



# Your Guide to Heart Surgery



**THE OHIO STATE UNIVERSITY**

WEXNER MEDICAL CENTER



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**Talk to your doctor or healthcare team if you have any questions about your care.**

For more health information, go to [wexnermedical.osu.edu/patiented](http://wexnermedical.osu.edu/patiented) or contact the Library for Health Information at 614-293-3707 or [health-info@osu.edu](mailto:health-info@osu.edu).

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For a digital copy of this book, go to [go.osu.edu/pted3459](http://go.osu.edu/pted3459).

## MyChart to Manage Your Care

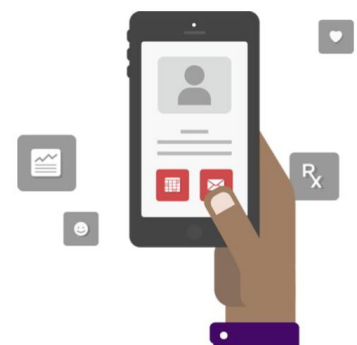
MyChart is a free and secure online portal to exchange messages with your provider, request appointments, renew prescriptions, check your test results, and much more. Use it from your phone, tablet, or computer.

Some things you can do with MyChart include:

- Managing appointments and finding care now
- Communicating with your care team
- Securely accessing your medical information
- Getting a notice when you can view your test results
- Renewing prescriptions

### Sign up

To create a MyChart account, use the link in the activation email you received when scheduling an appointment. The email sign up links are valid for 24 hours. After 24 hours, you will need to request another activation code from your provider’s office or join online at [mychart.osu.edu/osumc/signup](http://mychart.osu.edu/osumc/signup).



# Learn About Your Care

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Our goal is for you to return to the highest possible quality of life after your surgery. To help you meet this goal, we will teach you about your disease and what you should be doing to return safely and quickly to your daily activities. You will learn what signs to watch for, and what you can do to help prevent problems.

We want you to be an active partner in your care. This partnership is best for your health and will help you become as independent as possible. We hope you, your family, and your friends use this information to help guide your care and recovery.

This book includes basic information about your surgery, disease, treatment, and recovery. This material will be used by your healthcare team to teach you while you are in the hospital. You are not expected to read and learn all of this information before you go home. Keep this book to use as a resource at home. Other materials may be added by members of your care team to answer your questions.

## Be sure you understand

Our care team will teach you about your care. Use this list to check off topics you feel you will be able to do after you leave the hospital:

- Know how to care for my incisions.
- Manage my pain.
- Get ready to go home after surgery.
- Protect my chest when I cough and deep breathe, called sternal precautions.
- Do breathing exercises with the incentive spirometer.
- Know the dangers of bed rest.
- Know my activity guidelines after heart surgery.
- Participate in a Cardiac Rehab Program.
- Know how to eat to improve my heart health.
- Know how to take my medicines.
- Know how to stop smoking, if I am a smoker.

## Contact information

### Ohio State Richard M. Ross Heart Hospital

452 W. 10th Ave.

Columbus, OH 43210

Visitors

614-293-8000

Scheduling

614-293-7677

888-293-7677

Patient Information

614-293-3397

Patient Experience

614-293-8944

## Patient and visitor information

To prepare for your visit, go to [wexnermedical.osu.edu/patient-and-visitor-guide](http://wexnermedical.osu.edu/patient-and-visitor-guide) and learn about available resources, including:

- For Patients: Billing and Financial Assistance
- For Visitors: Locations and Parking (such as [driving directions](#) to Richard M. Ross Heart Hospital) and [Hotel Accommodations](#)
- [Listing of helpful telephone numbers](#)

# Getting Things Ready

## Prepare your home

- Have a list of emergency phone numbers ready. Keep the list where you can easily find it and add them to your phone's contact list.
- Consider setting up a temporary bedroom on the same floor as your bathroom and kitchen to avoid multiple trips up and down steps.
- Prepare a room with all your equipment on the first floor, if possible.
- Arrange your furniture to have wide, safe walkways throughout your home.
- Remove clutter or throw rugs from the floor that may cause you to trip and fall.
- Clear away any foot stools, electrical cords, or other items on the floor that could trip you.
- Rearrange your kitchen to have those items you use often within easy reach.
- Shop for frozen or canned food that will be easy to prepare.
- Put non-skid strips or pads in your bathtub or shower for safety.

Before you go home, your care manager, or occupational or physical therapist will talk with you about what adaptive equipment you may need at home after surgery.



## Prepare your visitors

**Visiting hours are generally 7 days a week.**

Open: 8 a.m. to 1 p.m.

Closed: 1 to 3 p.m.

Open: 3 to 8 p.m.

Some patients or areas may have limited visitation, **such as intensive care units.**

All visitors must be free of illness.

### **When you arrive for a visit:**

- Be prepared to show your photo ID.
- Wear your photo visitor badge where it can be seen at all times.
- Call the unit to ask what age children can visit.
- Practice good hand hygiene by washing your hands before you come into the patient room and again before leaving.
- **Overnight visitors are not allowed in patient rooms.**

Learn more about our visitor policy and check for updates at [wexnermedical.osu.edu/patient-and-visitor-guide/visitor-policies](https://wexnermedical.osu.edu/patient-and-visitor-guide/visitor-policies).

## Arrange for help after surgery

**You should have help available to help you after surgery. Arrange to have an adult with you 24 hours a day for at least 2 weeks.** You will not be as strong and may need someone to help you get in and out of bed, prepare meals, take you to appointments, get your medicines, help with your exercises, and care for your incision.

**Often the doctor cuts the breast bone or sternum to do heart surgery.** It is wired back together after surgery. You will have limits on some activities for your safety and healing. For example, **you will not be able to drive for at least 6 weeks after surgery** until your doctor clears you to drive.

**You will not be able to drive while taking prescription pain medicine and until your doctor says that you can return to driving.**

Ask your family and friends to be available to help:

- Give you a ride home from the hospital
- Get you in and out of the car
- Help you with bathing and walking
- Get you into and out of bed
- Prepare meals and do the shopping
- Do laundry and light housekeeping
- Get you to your follow up appointments
- Collect your mail
- Care for your loved ones or pets

## When added care is needed

Our goal is to have our patients return home from the hospital to recover in the comfort of their own home. However, some patients may require home health services, or a short stay in a skilled nursing or rehabilitation center.

If needed, we can provide you with a list of recommended providers for home health services, skilled nursing facilities, or rehabilitation centers close to your home. Our goal is to coordinate your care and reduce the chance of problems. By working together with you, your caregivers, and your community care team, we aim to give you the care you need to recover as quickly as possible.

Coverage for these extra services is different for each insurance plan. Please call your surgeon's office and ask to speak to the case manager.

## Talk to Your Insurance Provider

Know your options to help you plan for your care after heart surgery.

### If you have Medicare A or B:

- Ask for lists of nursing homes or home health services in your area.
- You can also get the lists online at [Medicare.gov](https://www.medicare.gov).

### If you have private insurance or Medicare Advantage:

- Call the phone number on the back of your insurance card. Tell them you are having surgery, and you want to know about your skilled nursing or nursing home benefits. Ask them for a list for your area.
- Review the list and call the admissions director at several sites. If you can, visit the sites to see which ones you prefer.

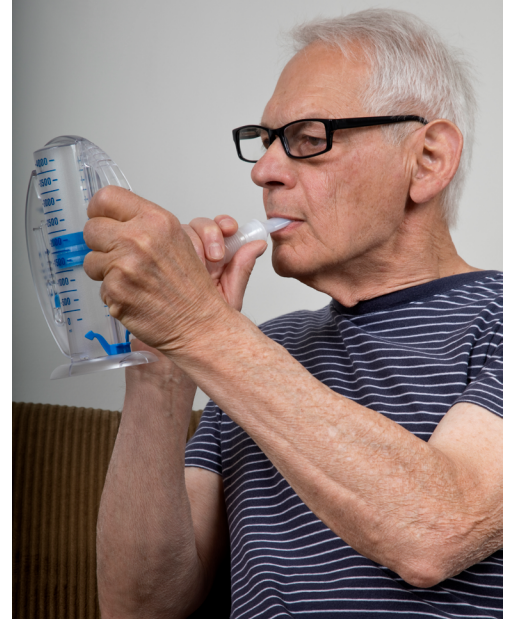
# Using Your Incentive Spirometer

Use your incentive spirometer to help you take deep breaths to open the air sacs in your lungs. This helps to reduce the chance of developing breathing problems, like pneumonia, after surgery.

**Practice your breathing exercises 3 or 4 times each day before surgery.**

## Steps

1. If possible, sit up straight. It may help to sit on the edge of a chair or your bed.
2. Hold the incentive spirometer upright.
3. Breathe out, then close your lips tightly around the mouthpiece and take in a slow, deep breath through your mouth.
4. As you take a deep breath, the piston in the clear chamber of the incentive spirometer will rise. It is important to breathe in slowly to allow the air sacs in your lungs time to open. **Your incentive spirometer has a smiley face indicator to let you know if you are breathing in too fast.**
5. After you breathe in as deeply as you can, hold your breath for 3 to 5 seconds. Set the goal indicator tab at the level that you reached.
6. Take out the mouthpiece and breathe out slowly. Relax and breathe normally for a few seconds until the piston returns to the bottom of the chamber.
7. **Repeat these steps a total of 10 times.** If you start to feel light headed or dizzy, slow down your breathing and give yourself more time between the deep breaths.
8. After you do the 10 deep breathing exercises, take a deep breath and cough to clear the mucus from your lungs.
9. **Record the level you reached on page 38 of this book and bring the book with you on the day of surgery.**



## After surgery

- Use your incentive spirometer after surgery to help keep your lungs clear while you recover.
- Do your breathing exercises 10 times every hour while you are awake each day.
- Support your incision by holding a pillow or folded blanket firmly against your incision. This will provide support and decrease the pain you may feel when you cough to clear the mucus from your lungs.
- Continue these exercises at home for 2 to 3 weeks or until your cough is dry.
- Keep it within reach, so you remember to use it as directed.

# Getting Your Skin Ready for Surgery

Your surgery involves cutting through your skin. Because germs live on everyone's skin, there is a chance of getting an infection. To lessen your chance of getting an infection, you need to wash your skin with a special soap or foam, called 4% chlorhexidine gluconate (CHG), before your surgery.

## Follow these instructions

- **For 5 days before your surgery, DO shave your facial hair with an electric razor to decrease your infection risk, but DO NOT shave your chest near the site where you will have your surgery.** Shaving with a blade razor can irritate your skin and make it easier to develop an infection. Depending on your surgery, a pre-surgery nurse may clip hair from your surgery site the day of surgery.
- **Follow the instructions on the next page to shower with CHG soap or foam as directed, starting 4 days before your scheduled surgery date and the day of surgery.** Wash your whole body from the neck down with CHG soap or foam. Use one bottle of CHG soap or foam each time you shower. Please call your surgeon's office if you have any questions.
- **You will take 5 showers total using CHG soap or foam:**
  - Starting 4 days before your surgery, shower 1 time each day with CHG.
  - Shower again the morning of your surgery with CHG. Wash your whole body from the neck down with CHG soap or foam. **Use 4 ounces (½ cup) of CHG soap or 4 to 5 pumps of CHG foam each time you shower.**
- After your shower, pat yourself dry with a clean towel.
- Put on clean clothes.
- On the morning of surgery, do NOT put on hair or skin care products, deodorant, or make-up. Do NOT wear jewelry to hospital or surgery center.
- Do NOT use CHG soap or foam on your hair, face, or head unless you are told to do so by your surgeon's office.

## If you are not able to shower

If you are not able to shower, take a sponge bath each time you clean your body following the instructions on the next page.

1. First, bathe with a clean washcloth, water, and regular soap. Rinse well with clean water.
2. Wet a clean washcloth with clean water and apply some CHG soap or foam to it.
3. Use the washcloth to wash your whole body **from the neck down**. Keep adding more CHG and continue to **wash for 5 minutes**.
4. Rinse well with another clean washcloth and clean water.
5. Pat yourself dry with a clean towel. Put on clean clothes.

# How to shower with CHG soap before surgery

**1** Wash your hair as usual with your regular shampoo and then wash your body with regular soap.  
Rinse well.

**2** Wet a clean washcloth. Turn off the shower.

**3** Apply some CHG soap to the wet washcloth.

**4** Use the washcloth to wash your whole body **from the neck down**.  
Keep adding more CHG and continue to wash for **5 minutes**.

**5** Turn on the shower water and rinse your whole body well.

**6** Pat yourself dry with a **clean** towel.

**7** Put on **clean** clothes.

**8** **Note:** On the **morning of surgery** when you finish showering, **do NOT** put on hair or skin care products, deodorant or make-up. **Do NOT** wear jewelry to the hospital or surgery center.

# Early Surgical Recovery

## Things You Can Do to Help Yourself Recover Sooner

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### Improve your nutrition and exercise before surgery

Being in good physical shape can help you recover from surgery quicker and with fewer problems. The stronger you are before surgery, the easier things will be for you after surgery.

If you are not active now or have certain diet or fluid limits, talk to your care team about options that will work best for you.

#### Tips for Being Active

- Exercise at least 30 minutes each day. This exercise can include 5 to 10 minutes of ongoing activity, working up to 30 minutes total.
- Examples of activity:
  - Walking in your neighborhood or on a treadmill
  - Riding a bike
  - Strength training using light weights
- Try to increase the amount of time or how hard you are exercising every few days to build up your strength and energy.
- If you have a regular exercise routine most days of the week, continue until your surgery.
- Practice sitting and standing without use of your arms to prepare for surgical restrictions.



Your surgeon may have you see a physical therapist (PT) before your surgery if you are not very active or you are weak. **If you have chest pain or trouble breathing, stop exercising and contact your doctor.**

#### Tips for Better Nutrition

Good nutrition will help you get stronger before surgery and heal faster after surgery. Your body will need extra calories and protein for your surgery.

- Eat 3 to 4 small meals a day, with snacks as needed.
- Eat a variety of foods for a balanced diet, so you get enough fiber, vitamins, and minerals.
- Healthy plant foods include nuts, seeds, whole grains, beans/legumes, fruits and vegetables.
- Eat foods rich in protein at every meal and snack. Foods high in protein include meat, poultry, fish, eggs, dairy, beans, nuts, soy foods, and whole grains. Fish, poultry, and eggs are also high protein and can be eaten in moderation.
- A serving of protein is 1/2 cup of cooked beans, a handful of nuts, or 2 ounces of fish or poultry.
- Protein supplements, such as protein shakes or powders to add to a homemade smoothie, can help you get enough protein if your appetite is low.

- Avoid fried foods, processed foods with refined flours or added sugar, and sweetened beverages as much as possible.
- If you have been losing weight or have a poor appetite, your surgeon may have you speak with a registered dietitian (RD).

## Stopping tobacco use before and after surgery

Stopping all nicotine products at least 4 to 6 weeks before surgery will help with your wound healing, reduce the risk of infection after surgery, and help with bone fusion healing. Nicotine products include but are limited to: cigarettes, electric cigarettes, vaping, chewing tobacco, snuff, and nicotine cessation products (such as the patch, gum, mints, and lozenges).

### Try the “4 D’s”:

- Delay. See if you can wait 5 minutes before lighting up. Even a few minutes can help a craving to pass.
- Deep breathe. Count to 5 for each breath in and each breath out. Repeat 10 times.
- Drink fluids. Drink liquids throughout the day to help clear nicotine from your body. Try to drink 8 (8-ounce) glasses each day.
- Do other activities to keep busy. Take a walk, read a book, play a game, or talk to a friend. Try to keep your hands and your mind busy.

**Talk to your doctor about a cessation program.** You can also get help from these resources:

- Ohio State Smoking Cessation Clinics: 614-293-0932
- Ohio Tobacco Quit Line: 800-QUIT-NOW (784-8669)
- Quit for Life program from the American Cancer Society: 800-227-2345
- American Lung Association: 800-586-4872
- Ohio Partners for Smoke Free Families: [ohiosmokefreefamilies.org](http://ohiosmokefreefamilies.org)
- Quitting Tobacco Use Book: [go.osu.edu/pted3430](http://go.osu.edu/pted3430)

## Stopping alcohol use

If you drink alcohol, you will need to stop drinking 4 weeks before the surgery to reduce your risk of problems after surgery. Avoid alcohol up to 8 weeks after your surgery to help reduce your risk of infection and to help your wound heal more quickly.

Talk to your doctor if you need help to stop alcohol use, or ask to speak with a social worker. You may also find these resources helpful:

- Alcoholics Anonymous (AA)  
[aa.org](http://aa.org)
- Rethinking Drinking  
[rethinkingdrinking.niaaa.nih.gov](http://rethinkingdrinking.niaaa.nih.gov)
- National Institute of Alcohol Abuse and Alcoholism  
[niaaa.nih.gov](http://niaaa.nih.gov)



# Managing Pain

**Pain is a normal part of surgery. Do not expect to have no pain after surgery.** Good pain control helps you feel comfortable, so you can take deep breaths, walk, and sleep. These things help to lower your risk of problems, such as pneumonia and blood clots after surgery. Take your medicine as ordered by your doctor to bring you the most relief as your body heals.

**Let us know when you need something to treat your pain.** The best way to treat pain is to prevent it from becoming severe.

## During and after surgery

- We will manage your pain while you are in surgery.
- **After your surgery, expect to have some pain from your chest tubes, IV lines, and incision.**
- **Ask for pain medicine before your pain gets too bad.** Your nurses will wait for you to tell them you are in pain before pain medicine is given.
- Your pain will change as you recover, as your body heals over the next several days to weeks.

## Pain medicine

- Pain medicine can be given by mouth or through your IV.
- You will be given different medicines in different ways to help control your pain. This may include medicines given on a schedule and medicines given to you as needed.
- Your doctor may order more than 1 pain medicine for you. For example, you may have separate medicines ordered for mild, moderate, and severe pain.
- Our goal is to control your pain to improve your recovery.
- Everyone feels pain in different ways and may not respond the same way to pain medicines. We will develop a plan that works best for you.
- Follow your prescription instructions and do not over use your pain medicine. You will not be able to get a refill on your prescription.

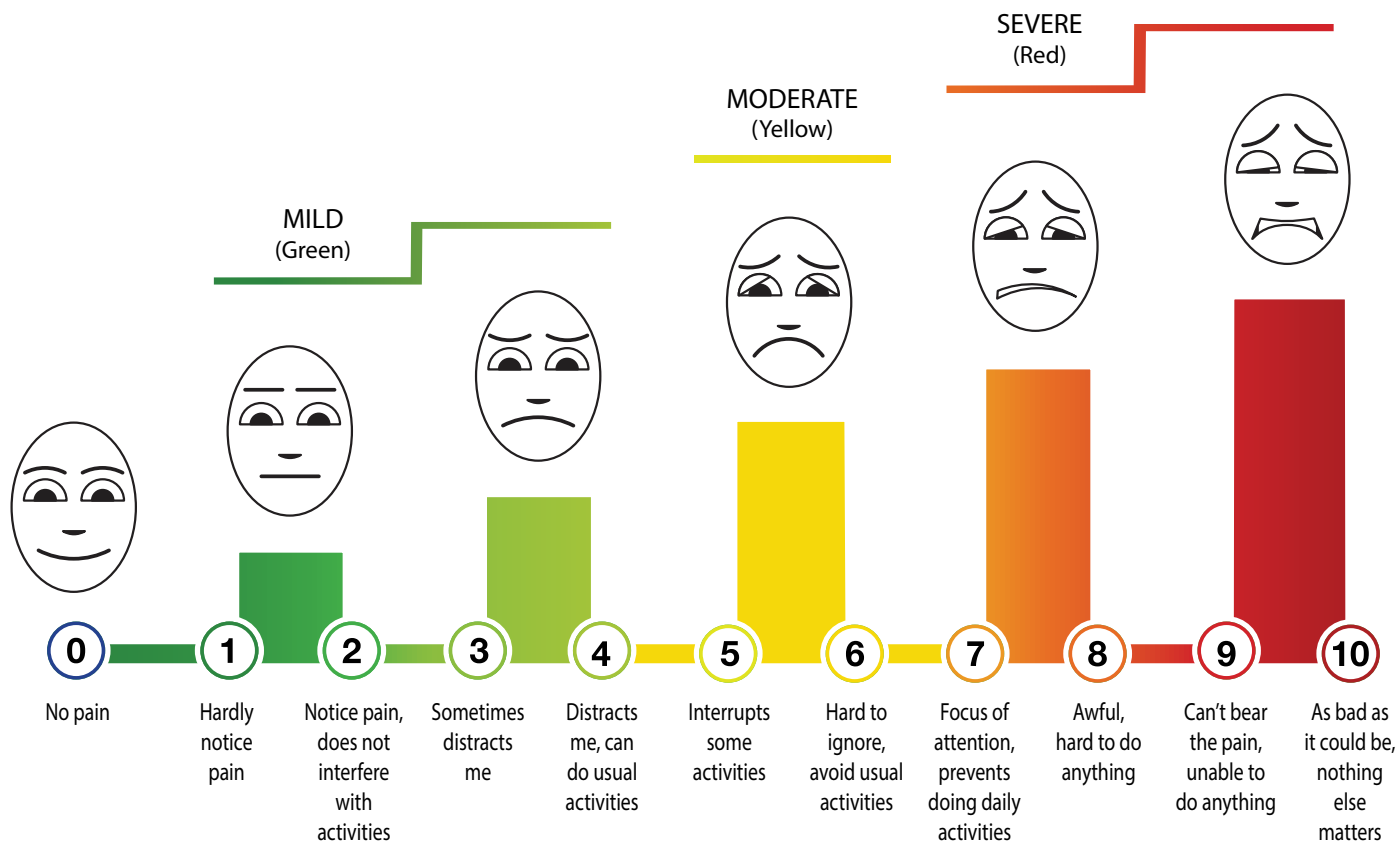
## Taking pain medicine has risks

### Side Effects and Cautions

- Constipation is the most common side effect. Drinking fluids, taking stool softeners or laxatives, and being active helps to prevent constipation.
- Other side effects may include itching, dizziness, sleepiness, nausea, and vomiting.
- Before surgery, it is important to let your medical team know about any drug allergies you have.

## Pain rating

Pain is personal and different for each person. We will ask you to use a pain rating scale to help us understand your pain and to set goals for pain control. You will be asked about your pain often. Any time you have pain, tell your healthcare team. Use the scale and choose the number (0 to 10), description, or face that best matches the pain you feel now.



Defense & Veterans Center for Integrative Pain Management v 2.0

## Be active in pain control

Always let your care team know if you are in pain or if you think you are having a side effect.

Tell us if a certain pain medicine has helped in the past, so we can use what works for you.

Gentle activity, such as walking, can help improve healing and reduce swelling. Your doctor will let you know what activities are safe for you after surgery.

**A good reminder if you are having increasing pain: review your sternal precautions. You may be doing too much with your arms. Check your sternal precautions on page 19 and 22.**

## Non-drug pain control

Many patients find using other treatments help to reduce the need for pain medicines. Some of these options may include:

- **Deep breathing:** Taking slow, deep breaths can help you relax and lessen pain.
- **Distraction:** Focus your attention on something other than pain, such as playing games and visiting with family.

- **Music:** Music can help you relax and breathe more deeply and slowly. It can also increase your energy and help change your mood.
- **Aromatherapy:** The use of essential oils helps to support emotional, physical, or spiritual well being.
- **Relaxation techniques:** Stress and anxiety can make pain worse and may slow healing. Here are some ways to help you relax:



- Use extra pillows and blankets to stay in a comfortable position.
- Ask your support person to massage your hands or feet.
- Try placing a cool cloth on your hands or face.
- Close your eyes and imagine yourself in a place you find relaxing.
- Learn tools to help relieve stress, such as breathing exercises, progressive muscle relaxation, yoga, and other techniques.  
Go to [go.osu.edu/stress\\_tools](https://go.osu.edu/stress_tools).
- Listen to guided imagery recordings at [wexnermedical.osu.edu/integrative-health](https://wexnermedical.osu.edu/integrative-health).
- You may find apps for your electronic devices, such as your phone or tablet.

## Treating pain after discharge

- Contact your surgeon's office if you have questions about over the counter medicines and other options for pain relief.
- If your pain gets worse, contact your surgeon's office.
- Pain medicines may be prescribed for when you leave the hospital.
- You may need to continue taking the prescribed pain medicine if certain activities such as walking cause pain or at bed time if you are waking often due to pain.
- If your pain is controlled with over-the-counter medicine, you no longer need to take your prescribed pain medicine.
- **Avoid taking NSAID (non-steroidal anti-inflammatory) medicines** unless you have discussed this with your surgeon. These include medicines like ibuprofen (brand names Advil or Motrin) and naproxen sodium (brand name Aleve).
- **Remember, these medicines help to decrease pain, but they do not completely get rid of it.** You should take pain medicine so that your pain is mild during your recovery.
- **Day of discharge:** Please make sure you understand your medicine instructions and which pharmacy they have been sent to. This will be included on your after visit summary (AVS).

# Leading Up to Surgery

The following are some general guidelines for how to prepare. You will get instructions to prepare for your surgery that are specific to you.

## Weeks leading up to surgery

- **If you are having a valve procedure or an aortic aneurysm repair and you have your own teeth**, you will need to see your dentist to make sure surgery is safe for you.
- **If you are feeling ill or develop a new rash during the week before surgery**, please call the surgeon's office.
- **If you are on blood thinners or antiplatelet medicines**, please let your surgeon know in case changes need to be made to your medicines before surgery. **DO NOT** stop taking your medicines before talking to the doctor who prescribed them.
- **If you smoke or use other tobacco products, stop 4 to 6 weeks before surgery** to avoid wound healing problems.
- You may be prescribed a medicine called amiodarone at your preoperative appointment. This medicine reduces your risk of developing an abnormal heart rhythm after surgery called atrial fibrillation. You also will take this medicine after surgery.
- **You will have these screenings:**
  - › **Malnutrition screening** to evaluate your nutritional needs.
  - › **Frailty screening** to evaluate your rehabilitation needs.
  - › **Cognitive screening** to evaluate your risk of delirium after surgery.
- **Start showering with the chlorhexidine gluconate (CHG) soap 5 days before** your surgery. See the instructions on page 8 and 9.

## Night before surgery

- **Do NOT eat or drink anything after midnight**, including gum or mints.
- Wash from the neck down with the CHG soap.

## Morning of surgery

- Shower again the day of surgery with the CHG soap.
- Take your medicines (that you have been told are okay) in the morning with small sips of water before you arrive. This includes **baby aspirin and beta blocker**. Let your preoperative nurse know what time you took the medicines.
- Complete the "What to Bring the Day of Surgery" checklist on page 38 of this book. Bring the checklist and the items listed with you to the hospital.

# 4 Ross Visitor Guidelines

## Visiting hours:

8:00 a.m. – 1:00 p.m.	Open
1:00 p.m. – 3:00 p.m.	Closed
3:00 p.m. – 8:00 p.m.	Open

- We ask that no more than two people visit in the patient room at one time. This will help the staff to have enough space to safely care for your loved one.
- The patient must be easily accessible for the staff to perform care, especially in the case of emergency.
- If the patient is having a treatment in the room, you may be asked to wait in the waiting area until the treatment is complete for the patient's privacy.
- If the patient is unstable, the nurse may restrict visitation to safely administer care. Please see criteria below that qualifies the patient as unstable.
- The patient may be unstable if:
  - They are having difficulty breathing on the breathing machine, also called a ventilator.
  - Blood pressure is not well controlled and the patient needs IV medicines and/or blood products as part of their care.
  - Close monitoring is needed after just coming out of the operating room or an invasive procedure, or if they are having neurologic changes.
  - Several pieces of equipment are needed for care in the room to manage the heart, breathing, or other body functions.

## Why are there times when the unit is closed to visitors?

- 1 – 3 p.m.: This is the unit quiet time and it is closed to visitors. This break allows the patients a time for rest and healing.

## Nighttime visitors:

Overnight visitors are not permitted in patient rooms. If you wish to stay overnight in the hospital, we will direct you to a nearby waiting area where we can contact you by cellphone if there is an update or change in their condition.

## Child visitors on 4 Ross:

For our patients' safety and comfort, children under the age of 12 are prohibited on the unit.

In certain cases, approval for a child to visit may be granted if the patient is:

- The parent or legal guardian of the child **or**
- Having to stay more than 30 days in the hospital **or**
- Nearing death

## Why do we restrict children?

4 Ross is an ICU environment.

- Children may be frightened by the equipment on the unit or tubes and wires attached to patients. A loved one may look different than they normally do, and this can be very scary to a child. Even if your loved one is feeling better, children may see other patients who are very sick.
- Equipment used in care can take up a lot of space in the room. To keep the patient safe, we need to be sure the equipment is not bumped, pulled, or handled in any way that could harm the patient.
- Our patients need rest to heal and recover. Sometimes young children do not understand when they are not being quiet or the need to be quiet. This is normal for young children, but can be disruptive to those who are not feeling well.

Thank you for taking part in the care of your loved one. Please let us know if there is anything that we can do to make this a better stay for them or for you.

# After Surgery

You will have various tubes and other equipment attached from surgery. Some of these things will come off in the first day or two after surgery and some things will be in place until you are ready to go home.

## Breathing tube and ventilator

A **breathing tube and ventilator** helps you breathe until you are awake enough to breathe on your own. Your doctor will check you and decide when you are able to come off of the ventilator, often later the first day.

When you first wake up, the breathing tube will be taped to your face, and it may feel as if you cannot breathe. Try to stay relaxed and let the ventilator do the breathing for you. You will not be able to talk with the breathing tube in place, but you can nod yes or shake your head no to answer questions.

When the breathing tube is removed, you will get oxygen through a tube under your nose. You may have a sore throat. This often improves after 24 hours.

## IV Lines

- **PA catheter (also known as a Swan-Ganz)** is placed in a neck vein. This is used to measure your heart function and pressure in your heart. Medicines and IV fluids will be adjusted based on the readings from this catheter.
- **Arterial line**, also called an A Line, is a catheter that is placed in an artery in your arm to check your blood pressure. Blood will be taken from this line for tests. IVs are placed in veins to give you fluids and medicines.

## Tubes

- **Chest tubes** are used to drain extra fluid from your chest after surgery. You may have up to 4 tubes placed. These are often taken out 2 to 3 days after surgery.
- **A tube, called a Foley catheter**, is placed in your bladder to drain urine and to check how your kidneys are working. You may feel the urge to urinate. This is normal. The catheter drains the urine. It is removed when you are able to get up to use the bathroom.
- **A stomach tube**, also known as a **nasogastric or NG tube**, is put in through your nose or mouth. It is used to remove stomach contents to prevent nausea and vomiting. It is often removed when the breathing tube is removed if you are ready to begin drinking fluids.

## Heart monitor and pacemaker

- **Wires will be attached to patches on your chest** to check your heart rate and rhythm. When you are able to walk, the wires will be attached to a small box, called **telemetry**.
- **Pacemaker wires** are connected to your heart and a pacemaker box. These will be removed when they are not needed.

## General care outline

This is an outline of a general time line of care, but yours may be different based on your needs. **Please be aware some delays may occur.**

If you have questions or concerns, please talk to your care team. You and your family will also have instruction about your care before you leave the hospital.

### Every Day

- You will use your incentive spirometer 10 times every hour while you are awake.
- You will use a pillow to support your chest when you cough and deep breathe to help control pain.
- You will sit up the evening of surgery and then sit up in a chair for all meals (or at least 3 times each day).
- You will be helped to get up and walk. The goal is to walk 3 times each day, going farther each time.
- Tell the team if you are having problems with appetite or sleep.
- You will be scheduled to get your pain medicine to help you breathe and move more easily. You will need to ask your nurse if you feel you need more pain medicine to manage your pain.

### Day of Surgery

- Breathing tube and stomach tube will be removed within 4 to 6 hours of surgery, if possible.

### 1 to 3 Days After Surgery

- You will be out of bed. Occupational and physical therapy will assess your mobility.
- Your blood surgery will be controlled closely to help with wound healing, whether or not you are diabetic.
- You may need a stool softener while you are on prescription pain medicines. Tell your nurse if you feel that you need to have a bowel movement.

- It is expected that you will be out of bed on day 1. If you are breathing well and have good oxygen levels, you will have your oxygen tube removed from under your nose.
- Tubes, lines, and oxygen will be removed when possible.
- You will start clear liquids and ice chips. Your diet will expand as you can eat without feeling sick.
- You will restart your home medicines, if possible.
- Cardiac rehabilitation will be started.
- You will continue moving every day with assistance.
- Your nutrition will be assessed.

### 4 to 6 Days After Surgery

- You may need a stool softener while you are on prescription pain medicines.
- Remove remaining chest tubes.
- Review needs for discharge and arrange transportation.
- Identify discharge location if not going home.
- Remove pacer wires.

### Day of discharge

- Review discharge education.
- Get a copy of your After Visit Summary and any prescriptions you need.
- Be sure you understand your care instructions for:
  - Medicines you need to take
  - Follow up appointments
  - Special equipment, if needed
- Referral for Outpatient Cardiac Rehab Program, and additional physical and/or occupational therapy services, if needed.
- Pharmacist may review your discharge medicines with you.
- Surgical incision hygiene education with Occupational Therapy.

## Be active

- If you are able to walk, small amounts of activity several times a day is best.
- Walking around your room is better than lying in bed or sitting in a chair.
- A rest-activity plan will help you keep your strength and build endurance.

## Dangers of bed rest

Many people think that resting in bed will help them recover faster. Spending too much time lying down can have many dangerous effects on your body. Bed rest should only be prescribed by your healthcare provider.

Even if you may not feel like getting out of bed, the benefits make it worthwhile. A balance between activity and rest reduces most effects of bed rest. Even a single day in bed may cause problems such as:

- Blood clots
- Dizziness with moving
- Depression
- Changes in eyesight or hearing
- Poor balance
- Changes in blood sugar
- Muscle weakness
- Feelings of nausea
- Stiffness and pain
- Bed sores and skin breakdown (pressure injury)

# Sternal Precautions

Recovery after heart surgery includes healing of the sternum and slowly building up your physical strength. After surgery, you will get detailed instructions about what you can and cannot do as you heal. These will vary based on the type of surgery you had.

## For the first 6 to 12 weeks after surgery

You will need to protect your sternum or breast bone as it heals. This is called sternal precautions. You will be given instructions that may include:

- When moving after surgery, support your incision by holding a pillow or folded blanket firmly against your incision. This will provide support and decrease the pain you may feel with movement. Always keep your support pillow with you.
- **Avoid reaching backwards, out to the side, or over your head with both arms at the same time.**
- **Do NOT lift, push, or pull more than 10 pounds.** A gallon of milk weighs about 8 pounds.
- Hold a pillow across your chest to support your incision when you cough, sneeze, or do your breathing exercises.
- Place your chest pillow between the seat belt and your chest when you ride on a car.
- Laying flat may be a challenge after surgery. Using extra pillows, a wedge, or a reclining chair may be useful.
- **You are not allowed to lay on your stomach or sides until cleared by surgeon.**



Learn more about your sternal precautions on page 22.

# Fall Prevention in the Hospital

Our main goal is to keep you safe while you are here for care. We want to work with you and your family to help prevent falls.

You may have tests, medicines, and treatments that increase your chance of falling. We will tell you what is safe for you to do on your own based on your fall risk.



## Please call. Don't fall.

- **Call before you get up out of your bed or chair.** Please use your call button if you want to get out of bed, so we can help you get up and move about the room safely. Being in bed for even 1 day or taking new medicines may cause you to feel dizzy or weak.
- **Do not have a family member assist you** with getting out of bed.
- **When you need to walk, call for help.** Never lean on or use an IV pole for support when you are walking.
- **Wear nonskid slippers, socks, or shoes.** It is best to wear shoes or slippers that fit well and stay securely on your feet. Ask for a pair of nonskid socks if you need something to wear.
- If you wear eyeglasses, keep wearing them while you are in the hospital.
- Do not bend over while standing, which can make you dizzy.
- Avoid wearing long nightgowns or robes, which can cause you to trip.
- Go to the bathroom often, so you do not need to rush. Call for staff to help you.

## To prevent falls, we will:

- Help you in and out of your bed or chair and to walk.
- Make sure that your call light, bedside table, telephone, and any assistive device you need are within easy reach.
- Keep your bed in a low position with wheels locked for your safety.
- Keep the floor in your room free of spills or slippery areas. Please let us know if you see a spill before we do.

# Medicine Safety During Your Hospital Stay

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## List of medicines

We want to keep you safe during your hospital stay. Help us by providing a list of all the medicines you take at home, including prescription and over the counter medicines and any vitamin or herbal supplements. Be sure to list:

- Name of the medicine or supplement
- Dose and strength of the medicine
- How often you take it
- When it was taken last

Also, list any allergies you have to food or medicines and the reaction that you had.

## During your stay


In the hospital, we are responsible for all of the medicines you take and watching your response to them.

- We will take special care to select the right medicines for you.
- We do not allow you to take your own medicines, except if the medicine is:
  - Not on the hospital's list of preferred medicines
  - An oral chemotherapy agent
  - Herbal medicine ordered by your doctor
  - A controlled substance with no acceptable alternative and with approval by Pharmacy leadership



# What To Do After Surgery

## Sternal precautions following cardiac surgery

After your surgery, your provider will place you into 1 of 5 categories. Follow the 12-week activity orders throughout your recovery in order for your body to heal.	STERNOTOMY STANDARD	STERNOTOMY STRICT	THORACOTOMY STANDARD	THORACOTOMY STRICT	TRANSFEMORAL PROCEDURES
<b>ARM MOVEMENTS</b>					
 Keep your elbows tucked in at your side against your rib cage	Weeks #1 - 6	Weeks #1 - 12	Weeks #1 - 2	Weeks #1 - 4	No restrictions
 Begin side-to-side movements to extend your elbow at a 90-degree angle from your shoulder. This phase can be referred to as “walk like a chicken,” or a suprathero stance	Weeks #1 - 6	Weeks #1 - 12	Weeks #1 - 2	Weeks #1 - 4	No restrictions
 Extend your elbows fully, making a “T” with your body. Begin raising your arm slightly, avoiding any movements that extend above your shoulders or head	Weeks #1 - 6	Weeks #1 - 12	Weeks #1 - 2	Weeks #1 - 4	No restrictions
 Extend your arms and shoulders behind your body, like you are reaching back to grab the arms of a chair before you sit down	After 6 weeks as tolerated	After 12 weeks as tolerated	After 2 weeks as tolerated	After 4 weeks as tolerated	No restrictions
 Begin to raise your arms above your head as tolerated, utilizing full range of motion in your shoulders	After 6 weeks as tolerated	After 12 weeks as tolerated	After 2 weeks as tolerated	After 4 weeks as tolerated	No restrictions
<b>WEIGHT RESTRICTIONS</b>					
Follow these restrictions when lifting, pushing or pulling anything with one or two arms					
	Weeks #1 - 6	Less than 10 lbs	Less than 10 lbs for 2 weeks, then as tolerated	Less than 10 lbs for 4 weeks, then as tolerated	After 1 week as tolerated
	Weeks #7 - 12	Less than 25 lbs			
	Weeks #12 - 24	No restrictions			
<b>BODY MOVEMENTS</b>					
 Hug or hold the heart pillow to help ease pain during movements or coughing	Weeks #1 - 6	Weeks #1 - 12	Weeks #1 - 2	Weeks #1 - 4	N/A
 Support your body weight with your arms to minimize the amount of motion	After 6 weeks as tolerated	After 12 weeks as tolerated	After 2 weeks as tolerated	After 4 weeks as tolerated	As tolerated after discharged from hospital
 Use your elbow to support your body when getting out of bed	After 6 weeks as tolerated	After 12 weeks as tolerated	After 2 weeks as tolerated	After 4 weeks as tolerated	As tolerated after discharged from hospital
 Driving a vehicle (if no longer taking any narcotic pain medications)	After 6 weeks as tolerated	After 12 weeks as tolerated	After 2 weeks as tolerated	After 4 weeks as tolerated	After 1 week as tolerated

# What You Can Expect as You Recover From Heart Surgery

Learn what you can (and shouldn't) do as you heal.

When you've have heart surgery, it's important to give your heart time to heal. You may be eager to start feeling "normal" again and getting back to doing the things you like to do, but you should listen to your body.

Pain is your guide in the recovery stage. If an activity causes pressure or pain, stop. Slowly return to the activity at a modified level to allow your body to recover and gain strength.

## DAILY TASKS

*Complete these tasks each day. If you have any concerns, contact your primary care physician.*

- Shower daily to keep your wound clean. Thoroughly dry your wound afterward.
- Take medications as prescribed at the time of discharge from the hospital.
- Monitor your weight, blood pressure and any signs of infection.
- Eat a healthy diet. Nutritional foods will help your body in the healing process.



## WOUND CARE

*Follow these guidelines to clean your wound daily. If your wound is opening, getting worse or not healing, call the surgical team immediately at 614-293-5502.*

## Cleaning

Clean your wound every day with your fingertips and antibacterial soap and water. You may need to adjust your shower to a gentle spray. Allow the water to gently run over your wound.

Avoid using harsh chemicals, like hydrogen peroxide, applying lotions or topicals, and scrubbing with washcloths, loofas or scrubbers for at least the first 12 weeks of recovery.

## Drying

Dry the wound thoroughly after every shower, using a clean towel every time. Leave areas open with no bandage, unless the wound is actively draining or you were instructed by your provider at the time of discharge or at your clinic appointment.

## DIET AND EXERCISE

### Diet

During your recovery, maintain a heart-healthy diet. If you are diabetic, make sure to monitor your carbohydrate counts as well.

- Avoid soft drinks, coffee and tea due to caffeine content. Limit to one caffeinated beverage a day.
- Avoid beer, liquor and wine while taking pain medications.



### Exercise

Movement and exercise are important during recovery to help your body get stronger. Exercise as your body allows.

- Attend cardiac rehabilitation two to three times a week, as instructed.
- No strength training or weightlifting until after 12 weeks, per your sternal precautions guide.
- Walk until you feel tired or fatigued, rather than setting a goal based on distance or time.



## WHAT YOUR LOVED ONES SHOULD EXPECT

Healing takes time, and it will require a team effort. Collaborate with your loved one or caretaker and encourage him or her to take part in the healing process — take walks together or join your partner in eating healthy.

Adjusting to a serious health problem can cause depression or anxiety. Depression can make your cardiac rehab program more difficult, and it can affect your relationships and other areas of your life and health. If you get depressed, don't ignore it — contact your primary care physician.

For more information, visit [wexnermedical.osu.edu/heart](http://wexnermedical.osu.edu/heart).



**THE OHIO STATE UNIVERSITY**  
WEXNER MEDICAL CENTER

# Discharge Education Summary

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## Be sure you understand

When preparing to leave the hospital, your care team will review your discharge instructions with you. Be sure you understand your care instructions for:

- Medicines you need to take
- Follow up appointments
- Special equipment, if needed
- You will get any prescriptions you need. A pharmacist may review these with you.
- You will get a referral for Outpatient Cardiac Rehab Program, and additional physical and/or occupational therapy services, if needed.
- You will be taught how to care for your incisions.

## Activity limits

To protect your heart and incision:

- Light activity for the next 6 to 8 weeks.
- No lifting, pulling, or pushing over 10 pounds. A gallon of milk weighs 8 pounds.
- Do not put both hands behind your back or above your head at the same time.
- **No driving** until your doctor gives you the okay to drive. Ride in the back seat and use the heart pillow between your chest and the seat belt.

## Cough and deep breathe

- Use your incentive spirometer every hour you are awake for 2 to 3 weeks or until your cough is very dry.

## Walk and move for healing

Walking and moving reduces your chance of blood clots and pneumonia. It also improves healing.

- Aim for 30 minutes of total walking daily. For safety, have help walking at first. Start with 5 to 10 minute walks, 3 to 5 times each day.
- Start slow and increase your speed and distance slowly.
- Wear shoes that support your feet.
- Avoid hills and walking outside in bad weather.
- If you do not feel good or get tired, stop and rest.
- Do not use treadmills or stationary bikes for 4 weeks, or until directed by a healthcare provider.
- After 4 to 6 weeks, start a cardiac rehab program in your area. A referral will be faxed, but if you have questions, call 614-293-6937.

## Rest as needed

- Do the most important chores first and no lifting or sweeping.
- Rest and take naps as needed.
- Limit going up and down stairs.
- Limit visitors and outings.

## After surgery blues

- It is common to feel sad or frustrated. Get plenty of rest and plan for fun and easy activities.

## Eating and drinking

- **Limit fluids** to 2 liters each day.
- **Weigh yourself each morning.** If you gain 2 to 3 pounds in 24 hours, or 5 or more pounds in a week, call your nurse or doctor.
- It is normal to have little appetite, so eat appealing foods until your appetite returns. **Your body needs the calories and proteins for healing.**
- After 4 to 6 weeks or when your appetite returns, focus on heart healthy foods and drinks. Limit sodium or salt, fat, caffeine, and cholesterol foods and drinks as directed. Learn more about a heart healthy diet and limiting sodium later in this book.

## Medicines

- Only take the medicines listed on your discharge instructions, which may be different than before surgery.
- You will have a prescription for pain medicine.
- If you need to take insulin injections, ask for information before you leave the hospital.
- **Only take over the counter medicines or supplements if approved by your doctor.**
- Store medicine where children and pets cannot get them. Check with your pharmacist about how to safely get rid of unneeded medicine. Do not throw old medicine in the trash.

## Incision care

- Take showers only, no tub baths. Do not let the shower spray directly hit your incision.
- Clean your incision with soap and water 2 times each day. Rinse the incision gently and pat dry with a clean towel.
- Leave your incision uncovered as much as possible, unless draining. If it is draining, **call your healthcare provider** and cover it with gauze.

- Avoid lotions, oils, and powders on the incision.
- Check the incision area for redness, streaking, swelling, or fever and report any of these signs of infection.

## Avoid tobacco and second hand smoke

- Using tobacco or being around others who smoke can increase your blood pressure and slow healing.
- Tobacco use increases your risk of lung cancer and coronary artery disease. It can also limit the life of coronary artery grafts.
- Ask for tobacco cessation information if needed.

## Sleeping

- Laying flat may be difficult after surgery. Using extra pillows, a wedge, or a reclining chair may be useful.
- Fall asleep on your back. If you wake up on your side, reposition yourself to lie on your back.
- **DO NOT** lie on your stomach until you are cleared by your surgeon.

## Using stairs

- Use handrails when walking up and down stairs for balance. **Do not pull yourself up the stairs.**
- Steady yourself with your dominant leg before starting up the stairs. Steps slowly with 1 foot at a time.
- You can place a chair at the top of the stairs and the bottom of the stairs to rest before and after. **Do not sit down on the steps.**

# Changing Your Lifestyle

You can have a good quality of life if you actively manage your condition. These lifestyle behaviors will help you to protect your health and help your heart.

## Take your medicines every day, even if you feel well.

Take your medicines as directed by your provider. Plan for refills several days before you run out. It can take time to get medicines approved by your provider and filled. Talk to your provider **before** taking any over the counter (OTC) medicines for your safety.



## Limit fluids to 64 oz or 2,000 ml a day.

Find a strategy that works for you to manage your fluid intake. It is important to balance your fluids and salt for a heart healthy diet. Stay within your fluid limits by sipping drinks and balancing what you drink with high water content foods, such as fruit or ice cream.



## Eat a very low sodium diet, less than 2000 mg a day.

Read food labels and plan for low salt meals and snacks. Cook at home and use herbs and spices for great tasting meals instead of pre-packaged meals or processed foods.



## Weigh yourself every morning.

Weigh yourself after using the bathroom and before breakfast every morning. Weigh yourself at about the same time, wearing clothing of similar weight to get an accurate measure of weight. Record your weight and keep track of changes. **If you gain 2 to 3 pounds in 24 hours, or 5 or more pounds in a week, call your doctor or nurse.**



## Attend cardiac rehabilitation.

Cardiac rehabilitation is a medically supervised program for heart patients. It includes activity, education, and support for a heart healthy lifestyle. Cardiac rehab is often covered by insurance. Payment plan options are also available. The goal is to keep you healthy and strengthen your heart.



# Heart Healthy Diet

A heart healthy diet is low in saturated fat, sodium, and added sugar. It helps to:

- Control or decrease cholesterol and triglycerides in your blood.
- Control or decrease blood pressure and fluid retention.



## Heart healthy laboratory test goals

Lab test	Healthy level
Total cholesterol	Less than 200 mg/dL
HDL (good) cholesterol	Men: 40 mg/dL or greater Women: 50 mg/dL or greater Ideal level for heart health is 60 mg/dL or greater
LDL (bad) cholesterol	Less than 70 mg/dL
Triglycerides	Less than 150 mg/dL

## Know your fats!

### Saturated fats

- Saturated fats increase cholesterol — both total and LDL (bad) cholesterol.
- Saturated fats are mostly in animal foods, such as fatty meats and high-fat dairy products.
- These fats are usually solid at room temperature, like butter.
- The main source of saturated fat in the American diet are meats and cheeses, whole and 2% milk and butter, pizza, and high-fat snack foods and sweets.
- Saturated fat is also in coconut oil, palm oil, and palm kernel oil, which are in many snack foods and sweets.

### Trans fats

- By law, trans fats have been phased out of many foods. However, some foods, like baked goods, still have trans fats.
- Many food manufacturers now use saturated palm or palm kernel oil in place of trans fats. These fats increase LDL (bad) and total cholesterol.
- Trans fats are bad for your heart health because they increase LDL (bad) cholesterol and decrease HDL (good) cholesterol.

- You can tell if a food has trans fats by reading its food label and looking for “partially hydrogenated oil” of any type.
- Fruits, vegetables, whole grains, beans, and nuts are naturally trans fat free!

### **Monounsaturated and polyunsaturated fats**

- Monounsaturated and polyunsaturated fats are both unsaturated fats that are generally heart healthy.
- Unsaturated fats protect HDL (good) cholesterol. They are found in plants and fish.
- They are usually liquid at room temperature, like olive oil.
- Examples of polyunsaturated fats include: sunflower, corn, soy and flax oils, as well as walnuts, flaxseeds, and fish.
- Examples of monounsaturated fats include: olive, peanut, and canola oils as well as avocado, almonds, hazelnuts, pecans, pumpkin seeds, and sesame seeds.

## **Ways to reduce blood cholesterol**

### **Limit saturated fat and trans fats in your diet**

- The American Heart Association recommends aiming for a healthy eating pattern that has 5% to 6% of calories from saturated fat. For example, if you need about 2,000 calories a day, no more than 13 grams of them should come from saturated fat.
- Read food labels and look at the saturated fat of foods you eat to get an idea of how much is in the food you eat.
- Replace saturated fats in your diet with heart healthy fats. For example, use olive oil or another plant oil to cook instead of butter.

### **Limit foods high in cholesterol**

- While cholesterol from food does not usually lead to higher blood cholesterol levels, high cholesterol foods tend to be high in saturated fat.

### **Increase fiber in your diet**

- Eat more fiber to help lower your cholesterol. Aim for at least 25 to 30 grams of fiber a day from food.
- There are 2 types of fiber: soluble and insoluble. Both are good for us. Soluble fiber is especially good at helping to decrease cholesterol levels.
- Foods high in soluble fiber include: oats, barley, beans, Brussels sprouts, mangoes, apples, and pears.
- Foods high in total fiber include: all fruits and vegetables, whole grains, beans, lentils, and nuts and seeds.

## Ways to lower triglycerides

- **Limit the amount of saturated fat in your diet.**
- **Avoid or greatly limit the amount of alcohol you drink.**
- **Make at least half of the grains that you eat unrefined carbohydrates or whole grains.** Examples include whole wheat bread and pasta, brown rice, quinoa, barley and millet, and fruits and vegetables.
- **Limit the amount of refined carbohydrates in your diet,** such as white bread, rice and pasta, and sweets made from white flour.
- **Limit added sugars in your diet.** Too much sugar in the body gets changed into triglycerides. Limit sugar to 9 teaspoons a day for men and 6 teaspoons a day for women. This is about 150 calories a day from sugar for men and 100 calories a day for women.

These foods often have added sugars:

- Sugar-sweetened beverages, such as soda, fruit drinks, sports drinks, lemonade, iced tea, and flavored coffee — over 40% of added sugars in the American diet come from sugar-sweetened beverages!
- Sugar-sweetened dairy products, such as ice cream, sweetened yogurt, and chocolate milk
- Sugar-sweetened cereals
- Cakes, cookies, candy, and pie

## Sodium

Sodium is an important mineral that is present in most foods. Most people eat more sodium than they need. On average, Americans eat more than 3,400 milligrams of sodium a day. If your body can't get rid of the extra sodium, fluid builds up. Extra fluid increases the work of the heart and kidneys and may increase blood pressure.

- Aim for no more than 2,300 mg of sodium a day.
- If you are over 50 or have high blood pressure, aim for 1,500 mg of sodium a day.
- 1 teaspoon of salt has 2,300 mg of sodium.

### Ways to limit sodium in your diet

- Prepare meals at home. More than 70% of the salt we eat comes from packaged foods and restaurant meals.
- Limit processed foods high in salt. Examples include breads and rolls, cheese, processed meats, frozen meals, pickles, salted snacks, soups, and pasta sauce.
- Read food labels:
  - A low sodium food has 140 mg of sodium or less per serving.
  - A very low sodium food has 35 mg of sodium or less per serving.
  - A reduced sodium food has 25% less sodium than normal.
- Eat more fruits and vegetables. Aim to fill half your plate at meals with fruits and/or vegetables.
- Limit salt use when cooking at home. Use herbs and spices or lemon juice to flavor food instead of salt.

## Maintain a healthy weight

If you are at your ideal body weight, it is important to avoid any weight gain. If you are overweight, weight loss can help to lower your blood cholesterol and blood pressure.

### Ways to manage your weight

- Keep snacking in check. Calories from snacks can add up quickly and lead to weight gain over time. Keep snacks around 200 to 300 calories.
- Keep serving sizes moderate. Avoid large servings and second helpings.
- Satisfy your appetite with raw vegetables and fruits. Drinking water and calorie-free beverages can also help.
- Do not skip meals. Skipping meals can lead to overeating at the next meal.
- Eat mindfully. Pay attention to your hunger level and keep distractions to a minimum while eating. Stop eating when you feel full.
- If you have diabetes, keep your blood sugar in a healthy range.
- Be active every day. Being active helps with weight loss by burning stored calories, and it is good for your heart.

## Healthy eating patterns

An easy way to follow a heart healthy diet is to follow a healthy eating pattern.

**An eating pattern is the foods you eat and when you eat them.** Eating patterns can be healthy or unhealthy or somewhere in between.

**A healthy eating pattern includes foods that are naturally low in saturated fat, sodium, and sugar.** If you follow a healthy eating pattern, you do not need to worry about counting grams of saturated fat, milligrams of sodium or grams of sugar.

A healthy eating pattern contains mostly healthy foods, like fruits, vegetables, whole grains, low-fat or fat-free dairy products, lean protein sources, nuts, seeds, and liquid vegetable oils.

There is still room for some unhealthy foods, just less often and in smaller amounts.

### Some healthy eating pattern options

- *Heart Healthy Eating with DASH* at [go.osu.edu/pted3966](https://go.osu.edu/pted3966)
- *Mediterranean Diet* at [go.osu.edu/pted3918](https://go.osu.edu/pted3918)
- *USDA's MyPlate* at [myplate.gov](https://myplate.gov)

## Foods to eat more often and less often

Food group	Foods to eat more often	Foods to eat less often
<b>Dairy</b> Eat 3 cups a day	<ul style="list-style-type: none"> <li>• Non-fat, low fat, or 1% milk</li> <li>• Low-fat or reduced fat yogurt</li> <li>• Low-fat cheeses, such as mozzarella (look for less than 150 mg of sodium)</li> </ul>	<ul style="list-style-type: none"> <li>• Whole milk or full fat yogurt</li> <li>• Cream or half &amp; half</li> <li>• Ice cream, cream cheese, or sour cream</li> <li>• Processed cheeses, like American cheese</li> </ul>
<b>Protein</b> Eat 5 to 6 ounces a day	<ul style="list-style-type: none"> <li>• Skinless poultry and fish</li> <li>• Lean cuts of beef and pork, such as loin, leg, round, and extra lean hamburger</li> <li>• Egg whites or egg substitute</li> <li>• Dried beans, peas, and soy</li> <li>• Nuts and nut butters</li> </ul>	<ul style="list-style-type: none"> <li>• Fried or breaded meats</li> <li>• Higher fat cuts of meat, like fatty beef and pork</li> <li>• Bacon, sausage, hot dogs, and corned beef</li> <li>• Poultry with skin (it is okay to cook with the skin on but take it off before serving)</li> </ul>
<b>Fruits and Vegetables</b> Eat 4 to 5 cups a day	<ul style="list-style-type: none"> <li>• Fresh, frozen, or canned vegetables with no added salt</li> <li>• Fresh, frozen, canned, or dried fruit</li> <li>• Tomato or vegetable juice, canned without salt</li> </ul>	<ul style="list-style-type: none"> <li>• French fries and onion rings</li> <li>• Pickled vegetables and sauerkraut (high sodium)</li> <li>• Canned soups</li> <li>• Vegetables with cream, cheese, or heavy sauces</li> </ul>
<b>Grains</b> Eat 6 to 7 ounces a day	<ul style="list-style-type: none"> <li>• Whole grain bread, pasta, and rice</li> <li>• Cooked cereals, such as oatmeal</li> <li>• Whole grain cereals</li> <li>• Whole grains, such as quinoa, bulgur, barley, teff, and buckwheat</li> </ul>	<ul style="list-style-type: none"> <li>• Refined (white) grains</li> <li>• Breads or crackers topped with salt</li> <li>• Biscuits, cornbread, or other “quick” breads</li> <li>• High-fat baked goods</li> </ul>
<b>Other Foods and Snacks</b> Keep snacks around 200 to 300 calories	<ul style="list-style-type: none"> <li>• Whole grain pretzels and crackers (limit to 1 to 2 servings due to sodium)</li> <li>• Nuts and nut butters (watch calories)</li> <li>• Avocado</li> <li>• Unsalted popcorn or limit regular popcorn to a serving with no more than 200 mg of sodium</li> </ul>	<ul style="list-style-type: none"> <li>• Deep fried snacks, like potato chips</li> <li>• Candy</li> <li>• Cookies, cake, muffins, and pie</li> <li>• Foods with palm or coconut oils</li> </ul>

# Attending Cardiac Rehabilitation

Our goal is to help you return to the highest possible quality of life. Cardiac rehabilitation works to address activity and lifestyle after you leave the hospital. It is offered in several phases.

If you have concerns or barriers to taking part in a rehab program, such as transportation or payment, please let us know. We may be able to help.

## Phase 1 (inpatient)

We provide education during your hospital stay and work with you on skills to keep you active when going home. Before you leave the hospital, we will also provide a referral for a local cardiac rehab program.

## Phase 2 (outpatient)

After leaving the hospital, you will have a visit to check your heart health with a cardiac rehab nurse and exercise physiologist. After this evaluation, which may include testing, you will start a personalized wellness program. These are some of the skills covered:

- Learn more about your condition and know how to best manage your condition at home.
- Improve your heart and cardiovascular function.
- Improve your fitness level.
- Reduce the chance of future health problems by working to improve diet, weight, activity level, diabetes and/or cholesterol, stop tobacco use, and manage stress.
- Ability to do daily activities without symptoms.
- Reduce fear or anxiety about your heart condition.
- Have a faster return to work and/or normal activities.

## Phase 3 (maintenance)

This is an ongoing fitness and wellness program that continues at the end of Phase 2 cardiac rehab. The program will support you as you work toward your health, fitness and lifestyle goals.

### **Cardiac rehabilitation is offered at 2 locations:**

#### **Ohio State Outpatient Care**

#### **Upper Arlington**

1800 Zollinger Road, 2nd Floor

Columbus, OH 43221

Phone: 614-293-6937

#### **Ohio State Outpatient Care**

#### **East (Phase 2 only)**

543 Taylor Ave, Room 3068

Columbus, OH 43203

Phone: 614-688-6306

# Home Activity Program

Activity is very safe as long as you listen to your body.

**If at any time your symptoms return, call your provider for instructions and support.**

## Start with interval training

Start to slowly rebuild your strength and stamina with walking short distances and then resting. This is called interval training. Your speed when walking will slowly increase over time.



## Activity Plan

Walk at a pace that does not leave you out of breath. Only move to the next level if you feel you can, and you are not having symptoms of heart failure. It is okay to repeat a week if the effort needed is moderately difficult for you to achieve. The goal is to increase your activity safely for your body.

### Sample 8 Week Walking Plan

Week #	Walking interval	Rest interval	Repeat the intervals	Total activity time (minutes)
1	2 minutes	1 minute	5 times	10
2	4 minutes	2 minutes	4 times	16
3	5 minutes	2 minutes	4 times	20
4	7 minutes	2 minutes	3 times	21
5	5 minutes	2 minutes	5 times	25
6	10 minutes	2 minutes	3 times	30
7	15 minutes	2 minutes	2 times	30
8	20 minutes	2 minutes	2 times	40

## Exercising safely

If you have chest pain, nausea, or feel light-headed during exercise, stop exercising and seek medical help.

You can use one or more of these methods to measure how hard the exercise feels to you:

**Heart Rate:** To determine your resting heart rate, take your pulse before you get out of bed in the morning:

- Find your pulse on your wrist.
- Count your pulse for 10 seconds then multiply that number by 6.
- **My resting heart rate is \_\_\_\_\_.**

During exercise:

1. Warm up for 5 minutes then check your heart rate. Exercise at 20 to 30 beats above your resting heart rate. Slow down if it is too high.

**My heart rate goal for exercise is \_\_\_\_\_ to \_\_\_\_\_.**

2. End with a 5 minute cool down and then check your heart rate. Your heart rate should be within 10 beats of your resting heart rate. If it is too high, continue to cool down.

**My heart rate should cool down to at least \_\_\_\_\_.**

**Talk Test:** Exercise at a level you can hold a conversation without breathing hard.

**Borg Rating of Perceived Dyspnea\*:**  
This scale rates shortness of breath, also called dyspnea. **If your rating is greater than 6, slow down.** If your rating is under 6, you can safely increase your speed or exercise longer.

**Borg Rating of Perceived Exertion (RPE)\*:**  
This scale rates your effort in response to an activity. **A rating of a 3 or 4 is a safe level of exertion.** This means you are comfortably tired after an activity. If your rating is less than 3, it is safe for you to increase your speed or exercise longer. If your rating is greater than a 4, slow down.

### Borg Rating of Perceived Exertion

0	No effort
0.5	Noticeable effort
1	Very light effort
2	Light effort
<b>3</b>	<b>Moderate effort</b>
<b>4</b>	<b>Somewhat strong effort</b>
5	Strong effort
6	
7	Very strong effort
8	
9	Very, very strong effort
10	Maximum effort

### Borg Rating of Dyspnea

0	No shortness of breath
0.5	Slight shortness of breath
1	
2	Mild shortness of breath
3	Moderate shortness of breath
4	
5	Strong or hard breathing
6	
7	Severe shortness of breath
8	
9	
10	Shortness of breath so severe you need to stop and rest

Adapted from Borg G. Perceived exertion as an indicator of somatic stress. Scand J Rehabil Med. 1970;2: 92–98.







# What to Bring the Day of Surgery

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Use this checklist to be sure you have everything you need to bring with you to the hospital for your surgery:

- This book.**
- Your photo ID and health insurance card(s).
- A current copy of your medicine list. Be sure to include any vitamins, herbals, or other over the counter medicines. Also, it may be helpful if you have the name and phone number of the pharmacy you use.
- List of any allergies, such as to medicines, latex, or foods. Include any allergies to metals.
- Your Living Will and Healthcare Power of Attorney forms (if you have them).
- Clothes to go home in: T-shirt, pants, shoes, and a coat (if needed).
  - If you wear a bra, it needs to hook in the front and not have an underwire. If you do not have one, you will be given a bra to go home in.
- Do NOT bring jewelry, money, or other valuables.

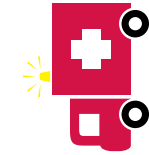
After surgery, we can provide you with a list of recommended care providers close to your home. If you do not have benefits for home health services, skilled nursing facilities, or rehab centers, or if you need further guidance, ask your care team to connect you with a case manager, social worker, or your nurse navigator.

**Incentive Spirometer Level:** \_\_\_\_\_

Write the level you reached before surgery.

# Managing Your Care After Heart Surgery

What to do:



## Emergency Zone

- Suspected stroke:
- New numbness, muscle weakness, trouble swallowing or problems talking
- Severe headache or confusion
- Onset of severe chest pain, jaw pain and/or severe shortness of breath
- Loss of consciousness

# Call 911

## Red Zone

- Shortness of breath that is not relieved by rest (particularly if it worsens when you lay down or if you need to sit in a chair to sleep)
- Racing/fast heartbeat or if it is very slow or “skips” a beat
- Lightheadedness, dizziness, or feeling unsteady
- Worsening changes in incisions or wounds (swelling, redness, drainage)
- Signs of bleeding
  - Vomit that looks like coffee grounds or vomit with bright red blood
  - Bright red blood in stool or dark, tarry stool

## You May Need to Be Evaluated Right Away

**Call 614-293-5502**

for further assessment by a doctor or nurse practitioner

If you're unable to reach us, please contact your local physician

## Yellow Zone: Caution

If you have any of the following signs or symptoms:

- Weight gain of 2 to 3 pounds in 24 hours; or 5 or more pounds in a week
- Increased swelling in your legs, feet, ankles, or stomach
- Increased cough or increase in shortness of breath with activity
- Loss of appetite, nausea and/or vomiting lasting greater than 24 hours
- Swelling, redness, drainage of wounds or fever
- Questions or concerns about medicines or side effects

## Your Symptoms Need Further Assessment

We will work to determine if medicines or other therapies may need to be adjusted or if an appointment may be needed:

- If you're at a skilled nursing/rehabilitation facility or if you have home health services, notify your nurse (they may need to contact your doctor)
- If you're at home, please call 614-293-5502

## Green Zone

- No shortness of breath, swelling or weight gain
- No chest pain
- No increase in surgical site pain
- No swelling, no redness, no drainage of wounds and no fevers
- Ability to maintain your activity level

## Progressing as Expected

- Your symptoms are under control
- Continue taking your medicines as ordered
- Continue daily weights
- Continue to follow dietary restrictions that have been recommended
- Keep all doctor appointments

If you're not feeling like yourself or something has changed and is bothering you, please call 614-293-5502.



**THE OHIO STATE UNIVERSITY**

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