



WHAT TO EXPECT: HEART SURGERY

Your Care. Our Commitment.

SMOKE-FREE ENVIRONMENT

To protect our patients, visitors, and staff from the harmful effects of second-hand smoke, smoking is not permitted anywhere on UPMC property. All UPMC hospitals, facilities, and grounds, including parking lots, garages, and other outdoor locations such as UPMC-owned sidewalks, are smoke-free. UPMC has no designated smoking areas. If you choose to smoke, you cannot do so on the UPMC campus. A patient who smokes does so against our advice and assumes the risk for any problems as a result of smoking. For information about smoking and how to quit, access the patient education materials on UPMC's website at <http://patienteducation.upmc.com> (select Smoking). If you're interested in "Becoming a Quitter," call **1-800-QUIT-NOW (1-800-784-8669)** or visit www.1800quitnow.org.

Scan the code below using your smart phone to watch a video about what to expect during your heart surgery at UPMC.



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WELCOME

When it comes to your heart, you deserve the very best.

The UPMC Heart and Vascular Institute (HVI) – Division of Cardiac Surgery is devoted to caring for patients with illnesses and disorders of the heart by using the latest diagnostic, surgical, and medical techniques available.

At UPMC, we offer a patient-centered, team approach to care delivery. Each day of your hospital stay, you will meet with members of your health care team who are committed to your recovery and return to home. YOU are the most important member of this team, and our goal is to help you and your family better know what to expect before, during, and after your heart surgery.

This is your heart surgery guide. It has useful information for you and your family, both before and after your surgery. We encourage you to bring your guide to your appointments. Also, we are always available for any specific concerns you may have about your surgery. We hope this information answers your questions about what to expect and helps to make your recovery a positive one.

HOW TO CONTACT US

Your heart surgery team wants to make your experience at UPMC a positive one. Please contact us at **1-855-UPMC-HVI (876-2484)** or at one of the offices below with any questions or concerns you may have.

MAIN HEART SURGERY OFFICE MAILING ADDRESSES AND PHONE NUMBERS:

| | | | |
|---|---|--|---|
| UPMC Mercy: Main Hospital 412-232-8111 | UPMC Passavant: Main Hospital 412-367-6700 | UPMC Presbyterian: Main Hospital 412-647-2345 | UPMC Shadyside: Main Hospital 412-623-2121 |
| Main Cardiac Surgery Office 412-623-3140 | Main Cardiac Surgery Office 412-748-6484 | Main Cardiac Surgery Office 412-648-6200 | Main Cardiac Surgery Office 412-623-2994 |
| Cardiac Surgery Division 5200 Centre Ave. Pittsburgh, PA 15232 | Cardiac Surgery Division 9104 Babcock Blvd. Pittsburgh, PA 15237 | Cardiac Surgery Division 200 Lothrop St. Pittsburgh, PA 15232 | Cardiac Surgery Division 5200 Centre Ave. Pittsburgh, PA 15232 |

ABOUT YOUR HEART

This section will help you to understand the parts of the heart and how heart disease can change it.

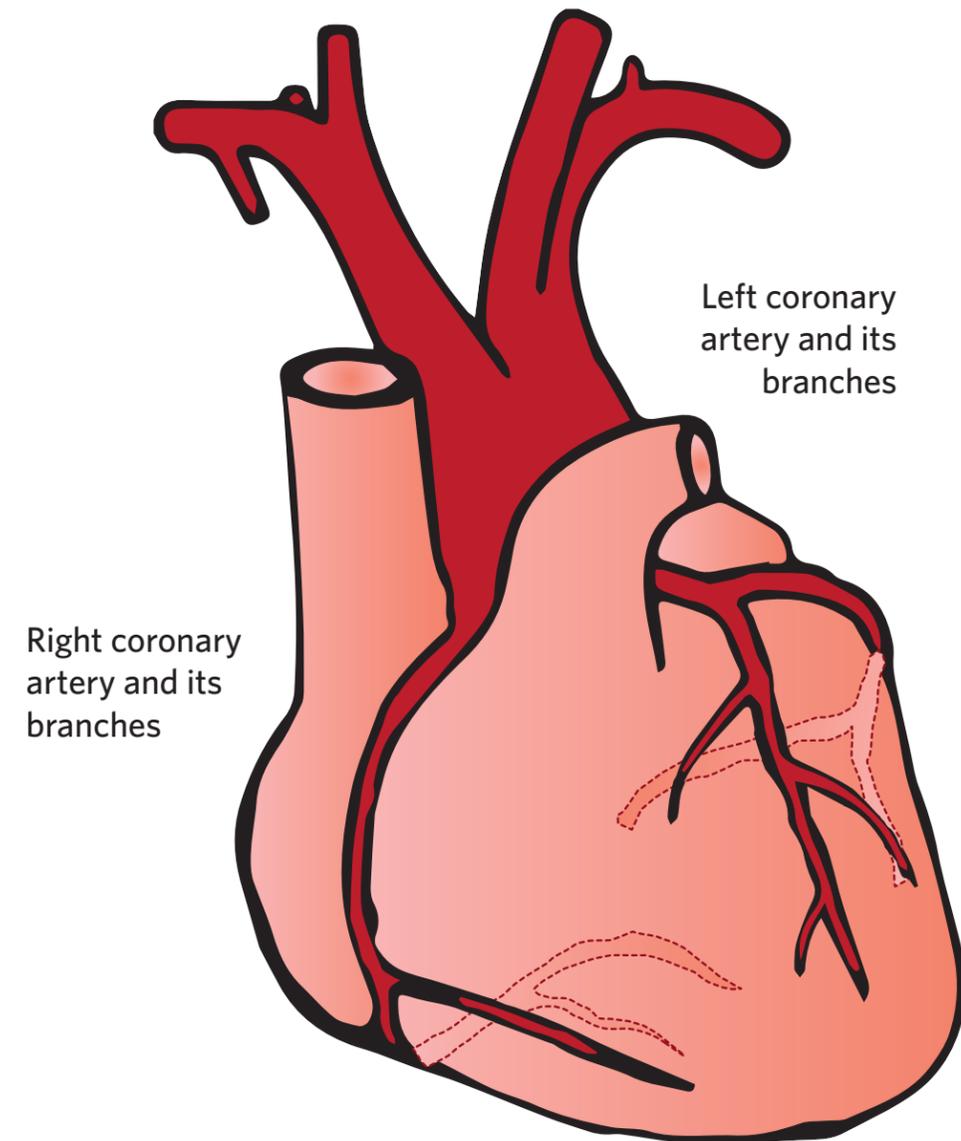
CORONARY ARTERIES

The coronary arteries carry blood rich in oxygen and nutrients to the heart. The picture below shows the aorta, which is the body's largest artery, and the coronary arteries. The coronary arteries lie on the surface of the heart. There are two main coronary arteries: the right coronary artery and the left coronary artery. The left artery has two main branches. Each of these arteries have several branches.

Coronary Artery Disease

Coronary artery disease (CAD) is also known as atherosclerosis or hardening of the arteries. This disease occurs when a fatty substance called plaque sticks on the walls of the coronary arteries and causes the arteries to become narrow or completely blocked. These blockages can interfere with the blood flow to the heart muscle and can cause chest pain, heart attack, or even death.

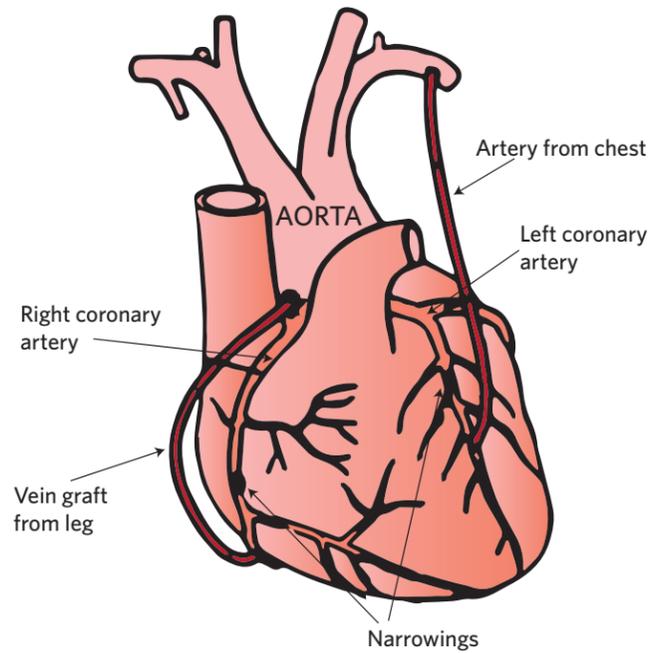
Ask your heart team care provider to mark where the blockages are in your coronary arteries.



Coronary Artery Bypass Graft Surgery

Coronary artery bypass grafting (CABG) is an operation that improves blood flow to the heart muscle. During the operation, the surgeon creates “detours,” or bypasses, around the blockages in the coronary arteries. Sections of veins or arteries are removed from other places in the body where they are not needed. The surgeon sews these artery or vein grafts on to the arteries on the heart. This makes a new route for blood to flow. The surgeon does not remove the diseased coronary arteries or the blocked sections of them.

During the surgery, one or more coronary arteries may be bypassed, depending on your blockages. Your surgeon will make the final decision about what is best for you.

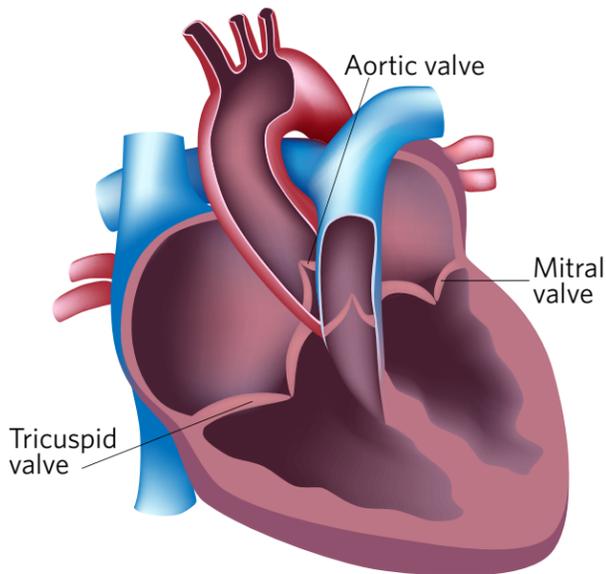


HEART CHAMBERS

The heart is divided into four chambers. The two upper chambers are the right atrium and the left atrium. The two lower chambers are the right ventricle and the left ventricle.

Heart Valves

There are four heart valves in the heart that open and close fully with each heartbeat. The valves help to control blood flow between the heart's chambers and blood vessels.

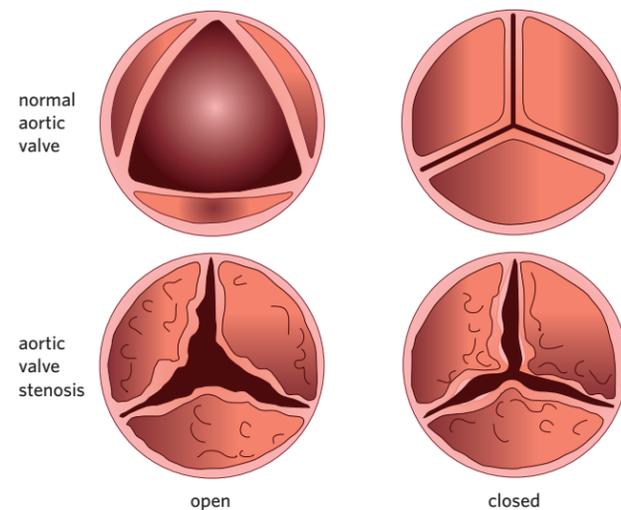


Heart Valve Disease

A variety of diseases may harm the heart valves. Diseased valves can lose their ability to work properly.

A valve may become narrowed and interfere with normal blood flow. This is called stenosis. A valve may become stretched or torn and not close fully. When this happens, some blood can leak backward instead of forward. This is called regurgitation or insufficiency.

Your surgeon will talk about your specific valve disease with you.



HEART VALVES

Surgery for Heart Valves

Heart valves with serious damage may need surgery to work properly again. The type of operation needed for a diseased valve depends on the type of valve problem you may have. Surgery can be done either to repair or replace the damaged valve or valves. Your surgeon will decide on the best choice for you and review it with you.

Valve Repair

Sometimes a valve can be repaired. This may involve removing or rebuilding damaged portions of the valve tissue. A ring to support the valve is most often used to bring the valve tissue together.

Valve Replacement

More badly damaged valves may need to be entirely replaced with artificial valves. There are two types of artificial valves, with advantages and disadvantages to each.

Mechanical valves are made of man-made materials that are stronger and last a long time. The disadvantage is that you will need to take long-term medicine to prevent blood clots from forming on the valve. This medicine is commonly referred to as a blood thinner.

Tissue valves are made from animal tissue (such as pig or cow) commonly or may be donated human valves. This type of valve usually doesn't need long-term blood-thinning medicine aside from aspirin. The disadvantage is that they can eventually wear out over time.

Your surgeon will talk to you about the different types of valves and help you to decide which is best for you.

Treatment of Atrial Fibrillation

Atrial fibrillation (A. Fib.) is the most common abnormal heart rhythm (arrhythmia). It happens when the upper chambers of the heart (atria) beat irregularly, out of coordination with the main pumping chambers (ventricles). The heart rate in a patient with A. Fib. often is fast, but it may be normal or slow. A. Fib. is usually not life threatening right away, but it lowers the heart's pumping ability and may lead to complications, such as stroke. Treatments of A. Fib. include medicines, electrical shocks (cardioversion), wire-based procedures (ablation), and surgical procedures. The surgical treatment of A. Fib. is known as the MAZE operation. This is when a series of incisions (small cuts) and electrically induced lines are created in the atria to bring back a normal, regular heart rhythm. Patients with A. Fib. may be candidates for a MAZE operation if other treatments have failed, or if they have changes such as heart chambers enlargement or related valve problems that make surgical treatment preferred.

Aortic Aneurysm Therapy

The aorta is the largest artery in the body. It carries blood from the heart to the rest of the body. An aortic aneurysm is an abnormal bulge in the wall of the aorta.

Small aneurysms do not usually pose a concern. However, as they grow in size, the wall of the aorta starts to thin, which raises the risk of complications such as tearing or rupture (bursting).

Your surgeon will tell you when or if this would need to be repaired. Not all aneurysms need surgical action. They can be watched over time with regular exams with your surgeon. Surgical treatment may involve taking out the abnormal section of the aorta and putting in a graft or man-made tube that is easily accepted by natural heart/blood cells.

GETTING READY FOR YOUR SURGERY

MEETING YOUR HEALTH CARE TEAM

Surgery Team

A member of our team will meet with you and your family. Your surgeon will talk to you about the type of treatment that is best for you. At the meeting, a member of our team will ask you a number of questions about your health in the past.

Be sure to tell your team about all medicines, vitamins, herbal supplements, and other over-the-counter drugs you are taking. Unless your doctor tells you not to, it is okay to take aspirin up to the day of the surgery, but all other blood-thinning medicines must be stopped earlier. Talk with your surgeon about the best time for you to stop taking these medicines. It is very important to tell our team about any allergic reactions you have ever had to medicine or anesthesia. This will help them to give you safe and proper care during and after surgery.

Each member of our team is here to help you through the process of getting you and your heart well again.

PRE-SURGERY TESTING

You will have certain tests before your heart surgery. These tests allow us to give you the best care possible. The tests may involve urine and blood tests, chest x-ray, and an EKG. Your surgeon may order other tests based on your health history.

Breathing and Coughing Exercises

A respiratory therapist or nurse will teach you how to do breathing and coughing exercises. These exercises are important to help rid your lungs of mucus after your surgery. Mucus makes it easier for bacteria to grow. The exercises will help to speed your recovery. You will learn how to use an incentive spirometer or Acapella® tool and do exercises to help you cough and deep breathe.

Quitting Smoking

If you smoke, please STOP. Continuing to smoke will make it much harder for your wounds to heal, increase your chance of an infection, and slow your recovery. Smoking also places greater demands on your heart by raising your heart rate and blood pressure.

EVENING BEFORE YOUR SURGERY

Personal Care

You will be taught to use a special soap to take a shower the evening before and the morning of your surgery. Please remove nail polish and make-up before coming to the hospital. Women may bring a soft, non-wire bra for comfort after the operation and to help with recovery. Avoid heavy meals or hard exercise the day before your surgery. Follow any food or activity plans that your doctor has advised.

Personal Belongings

On the evening before or the morning of your operation, ask your family to take all your personal belongings home. Your family can keep the few personal items you may need after your operation (eyeglasses and/or hearing aids). After your surgery is over, the nurse in the Intensive Care Unit (ICU) may get these items from your family in the waiting room.

After Midnight

At home or in the hospital during the night before your operation, you must not eat or drink anything after midnight. If you were told to do so, you may take your medicines with a small sip of water on the morning of your operation.

DAY OF YOUR SURGERY

Your Family

Your family can be with you before you go to the operating room. If you are in the hospital, they should come to your room at least two hours before your surgery time. If you are coming in for surgery on the same day, you will be asked to arrive early in the morning with special instructions for you and your family.

Going to the Operating Room

Before your surgery, we will give you medicine into a vein (IV) to make you relaxed and comfortable. This medicine may make your mouth and throat dry.

Waiting Room

Your family will be shown to a comfortable waiting area. Surgery usually takes between 4 and 6 hours. It is important that your surgeon be able to reach your family at any time during surgery. If your family leaves the waiting room, they should tell the person at the desk where they are going and how long they will be gone. They should also leave a phone number where they can be reached."



AFTER YOUR SURGERY

INTENSIVE CARE UNIT (ICU)

As soon as surgery is over, your surgeon will talk to your family. You will be taken to the ICU to recover overnight. While you are in the ICU recovering, you will be watched very closely by our dedicated team. When you are ready, you may be transferred to a regular floor to continue your recovery for a few more days.

Breathing Tube and Oxygen

When you wake up, you may have a breathing tube in your mouth and throat. While this breathing tube is in your mouth, it is for your comfort and safety. The tube is attached to a ventilator to help your breathing until you fully wake up from the anesthesia. When you are breathing well enough, the tube will be quickly removed. Then you will be given oxygen through your nose or a mask over your mouth. Just listen for the voice of our caring and experienced nurse and breath in slow, deep breaths.

Drainage Tubes

You will have a number of tubes and wires attached to you in the ICU.

Chest Tubes: Drainage tubes are placed into your chest near your heart and lungs. The tubes will be removed in a day or two.

Foley Catheter: For your comfort, another drainage tube will be placed into your bladder so you will not have to worry about urinating.

Intravenous (IV) Lines: You also will have some IV lines in your arms and in your neck. These IV lines help us to track your vital signs, give you medicine, draw blood for tests, and replace fluids to help us speed your recovery.

Heart Monitor: You will be connected to a monitor to show heart activity and other pressures in your heart.

Pacemaker Wires: Temporary pacemaker wires may be placed into your chest during surgery and may be used to control your heart rate if necessary. They will be removed before you go home.

CONTINUING YOUR RECOVERY

ACTIVITY IN THE HOSPITAL

Move Early and Move Often

As you start to wake up from the anesthesia and can handle a change in position, your nurse will raise the head of your bed. It is very important to your recovery that you move early and often. Please do not try to get out of bed by yourself. Your nurse will assist you to sit on the edge of the bed and later to a bedside chair as you continue to progress. You will start by sitting up in a chair and progress quickly to walking. Each day you will increase the distance you walk. You should expect to walk 3 to 6 times a day. As you become steadier, you will be walking on your own or with family.

An important part of your recovery is to get out of bed and move. Increasing your activity improves blood flow, breathing, and a sense of well-being.

The lists below are our day-by-day goals for you as you get stronger after surgery. There is a list for each of the first 4 days after your surgery.

DAY 1:

- Get out of bed for all meals and keep your legs raised while in the chair. Exercise your calf muscles by pointing your toes up and down several times each hour.
- Walk to the bathroom and in the halls 1 to 4 times with the help of the nurse or cardiac rehab staff.
- Use the incentive spirometer or Acapella® tool at least 10 times each hour.
- Cough and deep breathe often. Use the chest pillow for added comfort and support.
- Ask for pain medicine every 3 to 4 hours, if needed.

DAY 2:

- Stay up in a chair with your legs lifted up for most of the day. Exercise your calf muscles by pointing your toes up and down several times each hour.
- Walk in the halls 3 to 6 times with the help of the nurse or cardiac rehab staff.
- Continue to cough, deep breathe, and use the incentive spirometer or Acapella® each hour.
- Continue to keep your pain under control.

DAY 3:

- Increase your walking time and distance with cardiac rehab staff, nurse, or your family. Exercise your calf muscles by pointing your toes up and down several times each hour.
- Stay up in a chair most of the day.
- Remember to keep your legs raised while sitting.
- Walk in the halls 3 to 6 times with the help of the nurse, cardiac rehab staff, or your family.



- Continue to deep breathe, cough, and use the incentive spirometer or Acapella® tool each hour.
- Work with your care team and family to plan for your discharge.
- Take a shower if you are feeling well enough.

DAY 4:

- Continue to increase your walking time and distance. Walk in the halls 3 to 6 times with the help of the nurse, cardiac rehab staff, or your family.
- Add stair climbing with the help of cardiac rehab staff.
- Continue to cough, deep breathe, and use the incentive spirometer or Acapella® tool each hour.
- Continue to keep your pain under control.
- Continue discharge planning with your care team.

UPON DISCHARGE:

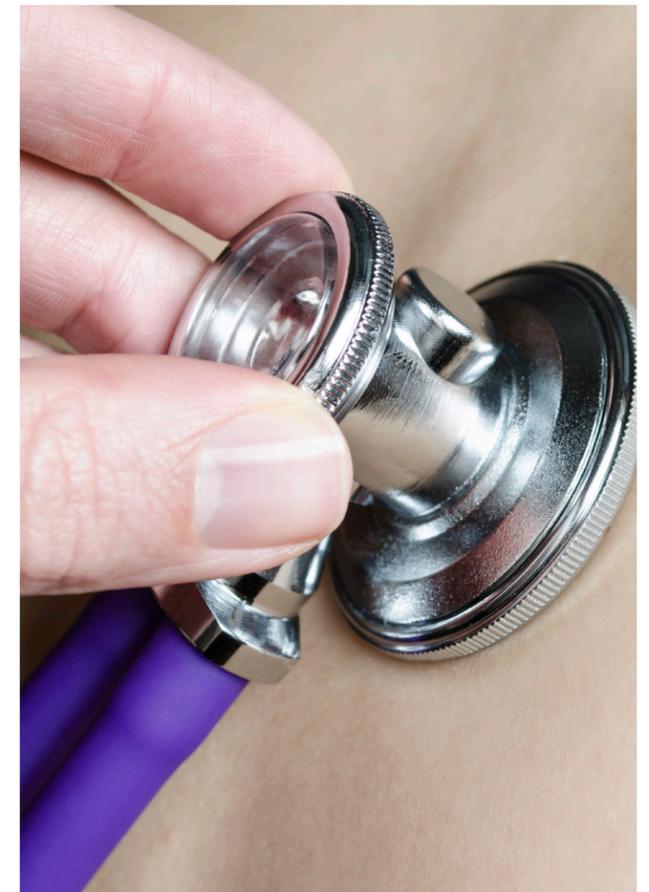
- You will get complete information about your activity.
- If you are going home, you should be fairly steady on your feet and need very little help.
- If you need to go to a rehab or skilled care unit, you will continue your activity progression.

PAIN CONTROL

After heart surgery, taking care of pain is an important part of your recovery. Easing the pain will help you to feel better and heal better. The pain medicine also will help you to do your breathing and walking exercises better and avoid more health problems. Tell your nurse before the pain becomes too bad. By taking the pain medicine as soon as you feel uncomfortable, the pain will be easier to control. For our team to better understand and help lessen your pain, you will be asked to rate your pain on a scale of 0 to 10, with 0 being no pain and 10 being horrible pain.

DEEP BREATHING AND COUGHING EXERCISES

A respiratory therapist or nurse will teach you how to do breathing and coughing exercises. These exercises are important to help rid your lungs of mucus after your surgery. Mucus makes it easier for bacteria to grow. The exercises will help to speed your recovery. The incentive spirometer and Acapella® tool will help you to keep your lungs expanded, remove mucus, and aid with coughing. Your doctor and respiratory therapist will decide which of these tools is best for you. We will teach you how to use either an incentive spirometer or an Acapella®, and will continue to assist you with using it properly.



TOOLS TO HELP WITH YOUR RECOVERY

| INCENTIVE SPIROMETER | ACAPELLA® TOOL |
|---|--|
| <ul style="list-style-type: none"> Cough 2 to 3 times to clear mucus or secretions. | <ul style="list-style-type: none"> Take a deep breath. |
| <ul style="list-style-type: none"> Place the mouthpiece in your mouth and seal your lips tightly around it. | <ul style="list-style-type: none"> Place the mouthpiece in your mouth and seal your lips around it. Inhale. |
| <ul style="list-style-type: none"> Breathe in slowly and as deeply as possible, raising the piston toward the top of the column. | <ul style="list-style-type: none"> Exhale actively, but not forcefully. |
| <ul style="list-style-type: none"> Hold your breath as long as possible (at least 5 seconds). | <ul style="list-style-type: none"> Do this exercise for at least 10 breaths every hour you are awake. |
| <ul style="list-style-type: none"> Exhale, allowing the piston to fall to the bottom of the column. | <ul style="list-style-type: none"> Cough 2 to 3 times to clear secretions. |
| <ul style="list-style-type: none"> Do this exercise at least 10 breaths every hour when you are awake. | |
| <ul style="list-style-type: none"> Cough 2 to 3 times to clear secretions. | |

Other Breathing Aids:

We will check you to see what other kinds of help you may need. You may need supplemental oxygen or breathing treatments.

Breathing treatments are medicines that are inhaled. They help to open the airways so that you can breathe freely. They also aid in removing mucus. We will give you the treatments that fit your specific needs.

We will support you to walk, deep breathe, and cough often. A member of our team may “clap” your back with cupped hands to help break up thick mucus in your lungs so that it can be

more easily removed. This is called chest physiotherapy, or chest PT. These efforts will help your lungs to work better. We will teach you about any breathing care that you may need to continue at home.

Please tell the respiratory therapist or your nurse if you were getting respiratory therapy at home. For example, you may have been getting breathing medicines, breathing treatments, home oxygen, BiPAP, or CPAP at home. You may need to continue these treatments during your hospital stay.

CARING FOR YOURSELF AT HOME

RECOVERY AT HOME

This section gives you general steps to follow while you heal from surgery. Recovery involves both physical healing and emotional healing.

Activity

After open heart surgery, your body must heal for several weeks. The best way to regain your normal activities at home is to use a slow, progressive plan. Over time, you should be able to do routine household tasks, take part in recreational activity, and return to work.

- Get up and get dressed each morning. Don't stay in bed.
- Wear casual or comfortable clothes each day to help you get back into a regular daily routine.
- Break up long tasks into shorter parts, and space them over the day.
- Stop your tasks before you get tired. If you do too much, you'll likely be tired the next day and need to rest.

Rest

During the day, balance your activity with rest times. Your body may give you signals that show you need to rest. These signals include symptoms such as shortness of breath, fatigue, dizziness, and pain or discomfort. Try to plan ahead for short rest times so you will not become too tired.

Stairs

You may climb stairs. Be sure to go slowly at first. Take your time. Remember that it takes more energy to climb stairs than to walk. If you become tired or short of breath as you climb, stop, rest, and then continue. Use the stair railing only for balance. **Do not pull yourself up the stairs.**

Driving

Do not drive a car until after your visit with your surgeon. This office visit is most often 4 weeks after surgery. A car accident could hurt your breast bone (sternum). You may ride in a car. Either ride in the back seat, or if riding in the front seat, move the seat back as far as possible. Use a pillow between your chest and the seat belt for comfort and to avoid irritation. Do not take long trips until your doctor says you may. When you are allowed to travel, it's important to stop frequently to walk and stretch your legs.

Bathing

Shower daily. Do not take tub baths. Avoid very hot water, which may make you feel dizzy or light-headed. Try to have another person nearby the first few times you take a shower. Avoid scrubbing your wound. After showering, you may want to take a short rest before you dress. This will help to prevent you from tiring out.

Sex

Many patients are worried about resuming sex after surgery. It often depends on how you feel physically and mentally. Most doctors agree on these guidelines: When you can climb two flights of stairs without getting too tired or short of breath, you are physically able to resume sex.

Feelings

Recovering from open heart surgery also involves emotional healing. Remember that healing takes time. You will have good days and bad days. As you increase your daily activity, follow your exercise plan and get plenty of rest. In this way, you will help yourself on the road to emotional recovery.

During this time, you are likely to feel different kinds of feelings. You may feel fear, anger, denial, frustration, and sadness. If you go through this, it's important to realize that these feelings are very normal. Not only our bodies, but also our feelings go through a time of adjustment with a change in our health.

WOUND CARE AND PRECAUTIONS

Your operation may have been performed through an incision in your breast bone or sternum, or you may have an incision on the side of your chest.

To care for yourself after either of these types of incisions, please follow these steps:

- Breathe in through your nose as you raise your arms during activity.
- Breathe out through your mouth as you lower your arms. Never hold your breath.
- You may raise your arms over your head to brush or shampoo your hair. Be careful when reaching. The breastbone and the muscles around it may be very sore for a while.
- Do not lift anything heavier than 5 pounds for 4 weeks after surgery.
- You should not push or pull with your arms, especially when rising from a chair or bed.
- Assistive devices, such as canes or walkers, can be used only for balance. Do not place your full weight on any of these devices until the incision is fully healed (10 to 12 weeks).

It is very important to keep your incisions clean and dry. Follow these guidelines:

- Shower daily. Do not take a tub bath for 4 weeks or until your doctor says you may.
- Wash your incisions with an antimicrobial soap and water. Always use a clean wash cloth.
- Do not put any creams, lotions, or antibiotic ointments on the incisions.
- Keep your legs raised when sitting for more than 15 minutes.
- Do not wear any tight clothing that may rub against your incisions.

The following symptoms are normal and should clear up in the first 2 to 3 weeks:

- Black and blue skin around the incisions or redness along the incision edges.
- Tenderness, swelling, numbness, or itching along the incisions.
- Small amount of clear or pinkish drainage from incisions.

If you have any of the following symptoms, call your surgeon right away:

- Redness that spreads out more than one inch from incision edges.
- Increased warmth in the skin around an incision.
- Large amount of clear or pinkish drainage.
- Sudden increased amount of drainage.
- White, yellow, or green drainage with odor, which may be foul or sweet, coming from an incision.
- Increase of swelling, tightness, or pain around an incision.
- Fever higher than 101 F (38.3 C), chills, or temperature of 99 F (37.2 C) to 100.9 F (38.27 C) for more than 3 days.

SAFETY TIPS FOR TAKING YOUR MEDICINE

Your medicines are strong drugs. It is important to know the right way to use them. **Only take the medicines that we prescribed for you, as your medicines may have changed after surgery.**

Follow your discharge instructions carefully until you are seen by our team in 3 to 4 weeks. **See table called "My Medicine List" in the back of this booklet.**

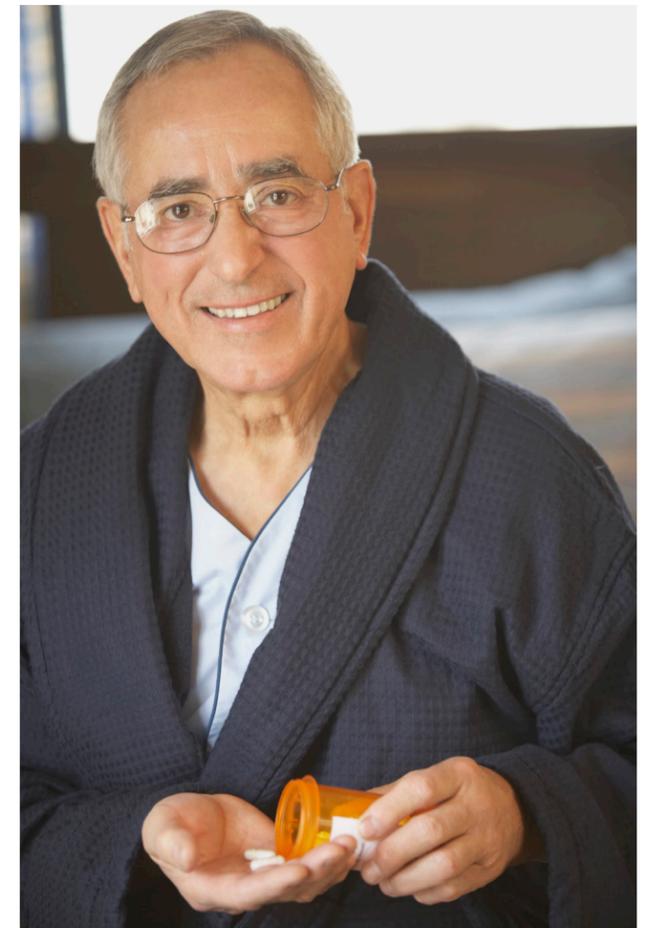
DO!

- Learn the right way to take your medicine.
- Always take your medicine as prescribed.
- Make a habit of taking your medicine at the same time each day.
- Ask the pharmacist if you think your refilled medicine looks different than usual.
- Keep your medicines in the original containers so you will not mix them up.
- Store your medicines properly in a place that is dark, cool, and dry.
- Throw away all medicines that are outdated.
- After each discharge or appointment, update the list of medicines that you take.
- Keep all medicines out of the reach of children.
- Learn both the generic name and the brand name of each of your medicines.
- Tell your doctor and pharmacist about your past health. Include your allergies and drug reactions.
- Always carry an updated list that shows your medicines, type of surgery, doctors' names, and emergency numbers.
- Wear a medical alert bracelet if you have allergies or take the drug Coumadin® (generic name is warfarin).

DON'T!

- Chew, crush, or break any pills or tablets unless you are told to do so.
- Take your medicine in the dark. You may take the wrong medicine if you cannot see what you're taking.
- Wait until your last dose to ask for a refill. Don't run out of medicine.
- Stop taking your medicine without your doctor's consent.
- Take an over-the-counter medicine unless your doctor clears it.
- Take someone else's medicine.
- Count on family or friends for information about medicines. Ask an expert.

You can learn more about your medicines on UPMC's website at **UPMC.com**.



HEART HEALTHY WAY OF LIFE

A number of things can put you at an added risk for heart disease or a heart attack. Each risk factor that you have increases your total risk. To lower your risk, you need to change to a heart-healthy way of life.

Follow these guidelines:

- 1. Quit smoking.** Quitting smoking is the most important action you can take to better your health now and in the future.
- 2. Control your blood pressure.** If your blood pressure is above 120/80, you have high blood pressure (hypertension.) Have your blood pressure checked regularly and take medicine if your doctor has prescribed it. Exercising and losing weight can help you reach an ideal blood pressure goal of 115/75.



- 3. Control your diabetes.** Take your medicine, exercise daily, and follow your diabetic meal plan. Check your blood glucose daily or as directed by your doctor. You should have your hemoglobin A1C checked 3 or 4 times per year. A good hemoglobin A1C is less than 7.
- 4. Lose weight.** Exercising regularly and eating a low-fat and healthy food plan can help you to lose weight.
- 5. Exercise.** Become active. A good goal is to exercise 5 to 7 days a week. You can take 3 to 4 short walks per day. Start out slowly and steadily. Increase your walking time to 30 to 60 minutes. If you are not able to walk, try swimming or cycling.
- 6. Care for your emotional health.** Feelings are an important part of your overall health. If you feel stressed, alone, angry, or sad, it might be hard to make healthy changes in your life. You can help to control stress by exercising, deep breathing, and meditating. It also is important to talk about your feelings with a family member or close friend.
- 7. Know your body.** Listen to signals from your body. If there are any changes in how you feel or if you have any new symptoms, tell your doctor.

Reach your cholesterol goals.

This chart shows the ideal numbers for each type of cholesterol.

HEALTHY CHOLESTEROL NUMBERS

Total Cholesterol: Less than 200

HDL ("good cholesterol"): Greater than 40

Triglycerides: Less than 150

LDL ("bad cholesterol"): Less than 100

CARDIAC REHABILITATION: AN IMPORTANT STEP TO RECOVERY

What Is Cardiac Rehabilitation (Rehab)?

After you go home, it is strongly advised that you join a cardiac rehabilitation program. Cardiac rehab helps patients recover to a full and active life after heart surgery.

An outpatient cardiac rehab program can help you in these ways:

- Exercise helps you to get back energy and strength during recovery. Your exercise program will be tailored to your specific condition, needs, and interests.
- Education helps you to understand your heart disease. You will learn how to choose a healthy way of life to lower your risk of future heart problems.

How Do I Get Started?

At your 4-week office visit, talk to your surgeon about cardiac rehab. Ask if he or she advises outpatient cardiac rehab for you. If so, ask your surgeon for a cardiac rehab prescription. Then call a cardiac rehab program near you. The hospital's cardiac rehab staff can help you to find a program in your area.



What Can Exercise Do for Me?

Exercise is vital if you want to heal as fully as you can. Regular exercise will increase your quality of life. This section gives you steps to take for a regular home exercise plan. Physical activities like walking, biking, and swimming are a type of exercise called aerobics. Regular aerobic exercise will help your heart pump with less effort. Also, regular aerobic exercise may help to lower blood pressure, lower cholesterol levels, help with weight loss, control blood sugar, and give an overall sense of well-being. You need to take part in aerobic activity for at least 30 to 60 minutes each day to help.

Your rate of progress will depend on things such as your age, how active you were before surgery, and any other illness or limits you may have.

What Type of Exercise Should I Do?

You will be given an exercise plan if you are going home after you leave the hospital. The cardiac rehab staff will outline the home exercise plan for your specific needs. It will be based on your age, your health, and your activity level before surgery and your progress after surgery.

HOME EXERCISE PLAN

After leaving the hospital, it is suggested that you exercise each day to get back the strength you lost because of bed rest and inactivity. You also may not be used to exercise and need to slowly begin exercise as a regular part of your life. Your home exercise plan will start with a walking program. Before you leave the hospital to go home, your cardiac rehab specialist will fill in specific guidelines for your walking program.

Do not use home exercise equipment, such as a treadmill or elliptical, until you see your surgeon.

Why Exercise?

Regular aerobic exercise, such as walking, will help to increase muscle strength, lower blood pressure, raise “good” cholesterol, control blood sugar levels, help you to lose weight, and lower stress. Be steady and never quit. Exercise will only have lasting results if you keep it up.

When to Exercise?

You can exercise any time of the day, but be sure to space your sessions equally throughout the day. Wait at least 1 hour after meals and 30 minutes after other activities before exercising. Do not exercise outdoors if the temperature is below 35 F (1.6 C), above 85 F (29.4 C), or if humidity is greater than 80 percent.

Week # 1:

Walk _____ minutes continuously;
_____ times per day.

Week # 2:

Walk _____ minutes continuously;
_____ times per day.

Week # 3:

Walk _____ minutes continuously;
_____ times per day.

Special Considerations

If you feel dizzy, have increased shortness of breath, chest pain (not caused by surgical incision), or intense tiredness during exercise, it could be a sign you are doing too much. Stop and rest. If symptoms last, contact your doctor or call 911.

Your Plan

Your cardiac rehab specialist believes that walking is the right exercise for you at this time. Always walk at a pace that is comfortable. You should NOT become out of breath and should be able to talk or chat during exercise. If you become short of breath, slow down.

After 6 weeks, your long-term goal should be to exercise 30 to 60 minutes per day, 5 to 7 days per week. Think about increasing the pace of each walk as your exercise becomes easier, and slowly add hills or grades as tolerated. You also may add other exercises, such as cycling, dancing, or swimming (if you had surgery, be sure there are no concerns about your incisions). A 5 to 10 minute warm-up (start at a slow pace increasing slowly) and/or stretch, and 5 to 10 minute cool down (gradually slowing your pace, toward the end of your walk) also is important as the length of exercise increases.

Week # 4:

Walk _____ minutes continuously;
_____ times per day.

Week # 5:

Walk _____ minutes continuously;
_____ times per day.

Week # 6:

Walk _____ minutes continuously;
_____ times per day.

HEART-HEALTHY FOOD PLAN

Guidelines for a Heart-Healthy Diet

Eating well-balanced meals that are low in fat, cholesterol, and sodium, and high in fiber is important to your continued health. Heart-healthy foods help to lower cholesterol, decrease blood pressure, and reduce weight.

It is not always easy to change your eating habits. The heart-healthy guidelines in this section of the booklet will help you. You can still enjoy food when you follow the guidelines in the following tables.

| PROTEIN 6 ounces daily (3 ounces is about the size of a deck of playing cards) | |
|--|---|
| CHOOSE | AVOID |
| <ul style="list-style-type: none"> • Lean cuts of beef, pork, veal, or lamb: <ul style="list-style-type: none"> > Round, sirloin, tenderloin, or flank > 90% lean ground meat > Pork tenderloin > Reduced sodium deli meats with no more than 2 grams of saturated fat per serving • Chicken and turkey without skin • Fish, salmon, tuna • Shellfish: clams, crab, lobster, scallops, or shrimp (no more than 3 ounces per week and not fried) • Cheeses with 2 grams of saturated fat or less per ounce • Cottage cheese (fat free, 1% or 2%) • Eggs (limit to 3 egg yolks per week), egg whites, or egg substitutes • Nut (peanut, almond, soy) butters and spreads (1 tablespoon limit) • Tofu • Meatless burger (soy, vegetable, or starch-based) • Venison and other wild game | <ul style="list-style-type: none"> • “Prime” grade fatty cuts of meat, like prime rib, highly marbled meat, and Delmonico • Regular ground beef • Corned beef • Beef brisket • Short ribs, spareribs • Organ meat, such as liver • Sausage, bacon, and ham • Regular deli meats: (for example) <ul style="list-style-type: none"> > Bologna > Salami > Chipped ham • Hot dogs, kielbasa, bratwurst, or knockwurst • Fried fish or fish prepared in butter • Pepperoni • Regular cheese (with more than 2 grams of saturated fat per ounce) |

| MILK | |
|---|---|
| 2 servings per day (1 serving = 1 cup of milk; 4 to 6 ounces of yogurt) | |
| CHOOSE | AVOID |
| <ul style="list-style-type: none"> • Skim milk, 1% milk, super skim milk, non-fat milk > Evaporated milk, fat-free, or 1% lactose reduced milk • Yogurt (fat-free, low-fat, plain) • Soy milk, almond milk, or rice beverage | <ul style="list-style-type: none"> • Whole milk, 2% milk, evaporated whole milk, or 2% lactose reduced milk • Cream, half-and-half, many non-dairy creamers and products • Whole milk yogurt, chocolate milk, coconut milk, buttermilk, and milkshakes |

| FRUIT | |
|---|--|
| 2 to 4 servings per day (1 serving of fruit = 1 small piece of fresh fruit, 17 grapes, 1 small banana, 1/2 cup of fresh or canned fruit, 1/2 cup of unsweetened fruit juice, or 2 tablespoons of dried fruit) | |
| CHOOSE | AVOID |
| <ul style="list-style-type: none"> • Fresh, frozen, canned, or dried fruit • Unsweetened fruit juice | <ul style="list-style-type: none"> • Coconut • Fruit canned in syrup |

| VEGETABLES | |
|--|--|
| 2 to 3 servings per day (1 serving of vegetables = 1/2 cup of cooked or 1 cup of raw) | |
| CHOOSE | AVOID |
| <ul style="list-style-type: none"> • Fresh and frozen vegetables • Low-sodium vegetable juice • Low-sodium or no-salt-added canned vegetables | <ul style="list-style-type: none"> • Vegetables prepared in butter, cream, or cheese sauces • Canned vegetables (regular) • Fried vegetables • Sauerkraut • Pickled vegetables, pickles, and olives • Vegetable juice and tomato juice (regular) |

| BEVERAGES | |
|---|---|
| CHOOSE | AVOID |
| <ul style="list-style-type: none"> • Water • Unsweetened: <ul style="list-style-type: none"> > Soft drinks > Iced tea > Lemonade > Flavored seltzer • Drink mixes without sugar, such as Crystal Light® • Club soda • Coffee or hot tea | <p>If you are diabetic, need to lose weight, don't want to gain weight, or need to lower your triglycerides, you should avoid:</p> <ul style="list-style-type: none"> • Regular soft drinks • Regular iced tea (sugared), regular lemonade (sugared) • Fruit punch or sugared drink mixes • Caffeinated beverages (if instructed not to use by your doctor) • Energy drinks • Sports drinks |

| FATS AND OILS | |
|---|--|
| 6 to 8 teaspoons per day (1 serving = 1 teaspoon of canola or olive oil, 1 to 2 teaspoons of tub margarine, 2 tablespoons of low-fat salad dressing, or 4 to 7 unsalted nuts) | |
| CHOOSE | AVOID |
| <ul style="list-style-type: none"> • Oil: <ul style="list-style-type: none"> > Olive, canola, safflower, soybean, or corn • Margarine: <ul style="list-style-type: none"> > Tub or squeeze, low-fat, fat-free or trans-fat free • Salad dressings: <ul style="list-style-type: none"> > Low-fat, fat-free, oil and vinegar, or vinaigrette • Cream cheese (low-fat or fat-free) • Sour cream (low-fat or fat-free) • Mayonnaise (low-fat or fat-free) • Nuts: unsalted nuts and seeds, for example: <ul style="list-style-type: none"> > Almonds, peanuts, pecans, walnuts > Sunflower seeds • Avocado • Hummus • Non-stick vegetable, cooking, or butter-flavor sprays | <ul style="list-style-type: none"> • Oil: <ul style="list-style-type: none"> > Coconut > Palm or palm kernel • Butter, lard, shortening, or bacon fat • Stick margarine • Regular salad dressings, for example: <ul style="list-style-type: none"> > Ranch > Bleu cheese > Caesar • Regular cream cheese, sour cream, or mayonnaise |

STARCHES: BREADS, CEREALS, PASTA, RICE, SOUPS, DRIED PEAS, AND BEANS

6 to 11 servings per day (1 serving = 1 slice of bread, 1/2 English muffin, 1/2 small bagel, 1/3 cup of cooked rice or pasta, 1 cup of ready-to-eat cereal, or 1/2 cup of cooked cereal)

| CHOOSE | AVOID |
|--|--|
| <ul style="list-style-type: none"> • Breads: whole wheat, pumpernickel, rye, and white • Bagels, English muffins, sandwich buns, dinner rolls, rice cakes, pitas, and tortillas (corn or flour) • Crackers: low-fat, low-sodium (whole wheat preferred): <ul style="list-style-type: none"> > Matzoh > Bread sticks > Rye crisp > Saltines > Melba Toast • Unsweetened dry and hot cereals (oatmeal, low-fat granola) • Plain noodles, spaghetti, macaroni (whole wheat preferred) • Brown, white, and wild rice, quinoa • Dried peas and beans: split, black-eyed, chick/garbanzo, kidney, navy, black, white, lentils, or soybeans • Baked, boiled, or mashed potatoes, yams and sweet potatoes • Homemade soups made with low-fat protein source, beans, potatoes or vegetables (fresh or frozen), and a low-sodium broth, or low-sodium canned soup • Cookies: <ul style="list-style-type: none"> > Graham crackers > Animal cookies/crackers > Vanilla wafers > Ginger snaps > Low-fat cereal or granola bars • Baked potato chips or tortilla chips • Popcorn (air popped, stove popped, or low-fat, low-sodium microwave) • Low-sodium pretzels • Low-fat or no-sugar-added ice cream, sherbet, pudding, or fat-free frozen yogurt (limit to 1/2 cup) | <ul style="list-style-type: none"> • Croissants, sweet rolls, Danish, pastry, doughnuts, cake, pies, cookies, brownies, and pancakes • Snack crackers with more than 2 grams of saturated fat per serving • French fries and fried potatoes • Pasta and rice prepared with cream, butter, cheese sauces, or Alfredo • Egg noodles • Sugar-sweetened cereals • Seasoned rice and noodle packets • Regular canned or boxed soup or broth, creamed soup, dried soup mixes, or bouillon cubes • Ice cream • Buttered popcorn • Potato chips, corn chips, or nachos • Chocolate or candy bars • Licorice, hard candy, or gummy candies |

SAMPLE HEART-HEALTHY MENU

| BREAKFAST | LUNCH | DINNER |
|---|--|---|
| <ul style="list-style-type: none"> • 1/2 cup orange juice • 1 cup whole grain cereal • 1 small banana • 1/4 cup egg substitute • 1/2 English muffin • 2 teaspoons light margarine • 1 cup fat-free milk • 1 cup coffee or tea | <ul style="list-style-type: none"> • 2 slices whole wheat bread • 2 to 3 ounces turkey breast • Lettuce and tomato • 1 to 2 teaspoons mustard or low-fat mayonnaise • 1 cup fresh fruit salad • 1/2 cup low-fat pudding • Water | <ul style="list-style-type: none"> • 3 ounces baked or grilled chicken breast • 1 small, baked, regular or sweet potato • 1 cup green beans • 1 small whole grain roll • 1 to 2 teaspoons low-fat margarine • 1 sliced apple • Water |

IMPORTANT THINGS TO REMEMBER:

1. Doctor Appointments:

- Follow up with your surgeon 3 to 4 weeks after you leave the hospital.
- Follow up with your cardiologist 4 to 8 weeks after you leave the hospital.
- Follow up with your primary care physician (PCP) 4 to 8 weeks after you leave the hospital.

2. Activity:

- Follow the activity guidelines given to you by cardiac rehab.
- Do not lift anything heavier than 5 pounds for 4 weeks.
- Do not drive until cleared by your surgeon after your office visit. You may take short rides in a car as a rider.
- Do not return to work. Check with your surgeon at your office visit.

3. Food Plan:

- Follow the food plan as prescribed by your doctor. Avoid constipation. Fruits, vegetables, whole grains, and laxatives may help to relieve constipation.

4. Respiratory Care:

- Continue to use your incentive spirometer or Acapella® tool 4 times a day for 10 repetitions each time for 1 week.

5. Medicines:

- **Take only the medicines prescribed by our team. On discharge, your medicines will likely change. These medicines will replace those you took before surgery. If you have medicines at home that are not on your list of medicines, please check with your discharge surgeon before taking them.**
- Take your medicines as ordered. Use aspirin only as ordered by your doctor.
- You may use acetaminophen (Tylenol®) for headache or minor pain. Be cautious: acetaminophen (Tylenol®) may be found in your pain medicine.
- Do not take more than 4 grams of acetaminophen in 24 hours.

continued

6. Wound Care:

- Shower daily. No tub baths for 4 weeks. Gently wash your incisions with antimicrobial soap and water. Rinse well and pat dry.
- No lotions, creams, or powders on incision lines.
- Check your incisions daily. Call your surgeon about any of these symptoms: increased swelling, redness, drainage at or around incision sites.
- You may notice some swelling of the legs for a few weeks. Raise your legs while sitting. Do not cross your legs or wear tight stockings or socks.

7. Weigh Yourself and Take Your Temperature:

- Weigh yourself each morning and record your weight. Call your surgeon if any of these are noted: weight gain of 2 pounds in one day or 4 pounds in one week.
- Take your temperature 2 times each day. Call your surgeon for a temperature more than 101 F (38.3 C)..

8. Call Your Surgeon for:

- Temperature greater than 101 F (38.3 C) or higher.
- Sustained low temperature of 100 F (37.7 C) or higher.
- Fever with chills.
- New, severe pain in your chest.
- Increased shortness of breath.
- Heart rate greater than 110 beats per minute or less than 50 beats per minute.
- Continued or severe sadness.
- Lightheadedness/dizziness.
- Unusual rashes.
- Severe calf pain.
- Burning when passing urine.

9. Smoking:

- Do not smoke. Call UPMC Referral Services at **412-647-UPMC (8762)** for information on a stop smoking program.

10. Outpatient Cardiac Rehab:

- Speak to your doctor at your office visit about joining an outpatient cardiac rehab program near your home.



RESOURCES

UPMC Physician Referral Service: 1-800-533-UPMC (8762)

UPMC CARDIAC REHABILITATION PHONE NUMBERS

| | |
|-------------------------------|-------------------------------------|
| UPMC Altoona: | 814-889-2173 |
| UPMC Bedford Memorial: | 814-623-3538 |
| UPMC Hamot: | 814-877-5608 |
| UPMC Horizon-Greenville: | 724-589-6278 |
| UPMC Horizon-Shenango Valley: | 724-983-7521 |
| UPMC McKeesport: | 412-664-3010 |
| UPMC Mercy: | 412-777-6849 (Ohio Valley Hospital) |
| UPMC Northwest: | 814-676-7159 |
| UPMC Passavant: | 724-720-5930 |
| UPMC Presbyterian: | 412-623-1684 |
| UPMC Shadyside: | 412-623-1684 |

UPMC NUTRITION COUNSELING SERVICES

| | |
|------------------------------------|--------------|
| UPMC Altoona (Scheduling): | 814-889-4222 |
| UPMC Bedford Memorial: | 814-624-4328 |
| UPMC East: | 412-367-3011 |
| UPMC Hamot: | 814-877-2777 |
| UPMC Horizon-Farrell (Scheduling): | 724-983-8864 |
| UPMC Horizon-Greenville: | 724-589-6681 |
| UPMC Horizon-Shenango Valley: | 724-983-7529 |
| Magee-Womens Hospital of UPMC: | 412-641-3663 |
| UPMC McKeesport: | 412-664-6761 |
| UPMC Northwest: | 814-676-7102 |
| UPMC Presbyterian: | 412-692-4497 |
| UPMC Passavant: | 412-748-6468 |
| UPMC St. Margaret: | 412-784-5300 |
| UPMC Shadyside: | 412-623-2421 |

UPMC DIABETES COUNSELING SERVICES

Speak with your doctor, visit [UPMC.com/Diabetes](https://www.upmc.com/Diabetes), or call **1-800-533-UPMC** (prompt 2) and ask for diabetes education services.

PA Quit Smoking Hotline: 1-800-QuitNow (1-800-784-8663)

American Lung Association: 1-800-548-8252 or www.lung.org



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Pittsburgh, PA 15213-2582

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