



HEART
INSTITUTE



HUNTSVILLE HOSPITAL

Cardiac Surgery

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Dear patient and family,

Thank you for trusting Huntsville Hospital to care for you.

Our team of physicians, nurses and support staff strives to provide each patient with the highest quality and safest medical care. We believe that each patient is an active member in their care and should know what to expect with heart surgery.

We realize that family and friends serve an important role in recovery, which is why we developed this heart surgery guide. We think it's important to know what to expect before, during and after your surgery.

We encourage you to ask questions and let us know any concerns you may have during your stay.

Your Heart Team

Cardiovascular Surgical Services

Since 1981, our patients have experienced the highest level of cardiac care. Our cardiovascular surgical program combines the latest technology with experienced physicians and staff.

We put our heart into caring for yours and measure our success by patient outcomes. We continually strive to achieve improvements in quality and patient safety by benchmarking our clinical excellence alongside top-rated hospitals nationwide. By participating in database studies such as the Society of Thoracic Surgeons and American College of Cardiology, we're empowered to implement the most efficient and effective methods for optimal patient outcomes.

Our cardiovascular surgical team is committed to staying on the forefront of quality heart care.



Heart Disease and Risk Factors

CORONARY ARTERY DISEASE

The heart is a muscle that pumps blood through the body. Coronary arteries are small vessels attached on the surface of the heart and supply blood to the heart muscle. Damage occurs when fatty deposits (called plaque) build up within the artery walls—a process known as atherosclerosis. As plaque builds up, arteries can narrow or become completely blocked, decreasing the flow of blood to the heart. Plaque can also tear and cause a blood clot to occur, which may cause complete blockage of blood flow to the heart. Damage to arteries can be caused by a number of risk factors.

ANGINA

When arteries become narrow and cannot supply the heart with enough blood, symptoms can develop that are referred to as angina. Symptoms may include pressure, burning and tightness in the chest. You may also experience pain in your arms, neck, jaw and back. Shortness of breath, nausea, light-headedness and sweating may occur. Angina can happen when the heart requires more oxygen—during activity, for example. Symptoms should go away with rest or prescribed medication. However, if symptoms persist, you may be having a heart attack. Call 9-1-1.

HEART ATTACK OR MYOCARDIAL INFARCTION

When arteries become severely narrowed or completely blocked, the heart does not receive enough blood, causing severe damage to the heart muscle. This damage is called myocardial infarction — more commonly known as a heart attack.

Heart Valves

The heart has four chambers—an atrium and ventricle on the right side, and an atrium and a ventricle on the left. The right side of the heart receives blood and delivers it to the lungs. The left side of the heart receives blood from the lungs, where it has picked up oxygen, and pumps this blood to the body. The heart valves allow the blood to move through the heart chambers in one direction, while preventing it from leaking backwards. The valves on the right side of the heart are called the tricuspid and pulmonary valves. The valves on the left side are known as the mitral and aortic valves.

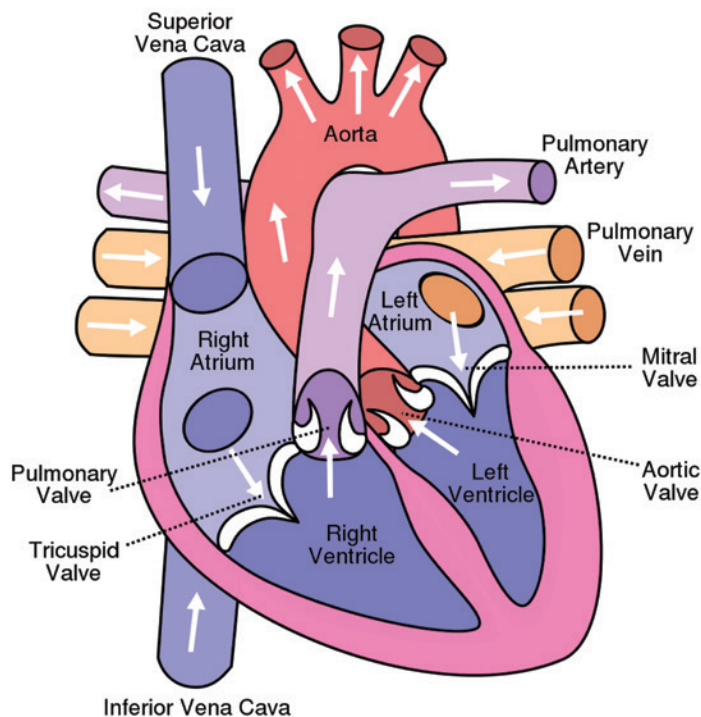
Know the risk factors for heart disease

Modifiable Risk Factors

- Cigarette smoking
- High blood pressure
- High blood cholesterol
- Diabetes
- Obesity
- Diet
- Lack of exercise

Uncontrollable Factors

- Gender
- Family History
- Age



Heart Valve Disease

The valves most commonly affected by heart valve disease are the mitral and aortic valves. Rheumatic fever, birth defects, infection or damage to the heart valves may prevent them from functioning normally. The valves may narrow (called stenosis) which limits blood flow through the valve. The valve may also leak (known as regurgitation) allowing the blood to flow backwards. When valves do not work properly, the heart has to work harder to pump blood through the body. Eventually this can cause an enlarged heart and lead to heart failure.

ATRIAL FIBRILLATION AND “ELECTRICAL” PROBLEMS

It is not uncommon to briefly have atrial fibrillation after cardiac surgery. Specialized cells in the heart (called pacemaker cells) send electrical signals that cause the heart to pump. These cells and signals are part of the heart's electrical system. Sometimes, however, this system can become damaged.

Coronary artery disease, birth defects, illness and damage to the heart muscle can lead to problems with this electrical system. This causes the heart to beat irregularly. The most common irregular rhythm is called atrial fibrillation, which causes the heart to beat too fast, chaotically and irregularly. When this happens, the heart may not pump enough blood to the body. For some patients, atrial fibrillation can be treated with surgery.

Types of Cardiac Surgery

CORONARY ARTERY BYPASS GRAFT (CABG)

If you have coronary artery disease, your physician may decide that a CABG procedure is the best treatment for you. During a CABG, your surgeon will connect or graft a healthy artery or vein to the blocked vessel. The grafted artery or vein bypasses go around the blocked portion of the coronary artery. This creates a new route for blood to flow to the heart.

The grafts are arteries or veins taken from elsewhere in the body. The artery most often used lies inside the chest near the breast bone and is called the internal mammary artery. The saphenous vein is also usually needed and comes from just beneath the skin on the inside of the leg. The radial artery in the arm may also be used as determined by your surgeon.

Your physician may discuss using the Endoscopic Vein Harvesting (EVH) procedure for the removal of the saphenous vein from the leg. An incision is made near the knee, with one in the groin and possibly one at the ankle. This procedure involves making small incisions, usually requiring only a stitch or two for closure.

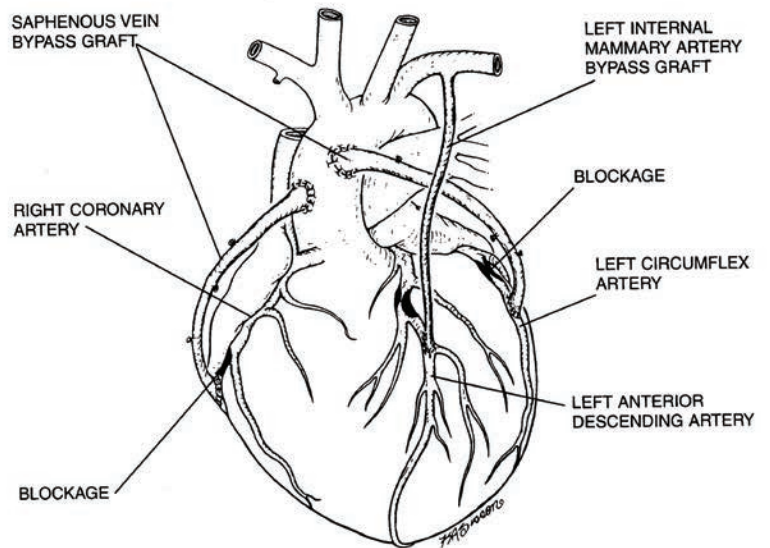
Coronary Artery Bypass Grafting (CABG) usually requires the use of the heart-lung bypass machine, so the heart may be stopped while the new grafts are connected. Sometimes “beating heart surgery” or off-pump bypass can be performed.

HEART VALVE SURGERY

When possible, surgery is done to repair or replace your own heart valve(s). There are several types of replacement valves, and your surgeon will select the best one for you. His/her decision will depend on the type of valve problem you have, your age, general medical condition and other factors.

After heart valve surgery (either valve repair or replacement), you must take special precautions to prevent a condition called bacterial endocarditis. This is an infection of the heart valves and can occur if bacteria enter the bloodstream through incisions, nicks or tears in delicate body tissues—but most commonly occurs with teeth cleaning. Taking antibiotics before and after medical and surgical procedures greatly reduces the risk of infection.

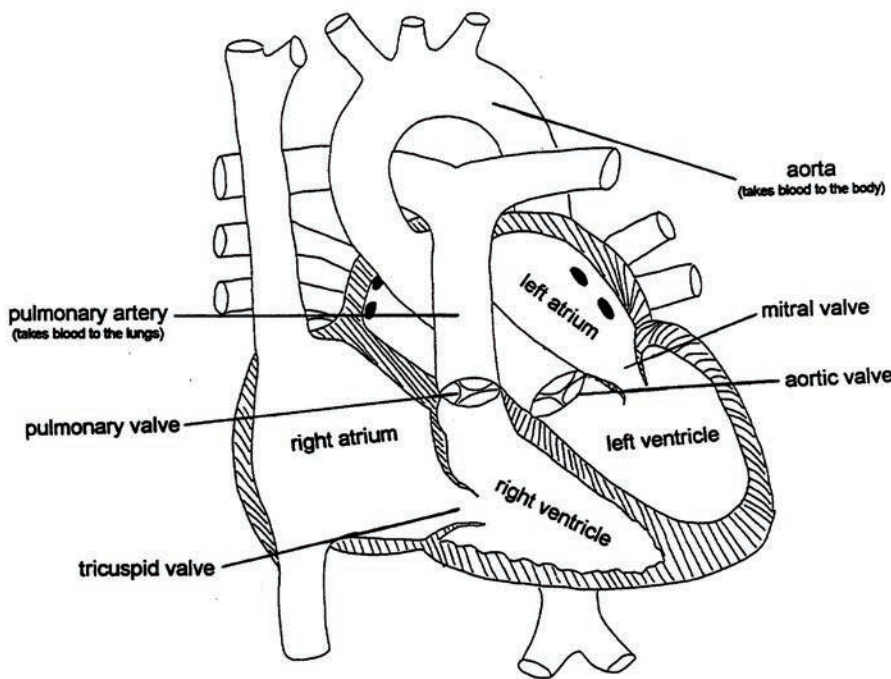
You will also receive an identification card by mail from the manufacturer of your heart valve. This will identify you as a heart valve recipient. Please allow approximately three months to receive this card. If you do not receive the card, please contact your surgeon's office at (256) 265-0255 or (256) 536-5594.



If your valve is replaced, you will need antibiotics for:

- All dental work including teeth cleaning, fillings, crowns, root canals, extractions or other oral surgery
- Any major or minor surgical procedure
- Any procedure or test which could cause trauma to body tissue. This includes gastroscopy, cystoscopy and colonoscopy.

NOTE: This information applies ONLY to heart valve surgery patients. Patients with coronary bypass surgery DO NOT require antibiotics before dental work.



TRANSCATHETER AORTIC VALVE REPLACEMENT (TAVR)

TAVR allows a narrowed or diseased aortic valve to be replaced with a new tissue valve without having open heart surgery. During this surgery, the heart's pumping will have to be adjusted by the doctor so a temporary pacing wire will be placed.

During a TAVR procedure:

- A balloon is threaded into the aortic valve and inflated to open the narrowed aortic valve, then deflated and removed.
- The replacement valve is placed on the delivery system and pushed through the sheath into the existing aortic valve, guided by a type of X-ray or transesophageal echocardiography.

- Once the new transcatheter valve is opened within the older, diseased valve, the doctor will temporarily speed up your heartbeat using the pacing wire.
- Once the valve is in place and working properly, the delivery system and the sheath are removed and the incision is closed.

MAZE PROCEDURE

This procedure is a surgical treatment for atrial fibrillation. It is an ablation to the inside and outside of the heart by the application of small electrical currents or cryo-therapy to the heart, by a surgeon. It is usually combined with other cardiac surgical procedures such as bypass grafting or valve surgery.

ATRIAL APPENDAGE LIGATION

A left atrial appendage is a pouch-like structure that extends from the left atrium of the heart. If a patient has atrial fibrillation, blood clots can form within the atrial appendage and travel to the brain, causing strokes. Your surgeon may mention including a left atrial appendage clip or ligation as part of your surgery. This procedure would block or close the opening to the left atrial appendage to keep blood clots from forming. This would reduce the risk of strokes if you have atrial fibrillation.

OTHER DEFECTS

Your physician may recommend cardiac surgery for other conditions that are not as common as those explained in this section. A thorough explanation will be provided prior to your surgery.

Preparing for Surgery

SMOKING CESSATION

If you smoke, it is important that you stop before your surgery. Smoking will make your recovery more difficult. Even if you've smoked for most of your life, it is worth the effort to quit. The benefits start right away and immediately reduce your risk of having another heart attack or stroke. Within one year of quitting, your risk of developing heart disease is cut in half. Talk to your doctor about products that can help you quit.

Huntsville Hospital Lung Center offers a Smoking Cessation Clinic led by a pulmonary medicine nurse practitioner. For more information or to make an appointment, call (256) 265-5864. The surgeon may also offer the (800) QUIT-NOW referral through the Alabama Department of Public Health.

REDUCE STRESS

Stress increases your blood pressure, so activities that reduce stress in your life help maintain your health. Whether it's reading, listening to music, exercising or playing games... you should do more of the activities that reduce your stress.

ALLERGIES

Please make certain to tell us about any food or drug allergies you may have.

HOSPITAL ADMISSION

Depending on your medical condition, cardiac surgery may be done on an elective basis (meaning you don't need it immediately). If this is the case, surgery will be scheduled in advance by your physician. However, if you have already been admitted to the hospital with a serious cardiac condition, surgery may be done while you are in the hospital. In either case, it is important to plan ahead for your surgery whenever possible.

PLANNING AHEAD

During your stay, you will be seen by a discharge planner who will help you and your family plan for leaving the hospital. However, it is best to start planning before you come to the hospital.

Prior to surgery, your surgeon's team needs to review all medications you are currently taking (including any over-the-counter and herbal medications). Please bring all medications in the original bottles to your clinic office visit. Your physician will need to review all of your medications before you leave the hospital. Your surgeon, cardiologist or primary care doctor may have asked you to not take certain medications before your surgery. Please include these on your medication list. You will also need to list when you last had a flu and/or pneumonia vaccine.

Your family or friends should be available the morning of discharge. They will need to understand your discharge instructions, pick up any medication you may need, and drive you home. For the first seven days after discharge, you will need someone to be with you all of the time. If you do not feel comfortable alone after seven days, then have a support person remain with you longer or until you see the surgeon for your postoperative clinic visit.

After surgery, we will ask you to monitor your weight, blood pressure and temperature. Patients with diabetes will also need to monitor their blood sugar levels. If you do not have a scale or thermometer at home, please consider buying both. If you are unable to get these items, let your nurse know in order to discuss options with you.

If you are considering going to a rehab facility after surgery, please contact your insurance company prior to surgery to see if the rehab stay will be approved. Most patients do not need to go to rehab, but there are situations that may require a rehab stay. It is best that you communicate with your insurance company prior to the surgery.

PRE-OP DISCUSSION

Both your surgeon and your anesthesiologist will meet with you before surgery to discuss the procedure. They will review your medical history as well as the risks and benefits of your planned operation. This is an ideal time for them to meet your family and answer any questions they may have.

SPOKESPERSON

Your friends and family will want to know how you are doing during your stay. We recommend you select a spokesperson to be the main person to talk with physicians and nurses. This person can then report information back to family and friends, allowing us more time to focus on your care. This will be especially important while you are in the Cardiovascular Intensive Care Unit (CVICU) immediately after surgery. Normally, the person selected as your durable power of attorney for health care will also serve as your spokesperson.

WHAT TO BRING TO THE HOSPITAL

Please leave all your valuables and medications at home. You will receive all of your medications in hospital from a nurse. You will not take any of your own home medications independently while in the hospital. Pack a small bag of personal items and comfortable clothes to wear home. You will not need this bag during surgery, so have your family or a friend bring it after surgery if possible. If you wear glasses, hearing aids or dentures, please put them in containers to bring with you (we will provide a label). You will need these items in the morning before surgery begins, but we will ask your family to hold them for you during the actual surgery.

AT HOME BEFORE SURGERY

If your cardiac surgery is elective (not immediate), you will be scheduled for a pre-admission appointment. At this appointment, a registered nurse will help prepare you for surgery and let you know when and what time to arrive on the day of your surgery. Drink a bottle of water on your way to the pre-admission appointment. You do not have to bring anyone with you to this appointment unless you choose. The appointment includes having lab work drawn as well as an EKG and a chest X-ray. You will also be given antibacterial shower soap and a set of wipes to use the day before surgery. Make sure you have a bowel movement prior to surgery.

You will receive an incentive spirometer, a tool used to help you take deep breaths after surgery. The registered nurse will teach you how to use it. You will also be provided with printed discharge instructions at the pre-admission testing area, so you can read what to expect at discharge at your convenience.

A pharmacist will contact you by phone the day prior to your pre-admission appointment to review all of your medications. If you do not receive a call or you are unable to take the call, please bring all of your medications, supplements, and over-the-counter medications with you to the pre-admission appointment.

ARRIVING AT THE HOSPITAL

Have your family member take you to the front entrance of Huntsville Hospital located on Gallatin Street (behind the fountain). An attendant will assist you to the Admitting Department while your family member parks in the Visitor Parking garage, also located on Gallatin Street.

Upon entering the hospital, your family member will need to stop by the check-in kiosk and scan their photo ID to receive a visitor badge.

There is a parking fee that's collected when you exit the Visitor Parking garage. You may use cash, credit card or a hospital token. Token machines are located near the elevators as you enter the hospital from the garage.

Important information before surgery

- Do not eat or drink anything after 11 p.m. the night before surgery.
- Brush your teeth with a small amount of water.
- Do not take any medication the morning before surgery unless prescribed by your surgeon. If this is the case, only swallow a small sip of water with the medication.
- Do not wear hairspray. Wear hair loose with no clips, barrettes or pins.
- Remove all makeup and nail polish before surgery.
- Remove jewelry such as wedding rings, watches and body piercings. Leave these items at home or have your family take them home.
- Shower with antibacterial soap the evening before surgery, and wash your hair.

Do not forget to bring:

- Advanced directives
- All medications you are currently taking in the original bottles
- Good walking shoes
- Containers for your glasses, dentures, or hearing aids

IN THE HOSPITAL BEFORE SURGERY

If you have already been admitted to the hospital, your nurse will prepare you for surgery and have you clean with an antibacterial soap. It is important that you get a good night's rest prior to surgery, so we may encourage visitors to leave early. The nurse educator will also teach you how to use an incentive spirometer and answer any questions you may have about nursing care.

SURGICAL PREP

Prior to surgery, your doctor will order several tests. Blood tests are necessary and sometimes a urine sample, chest X-ray, or EKG will be ordered. The physician's office will notify you of the surgery date and time. You will not be allowed to eat or drink after 11 p.m. the night before surgery.

Your hair will be removed from chin to toes before surgery. You will be instructed to shower (multiple times) with an antibacterial skin preparation prior to surgery. The nurse educator will visit with you and discuss what to expect the day of surgery. You will be educated about the expected length of surgery and where your family may wait. Your nurse will also discuss what to expect when you awaken from your surgery in the Cardiovascular Intensive Care Unit (CVICU) as well as answer any additional questions you might have.

ORAL CARE

Completing oral care prevents infection. Brush teeth or dentures and floss three times a day with fluoride-based toothpaste. If it's been more than a year since your last dental visit, go see your dentist prior to your procedure. If you are having heart valve surgery, the dentist will need to ensure there is no infection that needs to be treated prior to your surgery. Please fax the dental clearance to your surgeon's office at (256) 533-3379. If you do not have a regular dentist and need help finding one, please call (256) 265-0255.

BOWEL MOVEMENTS

It is important to have multiple bowel movements the week prior to having surgery. Patients who have surgery experience a decrease of bowel function immediately after surgery. The intestinal tract slows down after anesthesia. Ensuring you have bowel movements prior to surgery helps prevent constipation and complications after surgery.

About Blood

Many patients are concerned about the possibility of needing a blood transfusion. When you meet your surgeon for the first time, please make sure you tell them if you will not accept blood products. This is important information that the surgeon will need to know to plan your care and prevent any delays with the surgery process.

HERE ARE SOME THINGS YOU SHOULD KNOW:

Not everyone who has heart surgery needs a transfusion. About half of the people undergoing heart surgery today do not require any blood. Much of the blood lost in the operating room is immediately "recycled" after surgery. It is washed, filtered and given directly back to you. Every effort is made to avoid blood transfusions. Most patients are discharged from the hospital with a low blood count. Your body will be able to build your blood count back up in a few weeks.

There is no need for friends or family to donate blood specifically for you, but blood donations are always needed in our growing community. Donations can be made at any LifeSouth Community Blood Center. Visit <https://donors.lifesouth.org/donor/schedules/centers> for a list of donor center locations and hours.

Day of Surgery

PREOPERATIVE UNIT

If you are coming from home, enter through the main hospital entrance and go to elevator A in the lobby. Take the elevator to the 1st floor to check in.

The admitting clerk will help you with the admission process. You will be taken to the preoperative unit. If you have already been admitted to the hospital, you will be taken to the preoperative area one to two hours before your surgery. You may have one to two family members in the preoperative area for a short time. If you were admitted to the hospital prior to surgery, your family will go the waiting room when you are taken to the preoperative area for surgery.

Your anesthesiologist, a doctor who uses medication to put you to sleep during surgery, will meet you and review your health history. The anesthesiologist will place special lines in your body in order to monitor you throughout surgery and give you medication. They will also order medication to help you relax before you are taken to the operating room.

WHAT YOU SHOULD KNOW

When you are taken from your room for surgery, all personal belongings should be given to your family member or Huntsville Hospital security including JEWELRY, GLASSES, WATCHES, DENTURES and HEARING AIDS. Your personal items including breathing exerciser, robe and slippers should be given to the nurse.

PLEASE DO NOT LEAVE ANY ITEMS IN YOUR ROOM.

After you have been taken to surgery, your family should wait in the ICU Waiting Room on the ground floor of the hospital.

- The first message notifies family that the surgery has begun (usually between one and three hours after patient leaves for the Operating Room).
- The second message notifies family when you are off the heart-lung bypass machine and the major part of the operation has been completed. Following surgery, it may be several hours before the surgeon contacts your family again. Once you are settled in the CVICU, the surgeon will provide an update by phone, so make sure your family member has their phone turned on and is in an area with good cell phone service. Please note that the surgeon generally will not meet with your family in person.

In general, no news is good news. If there are problems during the surgery, your doctor will let your family know. After you are taken to the Cardiovascular ICU (CVICU), the surgeon will discuss the surgery with your family and shortly afterwards they may visit you. The CVICU nurse will call the waiting area and let your family know when they can visit.

Visitors must turn off their cell phones in the CVICU as well as the hallway of the Progressive Cardiovascular Unit/6West. No videos, pictures, or audio should be taken in CVICU/PCV. This is for the privacy and respect of you, other patients, and hospital staff. If an issue arises with a visitor not adhering to the cell phone rule, security may be called.

Family and friends: getting through a long day of waiting

- Please do not worry if surgery is taking longer than you expected. Even after you leave for the waiting room, preparation of your loved one for surgery continues.
- Visitors are asked to stay in a cardiac waiting area.
- Once the surgery is done, the surgeon will call you.
- After surgery it will take time for your loved one to transfer to the CVICU and settle in. It is about one or two hours before visitors can see the patient. This is a good time for families to eat or get something to drink.

OPERATING ROOM

Once in the operating room, the anesthesiologist will give you general anesthesia – medicine that will place you in a deep sleep. You will have a tube that helps you breathe.

OPEN HEART SURGERY

During surgery, your cardiac surgeon will make an incision down your chest. Your breast bone, also called your sternum, will be divided in order for the surgeon to get to your heart. At the end of surgery, your sternum is wired or plated back together and will heal. We will give you instructions to help with the healing process.

Your cardiac surgeon will also place drains and lines in you during surgery to help with recovery. For some patients, surgeons use minimally invasive surgical techniques, which are different than standard techniques. If this is the case for you, your surgeon will discuss this prior to surgery.

Following are explanations about other terms related to your surgery:

- Chest tubes are plastic tubes placed into your chest during surgery. They are connected to a plastic drainage system that drains fluids from the surgical area for a short time after surgery.
- Temporary pacemaker wires are small, thin wires placed on the surface of your heart and exit from your skin. They are temporary and may be attached to a pacemaker for a short time.

After Surgery

IN THE CARDIOVASCULAR INTENSIVE CARE UNIT (CVICU)

The Cardiovascular Intensive Care Unit (CVICU) is located on the 6th floor (east end) of Huntsville Hospital. On day of surgery, families will wait in the ICU Waiting Area on the ground floor.

NURSING CARE

The CVICU nurses are trained to help you recover after surgery. There are one to two patients per nurse providing continual individualized care. When you go to the CVICU, you will still be asleep, have tubes and lines in your body, and sleep for several hours after your operation.

A nurse will be close by as you are awakening to assist you. As you wake up, the breathing tube may still be in place. You will not be able to speak, but your nurse will anticipate your needs and will ask you “yes” and “no” questions.

Once you can breathe on your own, the breathing tube will be removed. This usually happens four to six hours after surgery, but will be different for each patient. When the breathing tube is out, your nurse will encourage you to take deep breaths and cough every hour. This is very important because it helps keep your lungs clear so you do not develop pneumonia.

Breathing exercises

Weak lungs increase the risk for pneumonia. These exercises will help strengthen your lungs and reduce your risk. **Keep exercising on your own.** It is important!

The Incentive Spirometer is used to quantify the column of air you can inhale. Follow the directions for the Voldyne Incentive Spirometer listed below to get the greatest benefits from your exercise.

1. Hold lips tightly around the mouthpiece and inhale slowly and deeply, raising the white disc as high as you can. When you can breathe in no longer, hold your breath for three to five seconds.
2. Try to breathe in slowly enough so that the yellow “float” stays in the BEST zone. This very slow inhalation will assure optimal inflation.
3. Repeat 10 times at least every two hours.

What family can expect

- Once the patient is settled in the CVICU, one to two visitors may visit for short periods. This is an important time to utilize a spokesperson who can update other family members and friends.
- The patient will have many tubes and wires in the beginning after surgery.
- The patient may also still have a breathing tube. “Yes” and “no” questions are best in the beginning.
- There will be lots of monitoring equipment and alarms surrounding your loved one. The nurse will be working closely with the patient to monitor these.
- The patient may look pale and puffy, and may still be tired or confused from anesthesia. This is normal.
- The nurse will answer any questions you may have, so please do not hesitate to ask.
- Plants, flowers, balloons and cell phones are not allowed in the CVICU.
- We will ask you to wash your hands or use hand sanitizer when entering and leaving the patient’s room.

Cardiovascular ICU visiting times

Times vary based upon patient needs: 10:30 a.m., 1:30 p.m., 4:30 p.m., 8:30 p.m., 1-2 visitors per patient, for 20 minutes. No children under 16 years of age are permitted.

It is normal to feel thirsty and have a sore throat after surgery. You will be able to have ice chips as soon as your nurse feels it is safe. You will then progress to a regular meal. Your nurse will be making sure your pain is under control and you are warm enough. We also monitor blood sugars on all patients after cardiac surgery, and you will notice your nurse sticking your finger often to check your blood sugar. We do this because your recovery will be better if your blood sugar is kept in a normal range.

FAMILY VISITS

Immediate family are allowed to visit you after the operation and at the designated times given. Family members may stay in the waiting area for as long as they like between visits, but we recommend that families go home at night. If distance makes that impossible, we can assist in finding accommodations nearby.

Blount Hospitality House offers lodging to visiting family members who live 40 miles or more from Huntsville Hospital. Blount Hospitality House is located at 610 Madison Street SE, a short walk from the hospital. For more information, call (256) 534-7014.

STAYING IN CONTACT

The cardiac surgeon will talk to your family after you are out of surgery.

If there is a need for your family to stay close by because of your condition, the nursing staff will ask them to stay. If problems develop during the night, the nurses will call and notify your family of the changes in your condition. Make certain to leave a working telephone number with the staff.

IN THE PROGRESSIVE CARDIOVASCULAR UNIT (PCV)

The Progressive Cardiovascular unit (PCV) is the designated nursing unit for patients recovering from cardiac surgery who do not require special monitoring equipment provided in the CVICU. Because patients recovering from heart surgery have unique needs, the PCV unit has a few special rules developed by the nursing staff and heart surgeons with regard to families and other visitors. We recognize that families are important to the well-being and recovery of our patients. However, please limit the number of visitors to allow the patient to rest and recover.

PATIENTS NEED THEIR REST

Many people do not sleep well even when the most loving and sympathetic person is continually at their side. Most patients tell us they need some time alone. Please note the restriction on visits by children.

UNIT STAFFING

The unit is staffed with nurses to meet all patient needs. Your family does not have to assist in delivering your care.

CONCERN FOR YOU

Families need adequate rest when you are discharged home to be able to help with your recovery.

OVERNIGHT VISITORS

One person may stay overnight in the PCV with physician or nurse approval.

MONITORING

A portable cardiac monitor will be attached to your chest to monitor your heart rate and rhythm at all times. This is called telemetry, and sometimes you will hear people refer to the PCV as a telemetry unit.

The nurses will regularly check your blood pressure, heart rate and temperature. You will have your blood drawn for lab tests, and chest X-rays will be taken if needed. How much you drink and how much you urinate will be measured. Along with your daily weight, this helps us know how your heart and kidneys are doing.

All cardiac surgery patients are on IV insulin for the first 48 hours after surgery, so nurses will be checking your blood sugar often. This may happen as often as every half hour if needed. If your blood sugar stays within a normal range, your recovery and healing will be better.

PAIN

You may have pain medication every three to four hours to help control your pain and discomfort. It is important that pain is controlled so you can rest, deep breathe, cough and walk. It is best to request pain medication before your pain becomes too intense. To assess your pain and discomfort, your nurse will use a numeric pain scale. This helps the nurse know when it is time to give you pain medication as well as determine if the pain medication is working. A score of 0 means you have no pain, and a score of 10 means you have severe pain. Using your pillow to cushion or splint your chest will help with discomfort when moving and coughing.

BREATHING

It is important to re-expand your lungs after surgery and to keep them clear, which helps prevent pneumonia. This is why we will instruct you to breathe deeply, cough and use your incentive spirometer every two hours. You will also sit in a recliner intermittently during the day to support lung expansion and improve breathing.

CHEST TUBES AND DRAINS

The tubes and drains from your surgery will be removed as soon as your drainage is minimal. This is usually the first few days after surgery, but can be different for each patient.

URINARY CATHETER

This will be removed by the second day after surgery. We try to remove it as soon as possible to prevent infection. We will monitor you closely to make sure you can urinate without problems after the catheter is out.

ACTIVITY

An important part of recovering is getting up and moving. Your sternum is healing, so the nurses and therapists will instruct you on how to protect your sternum while you move and do everyday activities. They will also help you increase your activity level and will take several short walks with you each day. You will have a goal to walk a certain number of laps around the hall each day. You need to try your best to meet the goal prior to discharge. You will also be asked to sit in the chair for all meals. This is required to improve lung function (prevent pneumonia), allow for better digestion of food, and prevent choking. Because activity is very important, the nurses and therapists will be closely monitoring your activity and updating your physician on your progress. If you or your family have any concerns, please let us know.

DIET AND APPETITE

Your family should not bring you food/drinks from outside the hospital unless they receive approval from your surgeon. You will have a special diet ordered by your physician. Our Food & Nutrition Services team offers room service for each meal. You may order your meals when you are ready. The nurse will ask you to call before you eat to assist and check your blood sugar. You may find that your appetite is poor, which is normal.

Because nutrition is an important part of recovery, we will encourage you to eat a little each meal. Your family is welcome to get a tray from the cafeteria and join you.

SLEEPING

You will need frequent rest periods during the first few days after surgery, but we will encourage you to limit your sleep during the day so you can sleep at night. Monitors and interruptions from staff, as well as a strange environment, can prevent you from getting a good night's sleep. Our staff will make every effort to limit noise and interruptions. If you have problems sleeping, please tell us so we can help.

CONSTIPATION

This can be caused by anesthesia, inactivity, changes in fluid intake, and medication(s). We monitor this closely while you are in the hospital and may give you a stool softener and/or a laxative if needed. You will need to communicate with us and let us know if you have not had a bowel movement before discharge.

FAMILY ADVICE

Many patients move to their room in the PCV Unit less than 24 hours after their heart operation. They are usually quite sleepy, uncomfortable, and are still attached to oxygen, IVs and drainage tubes. On this day and the next day, they need PEACE AND QUIET. **Only 1-2 immediate family members should visit during this time.** The patient needs to be able to nap during the day rather than entertaining guests.

After recovering for two to three days and having their drainage tubes removed, most patients are better able to have visitors and talk on the phone. But please keep your visits and calls brief. The patient will be at home recovering from surgery for the next six weeks and may prefer seeing visitors at that time.

Please remember that we try to minimize traffic in the hallways to allow our PCV patients plenty of safe walking space. For this reason, visitors should NOT stand in the halls in front of the CVICU. Please remain in the waiting area until regular visiting time.

Going Home

DISCHARGE PLANNING

Most patients are hospitalized for five to seven days after cardiac surgery. Before you are discharged, you and your family will need to:

- Have a conference with the nurse educator about your home recovery. The nurse educator will discuss care of your incisions, activities, restrictions and follow-up appointments with your surgeon. Your support person will need to be present for this discussion.
- Receive counseling from a nurse educator concerning your medications after discharge.
- Review the diet plan your physician recommends with a registered dietitian.
- Meet with the diabetic educator if you are a diabetic patient.

If you plan on returning home right after surgery, you will need someone with you all of the time for the first one or two weeks. This includes at night, too. The person driving you home will need to be available the morning of discharge, and you will need someone to fill medication prescriptions for you the day you leave the hospital. If you wear oxygen at home, you will need to have your portable oxygen available for your ride home.

During your stay in the hospital, a discharge planner will visit and help plan for your discharge. We encourage you and your family to ask questions. If any of you have concerns, please let us know. Your health care team will work together to identify and anticipate any special needs you might have. They will share these with you and your discharge planner.

Each patient and family is unique and may have different challenges and needs. By identifying these early, we can help you have a successful and smooth discharge. We will provide you with written discharge instructions and a written discharge medication list before you leave the hospital.

GENERAL GUIDELINES

It is important for the person staying with you in the weeks after surgery to attend the teaching sessions with the nurse educator. They are usually planned a day or two prior to your anticipated discharge day. Please make certain that someone is available.

Since you will be walking in the halls of the PCV unit prior to your release from the hospital, you can anticipate returning to near normal activities at home with a few restrictions. Most patients do not require skilled nursing care once home. Remember that the normal recovery period following cardiac surgery is several months. Using common sense during this time is the key to a normal recovery.

All tobacco products

Probably the most difficult restriction for some people to follow, but the MOST IMPORTANT recommendation we can give is...

NO SMOKING!

All tobacco products including cigarettes, e-cigarettes, cigars, chewing tobacco and snuff are off-limits. Smoking is THE MOST HARMFUL thing you can do to yourself after open heart surgery.

In addition to the devastating effects that smoking has on the lungs, the nicotine from tobacco products gets into the blood and acts directly on the new vein and artery grafts. Patients who resume smoking after surgery often find their bypasses closed off completely after just a year or two and their heart in much worse condition than before.

“Patches” or stop-smoking chewing gum should not be used to help you kick the habit because they contain nicotine which is released directly into the blood.

SMOKING IS THE MOST HARMFUL THING YOU CAN DO TO YOURSELF AFTER OPEN HEART SURGERY.

DISCHARGE INSTRUCTIONS

MEDICATIONS

At the time of discharge, have your support person bring your pill bottles from home to review with the nurse educator. You will receive a written list of what medications you should take after leaving the hospital. This list will include new medications from your surgeon, as well as medications you took before surgery that you will need to resume. The nurse educator will cover the name and reason for each medication, a schedule for taking them, and possible side effects.

For any new medications, the medications will be sent to your pharmacy. You will only receive a written prescription for pain medication. These prescriptions should be filled at the time of discharge because you will need to take medication the evening you return home. Always take your vital signs and check your blood sugar level prior to taking medications.

We make every effort to review all medications you were taking before admission. Some of these will be discontinued by your surgeon because of changes due to heart surgery. If you were taking a medication before surgery that is not on the list now, and you think you should still be taking it, let us know before you leave the hospital. Do not take any medications other than those on the list provided by your surgeon. This includes NSAIDs, supplements, etc. If you get home and have questions about a specific medication, please call the surgeon's office at (256) 265-0255 BEFORE YOU TAKE THE MEDICATION.

BREATHING

Your lungs must remain strong to help prevent the onset of pneumonia. However, if you have been confined to bed during an illness or after surgery, your lungs may be sluggish.

After surgery, it may seem difficult to breathe deeply. Pain from a surgical incision may cause you to take very shallow breaths and avoid strong coughing. Because mucus accumulates after surgery, which can lead to pneumonia, it is important to cough in order to expel the mucus from your lungs.

If you find it painful to cough or breathe deeply due to a surgical incision or injured area, support the area with a pillow, your hands or a blanket. Applying pressure across the incision is known as splinting and will minimize movement and reduce pain.

Inactivity during illness can also cause the air sacs of the lungs to collapse, which can lead to pneumonia.

To strengthen your lungs, breathing exercises are recommended. The breathing exerciser is called an Incentive Spirometer. Your respiratory therapist or nurse will show you how to use your breathing exerciser, but you must be committed to working with it on your own. These exercises are an important part of the recovery process.

Use the incentive spirometer 10 times (breaths) every hour while awake.

Tips on coughing

Your therapist may also recommend coughing immediately following your breathing exercises. Coughing helps remove mucus from the lungs.

An ineffective cough can be improved by following these four steps:

1. Take three breaths as deeply as you can.
2. At the end of the third breath, cough twice firmly.
3. Sometimes, sniffing additional air through your nose after taking a deep breath will give you more air to generate a stronger cough.
4. Also, tightening and flattening the stomach muscles as you cough pushes up on the diaphragm and forces more air out.

If you have any questions about your breathing exercises, ask your nurse or call Respiratory Therapy.



Important Information About Medications

It is important that you avoid medications that are not listed on your discharge list.

The only exceptions to this rule include:

- Diabetic medications or insulin. If you normally check your blood sugar or urine sugar and acetone, please continue to do so after discharge and notify your family doctor or the doctor that managed your diabetes before surgery. The surgeon will tell you at the first postoperative office visit when to restart GLP-1 medications.
- Thyroid medications (Synthroid, Levothyroid)
- Ulcer medications such as Protonix or Pepcid. If antacids are needed, use a low-salt product such as Riopan (Tums).
- Tylenol and Advil can be used for headaches or mild incision pain
- Hormone medications as prescribed

NOTE: If you were on high blood pressure medications before surgery, chances are it has been discontinued after surgery. Most people do not need these medications for 4-6 weeks after their procedure. Save these medications in the event you have to resume them.

Important: Please bring all of your medications with you in the original bottles each time you visit the doctor in the office.

BREATHING EXERCISES

For the first week after leaving the hospital, continue to do the deep breathing exercises you were shown in the hospital. Using the incentive spirometer, take 10 slow, deep breaths. Use the incentive spirometer 10 times (breaths) every hour while awake. As you continue doing this, you'll notice you can take deeper and deeper breaths as you go.

As you take deep breaths, cough and clear your lungs. Remember to support your chest with your heart pillow when you cough. This helps lessen the movement of your sternum as it heals. If you do not have your pillow nearby, cross and press your hands against your chest.

Important reminders about walking

1. Warm up by walking slowly in the beginning of your walk and gradually increasing your pace.
2. Walk on a level surface to start, and wear comfortable, nonskid shoes.
3. Walk outside when you can, avoiding extremely hot or cold temperatures.
4. Use caution if there is smoke or other environmental hazards that could cause shortness of breath.
5. You may climb stairs and hills unless your physician has told you not to.
6. Shortness of breath or excessive fatigue are signs of overexertion. Slow your pace if this is the case.
7. Stop any activity immediately if you feel severe shortness of breath, chest pain, dizziness or notice irregular heartbeats. If the symptoms do not subside within 10 minutes, notify your physician.

Gradually you will feel stronger and will be able to return to normal activities.

Sample walking regimen

- 10 minutes, 4 times a day, and then increase to
- 15 minutes, 3 times a day, and then increase to
- 20 minutes, 2-3 times a day, and then increase to
- 30 minutes, 2 times a day, and then increase to
- 45 minutes per day

DAILY WEIGHT

Your weight will be monitored during your stay in the hospital, and all patients are asked to monitor their weight on a daily basis when they return home. Keeping track of your weight each day helps to monitor for extra fluid.

Weigh yourself daily at the same time each day. Start with weighing yourself when you get home and document your weight on the log. Weigh yourself each morning before you get dressed and before you eat breakfast, but after you have gone to the bathroom. If you gain two or three pounds in a 24-hour period, call your surgeon. Keep track of your daily weight and bring this information to your first doctor's appointment following surgery.

DAILY TEMPERATURE

Taking your temperature once a day helps to monitor for infection. Take your temperature in the afternoon. Wait 15 minutes after you've had something to eat or drink, otherwise it will not be accurate. If your temperature is more than 101 degrees F, call your surgeon.

ACTIVITIES

There are only two specific instructions related to physical activity for ONE FULL MONTH following discharge:

- 1) Do not drive a car or operate machinery.
- 2) Do not lift, push or pull any object heavier than five pounds.

These limitations should be followed to allow proper healing of your sternum (breast bone). The bone will grow back together over the next several months. In the meantime, heavy lifting or other upper body exertions could cause the bone to "wiggle" and prevent solid mending. When you are a PASSENGER in a car, ALWAYS USE THE SEAT BELT. Even in a minor accident, the likelihood of injury to your chest is great if you are behind the steering wheel. It also takes some time before you regain the necessary reflexes to deal with traffic. So, for a month you MUST be driven to your destinations.

OTHER ACTIVITIES

Any activities NOT involving vigorous use of the upper body are acceptable. The idea is to be active. It is important to learn to "pace" yourself. Put your feet up during the day. Take time showering and dressing. Do not be discouraged. You will have more energy with each passing week. DO NOT GO HOME AND STAY IN BED.

WALKING

Your doctor expects you to WALK EVERY DAY. Walking is the best exercise for you and your heart because it will help you regain your strength and improve your health. Start out at your own pace and take at least four short walks a day. Increase the length of your walks as you are able.

Unless you have other medical conditions preventing extended walking, you should be completing about two miles or 45 minutes of walking each day. You should be able to take deep breaths and speak in short sentences while you are walking. If you can't, slow down or take a break. At first, you may tire easily and have to complete the distance by walking and resting.

Common sense in exercise includes not walking in the heat of the day or in the extreme cold. Many people enjoy walking in malls or gymnasiums. It is okay to walk up and down hills and stairs.

Your goal is to make exercise a part of your daily regimen just like eating or brushing your teeth. Try to incorporate about 45 minutes of daily activity into your routine. As directed by your surgeon, stationary bicycles, treadmills and other apparatus may be suitable for exercise as well. If you are interested in using some type of exercise machine, discuss it with your physician or the nurse educator.

SEXUAL ACTIVITY

Sexual activity can resume when you feel comfortable. For many people this is about two to four weeks after going home. If you have concerns about this, do not be afraid or embarrassed to ask your physician. When resuming sexual activity, both partners should feel relaxed and rested.

The partner that has had the surgery should assume a more passive position and should avoid supporting any weight with the arms for 6-8 weeks. This will prevent any unnecessary strain on the sternum during its healing process. If you are tired and/or tense, relax and wait until you feel more comfortable. Uneasy feelings about resuming sex after surgery are not uncommon for either partner, but it is nothing to worry about. It should be just as possible and enjoyable as it was before surgery.

DRIVING

Driving may be resumed four weeks after surgery if you are cleared by your surgeon and you feel ready to drive. Until then it's OK to ride as a passenger, but make sure to sit in the back seat to avoid the air bag. If you are traveling for long distances, stop the car every hour and walk around for 10-15 minutes. This will help prevent blood clots from forming in your legs. Do not take narcotics and drive.

LIFTING

Your sternum (breast bone) takes time to heal. During this time you need to take precautions so you do not place strain on your sternum. Avoid lifting, pushing or pulling greater than 5 pounds after surgery for four weeks. This means you'll need to avoid many common activities such as vacuuming, moving furniture, mowing the lawn, carrying children or carrying groceries.

You may move your arms as normal in order to do activities such as shampooing your hair and washing your body. Light housekeeping, dusting, doing dishes or setting the table are also okay as long as they do not strain the sternum. After six weeks, you can increase how much you lift, push or pull by five pounds a week, as long as you are comfortable and with surgeon approval. Initially after surgery, you may hear an occasional clicking noise or feel a clicking sensation in your chest. As your sternum heals, this will disappear – usually within two weeks. If it continues, or gets worse, let your surgeon know.

WORK

It usually takes six to eight weeks before you can return to work following cardiac surgery, but that can vary depending on your occupation. Your FMLA and short term disability paperwork should be given to the surgeons' office. To help prevent errors with the dates of your leave, the office will not complete the paperwork until your surgery has occurred. The office has 10 business days to return the completed paperwork to you. Any request for permanent disability or completion of forms for permanent disability should be directed to your primary care physician, oncologist or a physician specializing in disability determination.

Incision Care

DAILY CARE

- Once you get home, shower daily (morning or evening) allowing the water to gently run over the incisions and then pat dry (unless instructed differently). Do not just take sponge baths.
- Gently wash over all incisions on your chest, arm and legs, including the areas where any tubes were located, with a CLEAN washcloth and a MILD WHITE SOAP such as Caress, Oil of Olay or Dove. Soaps with heavy perfumes, deodorants or dyes could irritate the incisions.
 - Soaking in the bathtub should be avoided until your incisions are healed.
 - Avoid vigorous scrubbing of the incisions. Pat incisions dry with a clean towel. Continue this until all incisions are healed, and then you may resume your normal routine.
- The day after you get home, remove all dressings.
- Twice a day, clean your incisions with the bottled antibacterial soap given to you in the hospital until you see the doctor for the first visit after you go home. Be sure to rinse the soap off the incision with water.
- It is normal for the incisions to drain small amounts of clear, amber or pink fluid and for the edges to become dark red and bruised-looking as they heal. If the incision opens up, becomes inflamed or drains pus, notify your surgeon.
- It is normal for incisions to drain small amounts of clear, amber or pink fluid and for the edges to become dark red and bruised-looking as they heal. If there is no drainage/leakage from your incision, call the surgeon's office at (256) 265-0255. If the incision opens up, becomes inflamed or drains pus, notify your surgeon.
- Remove dressings daily when you wash your body, and then replace them with new gauze if needed. If you have a very small incision that is leaking, it is okay to use a disposable bandage as long as it covers the incision.
- Keep your incisions clean and dry. Do not use lotions, creams, ointments, oils or powders on your incisions unless prescribed by your surgeon. Keep your incisions protected from overexposure to sunlight during the first year after surgery. They can sunburn easily. There is an increased risk of hypertrophic scarring with excess sun exposure.

When to call your doctor about your incision

If you notice any of the following signs and symptoms regarding your incision, you need to call your doctor:

- Increased redness or swelling around the edge of an incision
- Increased tenderness or pain at the incision sites
- New or increased drainage from incisions
- Skin edges pulling apart and gaping open at the incision line
- A temperature over 101° F

- Swelling is common in legs where a vein has been removed. The puffiness will usually be greater in the evening after you have walked. It will help to lay on a flat surface (bed, couch or floor) and elevate your leg above heart level for about 20 minutes, three to four times a day. Sitting in a recliner with feet up will NOT help. It may take months for the swelling to completely disappear.
- Do not swim in pools, lakes or the ocean, and do not use a hot tub, until released to do so by your surgeon.

INCISIONS CLOSED WITH TISSUE ADHESIVE:

- Take brief showers; blot the wound dry
- Do not soak or scrub the wound/incision (no tub baths or swimming)
- Do not apply medication/cream to the incision
- Excessive movement at the incision site should be avoided
- Do not place tape on tissue adhesive
- Do not pick at the incision site
- The adhesive will peel away from the wound on its own in about 10 days

Dietary Recommendations

After surgery, most patients will be prescribed a low-fat & low-sodium diet. A registered dietitian will meet with you to review your specific instructions. If you are a diabetic patient, the diabetic educator will meet with you prior to discharge.

A low salt diet is extremely important in the first weeks of your recovery. You may notice after surgery that you have been retaining fluid causing your hands, feet and ankles to be puffy. The more sodium in your diet, the more fluid your body will retain. Some patients even require fluid-reducing pills (Lasix or furosemide) to help rid their bodies of excess water. Later in your recovery it may be acceptable to eat more salt if you have no medical reasons to restrict your sodium, but for now you will do better if you reduce your salt intake.

Cholesterol and fat make up the substances that cause arteries to become blocked, so it is important for you to limit your intake of these substances as well.

Suggestions:

- Follow a low-salt, low-fat and low-cholesterol diet
- Avoid eating red meats, which include beef, lamb and pork
- Eat more fish, chicken, turkey, fruits, vegetables and grains
- Avoid caffeine during your recovery; use decaffeinated products
- Do not use salt substitutes; try herbs, spices or Mrs. Dash
- Look for low-fat or no-fat dairy products when eating yogurt, margarine, skim milk, cheese, sour cream and cottage cheese
- Two servings of alcoholic drinks are permitted per day. A serving is equal to 12 oz. of beer, 5 oz. of wine, or 1 1/2 oz. of liquor
- NEVER take alcohol and pain medicine together



Reducing Risk of Heart Attack

MAKE A HEALTHY DIET PART OF YOUR ROUTINE

Eating healthy, nutritious foods and watching your weight can help lower cholesterol and blood pressure.

- Adhere to a diet that is low in total fat, saturated fat and cholesterol.
- Eat fewer animal products and more fruits and vegetables.
- Choose two to three servings of fish, shellfish, lean poultry, other lean meats, beans or nuts daily. Trim fat from meat and remove skin from poultry.
- Eat more foods that are high in fiber, like whole grains and beans.
- Avoid heavy toppings like butter, cream cheese and oil-based dressings.

ENGAGE IN REGULAR EXERCISE THAT YOU ENJOY

Physical activity reduces stress, lowers blood pressure and burns calories. Aerobic exercises such as walking, swimming and dancing are ideal. Before you begin to exercise, talk to your doctor about the exercise plan that's best for you.

Huntsville Hospital has Wellness Center locations in Madison and Jones Valley that can help you discover what physical activities you enjoy. Members can take advantage of full workout facilities, group fitness classes, heated pools, steam rooms and saunas. Nutritional consultations with a registered dietitian, personal training services and massage therapy are also available. For more information, call **(256) 265-WELL.**

Cookbooks and Other Resources

Eater's Choice: A Food Lover's Guide to Lower Cholesterol

Hundreds of low-fat recipes plus easy to understand information about cholesterol (HDL, LDL and triglyceride levels). Also tips on restaurant dining. By Dr. Ron & Nancy Goor.

Don't Eat Your Heart Out Cookbook

Over 300 recipes plus sections on understanding heart disease and cholesterol, decreasing salt intake, and modifying your own favorite recipes. By Joseph C. Piscatella.

American Heart Association

Low-Fat/Low-Cholesterol Cookbook

200 recipes with full nutritional analysis, plus information on heart disease and risk factor modification.

Quick and Healthy Low-Fat Cooking

Prevention magazine publishes three cookbooks under this title: one with general recipes, one entitled *American Food* and one featuring the cuisines of the Mediterranean. Full-color photos are included, as well as easy, quick recipes that use fresh fruits, vegetables and herbs. By Jean Rogers.

Great Good Food: Luscious Lower-Fat Cooking

From the gourmet cook Julee Rosso, this low-fat cookbook features healthy recipes for specialty dining. Recipes are grouped according to season, and many special occasions and holiday ideas are included.

Cooking Light

Monthly magazine published by Oxmoor Press which also publishes *Southern Living*. In addition to tasty recipes, each issue includes information about nutrition & healthy living.

Huntsville Hospital Cardiac Rehabilitation

Our Cardiac Rehab program offers classes in heart healthy cooking and eating. For more information, call (256) 265-7102.

How to Check Your Pulse

It will be important for you to know how to check your pulse so you can monitor your heart rate.

Here's how:

1. Get a stopwatch with a second hand and place it where you can easily see it. Turn your left hand palm-side up, then place the first two fingers of your right hand along the outer edge of your left wrist just below where your wrist and thumb meet. Never use your thumb.
2. Slide your fingers toward the center of your wrist. You should feel the pulse between the wrist bone and the tendon. This is located in the fleshy part of the groove just below the base of the thumb.
3. Press down with our fingers until you feel your pulse. Do not press too hard, or you will not be able to feel the pulsation. Feel free to move your fingers until the pulse is easiest to feel.
4. Continue to feel your pulse for a full minute. Concentrate on whether the beats are evenly spaced, or whether they are erratic, with missed beats, extra beats or beats that are too close together. Imagine the rhythmic ticking of a clock. This will help you notice if the beat is steady or not.

A normal **regular heartbeat** should look and feel like this:



(Note that the “hearts” are the same size and evenly spaced)

An **irregular heartbeat** would look and feel like this:



(Where there is no pattern to the beats, and they are all different “sizes”)



What to Expect When You Leave the Hospital

Recovery is gradual and may vary from person to person. Despite these differences, there are some common issues patients will likely experience.

MOOD SWINGS

It is normal to have mood swings after surgery. Some people describe this as having “up and down” days. Other people say they feel very emotional and may cry or get frustrated easily. It takes two full months for your body to work out all of its reactions to surgery. These feelings are common and will improve as you recover.

Things that will help you deal with mood swings include adequate sleep, nutrition and support. However, if you are feeling continuously down for two or more weeks, talk to your physician. Do not sit in a dark room all day. Get sunlight by opening curtains and blinds. Turn on lights during the day. If you become severely depressed, contact your surgeon’s office or go to ER if needed. There is a 24-hour National Suicide Hotline available by dialing 988.

SLEEPING AND REST

Sleep and rest are important in recovery. When you first return home you will find that everyday things, such as bathing and getting dressed, make you tired. You may even feel like sleeping if you become overtired. To avoid feeling overly tired, spread your activities throughout the day and plan to take frequent rest periods between activities.

Do not sleep during rest periods. Instead, take a short nap in the middle of the day. This way you can start restoring your normal sleep pattern which may have been disrupted after surgery. Avoid sleeping on your side or chest until cleared by your surgeon. Sleep on your back instead.

One of the most frequent problems after heart surgery is sleeplessness. Trouble sleeping at night or only being able to sleep for a couple hours at a time is common. This will improve as you restore your normal sleep pattern. Sleeping pills can make the problem worse.

General discomfort can contribute to not sleeping well. At night, take a warm shower before bedtime to help relax sore muscles. Taking your pain medication prior to going to bed and keeping a consistent schedule will help.

BLURRED VISION

This is normal. If you wear glasses wait for at least three months before having your prescription changed because the condition should get better. If you experience complete loss of vision, loss of peripheral vision or can see only half of an object, go to the nearest Emergency Room or call 911.

WEAKNESS AND FATIGUE

After surgery, your body uses almost all of its energy to heal. This does not leave much “get up and go” left for other activities. Even bathing or eating a meal may make you tired. Plan for plenty of rest between activities, and gradually increase your activity as the weeks go by.

PAIN AND DISCOMFORT

Mild to moderate discomfort is normal for a few weeks after surgery. Remember to take your pain medication as needed throughout the day and at bedtime. If you have little or no pain, you do not need take your pain medication. However, don't wait until you are in a great amount of discomfort before taking pain medication.

Normal discomfort you may experience after cardiac surgery includes muscle pain or tightness in your shoulders and upper back and between your shoulder blades. A heating pad set on low may help, but do not place it on your incisions.

Do not let discomfort limit your activity. Pain medication in the first few weeks will help with discomfort as you gradually increase your activity. Most cardiac surgery patients are sent home with a pain medication prescription. Some patients do not need the pain medication; others may require an additional prescription at the first postoperative clinic visit. After that time, you should be able to control the pain with other options such as over-the-counter medications, exercises and Cardiac Rehab. Your surgeon will discuss these options with you as you progress through the recovery process. If you were a patient at a pain management clinic or were treated with narcotics prior to surgery by a physician, please make your surgeon aware of this. The surgeon will make a referral or an appointment with the appropriate provider. If you have signed a pain contract with a physician prior to your surgery, please tell your surgeon.

NUMBNESS

Patients whose internal mammary artery was used during surgery may experience numbness, tingling or a “pins and needles” sensation on the inside of their chest. This may feel uncomfortable for a while, but will gradually improve as the feeling returns.

Some patients may experience numbness of their hands or fingers after surgery. This is not uncommon and will get better.

CHEST PAIN

Chest pain is probably chest wall pain due to dividing the breast bone during surgery. Generally, more pain is experienced as you become more active. As a rule of thumb: if the chest pain comes and goes, or if you can point to it and it hurts worse when you apply pressure, then it is muscle or bone pain and not from your heart.

APPETITE

Temporary changes in your sense of smell and taste may cause you to have a poor appetite for several weeks after surgery. Some of the medicines you are taking could also affect your taste buds. It will pass. Adequate nutrition is important, so do not skip meals. Instead try to eat small, frequent meals throughout the day.

TEMPERATURE

It is normal for you to run a low-grade fever (99-100 degrees) for 3-4 weeks after surgery. Let us know if your temperature is higher than 101 degrees. It is also very common to experience night sweats or to feel extremely hot or cold. These symptoms will lessen and gradually disappear in the coming weeks.

HEART POUNDING

Your heart is surrounded by a sac called the pericardium that is normally filled with fluid, which muffles the sound of your heart beat. During surgery it is necessary to cut the sac to expose your heart, so you may now hear more of your heart beat.

MEMORY LOSS AND DIFFICULTY CONCENTRATING

While very disturbing, these experiences are common and temporary. Don't worry, it will subside.

CONSTIPATION

You may have problems with your bowel function after heart surgery. Pain medication and inactivity can contribute to this. As you increase your activity and get back to a normal routine, this will improve. If constipation is a problem, you may take a stool softener or laxative.

High-fiber foods such as fruits, vegetables and whole grains will help to prevent constipation, if your diet allows. If you go multiple days without having a bowel movement and this is different from your normal pattern, or if you have nausea and vomiting with constipation, call your physician.

SWELLING

It is not uncommon to have swelling in your legs after you leave the hospital, especially if you had veins removed from your legs during surgery. Elevate your legs two to three times daily. Normally a recliner is not adequate. Instead, rest by lying on a couch or bed with your feet elevated on pillows. Avoid sitting in one position for long periods of time. Also avoid crossing your legs because this affects circulation. If the swelling does not improve or becomes worse, let your surgeon know.

Who to Call When

URGENT

If you experience any of the problems below, call the surgeon's office at (256) 536-5594 or (256) 265-0255. After regular business hours and on weekends, you will be connected to an answering service that can reach the surgeon on call if needed.

- Weight change of two to three pounds in 24 hours
- Increased leg and ankle swelling
- Extreme fatigue
- Persistent, frequent, harsh coughing
- New or increasing shortness of breath
- Sudden weakness or dizziness
- Persistent nausea, vomiting or diarrhea
- Temperature higher than 101 degrees
- Incisions that are reddened, swollen or warm to the touch
- New or increased leakage from an incision
- Persistent bleeding from an incision
- You become confused or you, or your family, think you are behaving differently than when you left the hospital
- You have a rapid heart rate (between 120 and 149 beats per minute) that does not slow to a normal rate of 60-100 beats after five minutes of rest

NEEDS IMMEDIATE ATTENTION

If you experience any of these problems, go to the nearest emergency room or call 9-1-1.

- Sudden numbness, especially on one side of your body
- Fainting spells
- A sudden severe headache
- Severe shortness of breath that is not relieved after five minutes of rest
- Chest pain, tightness or discomfort that is similar to your pain before surgery (angina-like), and not incision pain
- A heart rate faster than 150 beats per minute, especially if you are also short of breath or having chest pain
- Coughing up bright red blood
- Vision loss
- Experiencing a fall
- Head injury
- Suicidal ideations

Please Note:

Check "What to Expect When You Leave the Hospital" and "Frequently Asked Questions" before calling to see if your question is addressed there:

What to Expect When You Leave the Hospital.....page 27

FAQ's.....page 31

Frequently Asked Questions

PRE-SURGERY

- **Can I donate my own blood before my surgery?**

Making a self-donation is not necessary and may delay the timing of your surgery. If you would like to donate blood to help the community's blood supply, LifeSouth Community Blood Centers has several locations in the Huntsville area. See "About Blood" on Page 11.

- **Where do I check in when I arrive at the hospital?**

Report to the outpatient surgery area on the first floor of Huntsville Hospital. After entering the hospital from the front door (by the fountain on Gallatin Street), take lobby Elevator A to the surgery waiting area on the first floor. Report to the check-in desk and then have a seat in the waiting room. One of our staff will be with you shortly.

- **What are the visiting hours?**

Cardiovascular ICU visiting hours are 10:30 -10:50 a.m., 1:30 - 1:50 p.m., 4:30 - 4:50 p.m. and 8:30 - 8:50 p.m. Patients may have two visitors, but children under 16 are not permitted in CVICU. Progressive Cardiovascular Unit visiting hours are 9 a.m. - 9 p.m. Patients may have two visitors, but children under 16 are not permitted in PCV. Both units are on located on the 6th floor.

POST-SURGERY

- **When will I know about my pathology reports?**

Pathology reports can take three days or longer for a final result. If you are discharged before the result is available, your surgeon will discuss the report with you at your first postoperative visit.

- **My incisions are itchy and stinging. Is this normal?**

It is not uncommon for incision sites to itch and sting as they are in the process of healing. Some numbness is also normal.

- **How do I get refills for my pain medication?**

You will be provided one refill from the surgeon after you are discharged from the hospital unless the surgeon determines otherwise. Please call the office (256) 265-0255 during normal business hours (Monday- Friday, 8 a.m. - 4:30 p.m.) You must pick up the prescription in the office and present a photo ID to the nurse. It make take up to 24 hours for the prescription to be available.

- **What can I safely take for sinus/allergy problems?**

Any "over-the-counter" sinus or allergy medication is okay as long as it does not contain pseudoephedrine (Sudafed™), which can cause an irregular or fast heartbeat.

- **Can I use "sports cream" for muscle pain in my back, chest or shoulders?**

Yes. In fact, your physician may recommend it. However, you should NOT use cream on your incision sites. See "Incision Care" on page 22.

- **Is constipation normal? For how long? What can I take?**

Constipation is considered normal and may persist for several weeks. You may safely take an "over-the-counter" stool softener or laxative preparation.



- **What can I safely use for hemorrhoids?**

You may use an “over-the-counter” preparation. If you are on a blood thinner and experiencing excessive bleeding from hemorrhoids, call the surgeon’s office (256) 265-0255 or go to the ER if needed.

- **Can I safely take cough syrup?**

Yes. Use any “over-the-counter” product with the exception of those containing pseudoephedrine (Sudafed™), which can cause an irregular or fast heartbeat.

- **I am having shortness of breath when I lie down. Is this normal?**

Shortness of breath may be normal for a short time, and many patients find it more comfortable to sleep in a semi-reclined position. It is important to weigh daily and notify your physician’s office if you experience weight gain on two consecutive days or have an increase in shortness of breath. See “Daily Weight” on page 20.

- **My blood pressure and pulse are low. Is this normal?**

Yes. Low blood pressure and lowered heart rate are probably a result of medications you are taking. Notify your physician if your systolic pressure is below 90 and your heart rate is below 60. See “How To Check Your Pulse” on page 26.

- **When can I start my Cardiac Rehabilitation program?**

The nurse practitioner and physician may have discussed this with you in the hospital, but you will not begin a program until at least six weeks after you are discharged. You will receive a call from the Cardiac Rehab program closest to your home. Continue to follow the walking regimen on page 20 until that time.

- **My blood sugar is higher/lower than normal. What should I do?**

After surgery, you should follow up with the physician who has been managing your diabetes before hospitalization. If you saw an endocrinologist or specialist during your hospitalization, you may follow up with them.

- **Can I take my annual flu shot?**

Yes, but please wait until at least four weeks post surgery.

- **Can I travel in a car for 4-6 hours?**

Yes, in fact you may travel longer distances as long as you take frequent rest periods. This includes exiting the car approximately once per hour to stretch and walk.

- **How long before I can go to the dentist after surgery?**

You should wait at least three months after surgery before you go to the dentist. The exceptions are if there is an infection present or dental pain. You can always call the surgeon's office and talk to a registered nurse if you are unsure about going to the dentist. If you have had VALVE surgery (not bypass), you should notify your dentist ahead of time so you can be pre-medicated with preventative antibiotics before having dental work. The dentist should follow ADA guidelines when ordering antibiotics for you.

- **I am having anxiety/panic attacks. Is this normal?**

Mood changes and increased anxiety are not uncommon and will usually resolve without treatment in a few weeks. See "Mood Swings" on page 27.

- **I am having dizzy spells. Is this normal?**

If you are having prolonged dizziness while sitting or lying down, this may be cause for concern and you may need to monitor your blood pressure. Call your surgeon's office to let them know, and be prepared to provide blood pressure readings taken while sitting and standing. You may also be asked several medication questions. Slight dizziness when standing may be normal for a few days. Take precautions to stand slowly and allow your body to adjust before you begin walking. Use an assistive device such as a rollator walker.

- **How much can I lift after surgery?**

You will be restricted to no more than five pounds for the first month after surgery and 20 pounds the second month after surgery. Approximately eight weeks after surgery, you may return to normal activity as you feel up to it.

- **What can I take for sleeplessness?**

It is not uncommon for patients to experience sleeplessness after surgery. However, sleeping pills can cause a rebound effect that makes the problem worse. Don't nap too long during the day but instead, focus on rest. See "Sleeping and Rest" on page 27.

- **When do I need to call my doctor?**

- For a temperature of 101 degrees or greater
- For incisions that have opened, become inflamed or are draining pus, become more swollen, or are excessively sore
- For generalized swelling or rapid weight gain (other than ankles where vein was removed for surgery)
- For shortness of breath
- For a heart rate of less than 50 beats or over 120 beats per minute that lasts more than 15-20 minutes, or any change in heart rate that causes symptoms or changes in the way you feel
- For any problems related to your diabetes, please contact your family physician or endocrinologist
- If your blood pressure falls below 90/50 or rises above 160/90
- If changes in your blood pressure cause symptoms or changes in the way you feel

Cardiac Surgery Plan of Care

HEART CARE	DAY BEFORE SURGERY	DAY OF SURGERY CVICU	DAY 1 AFTER SURGERY
Tests	<ul style="list-style-type: none"> – Blood tests – Chest X-ray – EKG – Urine Test 	<ul style="list-style-type: none"> – Blood tests – Chest X-ray – EKG 	
Treatments	<ul style="list-style-type: none"> – Hibiclens showers – Shave chin to toes – Sage wipes 	<ul style="list-style-type: none"> – Breathing machine – Breathing tube suctioned – Warming lights and blankets if needed 	<ul style="list-style-type: none"> – Nasal oxygen – Bandage removed – Incision care
Lines & Tubes		<ul style="list-style-type: none"> – Breathing tube – Drain tube for stomach – Tube for urine – Surgical drains – Chest tubes – IV lines – Pacing wires – Heart monitor 	<ul style="list-style-type: none"> – Most IV lines removed (one remaining) – Pacing wires – Heart monitor
Medications	<ul style="list-style-type: none"> – Pre-op medications to be ordered by doctor – Sleeping pill available if needed 	<ul style="list-style-type: none"> – IV fluids – IV pain medications as needed 	<ul style="list-style-type: none"> – Some IV fluids stopped – Pain pill and sleeping pill as needed – All other medications per doctor's orders
Nutrition	<ul style="list-style-type: none"> – Regular diet – Nothing by mouth after midnight except medicines 	<ul style="list-style-type: none"> – Ice chips and small sips of liquids when breathing tube is out 	<ul style="list-style-type: none"> – Clear liquid lunch – Regular or diabetic diet, no added salt
Activity/Safety	<ul style="list-style-type: none"> – Activity as tolerated 	<ul style="list-style-type: none"> – Bedrest – Up in chair after breathing tube is out 	<ul style="list-style-type: none"> – Up in chair twice for one hour each – Feed self – Breathing exercises 1-2 hrs while awake after tube is out – Weigh daily
Teaching	<ul style="list-style-type: none"> – Pre-op teaching about your surgery – Breathing exercises 	<ul style="list-style-type: none"> – Family orientation to Cardiovascular ICU 	<ul style="list-style-type: none"> – Patient & family orientation to Progressive Cardiovascular Unit – Review breathing exercises
Family and Visitors	<ul style="list-style-type: none"> – Family to be available for pre-operative teaching 	<ul style="list-style-type: none"> – Family members see patient off to surgery – Wait in ICU waiting room – Limited visiting 	<ul style="list-style-type: none"> – Limit visitors to immediate family. No more than 1-2 persons at a time – No one under age 14 allowed

HELPFUL HINTS

- For routine requests, notify your nurse using your call light. It takes more time if you come to the desk because the nurse will have to be paged at that time.
- Until all of your tubes and lines are removed, please do not attempt to get out of bed without your nurses's assistance.
- Sitting up in the chair and walking is vital to your recovery and will speed the recovery process. Please work with the staff in achieving your activity goals.
- Nausea is very common after heart surgery. Do not eat if you are having nausea and vomiting. Even drinking water can make it worse.

HEART CARE	DAY 2 AFTER SURGERY	DAY 3 AFTER SURGERY	DAY 4 AFTER SURGERY
Tests		<ul style="list-style-type: none"> – Blood tests – Chest X-ray – EKG 	
Treatments	<ul style="list-style-type: none"> – Nasal oxygen decreased – Incision care 	<ul style="list-style-type: none"> – Nasal oxygen stopped – Incision care 	<ul style="list-style-type: none"> – Incision care (Return demonstration to nurse of how to do incision care)
Lines & Tubes	<ul style="list-style-type: none"> – Tube for urine removed – IV capped – Chest tube(s) may be removed – Pacing wires – Heart monitor 	<ul style="list-style-type: none"> – Capped IV may be removed – Pacing wires may be removed – Heart monitor – Chest tube(s) may be removed 	<ul style="list-style-type: none"> – Heart monitor – Chest tube(s) may be removed
Medications	<ul style="list-style-type: none"> – Pain pill and sleeping pill as needed – All other medications per doctor's orders 	<ul style="list-style-type: none"> – Pain pill and sleeping pill as needed – All other medications per doctor's orders 	<ul style="list-style-type: none"> – Pain pill and sleeping pill as needed – All other medications per doctor's orders
Nutrition	<ul style="list-style-type: none"> – Low sodium, low cholesterol (no red meat) – Breakfast – Lunch – Dinner 	<ul style="list-style-type: none"> – Low sodium, low cholesterol (no red meat) – Breakfast – Lunch – Dinner 	<ul style="list-style-type: none"> – Low sodium, low cholesterol (no red meat) – Breakfast – Lunch – Dinner
Activity/Safety	<ul style="list-style-type: none"> – Walk 7 laps in hallway – Up in chair for all meals – Breathing exercises for 1-2 hrs while awake – Help with bath 	<ul style="list-style-type: none"> – Walk 15 laps in hallway – Up in chair for all meals – Breathing exercises 4 hrs while awake – Help with bath if needed. Showers allowed if pacing wires & IVs removed – Bowel movement by today 	<ul style="list-style-type: none"> – Walk 25 laps in hallway – Up in chair for all meals
Teaching	<ul style="list-style-type: none"> – Spirometer use 	<ul style="list-style-type: none"> – Instructions for care at home plus diet and medication information 	<ul style="list-style-type: none"> – Spirometer use
Family and Visitors	<ul style="list-style-type: none"> – May begin to increase visitors as patient feels better – Family available for discharge teaching 	<ul style="list-style-type: none"> – May extend visitors to include other relatives & friends – Family to be available for discharge teaching 	<ul style="list-style-type: none"> – Family to be available for discharge home – Remember to go slow with visitors until you are feeling stronger; no visitors with colds or other contagious illnesses

- It is normal to have surgical pain. Please call for your pain medicine as needed.
- It is very important for your doctor to know how much fluid you are taking in and releasing. Please record fluids in and fluids out on the board in your room.

- If you have a leg incision, it is normal to experience some swelling in that leg/ankle.
- Please have family member(s) that will be assisting you at home available for teaching the second or third day after your surgery.
- Regular or diabetic diet, no added salt.

Cardiac Rehabilitation

Some people recovering from heart surgery enjoy participating in a structured cardiac rehabilitation program. Benefits include educational classes on learning to manage cardiac risk factors and adopting a healthy lifestyle, as well as supervised exercise in an environment where everyone has the same goals.

Huntsville Hospital has an excellent program, and we would love to tell you more about the opportunities available to you. Most medical insurance will cover 80 percent of the costs. We also have several scholarship programs that we can discuss with you.

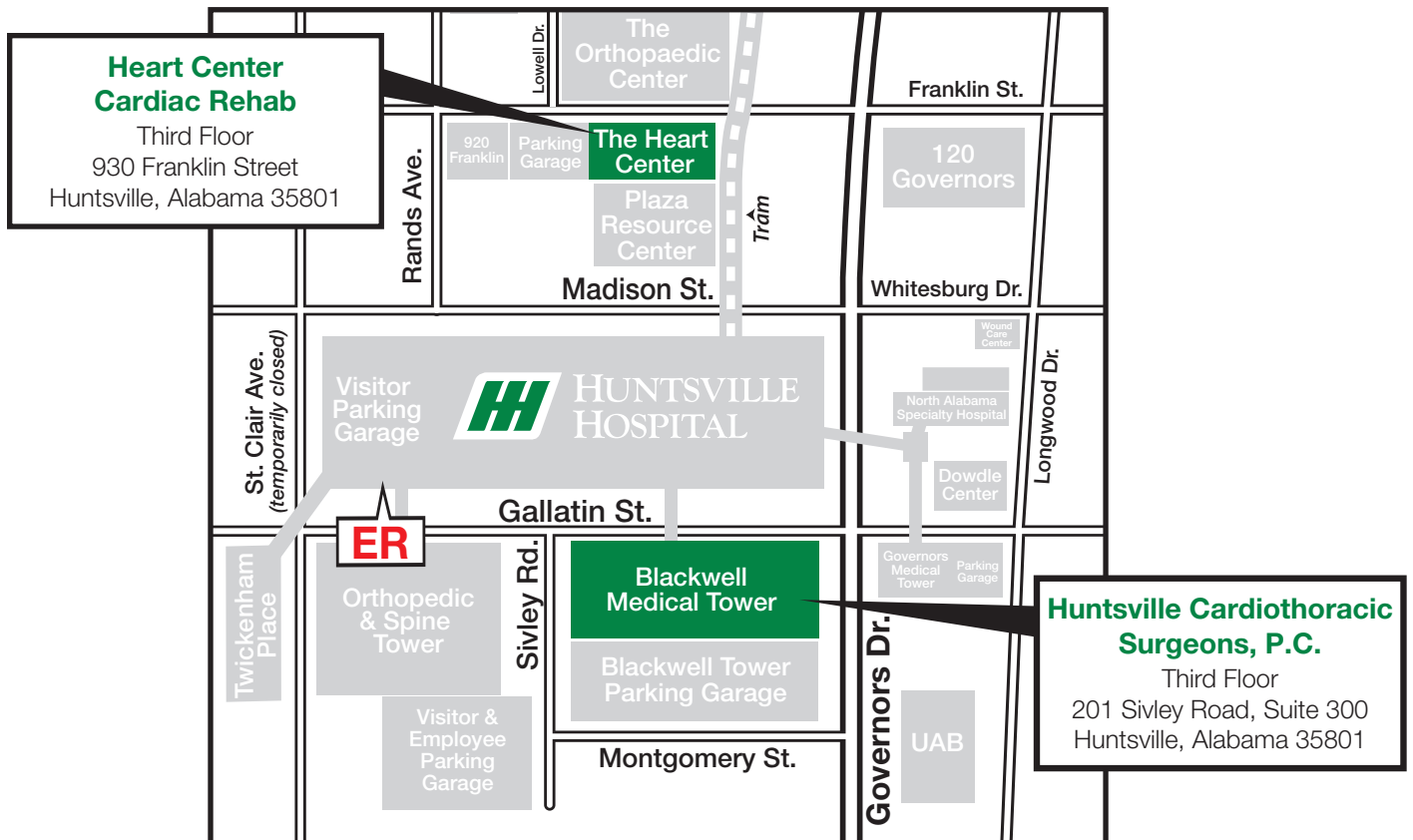
Huntsville Hospital Cardiac Rehabilitation will contact you six to eight weeks after your surgery. If you are not contacted and wish to participate in the program, please call (256) 265-0255.

Our 12-week Cardiac Rehabilitation program meets three days per week, with sessions tailored to meet your individual needs and to reinforce the heart-healthy teaching that was started in the hospital. A single-day exercise evaluation and instruction course is also available to get you on the right track.

For more information, please call **(256) 265-7143**.

Huntsville Hospital's Cardiac Rehab program is located on the 3rd floor of the Heart Center building at 930 Franklin Street. Parking is available for Cardiac Rehab patients.

Huntsville Hospital Campus Map



Office Visits

Huntsville Cardiothoracic Surgeons, P.C.

201 Sivley Road, Suite 300
Huntsville, Alabama 35801
(256) 536-5594 or
(256) 265-0255

Office Hours:

Monday - Friday
8 a.m. - 5 p.m.

Telephone is answered
24 hours a day in case of
emergency

Location:

Third floor, Huntsville
Hospital Blackwell Medical
Tower Garage

Please get a parking token
before exiting the garage.
See map on inside front
cover.

OUR DOCTORS

Juan Gallegos, MD
Shaf Holden, MD
Andres Samayoa, MD
Paul J. Speicher, MD
Gregory A. Thomas, MD
Frans van Wagenberg, MD

Prior to discharge from the hospital, you will be given the date of your first follow-up office visit with your surgeon. Each doctor has a special clinic day established when they see patients in the office. During this visit, the doctor and the nurse will sit down and talk with you about the progress of your recovery.

The first visit is usually scheduled within two weeks of your discharge from the hospital. A second visit usually follows in about a month's time, dependent upon your progress.

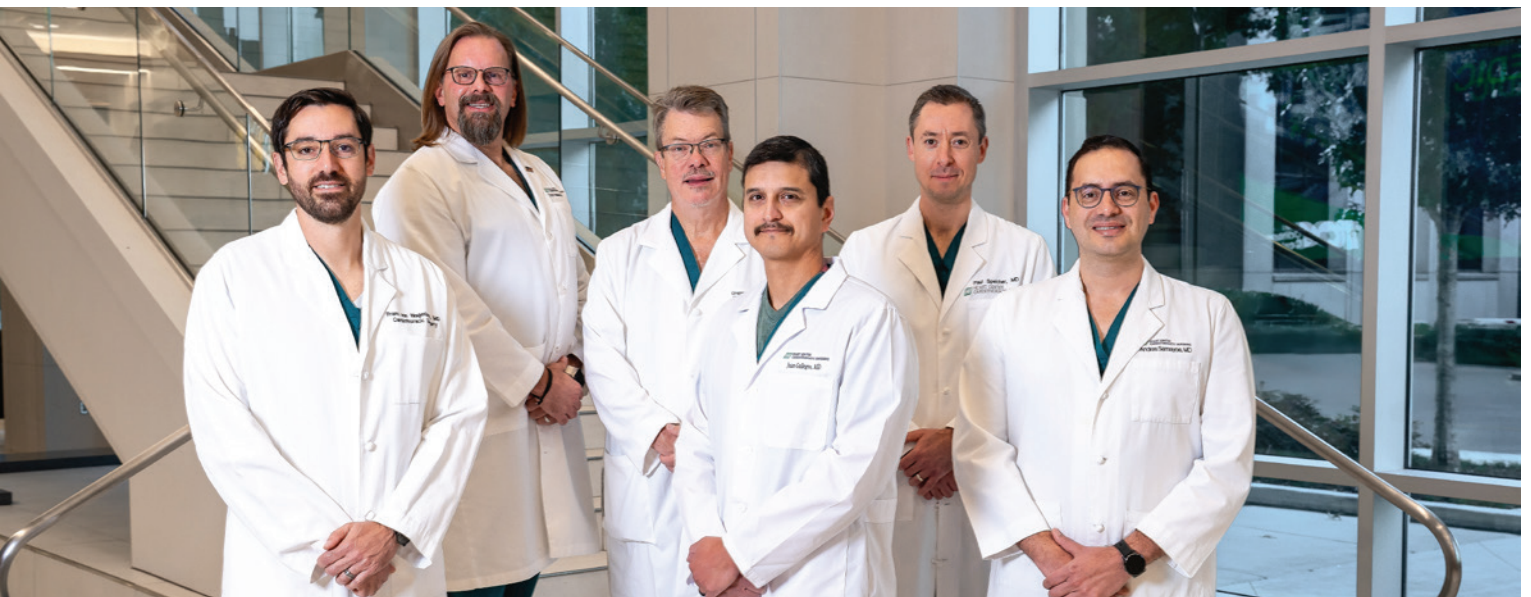
During the first month after discharge, your surgeon will continue to supervise your complete medical treatment including diet, exercise and medications. You may also be given orders for additional tests such as blood work or X-rays and may need to bring these to the office with you when instructed to do so.

Once your surgeon releases you from care, a letter will be sent to your family doctor regarding your progress and recommendations for further treatment. Once released from your surgeon's care, you should make an appointment to see your family doctor for long-term follow up. If you do not have a family doctor, we strongly recommend you find one.

Until you are released back to the care of your primary physician, you should call our office with any problems or concerns. You may want to reference the list of "Frequently Asked Questions" (page 31) and "What to Expect When You Leave the Hospital" (page 27). There is a full-time registered nurse or nurse practitioner available 24 hours a day, seven days a week.

Remember to bring your current medication bottles (not a list of medications) with you every time you visit the office.

In the event of inclement weather, our office may be closed so please call before coming for your appointment. If you do have an appointment during this time, we will call you to reschedule. It is important to have your current phone number in your medical chart so the office staff can easily contact you.



Month: _____

NOTES

Huntsville Cardiothoracic Surgeons, P.C.
Blackwell Medical Tower, 3rd Floor
201 Sivley Road · Huntsville, AL 35801
(256) 536-5594

To support this program — please contact us!

101 Sivley Road · Huntsville, AL 35801
(256) 265-8077 | huntsvillehospitalfoundation.org

Every gift makes a difference! Your tax deductible donation to the Foundation will help provide lifesaving equipment, as well as health and hope to our patients.

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