All WVU Medicine clinics and facilities are tobacco-free.

Smoking is the number one cause of preventable death and disability. As a healthcare organization, we have an obligation to provide a healthy, tobacco-free environment for our patients, visitors, faculty, staff, and students.

Our healthcare facilities and the entire WVU Health Sciences campus are tobacco-free. All buildings are smoke-free; the tobacco-free policy applies to all areas surrounding our buildings, including sidewalks and parking lots.

WVU Medicine recommends that people who use tobacco products quit. For free help, we recommend contacting the WV Quit Line at 1-877-966-8784.

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INTRODUCTION

When you are a patient at WVU Medicine and the WVU Heart and Vascular Institute (HVI), we ask you to trust us with your heart.

The HVI Division of Cardiac Surgery is dedicated to providing vital care to patients living with illnesses and disorders of the heart using the latest surgical, diagnostic, and medical techniques available in our field.

At WVU Medicine, we consistently offer a patient-focused, teamwork-driven approach to all care delivery. Throughout each day of your hospital visit, you will meet and work with members of your professional healthcare team, all of whom are committed to your recovery and return to your home and family. No matter the procedure, YOU are the most important member of this team. Our mission is to help prepare you and your loved ones so you know what to expect throughout the entire process of your heart surgery.

In this heart surgery guide, you will find vital information about the days leading up to and following your surgery for you and your family. We ask you to bring this guide to all of your appointments. It will allow you to follow your surgery progress and address any specific concerns you may have about your procedure. It is our wish that this detailed information answers your questions about what to expect from your surgery and, most importantly, allows you to trust us with your heart.

HOW TO CONTACT US

Your heart surgery team wants to make your experience at WVU Medicine positive. Please contact us at 877-WVU-4HRT or at one of the offices below with any questions or concerns you may have.

WVU Heart and Vascular Institute
1 Medical Center Drive, PO Box 8003
Morgantown, West Virginia 26506
Phone: 304-598-4478
Fax: 304-285-1986

WVU Medicine CCMC
705 Garfield Avenue, Suite 460
Parkersburg, West Virginia 26101
Phone: 304-424-4760
Fax: 304-424-4761

J. W. Ruby Memorial Hospital
1 Medical Center Drive
Morgantown, West Virginia 26506
Phone: 304-598-4000
ABOUT YOUR HEART

This section will help you better understand the different parts of your heart and how heart disease will make it harder for your heart to work properly.

CORONARY ARTERIES

Your coronary arteries supply blood to the heart muscle. Like all other tissues in the body, the heart muscle needs oxygen-rich blood to function, and the blood without oxygen must be carried away. The coronary arteries run along the surface of the heart and have small branches that supply blood to the heart muscle. In the picture below, you will see the two main coronary arteries: the right and left coronary arteries, each of which has several branches.

The American Heart Association estimates that more than 16 million Americans suffer from coronary artery disease — the number one killer of both men and women in the U.S.

Ask your physician to mark where the blockages are in your coronary arteries.

Notes:

CORONARY ARTERY DISEASE

Coronary artery disease (CAD) is the irritation and buildup of fatty deposits along the innermost layer of the coronary arteries. The fatty deposits may develop in childhood and continue to thicken and enlarge throughout your life span. This thickening, called atherosclerosis, narrows the arteries and can decrease or block the flow of blood to the heart.

CORONARY ARTERY BYPASS

Coronary artery bypass, also referred to as “bypass surgery,” is often performed to help patients who have chest pain and coronary artery disease. During the procedure, the surgeon creates a bypass by grafting a piece of a vein above and below the blocked area of a coronary artery, enabling blood to flow around the blockage. Veins are usually taken from the leg, but arteries from the chest and/or arm may also be used to create a bypass graft.

Sometimes multiple bypasses may be needed to fully restore blood flow to all regions of the heart. Your surgeon will make the final decision about what you need for your best health outcome.

HEART CHAMBERS AND VALVES

The heart is a pump made of muscle tissue. It has four pumping chambers: two upper chambers, called atria, and two lower chambers, called ventricles.

In total, there are four valves between each of the heart’s pumping chambers, and they work together as a team to keep blood flowing forward through the heart.

Notes:
HEART VALVE DISEASE

When valves are damaged or diseased and do not work the way they should, they may need to be repaired or replaced. The two most common conditions that involve heart valve dysfunction are valve stiffness or narrowing (stenosis) or a leaking valve, which causes blood to flow backward (regurgitation).

Your healthcare team will discuss your specific disease with you.

HEART VALVE SURGERY

Traditionally, open-heart surgery has been used to repair or replace diseased heart valves. This means that an incision is made in the chest and the heart is stopped for a time so that the surgeon can repair or replace the valve(s). Newer, less-invasive techniques have been developed to replace or repair heart valves. Minimally invasive procedures employ smaller incisions and result in less pain after surgery along with shorter hospital stays. The less-invasive approach is not for everyone. Ask your surgeon which approach is best for you.

VALVE REPAIR OR REPLACEMENT

The diseased valve may be repaired using a simple ring to support the damaged valve, or the valve may require a complex repair. In certain cases, such as with mitral and aortic valves, the valve may not need to be replaced and instead may be repaired using advanced surgical techniques, including using the patient’s own tissue for reconstruction. Sometimes special rings are used to support the repaired valve. There are also times the entire valve may be removed and replaced by an artificial valve. Artificial valves may be made of carbon, titanium, or tissue from either animals or human donors.

The primary approach here at WVU Medicine is to repair your diseased valve. For example, in the treatment of mitral valve regurgitation, the advantages of a repair are preserved heart function, freedom from lifelong blood thinner medications, and longer durability. In many cases, valve repair or replacement can be performed using the latest technologies in minimally invasive cardiac valve surgery.

ADVANCED HEART VALVE THERAPIES

Transcatheter Aortic Valve Replacement (TAVR)

This FDA-approved procedure is a minimally invasive procedure to replace a patient’s diseased aortic valve through a catheter (tube) inserted into the artery in the groin without needing to open the chest or use a heart-lung bypass machine. It is approved for patients with severe, symptomatic aortic stenosis who are at intermediate or greater risk for standard open-heart surgery. The diseased valve is replaced with a bovine tissue valve. This procedure helps patients live longer, with a one-year survival comparable to standard open surgery. It improves survival at one year by 20 percent compared to medical management. We don’t yet know if the long-term results of TAVR are as good as conventional open-heart surgery.

Sutureless Aortic Valve Replacement

Technology continues to enable more alternatives for minimally invasive procedures for patients with aortic valve disease. A “sutureless” or rapidly deployed valve is one of those options that can be completed through traditional open surgery or with a minimally invasive approach. The potential advantages of a sutureless aortic valve include reducing cardiopulmonary bypass (heart-lung machine) duration without compromising outcomes. Currently, two FDA-approved devices are available, both made from bovine tissue.

Trans-Catheter Mitral Valve Repair (MitraClip)

This procedure is intended to reduce or eliminate mitral regurgitation (leaking mitral valve) and provides an option for those patients with significant, symptomatic mitral regurgitation who are too sick for standard mitral valve surgery. The procedure is less invasive than the standard approach, providing improvement in patient symptoms and quality of life.

Trans-Catheter Mitral Valve Replacement (Tendyne)

This procedure is currently performed as part of a multicenter trial which aims to increase understanding of the safety and performance of the implant in patients suffering from severe, symptomatic mitral regurgitation who are considered inoperable. The diseased mitral valve is replaced through a small incision in the chest without the need for the heart-lung bypass machine. This procedure offers the opportunity to provide the patient with improved functional capacity and the potential to resume activities of daily living.

TREATMENT OF ATRIAL FIBRILLATION (AFIB)

Atrial fibrillation, or AFib, is an abnormal heart rhythm or arrhythmia. It occurs when the upper chambers of your heart beat out of sync with the lower chambers of your heart. This causes a decrease in blood flow to the body and can lead to greater health problems, such as stroke.

There are a variety of treatments for atrial fibrillation, and your healthcare team can provide you with the best and most specific treatment plan for your health needs. Procedures can include cardioversion, which sends small electrical shocks to realign the heart chambers; a MAZE procedure, a surgical procedure that uses a series of small cuts and radiofrequency charges; or cryoablation (cold instead of heat) to bring the atria back into normal, regular rhythm.

ADVANCED ATRIAL FIBRILLATION THERAPIES

Trans-Catheter Left Atrial Appendage (LAA) Closure (WATCHMAN)

This is an FDA-approved procedure to prevent LAA blood clots from entering the bloodstream and potentially causing a stroke in patients who have atrial fibrillation not related to heart valve disease. Patients considered for WATCHMAN are those who are recommended to take blood thinner medicines, are suitable candidates for warfarin (Coumadin), are at risk for a stroke, and/or have an acceptable reason to seek a non-drug alternative to warfarin.

AORTIC ANEURYSM THERAPY

The aorta is the largest blood vessel in the body. It delivers oxygen-rich blood from the heart to the rest of the body. An aortic aneurysm is a bulging, weakened area in the wall of the aorta. Over time, the aorta may continue to grow and is at risk for bursting (rupture) or separating (dissection). This can cause life-threatening bleeding and potentially death.

Your surgical team will tell you if you have an aneurysm and if you are at-risk. It is important to note that not all aneurysms need surgical attention, and they can generally be watched over time with regular exams by your physician.

Ask your physician if one of the previous procedures is right for you. Your healthcare provider can discuss the pros and cons of each option and what might be best for you.
PREPARING FOR YOUR SURGERY

SURGICAL TEAM
Before your surgery, you and your family will meet with a member of your surgical team. You will also answer a series of questions regarding your health history. During your meeting, you will receive information about your treatment and surgery plan. You will learn the type of treatment that is best suited for you and your health needs.

During this meeting, be sure to tell your team about all medicines, herbal supplements, vitamins, and any over-the-counter medicines you are taking. In most cases, it is okay to take aspirin up until the day of your surgery. However, you should discuss this and any other blood-thinning medicine with your doctor or surgical team. It is also important to inform your surgical team of any allergic reactions you may have had to other medicines or anesthesia. In the back of this booklet, you will find an easy-to-use chart to list these for your medical providers.

Please remember that during every step of this surgical process, a member of your team is here to help you and your heart get well again.

PRE-SURGERY TESTING
Before your surgery, your team will run a series of tests to best understand the makeup and design of your body. These medical tests will allow us to give you the best care possible. These exams could include urine and blood tests, chest X-ray, and an EKG. Your doctor could possibly order additional tests based on your personal health history.

BREATHING AND COUGHING EXERCISES
To better prepare you for the recovery stage of your procedures, you will meet with either a nurse or respiratory therapist to complete a set of breathing or coughing exercises. These exercises will speed up your recovery by teaching you how to remove the mucus from your throat and lungs after surgery. Mucus gives harmful bacteria a place to grow. By removing it from your body, you will be able to regain your strength by taking deeper breaths.

QUITTING SMOKING
If you smoke, a member of your surgical team will give you information on the need to stop this habit. Continuing to smoke can have negative effects on your recovery phase. Tobacco smoke residue can make it harder for your wounds to heal, increase the chances for infection, and drastically slow your recovery. Smoking places a greater demand on your heart and, in turn, raises your heart rate and blood pressure.

EVENING BEFORE YOUR SURGERY

PRE-SURGICAL HEALTHCARE
We will ask that you shower the evening before your surgery. The morning of your surgery, you’ll use a special antibacterial soap. Please remove all nail polish, makeup, jewelry, and piercings, and do not use perfume. Women may bring a soft, non-wire bra for their own comfort after the operation to help with their recovery time. You should continue to follow any food or activity plans that your doctor has advised you to follow. Please avoid eating heavy meals or hard exercise the day before your surgery.

PERSONAL BELONGINGS
If you are going into the hospital before your surgery, please have a family member take all your personal belongings home either the day before your surgery or the morning of the procedure. You may keep a few personal items that you need after the operation (such as eyeglasses or hearing aids) with your family in the waiting room. Your nurse in the Intensive Care Unit will retrieve these items from your family after the operation is completed.

AFTER MIDNIGHT
It is very important that you do not drink or eat anything after midnight on the day of your surgery. You may take your prescribed medication with a small sip of water on the morning of your surgical procedure if your doctor or surgical team said it is okay.

DAY OF YOUR SURGERY

FAMILY VISITATION
You can visit with your family before you go to the operating room. If you are already in the hospital, please ask your nurse about visiting hours and procedures. If you are coming in for surgery on the same day, you will be asked to arrive early so you have time to prepare for your surgery. Your family will receive special instructions to follow on the day of your procedure.

GOING TO THE OPERATING ROOM
Before your surgery, a nurse will give you medicine into a vein (IV) to make you feel more relaxed and comfortable for the procedure. This medicine may make your mouth and throat dry.

WAITING ROOM
After you depart for your operation, your loved ones will be shown to a comfortable waiting area. It is common for these surgeries to last between four to six hours, and it is important that your surgeon be able to reach your family at any time during surgery. If your family members leave the waiting room, they should tell the receptionist at the front desk where they are going and how long they will be gone. They should provide a contact number so they can be reached at any time.
POSSIBLE COMPLICATIONS
Complications associated with any major operation can also occur with open-heart surgery, including bleeding, return to the operating room for bleeding, blood clots, the need for blood transfusion, pneumonia, heart attack, stroke, kidney failure, and infection. Some patients may require additional procedures during their postoperative stay, such as placement of a permanent pacemaker or drainage catheters to drain fluid from around the heart or lungs. Overall, modern heart surgery is safe, and the risk of these complications is low.

One common postoperative complication that occurs in up to 30 percent of heart surgery patients is a condition called atrial fibrillation (AF). AF is an irregular heart rhythm that may make the heart beat too fast. Patients may not experience any symptoms whatsoever. However, most patients with AF will report some sensation of fatigue, anxiety, shortness of breath, or feeling their heart beat (palpitations). AF is due to the irritability that is incited by surgery. The heart usually returns to a normal rhythm with continued healing over time and appropriate medications. You may be prescribed IV medications that will help convert the heart back into a normal rhythm. You will likely be prescribed oral medications which will be continued for a short course after discharge to help maintain your heart in normal rhythm. Occasionally, your team will recommend a procedure called a cardioversion, in addition to medication, to set your heart back in normal rhythm. This entails administering an ultrashort-acting sedative and delivering a light shock to the chest to set the heart back into normal rhythm. Most patients will be able to convert to normal rhythm prior to discharge.

AFTER YOUR SURGERY
INTENSIVE CARE UNIT (ICU)
The recovery process for heart surgery follows several steps. The first step is in the ICU, where you’ll go immediately after your surgery to recover overnight. During your stay in the ICU, our dedicated surgical team will watch you very closely. Once ready, you will be transferred to a regular floor within the hospital to continue your recovery for a few more days.

MEDICAL EQUIPMENT
During your recovery, you may notice that you are connected to various types of medical equipment in your room. All of these things help your healthcare team better understand your healing process and vital body functions. The following is a list of equipment you may find around you:

FOLEY CATHETER
You may also have a Foley catheter coming from your bladder. This drainage tube will help you urinate while you recover.

INTRAVENTOUS (IV) LINES
You will also have some IV lines in your arms and your neck. These lines will help your team track your vital signs, disperse your medicine, draw blood for post-surgical tests, and replace fluids that help speed up your recovery.

HEART MONITOR
Your heart monitor will show us your heart activity and the pressure in your heart and body.

PACEMAKER WIRES
You may have some wires placed directly on your chest during surgery. These temporary pacemaker wires are used to control your heart rate if necessary. They will be removed before you leave the hospital.

DRAINAGE TUBES
You may also notice a number of tubes and wires attached to you during your time in the ICU. Chest tubes drain fluid from your chest near your heart and lungs. This drainage tube will be removed within a day or two.

BREATHING TUBE AND OXYGEN
When you wake up from your surgery, there may be a breathing tube in your mouth and throat. While this may alarm you at first, it is only for your comfort and safety. The tube is attached directly to a ventilator to help you breathe until you are fully awake from the effects of the anesthesia. Once you are fully awake, the tube will be removed. Then, you will be given oxygen through your nose or a mask over your mouth. Your nursing team will be there the entire time to help you through this transition and remind you to take slow, deep breaths.

AFTER YOUR SURGERY
MEDICAL EQUIPMENT
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CONTINUING THE RECOVERY PROCESS
ACTIVITY IN THE HOSPITAL

You may want to change positions in your hospital bed as you feel your body wake up from the anesthesia. Please ask your nurse to raise the head of your bed so you can easily change positions. After your heart surgery, it is very important to move early and often, as increasing your activity improves blood flow, breathing, and your overall sense of well-being.

Please do not ever attempt to get out of your bed by yourself. It is always better to have or ask for assistance in these situations, especially after a major surgery.

It is important to take the proper steps when you get out of bed. Your nurse will direct you through this process. First, you will sit on the edge of the bed and then later move to a chair beside your bed. As you continue your progress, you will try sitting up in a chair. Then, you will try to walk. Overall, you will work toward increasing the distance you walk every day. The goal is to walk three to six times a day. As you become stronger, you can begin walking on your own or with your visiting family members.

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 four days after your surgery.

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

DAY 2
Sit up in a chair with your legs lifted for most of the day, shifting your weight every 30 minutes.
Exercise your calf muscles by pointing your toes up and down several times each hour.
Walk in the halls three to six times with the help of your nurse or the cardiac rehab staff.
Continue to cough, breathe deeply, 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 the cardiac rehab staff, your nurse, or your family.
Exercise your calf muscles by pointing your toes up and down several times each hour.
Sit up in a chair most of the day, shifting your weight every 30 minutes. (Remember to keep your legs raised while sitting.)
Walk in the halls three to six times with the help of your nurse, the cardiac rehab staff, and/or your family.
Breathe deeply, cough, and use the incentive spirometer or Acapella® tool each hour.
Work with your healthcare 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 three to six times with the help of your nurse, the cardiac rehab staff, and/or your family.
Add stair climbing with the help of the cardiac rehab staff.
Continue to cough, and use the incentive spirometer or Acapella® each hour.
Continue to keep your pain under control.
Continue discharge planning with your healthcare team.

UPON DISCHARGE
You will get complete information about your activity.
If you are going home, you should be steady on your feet and need very little help.
If you need to go to rehab, you will continue your activity progression.
MANAGE YOUR PAIN

After your heart surgery, managing your pain will be an important part of the recovery process. When we are able to help you ease your pain, you will feel better and recover faster. The pain medication will also help you do your breathing and walking exercises and avoid other possible health complications. We ask that you tell your nurse or surgical team as soon as you start to feel uncomfortable. When you take pain medicine early, it can help manage the pain before it interferes with your ability to exercise. When learning of your pain and discomfort, your nurse will ask you to rate your pain on a scale from zero to 10, with zero being no pain and 10 being terrible pain.

DEEP BREATHING EXERCISES

A respiratory therapist and/or nurse will teach you how to do breathing and coughing exercises. These exercises are important to help rid your lungs of mucus after surgery. Mucus makes it easier for bacteria to grow. The exercises will help speed up your recovery. The incentive spirometer and Acapella® tool will help 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 an incentive spirometer and/or an Acapella® and will continue to assist you with using them properly.

HOW TO: BREATHING EXERCISE TOOLS

INCENTIVE SPIROMETER

- Cough two to three times to clear mucus or secretions.
- Place the mouthpiece in your mouth, and seal your lips tightly around it.
- Breathe in slowly and as deeply as possible, raising the piston toward the top.
- Hold your breath as long as possible (at least five seconds).
- Exhale and allow the piston to fall to the bottom of the column.
- Do this with at least 10 breaths every hour when you are awake.
- Cough two to three times to clear secretions.

ACAPELLA® BREATHING TOOL

- Take a deep breath.
- Place the mouthpiece in your mouth, and seal your lips around it. Inhale.
- Exhale actively, but not forcefully.
- Do this exercise for at least 10 breaths every hour you are awake.
- Cough two to three times to clear secretions.

ADDITIONAL BREATHING AIDS

As you continue to recover, your surgical team will check in with you to see if you need additional help in your journey to recovery, such as oxygen supplements or breathing treatments.

A breathing treatment is essentially medicines that you inhale. These work together with your body to open your airways so you can breathe freely and remove mucus.

Your team will consistently encourage you to breathe deeply, cough frequently, and walk as much as you are able throughout the day. A team member may perform chest physiotherapy or chest PT, which consists of them making a cupping motion with their hand or by mechanical precursor on your back to break up thick strands of mucus in your lungs.

You should tell your respiratory therapist or nurse if you are getting therapy at home (for example, breathing treatments and medicine) as you may need to continue these at the hospital.
ACTIVITY

It can take several weeks for your body to recover fully after heart surgery. We suggest a slow, progressive plan to regain your normal body and life functions safely. In time, you should be able to do your regular routine tasks, return to work, and take part in recreational activities.

CLIMBING STAIRS

If you need to climb stairs, we suggest going slowly at first. Always remember that it takes more energy to climb a flight of steps than to walk on a level surface. If you start to become tired or have shortness of breath, stop, rest for a few minutes, and then continue. You should only use a railing for your balance. Please do not pull yourself up the stairs as the strain can damage your incision and put excess pressure on your body.

DRIVING A MOTOR VEHICLE

You will not be cleared to drive a car until after you visit with your surgeon. This visit is often scheduled four weeks after your surgery. If you drive and get in a car accident, you may hurt your breastbone or other areas that have undergone surgical procedures.

You may be a passenger in a car when necessary. However, we suggest you ride in the back seat if possible. If you are riding in the front seat, move as far back as possible to increase legroom, and use a pillow between your chest and the seat belt for added comfort and to avoid any irritation on your incision. We advise against taking long trips without your doctor's approval. When approved, be sure to allow ample time for stops to walk and stretch your legs and arms.

BATHING

We encourage all patients to follow basic hygiene and ask that you shower daily after your surgery. Please do not take tub baths, and avoid very hot water, which can give you feelings of dizziness and light-headedness. We suggest having a shower buddy or person nearby to assist you the first few times you shower in case you start to feel weak. Avoid scrubbing your wounds as they heal. After your shower, you may want to take a short rest before you dress to rebuild your strength and keep you from tiring out too quickly.

SEX

Resuming sex after surgery often depends on how you feel both mentally and physically after the procedure. You are physically able to resume sex once you have regained the ability to do simple tasks like climbing two to three flights of stairs without becoming tired or short of breath.

YOU ARE PART OF OUR TEAM: CARING FOR YOURSELF

RECOVERY AT HOME

This section will give you general lifestyle tips to follow while you heal from your surgery at home. These tips cover both the physical and emotional healing associated with major surgery.

HERE ARE A FEW TIPS:

- Get up and get dressed each morning. Please do not stay in bed.
- Wear comfortable clothes each day.
- 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, which will slow recovery.
- Balance your activity with rest times. Your body may give you these signals to rest: shortness of breath, fatigue, dizziness, and pain.
- Rest when possible or needed.
EMOTIONAL HEALTH

While you are healing from the physical scars of heart surgery, you may also need to focus on the emotional impact as well. You will experience a wide range of emotions as you begin to heal and retrain your body back to its former functions. You may have good days and bad days during the healing process, but the important thing to remember is that you are slowly on the path to recovery.

During this emotional time, you will go through a series of feelings, such as anger, frustration, and sadness. These feelings are normal. As you follow your health and exercise plans and begin to adjust back to life, you will see a positive change in your life.

WOUND CARE AND PRECAUTIONS

Your heart surgery may have been performed through an incision in your breastbone, or you may have an incision on the side of your chest.

PLEASE FOLLOW THESE STEPS TO CARE FOR EITHER TYPE OF INCISION:

- 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 for things if your incision is in your breastbone. The breastbone and the muscles around it may be very sore.
- If your incision is in your breastbone, do not lift anything heavier than five pounds for four weeks after surgery.
- If your incision is on the side of your chest, do not lift anything heavier than 10 pounds for two weeks after surgery.
- You should not push or pull with your arms, especially when rising from a bed.
- You can use assistive devices, such as canes or walkers, for balance only. Do not place your full weight on any of these devices until the incision has healed fully.

IT IS VERY IMPORTANT TO KEEP YOUR INCISION CLEAN AND DRY. FOLLOW THESE GUIDELINES:

- Shower daily, and pat dry. Do not take a tub bath for four weeks or until your surgeon says it is okay.
- Wash your incision with antimicrobial soap and water. Always use a clean cloth.
- Do not put any creams, lotions, or antibiotic ointments on the incision.
- Keep your legs raised when sitting for more than 15 minutes, and remember to stretch.
- Do not wear any tight clothing that may rub against your incision and cause irritation.
THE FOLLOWING SYMPTOMS ARE NORMAL AND SHOULD CLEAR UP IN THE FIRST TWO TO THREE WEEKS:
- Tenderness, swelling, numbness, or itching along the incision
- Black and blue skin around the incision or redness along the incision’s edges
- Small amount of clear or pinkish drainage coming from the incision

IF YOU HAVE ANY OF THE FOLLOWING SYMPTOMS, CALL YOUR SURGEON RIGHT AWAY:
- Increased warmth in the skin around the incision
- Redness that spreads out more than an inch from the incision’s edges
- Increase of swelling, tightness, or pain around an incision
- Large amount of clear or pinkish drainage
- Sudden increase in the amount of drainage
- White, yellow, or green drainage with odor coming from the incision
- Fever higher than 101 degrees Fahrenheit (38.3 degrees Celsius), chills, or temperature of 99 degrees Fahrenheit (37.2 degrees Celsius) to 100.9 degrees Fahrenheit (38.27 degrees Celsius) for more than three days

DO!
- 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 expired medicines.
- Update the list of medicines you take after each discharge or appointment.
- Learn both the generic name and the brand name of each of your medicines.
- Tell your doctor and pharmacist about your health history, including your allergies.
- Carry a list that shows your medicines, doctors’ names, and emergency contact numbers.

DON’T!
- Don’t wait until your last dose to ask for a refill. (Don’t run out of medicine.)
- Don’t take medication without your doctor’s or surgeon’s consent.
- Don’t take an over-the-counter medicine unless your doctor has approved it.
- Don’t take medical advice from anyone other than a licensed professional.
- Don’t stop taking your medication as prescribed unless your healthcare team says it is okay.
- Don’t crush, chew, or break any medication unless you are told to by your healthcare team or pharmacist.
HEART-HEALTHY WAY OF LIFE... IT’S NOT TOO LATE

A number of things can increase your 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.

7 HABITS FOR A HEALTHY LIFE

1 **QUIT SMOKING.** Quitting smoking is the most important action you can take to better your health now and in the future.

2 **EXERCISE.** Trade the TV for activity. A good goal is to exercise five to seven days a week. You can take three to four 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.

3 **LOSE WEIGHT.** Exercising regularly and eating a low-fat and healthy food plan can assist you in reaching your goal.

4 **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.

5 **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 three or four times per year. A good hemoglobin A1C is less than 7.

6 **CARE FOR YOUR EMOTIONAL HEALTH.** Individuals tend to recognize and care for their physical health. Remember to care for your emotional health as well. 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 control stress by exercising, breathing deeply, and meditating. It also is important to talk about your feelings with a family member or close friend.

7 **LISTEN TO YOUR BODY.** You know your body best. If there are any changes in how you feel or if you have any new symptoms, tell your doctor.

Following a heart healthy way of life will help you reach your cholesterol goals.

**HEALTHY CHOLESTEROL NUMBERS**

<table>
<thead>
<tr>
<th>Name of Cholesterol</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Cholesterol</td>
<td>Less than 200 mg/dl</td>
</tr>
<tr>
<td>HDL (&quot;good cholesterol&quot;)</td>
<td>Greater than 40 mg/dl for men</td>
</tr>
<tr>
<td></td>
<td>Greater than 50 mg/dl for women</td>
</tr>
<tr>
<td>Triglycerides</td>
<td>Less than 150 mg/dl</td>
</tr>
<tr>
<td>LDL (&quot;bad cholesterol&quot;)</td>
<td>Less than 100 mg/dl</td>
</tr>
</tbody>
</table>
**CARDIAC REHABILITATION**

**WHAT IS CARDIAC REHABILITATION (REHAB)?**

We strongly suggest that you join a cardiac rehabilitation program after you return home and start to regain your strength. This program will give you the information and attention you need to recover and live a full and active life after open-heart surgery.

An outpatient cardiac rehab program can help you in the following ways:

- Exercise helps to restore your energy and strength during recovery. Your exercise program will be tailored to your specific condition, needs, and interests.

- Education helps you understand your heart disease. You will learn how to choose a healthy way of life to lower your risk of future heart problems.

**WHEN DO I GET STARTED?**

Mention cardiac rehab to your surgeon when you come back to the hospital for your surgery follow-up appointment. Your healthcare team can help you learn if you are a candidate for cardiac rehab and help you find a program near you. You can also ask the WVU Medicine cardiac rehab staff for help with finding a local program. We also provide a complete list of in- and out-of-state cardiac rehab physicians on page 27 of this guide.

**WHAT CAN EXERCISE DO FOR ME?**

Living a heart healthy lifestyle goes hand in hand with using exercise as a healing tool. Regular exercise will improve your core functions and quality of life. Aerobic exercises, such as biking, walking, and swimming, increase your energy without forcing your heart to pump more often or with more pressure. We suggest doing at least 30 to 60 minutes of aerobic exercise each day.

**WHAT TYPE OF EXERCISE SHOULD I DO?**

When you leave the hospital after your surgery, you will be given an exercise plan to follow while at home. Our cardiac rehab staff will specifically outline your needs for your plan and make sure it is based on your age, health, activity level before surgery, and progress after surgery.

---

**HOSPITAL PLAN**

**WEEK #1 From Hospital Discharge:**

Walk ________ minutes continuously ________ times a day.

**WEEK #2 From Hospital Discharge:**

Walk ________ minutes continuously ________ times a day.

**WEEK #3 From Hospital Discharge:**

Walk ________ minutes continuously ________ times a day.

**WEEK #4 From Hospital Discharge:**

Walk ________ minutes continuously ________ times a day.
## West Virginia Cardiac Rehabilitation Programs

<table>
<thead>
<tr>
<th>City</th>
<th>County</th>
<th>Hospital</th>
<th>Phone</th>
<th>Fax</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beckley</td>
<td>Raleigh</td>
<td>Beckley ARH Medical Mall</td>
<td>304-254-2424</td>
<td>304-254-2777</td>
</tr>
<tr>
<td>Berkeley Springs</td>
<td>Berkeley</td>
<td>War Memorial Hospital</td>
<td>304-258-6577</td>
<td>304-258-2618</td>
</tr>
<tr>
<td>Bluefield</td>
<td>Mercer</td>
<td>Bluefield Regional Medical Center</td>
<td>304-327-1772</td>
<td>304-327-1736</td>
</tr>
<tr>
<td>Bridgeport</td>
<td>Harrison</td>
<td>United Hospital Center</td>
<td>681-342-2425</td>
<td>681-342-2427</td>
</tr>
<tr>
<td>Buckhannon</td>
<td>Upshur</td>
<td>St. Joseph’s Hospital</td>
<td>304-473-2096</td>
<td>304-473-2094</td>
</tr>
<tr>
<td>Charleston</td>
<td>Kanawha</td>
<td>Charleston Area Medical Center</td>
<td>304-388-9520</td>
<td>304-388-9422</td>
</tr>
<tr>
<td>South Charleston</td>
<td>Kanawha</td>
<td>WVU Heart and Vascular Institution</td>
<td>681-205-8831</td>
<td></td>
</tr>
<tr>
<td>Elkins</td>
<td>Randolph</td>
<td>Davis Memorial Hospital</td>
<td>304-637-3623</td>
<td>304-637-3624</td>
</tr>
<tr>
<td>Fairmont</td>
<td>Marion</td>
<td>Fairmont Regional Medical Center</td>
<td>304-368-5430</td>
<td>304-368-5448</td>
</tr>
<tr>
<td>Glen Dale</td>
<td>Marshall</td>
<td>Reynolds Memorial Hospital</td>
<td>304-843-3409</td>
<td>304-843-3232</td>
</tr>
<tr>
<td>Huntington</td>
<td>Cabell</td>
<td>Cabell Huntington Hospital</td>
<td>304-526-2088</td>
<td>304-526-4866</td>
</tr>
<tr>
<td>Huntington</td>
<td>Cabell</td>
<td>St. Mary’s Medical Center</td>
<td>304-526-1253</td>
<td>304-526-8807</td>
</tr>
<tr>
<td>Kingwood</td>
<td>Preston</td>
<td>Preston Memorial Hospital</td>
<td>304-329-1400</td>
<td>304-329-8029</td>
</tr>
<tr>
<td>Keyser</td>
<td>Mineral</td>
<td>Potomac Valley Hospital</td>
<td>304-597-3565</td>
<td>304-597-3551</td>
</tr>
<tr>
<td>Hurricane</td>
<td>Putnam</td>
<td>Teays Valley Hospital</td>
<td>304-757-1837</td>
<td>304-757-1892</td>
</tr>
<tr>
<td>Logan</td>
<td>Logan</td>
<td>Logan General Hospital</td>
<td>304-831-1572</td>
<td>304-831-1129</td>
</tr>
<tr>
<td>Madison</td>
<td>Boone</td>
<td>Boone Memorial/Cardiac</td>
<td>304-369-1230</td>
<td>304-264-1331</td>
</tr>
<tr>
<td>Madison</td>
<td>Boone</td>
<td>Boone Memorial/Pulmonary</td>
<td>304-369-1230</td>
<td>304-369-1230</td>
</tr>
<tr>
<td>Martinsburg</td>
<td>Berkeley</td>
<td>Berkeley Medical Center</td>
<td>304-260-1413</td>
<td>304-350-3419</td>
</tr>
<tr>
<td>Morgantown</td>
<td>Monongalia</td>
<td>Mon Health Medical Center</td>
<td>304-598-2427</td>
<td>304-598-2414</td>
</tr>
<tr>
<td>Morgantown</td>
<td>Monongalia</td>
<td>WVU Heart and Vascular Institution</td>
<td>304-599-4648</td>
<td>304-599-1982</td>
</tr>
<tr>
<td>New Martinsville</td>
<td>Wetzel</td>
<td>Wetzel County Hospital</td>
<td>304-455-8093</td>
<td>304-455-6226</td>
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<tr>
<td>Parkersburg</td>
<td>Wood</td>
<td>Camden Clark Medical Center</td>
<td>304-424-2650</td>
<td>304-424-2667</td>
</tr>
<tr>
<td>Petersburg</td>
<td>Grant</td>
<td>Grant Memorial Hospital</td>
<td>304-257-1026</td>
<td>304-257-9712</td>
</tr>
</tbody>
</table>

## Maryland Cardiac Rehabilitation Programs

<table>
<thead>
<tr>
<th>City</th>
<th>County</th>
<th>Hospital</th>
<th>Phone</th>
<th>Fax</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cumberland</td>
<td>Alleghany</td>
<td>Western Md. Health System</td>
<td>240-964-1502</td>
<td>240-964-1501</td>
</tr>
<tr>
<td>Oakland</td>
<td>Garrett</td>
<td>*Garrett Regional Medical Center</td>
<td>301-533-4670</td>
<td>301-533-4673</td>
</tr>
</tbody>
</table>

*This is the closest program for people living in Terra Alta in Preston County.

## Pennsylvania Cardiac Rehabilitation Programs

<table>
<thead>
<tr>
<th>City</th>
<th>County</th>
<th>Hospital</th>
<th>Phone</th>
<th>Fax</th>
</tr>
</thead>
</table>

**Offers Phase II only**
HOME EXERCISE PLAN

After your discharge from the hospital, we suggest that you incorporate exercise into your daily routine. This gradual strength training will help you get back the strength you may have lost due to the bed rest and healing process following your heart surgery. It is important to start slow, especially if you did not exercise before your surgery. Your plan will start with different walking goals and then progress over time.

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

WHY EXERCISE?

If you take part in regular aerobic exercises, such as walking, you will take an active step in living a healthier life. These exercises will increase your muscle strength, lower your blood pressure, raise your “good” cholesterol, control your blood sugar levels, and help you lose weight and control stress. Lasting results only come when you keep up with your plan. Stay steady in your work, and never give up on yourself.

WHEN TO EXERCISE

You are free to complete your exercises at any time during the day. However, we suggest that you wait at least one hour after meals and 30 minutes after other activities before exercising. Please do not attempt to exercise outdoors if the temperature is below 35 degrees Fahrenheit or above 85 degrees Fahrenheit or if the humidity is greater than 80 percent.

LISTEN TO YOUR BODY

If at any time while exercising you feel chest pain (not from your surgical incision), become dizzy, or have shortness of breath, it could be a sign that you are overworking your body. Please rest, and if symptoms persist, contact your doctor or call 911.

A PLAN SPECIFIC TO YOU

Walking is the first task your cardiac rehab specialist will give to you. You should be able to walk and talk at a pace that is comfortable to you without becoming short of breath. Slow down your pace if you find it difficult to walk and talk at the same time.

Overall, your goal is to be able to exercise 30 to 60 minutes per day, five to seven days a week. As you become stronger, you can focus on other goals, such as increasing the length of your walk or increasing your speed. As your exercises become easier, think about adding small hills.

You can try other exercises as long as your surgeon approves them. We also suggest adding a five to 10 minute warm-up period as well as a five to 10 minute cool-down period as you begin to take your exercise goals to higher levels of exertion.
HEART HEALTHY FOOD PLAN

GUIDELINES FOR A HEART HEALTHY DIET

While exercise is important for a healthy life, so is a healthy diet. You should be eating meals that are well-balanced with a high-fiber content. Each meal should also be low in fat, cholesterol, and sodium. Heart-healthy foods will help lower your cholesterol, decrease your blood pressure, and reduce your weight.

OUTPATIENT DIETITIAN SERVICES

WVU Medicine offers classes in making healthy lifestyle changes to your diet. In these classes, you will learn about the obstacles to avoid when making food choices, taste healthy dishes from local chefs, and receive heart-healthy recipes. Space is limited so pre-registration is always required. To receive more information, please call 302-293-2604.

AVAILABLE TO PROVIDE ONE-ON-ONE NUTRITIONAL COUNSELING

**Physician Office Center**
Tuesday and Thursday
Call 304-598-4865 for an appointment

**Pain Management Clinic**
Wednesday afternoon
Call 304-598-6216 for an appointment

**Cheat Lake Physicians**
Monday, Tuesday evenings, and Thursday
Call 304-594-1313 for an appointment

**University Town Centre**
Monday, Wednesday, Thursday, and Friday
Need referral from primary care physician for appointment
HEART-HEALTHY DIET – SAMPLE MENU
SOURCE: ACADEMY OF NUTRITION AND DIETETICS

BREAKFAST
½ cup apple juice
¾ cup oatmeal
1 cup fat-free milk
1 small banana
1 cup brewed coffee

LUNCH
2 slices whole-wheat bread
2 oz. lean deli turkey breast
1 oz. low-fat Swiss cheese
2 slices tomato
2 lettuce leaves
1 pear
1 cup nonfat milk

AFTERNOON SNACK
1 oz. trail mix
1 cup blueberries
1 cup nonfat milk

EVENING MEAL
3 oz. broiled fish
1 cup brown rice
1 tsp. margarine
1 medium stalk broccoli
1 medium carrot
1 cup tossed salad
¾ cup chickpeas, for salad
1 tbsp. olive oil & vinegar dressing
1 small whole-wheat roll
1 tsp. margarine
½ cup nonfat frozen yogurt
with ¼ cup berries
1 cup tea

LOW SODIUM
Intake should be less than 2,000 milligrams daily. Look for items that contain less than 140 mg/serving.

Avoid adding salt to prepared food items or in cooking.
Use herbs and spices, such as garlic powder, basil, oregano, onion powder, sage, thyme, cumin, and pepper in place of salt.
Avoid highly processed foods, such as canned soups, luncheon meats, bacon, hot dogs, pickles, olives, pepperoni, salty snack foods, and boxed meal mixes.
Limit foods that are pickled, in cocktail sauce, smoked, in broth, in tomato base, or blackened.
Buy food products labeled with “Low Sodium” on the package.

HIGH FIBER
Fiber intake should be between 20-30 grams per day.

Try to include 5-7 servings per day of fruits and vegetables in your diet.
Choose whole-grain/whole-wheat products more often. Look for bread that has 3 grams of fiber or more per slice.
Try to eat cereal with 5 grams of fiber or more per serving.
Increase your intake of fiber slowly to prevent painful gas, and drink extra water to avoid constipation.

LOW FAT & LOW CHOLESTEROL
Fat intake should be limited to 25-35 percent of the calories you eat. Cholesterol should be limited to 200 milligrams or less per day.

Limit meat to 5-7 ounces per day (3 ounces is the size of a deck of cards). Include beans and legumes as protein sources in place of meat.
Buy lean meats and trim away the visible fat. Limit beef to two 3-ounce servings per week. Avoid bacon and sausage.
Limit eggs to one serving (one to two eggs) three to five days per week. Use egg whites or an egg substitute instead.
Avoid frying foods. Bake, broil, grill, boil, or steam your foods in olive oil or canola oil.
Limit butter, gravy, bacon fat, cream sauces, sour cream, etc. Choose margarine that is free of trans fat. Avoid breaded foods.
Switch to 1% or skim milk when drinking and cooking to decrease saturated fat intake. Choose low-fat dairy products when available.
Eat one to two servings of heart-healthy fish weekly. Choose salmon, mackerel, herring, albacore tuna, and trout as they have omega-3 fatty acids.

CAFFEINE
Limit caffeinated beverages to one to two cups per day.

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# Healthy Heart Guidelines

<table>
<thead>
<tr>
<th>GRAINS</th>
<th>RECOMMENDED</th>
<th>NOT RECOMMENDED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole-grain breads and cereals, including oats and barley</td>
<td>High-fat bakery products, such as doughnuts, biscuits, croissants, Danish pastries, pies, cookies</td>
<td></td>
</tr>
<tr>
<td>Pasta, especially whole-wheat or whole-grain</td>
<td>Snacks made with partially hydrogenated oils, including chips, cheese puffs, snack mixes, regular crackers, butter-flavored popcorn</td>
<td></td>
</tr>
<tr>
<td>Brown rice</td>
<td></td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>VEGETABLES</th>
<th>RECOMMENDED</th>
<th>NOT RECOMMENDED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fresh, frozen, or canned vegetables without added fat or salt</td>
<td>Fried vegetables</td>
<td></td>
</tr>
<tr>
<td>Vegetables prepared with butter, cheese, or cream sauce</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FRUITS</th>
<th>RECOMMENDED</th>
<th>NOT RECOMMENDED</th>
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</thead>
<tbody>
<tr>
<td>Fresh, frozen, canned, or dried fruit</td>
<td>Fried fruits</td>
<td></td>
</tr>
<tr>
<td>Fruits served with butter or cream</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fruit pie fillings</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fruit Danishes/pies</td>
<td></td>
<td></td>
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<table>
<thead>
<tr>
<th>DAIRY</th>
<th>RECOMMENDED</th>
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</thead>
<tbody>
<tr>
<td>Nonfat (skim), low-fat (1%), or buttermilk</td>
<td>Whole milk or 2% milk</td>
<td></td>
</tr>
<tr>
<td>Nonfat or low-fat yogurt or cottage cheese</td>
<td>Whole milk yogurt, ice cream, cream cheese, sour cream, or cheese</td>
<td></td>
</tr>
<tr>
<td>Fat-free and low-fat cheese</td>
<td>Half &amp; Half</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cream</td>
<td></td>
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<table>
<thead>
<tr>
<th>MEAT &amp; PROTEIN</th>
<th>RECOMMENDED</th>
<th>NOT RECOMMENDED</th>
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</thead>
<tbody>
<tr>
<td>Lean cuts of beef and pork</td>
<td>High-fat cuts of meats, such as ribs, T-bone steak, regular hamburger</td>
<td></td>
</tr>
<tr>
<td>Skinless poultry</td>
<td>Bacon</td>
<td></td>
</tr>
<tr>
<td>Fish</td>
<td>Sausage</td>
<td></td>
</tr>
<tr>
<td>Venison and other wild game</td>
<td>Cold cuts, such as salami or bologna</td>
<td></td>
</tr>
<tr>
<td>Dried beans and peas</td>
<td>Corned beef</td>
<td></td>
</tr>
<tr>
<td>Nuts and nut butters</td>
<td>Hot dogs</td>
<td></td>
</tr>
<tr>
<td>Soy or vegetable proteins</td>
<td>Poultry with skin</td>
<td></td>
</tr>
<tr>
<td>Egg whites or egg substitutes</td>
<td>Organ meats (liver, brains, sweetbreads)</td>
<td></td>
</tr>
<tr>
<td>Cold cuts made with lean meats or soy proteins</td>
<td>Fried meat, poultry, fish</td>
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<table>
<thead>
<tr>
<th>FATS &amp; OILS</th>
<th>RECOMMENDED</th>
<th>NOT RECOMMENDED</th>
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</thead>
<tbody>
<tr>
<td>Unsaturated oils (olive, peanut, soy, sunflower, canola)</td>
<td>Butter</td>
<td></td>
</tr>
<tr>
<td>Soft or liquid margarines and vegetable oil spreads</td>
<td>Stick margarine</td>
<td></td>
</tr>
<tr>
<td>Salad dressings</td>
<td>Shortening</td>
<td></td>
</tr>
<tr>
<td>Seeds and nuts</td>
<td>Tropical oils (coconut, palm, and palm kernel oils)</td>
<td></td>
</tr>
<tr>
<td>Avocado</td>
<td></td>
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</tr>
</tbody>
</table>
PROTEIN FOR HEALING

PROTEIN SOURCES THAT WILL HELP YOUR BODY HEAL AFTER HEART SURGERY

The American Heart Association encourages you to eat a variety of low-fat, low-sodium, protein-rich foods every day. Protein is especially important in your diet at this time to promote healing after surgery. Many meats, fish, egg whites and egg substitutes, low-fat or fat-free milk and milk products, beans and legumes, and soy products are very good sources of lean protein. They are categorized as lean because they have no more than 3 grams of fat per 1 ounce of protein.

START WITH A LEAN PROTEIN SOURCE

- The leanest beef cuts include round steaks and roasts (eye of round, top round, bottom round, round tip), top loin, top sirloin, and chuck shoulder and arm roasts.
- The leanest pork choices include pork loin, tenderloin, center loin, and ham.
- Choose lean ground beef. To be considered “lean,” the product has to be at least 92 percent lean/8 percent fat.
- Buy skinless chicken parts, or take off the skin before cooking.
- Boneless, skinless chicken breasts and turkey cutlets are the leanest poultry choices.

KEEP THE PROTEIN IN YOUR DIET LEAN

- Trim away all of the visible fat from meats and poultry before cooking.
- Broil, grill, roast, poach, or boil meat, poultry, or fish instead of frying.
- Drain off any fat that appears during cooking.
- Skip or limit the breading on meat, poultry, or fish. Breading adds calories. It will also cause the food to soak up more fat during frying.
- Prepare beans and peas without added fats.
- Choose and prepare foods without high-fat sauces or gravies.

VARY YOUR PROTEIN CHOICES

- Choose seafood at least twice a week as the main protein food. Look for seafood rich in omega-3 fatty acids, such as salmon, trout, and herring.
- Choose beans, peas, or soy products as a main dish or part of a meal often. Some choices are:
  - Chili with kidney or pinto beans
  - Stir-fried tofu
  - Split pea, lentil, minestrone, or white bean soups
  - Baked beans
  - Black bean enchiladas
  - Garbanzo or kidney beans on a chef’s salad
  - Rice and beans
  - Veggie burgers
  - Hummus (chickpea spread) on pita bread
- Choose unsalted nuts as a snack, on salads, or in main dishes. Use nuts to replace meat or poultry, not in addition to these items.
### Examples of Lean Proteins with Their Average Calorie and Protein Amount Listed

<table>
<thead>
<tr>
<th>Category</th>
<th>Name</th>
<th>Calories</th>
<th>Fat</th>
<th>Protein</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fish</td>
<td>Halibut (3 oz.)</td>
<td>94</td>
<td>1.5 g</td>
<td>19 g</td>
</tr>
<tr>
<td>Fish</td>
<td>Pollock (3 oz.)</td>
<td>100</td>
<td>1 g</td>
<td>21 g</td>
</tr>
<tr>
<td>Fish</td>
<td>Salmon (3 oz.)</td>
<td>175</td>
<td>10.5 g</td>
<td>19 g</td>
</tr>
<tr>
<td>Fish</td>
<td>Tuna, canned in water (3 oz.)</td>
<td>99</td>
<td>0.7 g</td>
<td>22 g</td>
</tr>
<tr>
<td>Poultry</td>
<td>Chicken breast, roasted, no skin (1/2 cup)</td>
<td>116</td>
<td>2.5 g</td>
<td>22 g</td>
</tr>
<tr>
<td>Poultry</td>
<td>Turkey, roasted, no skin (1/2 cup)</td>
<td>119</td>
<td>3.5 g</td>
<td>21 g</td>
</tr>
<tr>
<td>Beans and Legumes</td>
<td>Kidney beans, boiled no salt (1/4 cup)</td>
<td>56</td>
<td>0.2 g</td>
<td>4 g</td>
</tr>
<tr>
<td>Beans and Legumes</td>
<td>Lentils, boiled no salt (1/4 cup)</td>
<td>57</td>
<td>0.2 g</td>
<td>4 g</td>
</tr>
<tr>
<td>Soy Products</td>
<td>Soy milk, light, original or vanilla (1 cup)</td>
<td>104</td>
<td>4 g</td>
<td>8 g</td>
</tr>
<tr>
<td>Dairy Products</td>
<td>Low-fat cottage cheese (1/2 cup)</td>
<td>97</td>
<td>3 g</td>
<td>13 g</td>
</tr>
<tr>
<td>Dairy Products</td>
<td>Milk, nonfat (1 cup)</td>
<td>31</td>
<td>0.6 g</td>
<td>9 g</td>
</tr>
<tr>
<td>Dairy Products</td>
<td>Low-fat vanilla yogurt (8 oz.)</td>
<td>193</td>
<td>3 g</td>
<td>11 g</td>
</tr>
<tr>
<td>Other</td>
<td>Egg</td>
<td>80</td>
<td>5 g</td>
<td>7 g</td>
</tr>
<tr>
<td>Other</td>
<td>Egg white (1)</td>
<td>17</td>
<td>0.1 g</td>
<td>4 g</td>
</tr>
<tr>
<td>Other</td>
<td>Egg substitutes (1/4 cup)</td>
<td>29</td>
<td>0 g</td>
<td>6 g</td>
</tr>
<tr>
<td>Other</td>
<td>Almonds, dry roasted, no salt (1 oz.)</td>
<td>169</td>
<td>15 g</td>
<td>6 g</td>
</tr>
<tr>
<td>Other</td>
<td>Almond butter (1 Tbsp.)</td>
<td>98</td>
<td>9 g</td>
<td>3 g</td>
</tr>
<tr>
<td>Other</td>
<td>Peanut butter (1 Tbsp.)</td>
<td>94</td>
<td>16 g</td>
<td>4 g</td>
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</tbody>
</table>

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**Resources:**
- [www.choosemyplate.gov/food-groups/protein-foods-tips.html](http://www.choosemyplate.gov/food-groups/protein-foods-tips.html)
- [http://ndb.nal.usda.gov/ndb/foods/list](http://ndb.nal.usda.gov/ndb/foods/list)
IMPORTANT THINGS TO REMEMBER

DOCTOR APPOINTMENTS

- Follow up with your surgeon three to four weeks after you leave the hospital.
- Follow up with your cardiologist four to eight weeks after you leave the hospital.
- Follow up with your primary care physician (PCP) four to six weeks after you leave the hospital. If you do not have one, ask your healthcare team to assist you with finding one in your area.

ACTIVITY

- Follow the activity guidelines your medical team gave to you.
- Do not lift anything heavier than 5 pounds for four weeks.
- Do not drive until cleared by your surgeon. You may take short rides in a car as a passenger.
- Do not return to work. Check with your surgeon at your office visit.

FOOD PLAN

We encourage you to follow the food plan and healthy guidelines prescribed by your doctor and in the charts included in this guide. Avoid constipation as it can cause stress on your body. Focusing on following a diet that consists of fruits, vegetables, whole grains, and laxatives may help to relieve constipation.

RESPIRATORY CARE

You should continue to use the incentive spirometer or Acapella® tool provided to you by the hospital at least four times a day (10 repetitions each time for one week). It is important to keep your airways free of mucus buildup at all times.

MEDICINES

Your medicine list should now only consist of items prescribed or approved by your medical team. Your medicine list may change, so it is important to remove any old medicines from your house after you leave the hospital to avoid confusion. You may only use aspirin if ordered by a doctor.

You may use Tylenol or acetaminophen for headaches and minor pain. Please keep in mind that some of your prescribed medications may already have acetaminophen in them. You want to avoid taking too much. Do not take more than 4 grams (4,000 mg) of acetaminophen (Tylenol) in 24 hours.

WOUND CARE

- Shower daily. Gently wash your incision with antimicrobial soap and water. Rinse well, and pat dry. Do not take tub baths.
- Do not use lotions, creams, or powders on incision lines.
- Check your incision daily. Call your surgeon about any of these symptoms: Increased swelling, redness, or drainage at or around the incision site.
- 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.

WEIGH YOURSELF AND TAKE YOUR TEMPERATURE

- Weigh yourself each morning, and record your weight. Call your surgeon if you gain 2 or more pounds in one day or 4 or more pounds in one week.
- Take your temperature two times each day.
- Call your surgeon if you have a temperature of more than 101 degrees Fahrenheit (38.3 degrees Celsius).

CONTACT YOUR SURGEON IF ANY OF THESE SYMPTOMS OCCUR:

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

If you are a smoker, it is very important to stop smoking for your health. Find an organization that will support your decision to stop and give you the tools to fight tobacco addiction. For free help, we recommend contacting the WV Quit Line at 1-877-966-8784.

OUTPATIENT CARDIAC REHAB

Remember to speak to your surgeon at your four-week checkup about joining an outpatient cardiac rehab group. (See the outpatient list of cardiac rehab programs on page 27 of this guide.)

RESOURCES

Below is a list of medications that are prescribed to you. It would be beneficial to bring this list with you to all of your appointments.

<table>
<thead>
<tr>
<th>Name of Medicine</th>
<th>Time Taken</th>
<th>Dosage</th>
<th>Taken With Food/Water?</th>
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SUMMARY

We hope this guide has worked to inform you and your family about your heart surgery and the care you will receive at the WVU Heart and Vascular Institute. We strongly suggest speaking to your healthcare team if you have any questions after reading this guide. We are always here to help you learn, grow, and live — after all, we want you to trust us with your heart.

For more information, including helpful videos, please visit http://wvumedicine.org/heart.

WE LOOK FORWARD TO YOUR SUCCESSFUL PROCEDURE AND SEEING YOU LIVE YOUR LIFE TO THE FULLEST.

FOR QUESTIONS AND NOTES

Please use this space to write a list of questions or concerns you may have. The list will help you remember issues you want to talk about with your healthcare team. Take this list to your office visits and to the hospital.

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