large amounts of fluid. To ensure you don't get too much fluid, your care team will limit your liquid intake to about 1.5 liters (about 6 cups).

Your doctor may also order a specific food plan while you are in the hospital. Some common hospital food plans include

- A cardiac and caffeine-restricted diet. You cannot have any caffeine on these diets. You should avoid caffeine for the first 6 weeks following your surgery.
- A calorie-controlled diet. It is important to keep your blood sugar levels regulated to promote healing.
- A regular diet. Some doctors want you to choose anything you want to eat after the surgery to help your appetite. After a few weeks, however, you should incorporate the cardiac diet into your healthy eating plan.

### How we manage your pain after surgery

After your surgery, your pain level will not be zero. Our goal is to keep you as comfortable as possible. Your doctor will prescribe multiple ways to help control your pain. If these do not adequately manage your discomfort, an anesthesia team dedicated to pain management can assist with your pain.



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## After Leaving the Hospital

Ochsner's Case Management / Social Services department will help you make an easy transition back to your normal home life. Our case managers are a great resource for

- Planning where you will go after your hospital stay (discharge planning)
- Financial referrals
- Crisis and short-term counseling
- Support groups
- Community-based services

### Home Health

If you would prefer to have therapy at home and your doctor feels it is safe, we will arrange home health services. Your case manager will discuss your home health options and special needs for care at home with you before you are discharged.

If you qualify for home health support, you will be notified in writing of which home health agency will provide this assistance. You will receive this information before you leave the hospital.

Your home health team will include a home health nurse. The home health nurse will visit you at least 3 times after you are discharged from the hospital. The nurse will see you at home the day after you are discharged.

If for any reason your insurance does not cover this benefit, you will be notified. Please let us know if you or your insurance prefer to use a specific agency.

### Rehabilitation Facility

If your doctor feels you need further therapy after surgery, they may determine you will do best in a rehab or skilled nursing facility. Your doctor may recommend a specific rehabilitation facility to accommodate your needs. We will also provide a list of additional rehab/skilled nursing facilities and make every effort to transfer you to the facility of your choice.

Skilled Nursing provides post-hospitalization care for patients who still need care under the general supervision of doctors and licensed professional nurses. This type of care provides comprehensive, planned care. It may include rehab, restorative therapy, medication therapy, dietary supervision and/or professional observation and judgment. These services are on a short-term basis to aid in recovery from surgery, accident, or illness.

### Medical Equipment

Ask your doctor about any equipment you may need after you leave the hospital. If there is a co-payment on these items or your insurance plan does not offer this benefit, we will notify you.

When your doctor writes the order and Ochsner receives insurance approval, we will arrange for the equipment to be delivered to you before you are discharged or immediately when you arrive home.

### How soon will I be back to normal?

It may take you some time to begin your normal activities again after having heart surgery. Every patient recovers at their own pace. The important thing to remember is to be patient and not get frustrated. You will begin to regain strength gradually.

You and your Heart Health Champion can help you recover at home by following these guidelines

- Schedule a follow-up appointment with your cardiologist and surgeon if one was not made while you were in the hospital.
- Follow all instructions provided by your doctors.
- If you need urgent care and cannot reach your surgeon, go to the local hospital emergency room.
- Make sure you have all prescriptions before leaving the hospital and take the medications as prescribed by your doctors. If you are not sure whether to take a medication you were taking before surgery, talk to your surgeon.
- Check with your doctor before taking any over-the-counter supplements. These can interfere with your prescription medications.

### What if I'm in pain after I leave the hospital?

Some pain or discomfort is normal after surgery. Our goal is to help you manage any discomfort or pain safely. Controlling pain will help you sleep better and recover faster.

Your doctor may prescribe a combination of pain relief methods. This may include a short course of prescription pain relievers for moderate to severe pain. These prescription pain medications are also called opioids or narcotics.



### How to use opioids safely

- **Take as directed.** Your doctor or pharmacist will give you specific instructions for taking this prescription. Follow these instructions.
- **Keep it to yourself.** Don't share - this prescription is only for you. Sharing prescriptions is illegal and can put other people in danger.
- **Ask about your other prescriptions.** Some medications should not be taken at the same time as opioids because they can slow or stop your breathing. Talk to your physician or pharmacist if you are taking benzodiazepines (such as Ativan®, Xanax®, Valium®), seizure medications, muscle relaxers, or psychiatric drugs.
- **Talk to your provider about other health conditions.** Tell us if you're pregnant, have a history of sleep apnea, mental health conditions, or substance use disorder.

- **Stay sober.** It can be very dangerous to use alcohol and other substances while you're taking an opioid pain medicine. Skip the alcohol, sleeping pills, or illegal drugs until you've stopped this medication.
- **Be cautious.** Don't drive or operate heavy machinery until you know how this medication affects you.

### How to store opioids safely

- **Keep it in the original container.** Don't transfer the prescription to another bottle or package. This way you will always know exactly what is in the container and who it is for.
- **Keep it where children can't see or reach it.** The safest place to store prescription pain medication is in a locked cabinet or on a high shelf.

### How Ochsner providers prescribe opioids

We are committed to helping end opioid misuse and its serious consequences. To ensure we play our part, Ochsner providers are very careful about opioid prescriptions and refills. **We have strict policies to ensure your safety and the safety of those around you.**

1. Some opioid prescriptions cannot be refilled through your pharmacy. We may ask you to make a clinic appointment before your prescription pain medication is refilled. That way we can help manage your pain the best way possible and avoid overuse of opioids.
2. We will only consider refills three days (or less) before the end of your medication regimen. Be sure to take your medication as your provider directs.
3. We do not mail or ship prescription pain medication. Opioids are considered "controlled substances" by law and must be picked up in person.
4. We only use prescription pain medications for patients undergoing surgery or other procedures. If you have pain for other reasons, we have many other resources to help you, including our Pain Management specialists, physical therapists, and others.
5. If your pain lasts longer than two months after your surgery, or if your medication is not well-controlled with this medication, make an appointment to see your provider. We will be happy to help find other ways to resolve your pain.

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# Recovering from Heart Surgery

## Caring for your surgery incision at home

It is normal for your incision to feel tight, sore, or numb the first few weeks after surgery. You may also notice some bruising and experience soreness in your back or shoulders due to too much (or too little) movement, changes in weather conditions, or sleeping in one position.

### How to care for your incision

- **It is very important to shower daily to decrease the risk of infection.** Wash your incisions with warm water and a simple antibacterial soap. Pat dry with a clean towel.
- If you have Steri-strips®, you may gently remove them when they begin to fall off. If they remain stuck two weeks after your surgery, you may gently remove them.
- Avoid tub bathing and swimming for 3 months after surgery.
- Maintain good posture to decrease muscle soreness and to help the incision heal faster.
- To help prevent infection, do not use ointments, creams or lotions on your incisions unless specified by your physician.

### Keep the following in mind when you shower

- If you do not feel strong enough, use a stool or shower chair while you shower. It is good to have someone close by for the first few days when you shower.
- It is ok to use soap and water on your incisions. Wash very gently, rinse well, and do not scrub. Use warm water only (hot water may make you weak or dizzy).
- Do not allow the shower to beat on your chest for 2 to 3 weeks. Allow the water to run over your shoulders and down your chest and incision.
- Keep elbows close to your body when washing above your shoulders. You may need assistance when washing your back.
- Pat dry with a clean towel. Allow all incisions to air dry.



## Watching your fluid and weight at home

**It is important to weigh yourself every day. Rapid weight gain can mean fluid buildup. This fluid could enter your lungs making it difficult to breathe.**

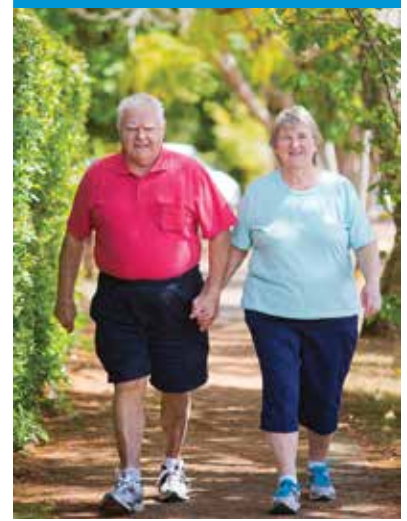
- Weigh yourself first thing every morning, after urinating and before eating breakfast. Be sure to weigh with the same amount of clothing or in the nude.
- Record your weight daily and look for drastic fluctuations. **Contact your surgeon's office if you notice a weight gain of 3 pounds or more from one morning to the next.**

## What if I notice swelling?

Excess fluid can collect in the tissues when you are not moving around as much. This can cause your legs to swell.

To reduce the amount of swelling, follow these tips

- Walking is very good for your recovery.
- Get up and walk around for a few minutes if you have been sitting for more than an hour.
- Walk at least 5 times per day, for 10 minutes during each walk.
- When you are sitting, elevate your legs with pillows to decrease leg swelling.
- Avoid standing in one place, crossing your legs, or sitting with your legs down for long periods.
- Wear your compression stockings throughout the day. Remove them when you go to bed.



## When to Call Your Surgeon

Call your surgeon at 504-842-3966 if you experience any of the following.

- Pain, swelling, redness, or bruising around your incision site that gets worse over time
- Incision begins to drain or opens
- Trouble breathing or shortness of breath that does not go away with rest
- A fever over 101°
- Chills
- Fainting
- Severe nausea, vomiting, or diarrhea
- Changes in your heart rhythm that cause your heart to beat too slow or too fast
- Angina symptoms (chest pain) like those you may have experienced before surgery. Pain in your chest, neck, or shoulder that is worse with deep breathing
- Systolic blood pressure greater than 150 or less than 90
- Sustained heart rate of 120 or greater for 20 minutes or longer
- Weight gain of 3 pounds or more from one morning to the next

## Returning to normal activity

It will take about 6 weeks for your breastbone (also called the sternum) to completely heal. This will not restrict you from moving, but it will limit the way you move.

You may notice a clicking sound when you turn a certain way or when you breathe. This is normal and should go away when your sternum heals. Your breastbone will not come apart if you move the wrong way but you may feel some pain. This should be a warning sign to move more carefully.

Here are some guidelines as you recover.

- Brace your chest with a pillow whenever you cough, sneeze, or do breathing exercises.
- Move items you use most often to waist level or below.
- When you ride in a vehicle, put a pillow between the seat belt and your chest to protect your sternum.
- Don't use your arms to push yourself out of a bed or chair.
- Don't use your arms to pull on stair railings.
- Don't allow others to help you by pulling you up by your arms.
- Don't drive until your doctor says it is ok. Medications you are currently taking may slow your reaction time.
- If at all possible, do not fly for at least 4 weeks after surgery.

## Keep Your Move In The Tube®

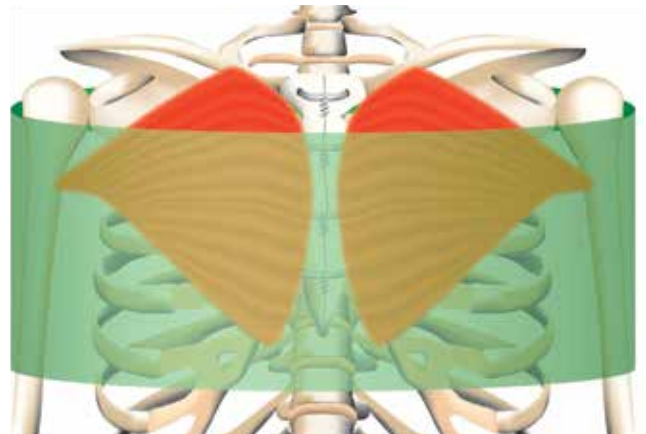
To gain access to your heart, your surgeon opened up your sternum (sternotomy). Once your surgery was complete, your surgeon fastened your sternum back together. This is often done with wires, cords or plates. Your sternum can completely heal over the course of several months if you take care to move the correct way.

### Moving the right way after surgery

During the first few weeks after surgery, you will need to limit the use of your arms. Too much arm movement may cause pain around your incision and in your chest.

**“Keep your move in the tube”** is a way to think about how to move your body safely after heart surgery. Pretend there is an imaginary tube around your upper arms and torso (trunk). This tube keeps your upper arms from moving in ways that could cause pain.

Keeping your move in the tube can also help the muscles across the front of your sternum heal well.

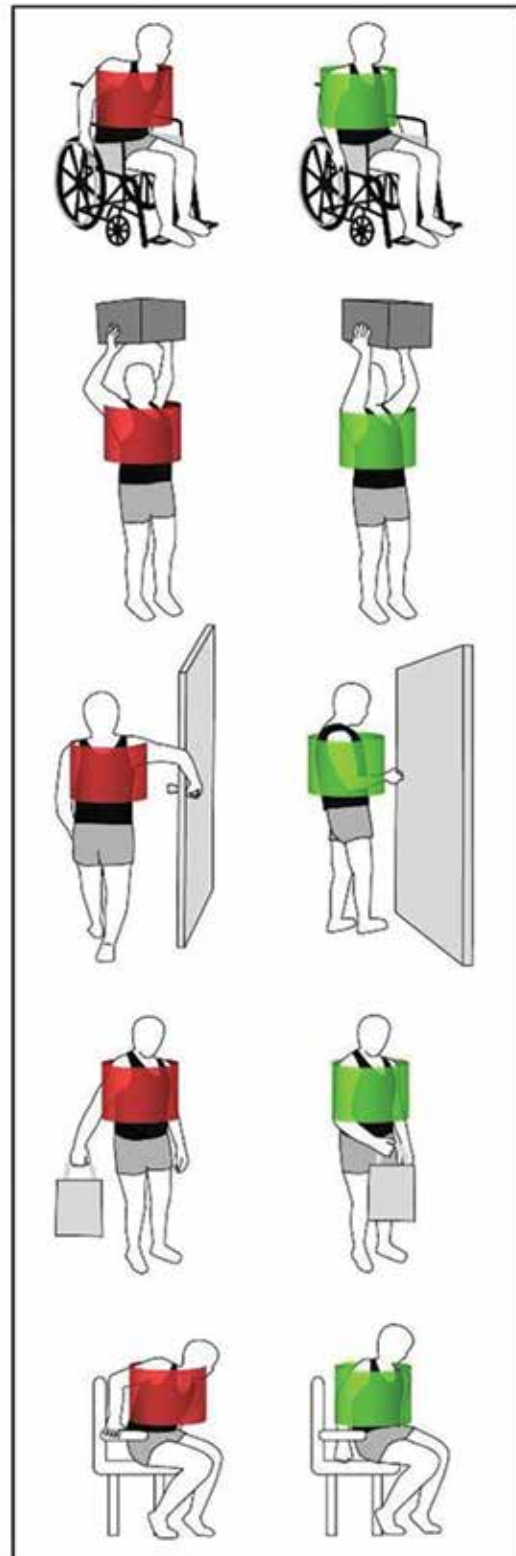
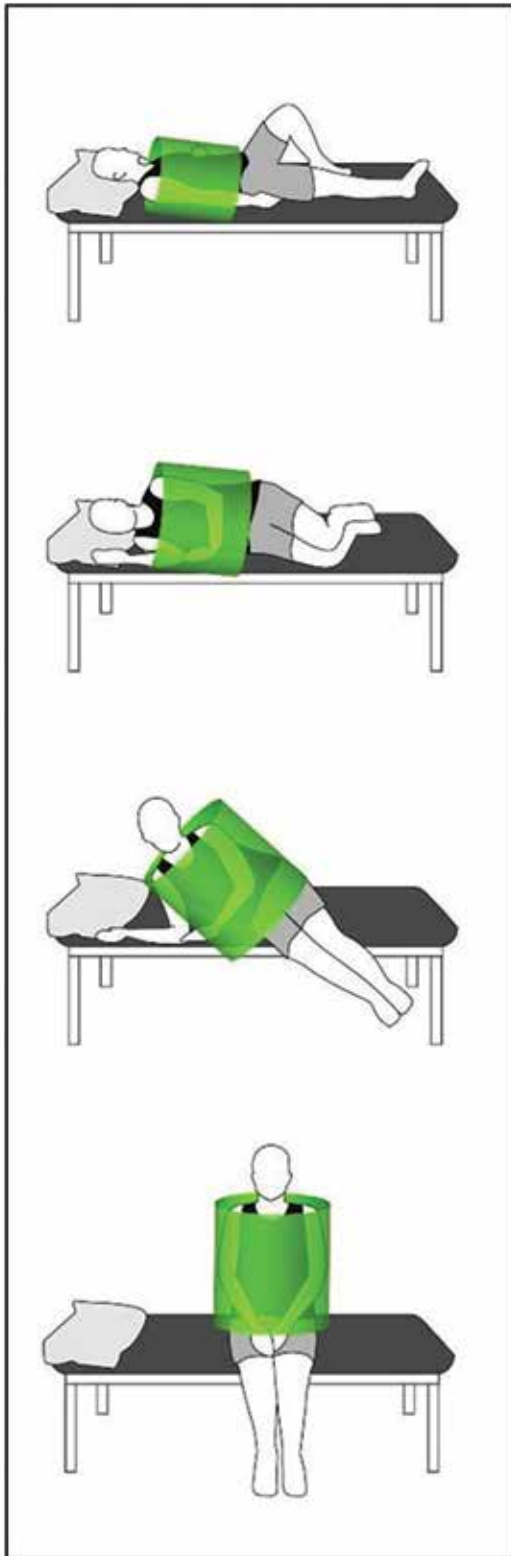


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### How to Keep Your Move in the Tube

- Keep all upper arm movements within the tube. This includes
  - Resistance movements like pushing, pulling and squatting
  - Load- or weight-bearing movements
- Let pain be your guide.
  - Identify your pain level before you move (resting pain level).
  - As long as pain does not increase from resting level, you can begin resistance movements outside the tube.
  - If you do feel pain, return to movement within the tube.
- **If you notice any increased popping or clicking at the sternum, notify the surgical team.**

The diagram below shows how you can move in the tube from sitting or lying down. Green tubes indicate safe movements. Red tubes indicate unsafe movements or positions.



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## Additional Movement Restrictions

Some patients may be told to follow traditional sternal precautions. If your surgeon has said you should restrict your movements beyond Keep Your Move in the Tube, follow these Do's and Don'ts after heart surgery.

DO These Activities	DON'T DO These Activities
<ul style="list-style-type: none"> <li>• Shopping</li> <li>• Baking</li> <li>• Preparing simple meals</li> <li>• Setting the table</li> <li>• Light repairs</li> <li>• Light dusting</li> <li>• Going to a movie, sporting event, play</li> <li>• Fold laundry</li> <li>• Gardening</li> <li>• Taking out the trash</li> <li>• Watering small plants</li> <li>• Crafts, such as knitting</li> <li>• Computer games</li> <li>• Photography</li> <li>• Cards and other table games</li> <li>• Leisurely walking outdoors</li> </ul>	<ul style="list-style-type: none"> <li>• Moving heavy furniture</li> <li>• Mopping, sweeping, vacuuming, scrubbing</li> <li>• Shoveling</li> <li>• Changing bed sheets</li> <li>• Driving (until your doctor says it is okay)</li> <li>• Lifting more than 5 pounds including:               <ul style="list-style-type: none"> <li>• Children</li> <li>• Groceries</li> <li>• Purses or briefcases</li> <li>• Pets</li> <li>• Laundry baskets</li> </ul> </li> </ul> <p>Other things that place strain on the breastbone:</p> <ul style="list-style-type: none"> <li>• Opening tight lids</li> <li>• Opening windows</li> <li>• Opening heavy car doors</li> <li>• Pushing or pulling heavy doors</li> </ul>
	



When getting up from a seated position, use your legs only to push your body up.

### To stand

1. Use your leg muscles to scoot to the front of the chair.
2. Place your feet firmly on the floor about shoulder-width apart.
3. Rock your upper body back and forth to gain momentum.
4. Bend forward from your hips and push your body up using your legs, not your hands.

### To sit

1. Before sitting, make sure the back of your legs touch the object on which you will be sitting.
2. Bend forward from your waist and use your legs to lower yourself into a seated position.

### To get out of bed (reverse these steps to get back into bed)

1. Lie on your back and scoot to the edge of the bed.
2. Bring both feet over the side of the bed one at a time and slowly roll on your side.
3. Slowly push your body up using the elbow beneath you. Use the arm on the other side to hold your pillow over your incision to keep your breastbone secure. At the same time, carefully swing both legs to the floor.
4. To help keep you from getting dizzy, sit for a few moments before standing.
5. Rock your upper body back and forth to gain momentum.
6. Bend forward at your hips and push your body to a standing position using your legs.

### To reach for an object



If above your shoulders, ask someone else to get it for you!

1. Use your entire body to turn toward the object. Get as close to the object as possible.
2. Lean forward at the waist to pick it up.

### To bend and pick up an object



If the object weighs more than 5 pounds, ask someone else to get it for you!

1. Get as close to the object as you can. Place your feet about shoulder-width apart. Put one foot slightly in front of the other for stability.
2. Bend at your knees, keeping your back straight and your hips and shoulders in line.
3. Pick the object up, keeping it close to your body. Push up slowly with your legs.

## What else should I know about recovering from heart surgery?

### Staying active helps

Staying active is important for your recovery. However, you do not want to overdo it. It is important to plan your day to achieve the right balance of activities.

- Limit the number of visitors you have and the length of each visit.
- Allow plenty of time to finish whatever you start. Stop and rest when you get tired.
- Plan your day so that you go up and down stairs less often.
- Plan two 20–30-minute rest periods each day for the first week or two after surgery.
- Gradually increase the time and intensity of your activities.
- Rest between activities.
- Get enough sleep (8-10 hours of sleep every night).



### Your emotions may fluctuate

It is normal to feel depressed, angry, or scared after surgery. The stress and strain of surgery often cause patients to show their feelings more than usual. Some patients cry and become irritable. Others may have bad dreams or have trouble concentrating or remembering things.

These feelings should go away by the end of your recovery (4 to 6 weeks). However, if they are severe or persist, you should speak with your doctor.

### Sexual intimacy after heart surgery

It is normal for both you and your partner to have concerns about being intimate after heart surgery. It is important to discuss your concerns with your partner to ensure that both of you are ready before resuming sexual activity.

It takes about the same energy to have sex as it does to climb two flights of stairs, so resume activity gradually. Your incision and breastbone will stay intact during sex.

Avoid unnecessary strain by trying positions that avoid twisting motions or placing too much stress on your arms. You should plan for at least 20 minutes of rest when you are finished.

### Know your limits

The following are signs that you may have done too much:

- Feeling very tired, faint, or dizzy
- Difficulty breathing
- Tightness, dull ache or increased pain in your chest, shoulders, or arm

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## Cardiac Rehabilitation

After heart surgery, you will need to rebuild your heart's strength and fitness, just like any other muscle. The Cardiac Rehabilitation team will help you to restore as much of your heart's fitness level as possible, in a safe way. The goal is to enable you to return to your normal daily activities after heart surgery.

The Cardiac Rehabilitation team includes clinical exercise physiologists and registered nurses. They are specially trained to meet the needs of cardiac surgery patients.



Insurance generally covers cardiac rehabilitation in an outpatient setting when your doctor has ordered it.

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## The Cardiac Diet

Your doctor has recommended that you follow a cardiac diet as part of your medical treatment. This diet is low in cholesterol, saturated fat, and sodium (salt).



In addition to following a heart-healthy diet, you should also avoid caffeine and alcohol for 6 weeks after your surgery.

Although this diet has been designed to meet your special nutritional needs, it can be adapted to fit your lifestyle. Please ask to speak with the dietitian if you have any questions.

### Heart-Healthy Eating Guidelines

Following a heart-healthy diet at home is easy. Just follow these guidelines to help you improve your eating habits and create heart-healthy recipes to enjoy.

- Limit saturated fats, such as high fat meats, cheese, and butter. Use monounsaturated fats such as canola and olive oils and light tub margarine.
- Limit fried foods. Bake, grill, broil, roast or boil your meats and seafood.
- Read the food label. Limit total fat to three grams or less per serving. Look for sodium of 300 milligrams (mg) or less per serving.
- Choose high-fiber foods. Examples are high-fiber cereals, beans, and fruit with the skin.
- Limit beef and pork to no more than three to four ounces, three times a week.

- Beware of large portion sizes, especially when eating out. Ask your server how foods are prepared.
- Maintain an appropriate weight. If you need to lose weight, follow a sensible low-fat diet.

## Understanding Cholesterol and Lipoproteins

### What is cholesterol?

Cholesterol is a waxy fat-like substance made in the liver and found in certain foods, such as dairy products, eggs, and meat. The body uses cholesterol for many important functions, such as

- Build cell walls
- Produce hormones
- Help your body use vitamin D
- Make the bile acids that aid with digestion

To do these things, your body only actually needs a small amount of cholesterol. But too much cholesterol in the blood increases your chances of developing heart disease.

When there is too much cholesterol in the blood, the excess will deposit itself on the walls of your arteries. Over time, this buildup narrows your arteries more and more. This restricts blood flow to the heart and can cause serious damage.

Cholesterol in the foods you eat can raise the amount of cholesterol in your blood. Dietary cholesterol is found only in animal products – meat, fish, and poultry. Some kinds of animal products contain especially high amounts of cholesterol. These include

- Organ meats (heart, liver, kidneys, sweetbreads, tripe)
- Egg yolks
- Fatty or highly processed meats (sausages, hot dogs, deli meats, bacon, canned meats, jerky, paté, etc.)
- Whole milk products

Your goal for how much cholesterol you take in from food should be less than 300 mg per day. That is equal to one large egg yolk or 3 ounces of shrimp

Read food labels to determine the cholesterol per serving when possible. The body produces its own cholesterol, so the amount of cholesterol you eat is not the only factor that can influence your cholesterol levels.

### What are lipoproteins?

Cholesterol travels through your body attached to a protein, called a lipoprotein. You may have heard of the lipoproteins HDL and LDL.

- **LDL is often referred to as bad cholesterol.** High levels of LDL tend to increase the deposits of cholesterol on the artery walls and increase the risk of heart disease.
- **HDL is often referred to as good cholesterol.** It can remove some of the LDL from the artery walls. Sufficient amounts of HDL in the blood are important to decrease the risk of heart disease.



## Examples of foods to eat and drink

- **Grains** – Whole grains like whole-grain bread and pasta, oats, couscous, brown rice and barley.
- **Fruits** – Many kinds and colors of fresh, frozen, dried, or canned fruits. Frozen or canned fruits with 100% fruit juice or water (without added sugar). Examples: apples, pears, berries, melons, bananas, plums, raisins, figs, and peaches.
- **Vegetables** – Many kinds and colors of fresh, frozen, or canned vegetables. If canned, low sodium or salt free. If frozen, without added fat and sodium. Examples include avocados, peppers, tomatoes, spinach, kale, beans, carrots, peas, olives, cucumbers, hummus, soybeans, lentils, and kidney beans.
- **Dairy** – Low-fat milk, cheese, and other dairy products. Greek yogurt, kefir, and plant-based milk alternatives like soy milk.
- **Lean meats, poultry, seafood, and proteins** – Salmon, cod, and other fish. White meat chicken and turkey, eggs, dried beans, lentils, and tofu. Nuts such as walnuts, almonds, pecans, hazelnuts, cashews, peanuts, and nut butters. Seeds such as pumpkin, sesame, flax, and sunflower seeds.
- **Fats, oils, and other foods** – Foods with healthy fats found in fish, nuts, and avocados. Limit use of oils to olive oil only. Use onions, garlic, spices, and herbs to season food.



## Examples of foods and drinks to avoid or limit

- **Grains to avoid** – White bread, pasta, white rice, crackers, and biscuits
- **Fruits to avoid** – Fruits canned or frozen with added sugar
- **Vegetables to avoid** – Commercially prepared potatoes and vegetable mixes, vegetables frozen with sauce
- **Dairy to avoid** – Whole-fat dairy products like cheese, ice cream, whole milk, cream, and buttermilk
- **Meats, poultry and seafood to avoid** – beef, pork, and lamb, sausages, deli meats, salami, hot dogs, and bacon, crawfish, oysters and shrimp
- **Fats and oils to avoid** – Butter, margarine, lard, gravies, sauces, fried foods and salad dressing
- **Sweets to avoid** – Cookies, cakes, candy, doughnuts, muffins, ice cream and other highly processed sweets

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