



 **ST. JOSEPH'S  
HEALTH**  
A Member of Trinity Health

# CARDIAC SURGERY

A GUIDE FOR PATIENTS

 **ST. JOSEPH'S  
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Welcome to St. Joseph's Hospital. We are honored that you have chosen St. Joseph's Hospital for your cardiac surgery procedure and will do our absolute best to honor the trust you have placed in our exceptionally dedicated surgical team.

Performing the first open heart surgery in 1958, St. Joseph's Health Hospital is a leader in cardiac care. A pioneer in prevention, detection, and the treatment of heart disease, St. Joseph's performs more than 1,000 open heart procedures each year. Achieving excellence in cardiac surgery is truly a team effort. The cardiac surgery team includes the cardiac surgeon, cardiac anesthesiologist, physician assistants, nurse practitioners, respiratory therapists, perfusionists, surgical techs, operating room, intensive care unit; and step-down unit nurses, physical therapists, social workers, and case managers. Listed below are some highlights of the St. Joseph's cardiac surgical program.

- Consistent clinical excellence over many years as evidenced by excellent results in New York State database over a 30-year period.
- Top 5 among all New York State programs in terms of overall volume based on recent volume data.
- Three star STS program (3 out of 3 stars) for overall quality, which places St. Joseph's in the top 5-10% of all programs in the United States. The Society of Thoracic Surgeons (STS) database is the largest clinical database in the world and the 3-star rating defines clinical excellence in cardiac surgery.
- Extensive minimally invasive experience including robotic-assisted cardiac surgery, transcatheter aortic valve replacement (TAVR), and catheter-based mitral valve surgery.
- One of the lowest readmission rates in New York State and the U.S. based on Medicare data.

Our team is dedicated to providing the highest level of cardiovascular care to the Upstate New York community. We will do our best to meet the needs of you and your family. Thank you again for choosing St. Joseph's Hospital.



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PART  
**01**

**MEETING THE HEALTH CARE TEAM**

**Patient Pre-procedure Checklist**

To help you prepare for your surgery and post-operative recovery, please use the following checklist.

**Preadmission Testing Appointment:** \_\_\_\_\_

104 Union Avenue Suite 905 Syracuse, New York  
Preoperative appointment for history and physical examination and testing.

**Bring the following to your appointment:**

- List of all prescriptions, herbal supplements, and over-the-counter medications that you are taking, including when you took the most recent dose of each medicine.
- Prepare or update your Advance Directive.
- Insurance card
- Photo Identification

Notes: \_\_\_\_\_

\_\_\_\_\_

**Disability and family leave paperwork (if applicable)**

Obtain paperwork from employer and submit to surgeon's office. Please allow 7 business days for completion of paperwork.

Notes: \_\_\_\_\_

\_\_\_\_\_

**Post-operative appointments**

Post-operative evaluation and care is important for recovery after surgery. Following surgery, appointments with the surgeon, cardiologist and primary care physician office are to be scheduled.

Appointments with the surgeon's office will be scheduled for you and may be found on your discharge paperwork. If an appointment is not noted, call the office to schedule. It is the patient's responsibility to schedule follow up appointments with the cardiologist and primary care physician as advised on the discharge paperwork. Please review your discharge paperwork for further instructions.

- Take a list of questions with you when you visit your doctor.
- Bring a list of all medications that you are taking including name, dosage and frequency of medication.

**Cardiac surgery appointment** \_\_\_\_\_

**Cardiologist** \_\_\_\_\_

**Primary Care Physician** \_\_\_\_\_



**Pulse Oximeter** – This is a machine that tells how much oxygen is in your blood. This percentage of oxygen is known as oxygen saturation or “sat.” A cord with a clip is attached to your finger, ear or toe.

**Stenosis** – Narrowing or blockage of an artery or heart valve opening.

**Swan-Ganz Catheter (PA Line)** – A large and long intravenous catheter inserted through the neck used to monitor the blood pressure in the heart.

**Thrombolysis** – A process of dissolving clots that clog arteries.

**Transesophageal Echocardiogram (TEE)** – An invasive type of echocardiographic procedure wherein a probe with an ultrasound transducer is placed into the esophagus via the mouth.

**Tricuspid Valve** – The heart valve between the right atrium and the right ventricle.

**Ventricle** – A lower (pumping) chamber of the heart.

**Vital Signs** – This includes taking your temperature, blood pressure, pulse, and respirations (counting your breaths). Caregivers may also listen to your heart and lungs using a stethoscope. Your vital signs are taken so that your caregivers can see that you are making a good recovery from surgery.

**We will partner with you to best manage your heart health. A dedicated team of professionals will provide care for you during your hospitalization.**

Our cardiac anesthesiologists provide care for you in the operating room. They are also trained in critical care medicine and with your surgeon will manage your care in our cardiac surgery intensive care unit.

The operating room staff is specially trained to care for you during your surgery. They include perfusionists who run the heart lung machine, surgical techs, and operating room nurses. The cardiac surgery team also includes Physician Assistants and Nurse Practitioners, who assist the surgeon in the operating room and provide care for you under the direction of the surgeon. The surgery team will round on you daily during your stay. They will discuss with you a plan of care and update you of any changes.

Physical therapists will evaluate you and begin an activity program while you are in the hospital. The respiratory therapist will provide care related to your individual needs.

Registered nurses and licensed practical nurses will provide direct care for you throughout your stay. Following surgery you will be cared for in our dedicated cardiac surgery intensive care unit called the CVICU and a step down unit called D4.

After your surgery dietitians will be available for you to discuss any questions you may have concerning your diet. A cardiac rehabilitation nurse will visit you to discuss participation in a cardiac monitored exercise program during your recovery.

Our cardiac surgery program coordinator will work with the entire health care team to ensure the best possible experience.

We as a team look forward to caring for you and your family. We stand by core principles of quality, integrity, and compassion. We will make a sincere commitment to delivering exceptional care and thank you for allowing us to serve you.

**ST. JOSEPH'S HOSPITAL  
RANKED AMONG TOP IN  
NATION FOR HEART SURGERY**

*St. Joseph's Hospital is in a very elite class – which includes only 15 hospitals out of more than 400 nationwide.*

#### Acknowledgements

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PART  
02

## PREPARING FOR SURGERY

**Heart Monitor** – This is a machine that allows your caregivers to view the tracing of your heartbeat on a TV type screen. Your heart is being watched to make sure your body is making a good recovery from surgery.

**High Blood Pressure (Hypertension)** – A greater-than-normal pressure of blood against the walls of the arteries. It may not make you sick, but over time it may cause wear and tear on the artery walls and may damage the heart, brain, eyes, and kidneys. The causes of high blood pressure are not completely understood. Stress, high sodium diet, obesity, and smoking may contribute to or aggravate high blood pressure. In some cases the tendency for high blood pressure runs in the family.

**Implantable Cardioverter Defibrillator (ICD)** – A special type of electronic device placed inside the body to automatically terminate life-threatening abnormal heart rhythms.

**Intra-aortic Balloon Pump** – This is a circulatory assist device commonly used in heart surgery to increase the supply of oxygen and blood flow to your heart when your heart is too weak to do its normal work.

**IV Line** – An intravenous line is a tube that is placed in your vein for giving medicines or fluid. This tube can be capped or connected to tubing and fluid.

**Leaflets** – The small flaps on the valves of the heart which serve as “doors,” allowing or preventing the passage of blood.

**LifeVest** – A wearable defibrillator worn by patients at risk for sudden cardiac arrest.

**Mechanical Valve** – An artificial device implanted in the heart to take the place of a natural valve.

**Mitral Valve** – The valve between the left atrium and left ventricle.

**Mitral Insufficiency (Regurgitation)** – Inability of the mitral valve to close completely, resulting in leakage or backflow of blood into the top left (atria) chamber and the lungs.

**Mitral Stenosis** – Obstruction of the passage of blood across the mitral valve due to narrowing of the opening, resulting in a decreased forward flow of blood and accumulation of blood into the top left (atria) chamber and the lungs.

**Myocardial Infarction** – Heart muscle damage brought about by a prolonged or persistent abrupt blockage of the blood vessels that supply the heart muscle (coronary arteries). Also known as a heart attack.

**NG Tube** – This is also called a nasogastric tube. This tube may be put in your nose and down into your stomach. The tube is attached to suction to keep your stomach empty.

**Oxygen by Mask or Nasal Prongs** – You will receive extra oxygen through a mask or small prongs that enter your nostrils. Your caregivers will monitor your vital signs to determine how much oxygen your body requires while you are in the hospital.

**Pacemaker** – A device placed in the body to help regulate your heart rhythm. This device sends out electrical signals to keep the heart beating at a speed appropriate for your body’s needs.

**Pneumonia** – The condition of having an infection inside the lungs.

**Pulmonic valve** – The heart valve between the right ventricle and the blood vessels that lead to the lungs (where blood is pumped to pick up oxygen).



## Glossary

**Coronary Thrombosis** – A blood clot in an artery which blocks the supply of blood to the heart muscle. Causes a heart attack.

**Consent Form** – This is a legal piece of paper that gives your surgeon permission to do surgery and other related procedures while you are in the hospital. It tells exactly what will be done to you, and what risks are possible. Be sure all your questions have been answered before you sign this form.

**Coumadin**<sup>®</sup> – The commonly used trade name for the drug warfarin, an anti-coagulant (blood thinner) often prescribed to reduce the chances of stroke.

**Deep Breathing and Coughing Exercises** – These breathing exercises help to prevent a lung infection after surgery. Deep breathing opens the airways going to your lungs. Coughing helps bring up sputum from your lungs.

**Diabetes** – Metabolic disease that prevents the body from producing insulin (necessary to break down glucose) and regulating glucose levels in the blood

**Diuretics** – A medication commonly called a “water pill” that helps the body get rid of excess salt and fluid.

**Echocardiogram** – A procedure which uses sound waves to: 1) evaluate the structures and functions of the heart valves and heart muscle; and 2) measure the size of the heart’s pumping chambers (ventricles).

**Endotracheal tube** – A tube inserted into the lungs (via the mouth and throat) and attached to a respirator to supply oxygen when the lungs are unable to operate on their own.

**Elastic Stockings** – These tight elastic stockings keep blood from pooling in the legs and causing clots. They may also be called TED stockings.

**Electrophysiological Study (EPS)** – A procedure in which a catheter is inserted through the veins to the heart to study the electrical activity of the heart and to identify absence or presence of abnormal heart rhythms. If abnormal heart rhythms are present, the specific site of origin is identified and appropriate treatment is instituted.

**Monounsaturated Fats** – Aid in lowering blood cholesterol levels. They are liquid at room temperature and originate only from plant and vegetable sources. Examples: olive oil, canola oil, peanut oil, and avocado.

**Polyunsaturated Fats** – Aid in lowering of blood cholesterol levels. They are usually soft at room temperature and originate from plant and vegetable sources. Examples: cottonseed, soybean, corn and safflower oils.

**Saturated Fats** – Raise blood cholesterol levels. Generally, they are solid at room temperature. They originate primarily from animal sources, such as beef, veal, lamb, poultry, milk, butter, cheese and lard.

**Fluid Restriction** – This is the total amount of fluid that you may take in a 24-hour period. It includes fluids that you drink by mouth and IV fluids. Fluid is restricted after surgery because too much fluid can be very stressful to the lungs.

**Foley Catheter** – This is a tube that is placed in your bladder to drain your urine. When the catheter is taken out, you can urinate on your own.

## Preoperative Appointment

- Your appointment in our Pre-Admission Testing (PAT) Office is designed to take care of all your medical testing needed before your surgery can take place. The visit normally takes about two hours but can take longer if needed.
- The PAT Office is open Monday through Friday from 7:00 a.m. to 4:30 p.m. Your surgeon’s office will schedule your appointment.
- At your PAT appointment, you will undergo a physical examination and have blood work drawn. An EKG and chest x-ray will be taken. A Pulmonary function test and vascular study of your veins may be completed.
- Medications and preparation for surgery will be discussed.
- You will be provided with patient education material including a website link (<http://cedu.sjhsyr.org>) to view educational modules before your procedure.

## Preoperative Instructions

In the days before surgery, you will need to follow certain instructions, as detailed below.

- The night before surgery, you will be asked to prep your skin.
- Infection is a potential risk with any surgery.
- To decrease bacteria we ask you to take a shower the night before surgery using special antibacterial soap called Chlorhexidine Gluconate solution.
- If you cannot take a shower we ask you to clean your chest, arms, and legs with the special soap we give you.
- We ask that you remove all jewelry including piercings, necklaces, and rings.

### Skin Preparation Instructions for Bathing

THE EVENING BEFORE	THE MORNING OF SURGERY
<ul style="list-style-type: none"> <li>✓ Thoroughly rinse your body with water from neck down</li> <li>✓ Apply the Chlorhexidine Gluconate 4% solution directly to the skin and wash gently with a clean cloth while showering</li> <li>✓ Rinse thoroughly with warm water</li> </ul>	<ul style="list-style-type: none"> <li>✓ DO NOT SHOWER</li> <li>✓ Do not shave your legs or chest for your surgery. Shaving with a razor blade can increase your risk of infection. At the hospital we will prepare your skin by removing hair with special clippers.</li> </ul>

## Medications to Take the Evening Before Surgery

- Your doctor will tell you what medications to take the morning of surgery. If your doctor wants you to take medication, take these medications with only sips of water.
- Take a rectal suppository prior to going to bed the night before surgery to assist in emptying your bowels.
- Diabetic Medications – If you are a diabetic your doctor will tell you what to take the day before surgery and day of surgery.
- Plan to have your evening meal no later than 6 PM. You may have a light snack and fluids after 6 PM. However, DO NOT eat or drink after midnight.

## Important Facts to Know Before Surgery

### Day of Surgery

- Most elective surgery patients are asked to come to St. Joseph's Hospital Health Center the day of their surgery. You should expect a phone call the night before giving you a time in which you should arrive at the hospital.
- Typically, early cases arrive by 5:30 a.m. and later cases by 7:30 a.m. We suggest you use valet parking. Valet parking is available from 5 a.m. - 9 p.m. Monday through Friday. The cost is five dollars. If you wish not to use valet parking you can park your own car on the street using a parking meter or you can park in the garage for a fee.
- We will have you stop at the front desk, then you and your family will be directed to go to the one day unit where the staff will review your medical information and prepare you for surgery.

### Prepare for Surgery on One Day Unit

- Your nurse will start an IV and apply oxygen.
- Your nurse will check your blood sugar level.
- We will have you remove any dentures, eyeglasses, wigs, or hair pieces at this time.
- You may wear hearing aids to the operating room but they will be removed before surgery.

### Family Will Wait on Ground Floor Surgical Waiting Room during Surgery

- When you go to surgery your family will be instructed to wait in our ground floor surgical waiting room.
- A surgical liaison will give your family updates about you and how you are doing.
- Surgery usually lasts 3-6 hours but this varies among patients. Your family should not be alarmed if your surgery takes more or less time.
- Once the surgery is completed, the surgeon will meet with your family and discuss your plan of care.

### Anesthesiologist Will Prep You for Surgery

- Before entering the operating room, you will be taken to our pre-induction area. Here you will meet your nurse and anesthesiologist. Your operating room team will review medical information with you at this time. You will see your surgeon and they will have you sign your consent for surgery. Any other questions/concerns that you may have can be addressed at this time.
- Our surgical team will then take you into the operating room where your surgery will be performed. You can expect the operating room to be brightly lit, cool, and somewhat noisy. It's normal to be anxious about your surgery. Your anesthesiologist will then give you an anesthetic (medication) through your IV that will make you sleepy, then your procedure will begin. You can be assured that before the operation begins you will be completely anesthetized and will feel no pain. At the conclusion of the surgery you will be transported to the cardiovascular intensive care unit for recovery.

**Breathing Treatments** – Breathing treatments are sometimes ordered to open your airways. Medicine is slowly breathed in by mask or mouthpiece and often followed by Chest PT.

**Cardiomyopathy** – Enlargement and weakening of the heart muscle which may have resulted from any one of various causes, i.e. long-standing heart disease, viral infections, toxic effects of alcohol or unknown causes. A dilated heart does not pump as well as it should.

**Cardiopulmonary Bypass** – Works in place of heart and lungs during surgery to circulate blood to the body.

**Catheter** – A small plastic tube used to inject liquid (dye) into the coronary artery at the time of coronary angiogram or angioplasty/stent.

**Cholesterol** – A waxy substance with fat-like properties present in animal tissues and, thus, in foods of animal origin such as meat, eggs and dairy products. Saturated fats will also increase cholesterol levels. In addition to food sources, cholesterol is manufactured by the body. Cholesterol in excess is stored in the fatty deposits in the arterial wall in atherosclerosis.

**Low-Density Lipoproteins (LDL)** – Special type of cholesterol that, when high, increases the incidence of fatty deposits within arterial wall (increasing risk for coronary atherosclerosis). Called "bad cholesterol."

**High-Density Lipoproteins (HDL)** – A special type of cholesterol that, when high, decreases the incidence of fatty deposits within arterial wall (decreasing risk for coronary atherosclerosis). Called "good cholesterol."

**Triglycerides** – Another type of fat which, when elevated, increases the risk for atherosclerosis.

**Chest Tubes** – These are tubes that are put into your chest during surgery. Chest tubes remove air, blood, or fluid from around your lung, and are connected to a drainage container.

**Chest X-ray** – This is a picture of your lungs and heart. After surgery you may have a daily chest X-ray taken either in your hospital room or in the radiology department. Caregivers may use the X-ray to look for signs of infection, pneumonia or collapsed lungs.

**Chordae** – Tendon like cords which connect the edges of heart valves to the papillary muscle thereby restricting how far the valve leaflets can open or close.

**Congestive Heart Failure** – A condition in which the heart muscle is unable to effectively pump out blood to the rest of the body which results in increase accumulation of blood in the heart chambers and the lungs.

**Coronary Arteries** – Vessels originating from the main artery (aorta), which runs on the surface of the heart, supplying blood to the heart muscle from the aorta.

**Coronary Arteriography (cardiac catheterization)** – X-ray procedure in which dye is injected to outline the coronary arteries, allowing the physician to see blockages or abnormal narrowing in the artery.

**Coronary Artery Disease (CAD)** – A condition in which a coronary artery is clogged by a buildup of cholesterol and fatty deposits. Clogged arteries may potentially decrease delivery of oxygen-rich blood supply to the heart muscle and predispose to development of heart attacks (myocardial infarction).

**Coronary Artery Bypass Graft (CABG)** – Acronym for Coronary Artery Bypass Graft surgery. Open heart surgery used to bring new blood supply to the heart muscle by connecting pieces of a vein or artery to reroute blood flow around the obstructed arteries.



## Glossary

**Ablation** – A non-surgical procedure in which a catheter is inserted through the veins to the heart, and delivers an electrical energy to eliminate the areas of the heart muscle or conduction system that cause abnormal rapid and potentially life-threatening heart rhythms.

**Aneurysm** – A bulge or weakness in the walls of a blood vessel.

**Anesthesiologist** – The doctor responsible for monitoring your vital signs and general well being and administering the medications that affect consciousness before and during your surgery.

**Angina** – A warning sign that the heart muscle is not getting enough blood and oxygen. This may be manifested by one or more of the following: a discomfort or a feeling of pressure, tightness, squeezing, aching, pain, indigestion, fullness, heaviness or burning in the chest, arm, neck or jaw.

**Anticoagulants** – Medications that prolong the time it normally takes for the blood to clot. These medications (Heparin and Coumadin) are often called “blood thinners.”

**Aorta** – Main artery leading from the heart to the rest of your body.

**Aortic Valve** – The valve that controls blood flow between the left ventricle of the heart and the aorta (as blood exits the heart).

**Aortic Insufficiency (Regurgitation)** – Leakage or back-flow of blood from the aorta, across the aortic valve into the left ventricle.

**Aortic Stenosis** – Inability of the aortic valve to open completely, resulting in obstruction to the forward flow of blood from the left ventricle into the aorta.

**Arrhythmias** – Refers to irregularities in heart rhythm with the heart beating either too fast (tachycardia) or too slow (bradycardia). The arrhythmias may reduce the pumping ability of the heart.

**Arteries** – Vessels branching from the aorta which carry oxygen-rich blood to different parts of the body.

**Arterial Line** – This tube is also called an “A-line,” and is placed in an artery of the wrist. The line is attached to tubing and is used to measure blood pressure or to draw blood tests.

**Atherosclerosis** – Narrowing or blockage of arteries (blood vessels) caused by build-up of fatty plaque made up of cholesterol and other materials within the artery wall.

**Atria** – The upper (filling) chambers of the heart

**Bioprosthetic Valve** – Also known as a tissue valve, these come from animal (usually pig) or human (deceased) donors.

**Blood Pressure** – A measurement of the force that moving blood puts on the artery wall. It consists of two measurements: the systolic pressure, and the diastolic pressure.

**Diastolic Pressure** – Pressure left in the arteries in between heartbeats. The “lower number” in a blood pressure reading.

**Systolic Pressure** – Peak pressure in the arteries when the heart pumps out the blood to the body. The “top number” in a blood pressure reading.

**Blood Tests** – You may need blood taken for tests. This may be taken from a vein in your arm or drawn from special IV lines. It will be tested to see how your body is handling your illness.







PART  
**03**

## RECOVERING IN THE HOSPITAL



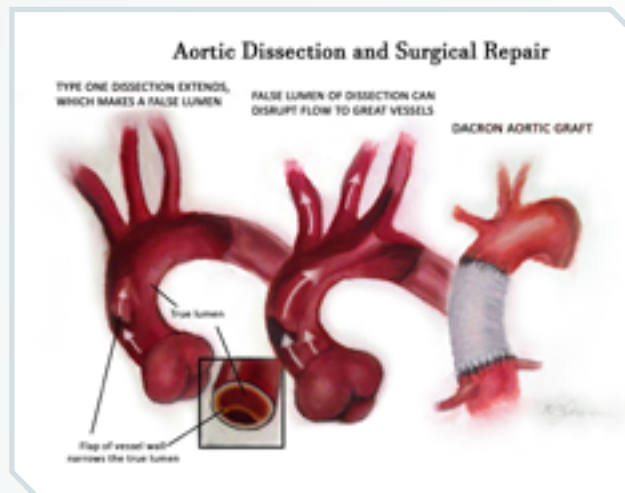
### Permanent Pacemaker Insertion

- The heart has its own electrical conduction system and a natural pacemaker called the sinus node that sends an electrical signal to stimulate the atrial and ventricular muscle to contract.
- The heart's conduction system can become diseased, causing a very slow heart rate. In this situation a pacemaker must be inserted.
- The permanent pacemaker essentially takes over for the patient's own diseased conduction system and allows the heart to beat normally.
- A permanent pacemaker insertion involves placing very small catheters into the heart and connecting them to a small generator or battery placed just below the skin in the upper chest (just below the collarbone).



### Cardiac Tumors

- Tumors can occur in the heart, but most are benign
- The most common type is called a myxoma and is found in the atrium
- Surgery is recommended to remove the tumor and can often be performed through a minimally invasive approach



### Atrial Fibrillation Surgery

- Atrial fibrillation (AF) is the most common irregular heart rhythm and can lead to dizziness, fainting and stroke.
- It is most common in older people with heart disease or after cardiac surgery, but can also occur in otherwise young and healthy individuals.

### Atrial Fibrillation Treatment Options

- Medical Therapy
  - Medications that slow the heart rate and help convert the rhythm to normal
  - Blood thinners such as Coumadin that reduce the risk of stroke
- Cardioversion
  - Procedure which uses low dose of electric current to restore normal heart rhythm

- Catheter Ablation
  - Procedure where cardiologist uses a small catheter to create a scar on the inside of the heart to block AF electrical signals
- Surgical Ablation (Galaxy and Cryomaze Procedure)
  - Involves creating scars in a specific pattern in the right and left atria.
  - A clip is placed to close the left atrial appendage (a sac-like structure that can contain blood clots), which reduces the patient's risk of stroke.
  - Can be performed in conjunction with another procedure or as a stand-alone procedure for patients with symptomatic AF.
  - It is important to note that it takes about 6 months following the procedure to know for sure if the MAZE procedure has been successful.
  - A Pacemaker is sometimes necessary after a surgical ablation.

### Galaxy procedure

- Minimally invasive option for AF in which scars are created on the outside of the left atrium by small radio frequency energy catheters.
- Performed through very small incisions in the patient's right and left chest
- Performed without placing on the heart-lung machine or stopping the heart

### Cryomaze procedure

- Procedure in which scars are created on the inside of the left and right atrium by a catheter that freezes the atrial tissue.
- Procedure is performed either through a sternotomy or through a small incision in the patient's right chest and is performed on the heart-lung machine with the heart stopped.

Once your surgery is completed, you will be admitted to the Cardiovascular Intensive Care Unit for post-operative monitoring and care.

The CVICU is located on the third floor in the surgical tower, also known as D3 East. There you will receive care by a team of specially trained nurses. Their goal is to help you recover as quickly as possible.

### Care in the Cardiovascular Intensive Care Unit (CVICU)

- When you first arrive at the CVICU it will take the nurses approximately one hour to get you settled. After that time your family will be allowed to visit. The CVICU guidelines will be discussed with your family at that time.
- Family and patients should know that the critical care unit has open visiting hours. Family and friends can visit any time of the day yet we encourage visitors to see their loved one based on the patient's request. This is a critical time for the patient to rest and recover.
- Many of you will want your family to be kept informed about your recovery, but due to patient privacy laws (HIPPA regulations), our ability to share information about your condition is limited. We recommend you appoint a family spokesperson whom we call with updates and they may call us for information.
- You and your family member will be asked to complete a Disclosure form. This will provide the health care team with two contact names and numbers. The two people you have elected will be given a pin number. This pin number allows the health care team to give information about you over the phone. We ask that only the designated spokesperson call the unit for information.

### Who will be caring for you in the CVICU

- A designated surgeon will round and discuss your care daily with the members of the team, including a cardiac intensivist. This may or may not be the surgeon who performed your surgery.
- You will stay in the cardiovascular intensive care unit until the surgeon has decided it is safe for you to transfer to the step-down unit. Each patient's stay varies, however patients generally spend 24-48 hours in this unit.
- When your doctor feels you are making sufficient progress in your recovery, you will be transferred from the CVICU to the post cardiac surgical unit or step-down unit where you will remain until you are discharged from the hospital.

### Immediate Post-operative Period

- It is routine for patients recovering from surgery to be surrounded by monitors and equipment. The nurse caring for you can explain the equipment and answer any questions you may have. During your surgery many tubes will be placed while you are asleep.
- It is common for patients to experience some confusion, which in some cases may last a few days. This is often due to many factors, including anesthesia, pain medication, and the stress of surgery. This can be scary for you and your family but will go away with time.



### Mechanical Ventilator (Breathing tube)

- A breathing tube will be placed for your surgery and a ventilator will breathe for you.
- The breathing tube is usually removed 4-6 hours after your surgery. It is common to have anxiety about the breathing tube. We will guide you through the process when removing the tube, making sure to address any of your fears. Each patient varies and the breathing tube will be removed when the cardiac surgery team feels you are ready. You are sleepy during this time and often will not remember the tube even being in.
- After the tube is removed it is important for you to cough and deep breathe. Coughing and deep breathing is extremely important to your recovery. You will be asked to exercise your lungs using an incentive spirometer.
- If you need instructions on how to use the incentive spirometer, a respiratory therapist or your nurse can help explain the proper use.
  - We will give you a heart-shaped pillow to use to splint your incision when coughing to decrease any discomfort you may have.
  - We ask you to perform coughing and deep breathing exercises 10 times every hour while you are awake.

### Where is the location of your incision? Sternotomy

Incision runs down the middle of your chest and involves dividing the breastbone or sternum.

- The bone is wired together but this means you have a broken bone and all broken bones require 6 to 8 weeks to heal.
- It is very common to have a small lump at the top of your incision. This will go away with time.
- Notify your surgeon if you have an allergy to metal or Nickel. The wires contain a small amount of Nickel, which could cause a reaction. In that case we can close the bone with Titanium plates.



You will receive a red pillow with this surgery to support your chest and decrease your pain with coughing.

- This red pillow means "STOP!"
  - DO NOT lift more than 5-10 pounds for at least 2 months.
  - DO NOT push or pull using your chest.
  - DO NOT raise your arms above your head.
  - Following these sternal precautions is extremely important.
  - A bag of sugar weighs 5 pounds and a gallon of milk weighs 8 pounds.

### Minimally Invasive

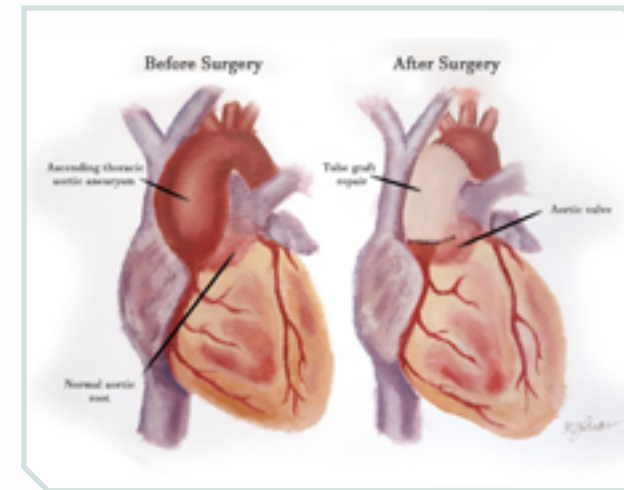
An incision on the side of the chest between the ribs means the surgery was performed through a minimally invasive approach.

- Valve surgery is performed with an incision on the right side of the chest.
- Coronary bypass surgery is performed with an incision on the left side of the chest.



You will receive a green pillow following this surgery.

- This green pillow means there is no broken bone
  - You will recover faster and can use your arms more.
  - Most patients are fully recovered in one month
- Many patients will also have an incision in their groin. This is used for access to the heart lung machine. This incision generally heals quickly but it is common to have a small lump and some numbness around this incision for a few weeks.



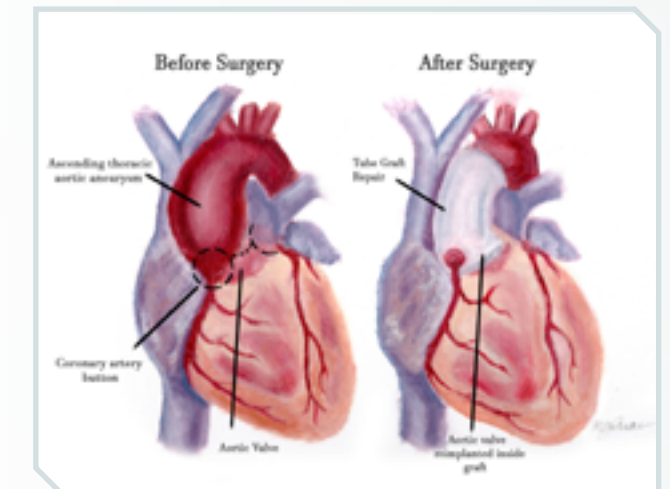
- Aortic aneurysms are often diagnosed by chance when the patient undergoes a chest X-ray or CT scan for another problem.
- As an aneurysm enlarges the risk of rupture increases. Because aortic rupture is life threatening and often fatal, it is important that the patient be closely followed by a cardiac surgeon to prevent this devastating event.

### Repair of Ascending, Arch, or Descending Aortic Aneurysm

- Surgery is generally recommended when the aneurysm reaches 5 to 5.5 cm.
- Repair of an ascending or aortic arch aneurysm involves removing the aneurysm completely and replacing it with a Dacron graft.
- Performed through a conventional sternotomy (breast bone dividing) approach.
- Descending aortic aneurysms can often be repaired using endovascular techniques (stent grafts).

### Aortic Valve Repair or Valve Sparring Surgery (David procedure)

- Procedure in which the aortic wall is replaced with a graft and the patient's own aortic valve is left in place
- Typically performed for patients who have an aortic aneurysm (ballooning of the artery) with a normal aortic valve



### Repair of Aortic Dissection

- Aortic dissection is a life-threatening emergency where the aortic wall tears and requires emergent medical and surgical treatment.
- Dissections are often associated with uncontrolled high blood pressure or smoking and may occur in a patient with an aneurysm.
- Aortic dissections are classified into two types: Type A and Type B dissections.
  - Type A dissections start in the ascending aorta and require emergent surgical repair to prevent death from aortic rupture.
  - Type B aortic dissections start in the descending aorta and can generally be managed medically with blood pressure control. Surgery in this group is reserved for those patients in whom medical management fails or have evidence of rupture.

**Mechanical valve**

- Advantage
  - Very structurally durable, failure very rare
- Disadvantage
  - Patient has to take long-term Coumadin (also called Warfarin), which carries an increased risk of bleeding.
  - Make an audible clicking sound.

**Minimally Invasive Approaches**

**Port-Access Approach**

- Mitral valve repair or replacement surgery is performed through a small incision between the ribs (mini-thoracotomy).
- The surgeon also makes a small incision in the groin to place the patient on the heart-lung machine.
- With this approach there is no broken bone that has to heal and the patient is generally fully recovered in one month.

**Robotic-assisted Mitral Valve Repair**

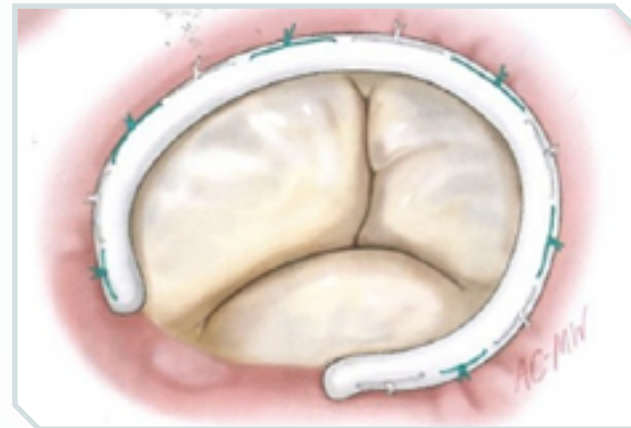
- The daVinci robot is added to the port-access approach in selected patients with mitral valve prolapse who need a complex mitral repair.
- The benefits to the patient are similar to the port-access approach in that patients have a much faster return to full activity compared to the conventional approach.

**Tricuspid Valve Surgery**

The tricuspid valve is located between the right atrium and the right ventricle. When the tricuspid valve becomes severely diseased and the patient develops symptoms (most commonly edema (fluid build-up) or fatigue) then surgery is recommended.

**Tricuspid Valve Repair**

Most tricuspid valve disease is due to other valve problems and in most cases the valve can be repaired.



Picture showing completed tricuspid valve repair  
(Used with permission from Medtronic)

**Tricuspid Valve Replacement**

In some cases (most commonly infection) the tricuspid valve can't be repaired and replacement is the only option. This is most commonly done with a tissue (pig) valve.

**Minimally Invasive Options**

A tricuspid valve repair or replacement can be performed through a minimally invasive approach. This involves making a small incision between the ribs on the right side of the chest called a mini-thoracotomy.

**Aortic Aneurysm Treatment**

**Aneurysm Surgery**

- The thoracic aorta is located in the chest area and is the major blood vessel taking blood away from the heart and toward the other organs.
- A thoracic aortic aneurysm occurs when the aorta enlarges to greater than 50 percent of the vessel's normal diameter.
- An aortic aneurysm can be caused by a combination of many factors, including high blood pressure, smoking, and genetic factors such as bicuspid aortic valve and Marfan's syndrome.



**Pain Management**

- Managing your pain is important to your recovery. We want you out of bed and walking as soon as possible.
- You can expect to experience some pain after surgery but our goal is to make you as comfortable as possible. If you feel uncomfortable tell your nurse or other health care provider.
- To help control your pain after surgery, you will be asked to rate your pain on a scale of zero to ten.
  - Zero means no pain at all and ten means the worst pain you have ever experienced.
  - Once your pain treatment begins, your nurse will periodically reassess your pain to see how well your medication is working.
- After surgery you will be given pain medication through an infusion. Once you are able to take medication by mouth, you will be given pain pills. Prior to discharge to home, you will be prescribed pain medication to use as needed.
- If you start to feel pain at any time, please ask the nurse for pain medication. Pain medication is not given routinely. Do not wait until you are very uncomfortable or until it is offered. The sooner you request pain medication, the better you will manage your pain. When your pain is well controlled, you will be able to exercise your lungs by using the incentive spirometer, sleep better, eat better, increase your daily activity, and feel better overall.



### What to expect in the CVICU Heart Monitors and Temporary Pacing Wires

- During your entire stay you will be connected to a heart monitor. This allows the physicians and nurses to watch your heart and rhythm. It is important for us to monitor your heart after surgery.
- The monitors also help your nurse watch the pressures in your heart and your heart rate. You will have ECG (electrocardiogram) wires and special IVs in your wrist, neck or groin that connect you to monitors.
- It is very common to have minor problems with your heart rhythm after heart surgery. These are usually rhythms called atrial flutter or atrial fibrillation where the top chamber beats faster than the bottom chamber. This can make you feel anxious but is easily treated with medication.
- You will also be connected to a temporary pacer box. Small pacing wires are placed on the surface of the heart during your surgery. The purpose of these wires is to increase your heart rate if necessary after surgery. They are temporary and will be removed before you go home with little or no discomfort.

### Chest Tubes

- You will have one to three tubes in your chest, depending on your open heart surgery. These tubes drain blood and fluid from your chest cavity following surgery. Often these tubes are removed 2-3 days after surgery. Your surgeon will decide when these chest tubes will be safely removed.

### Bladder Catheter

- A bladder catheter (also called Foley catheter) is also placed in the operating room which will drain the urine from your bladder. The catheter is removed as quickly as possible to decrease the chance of you getting an infection. Sometimes the catheter will remain in. Your surgeon will decide when the catheter can be removed.

### Chest X-rays

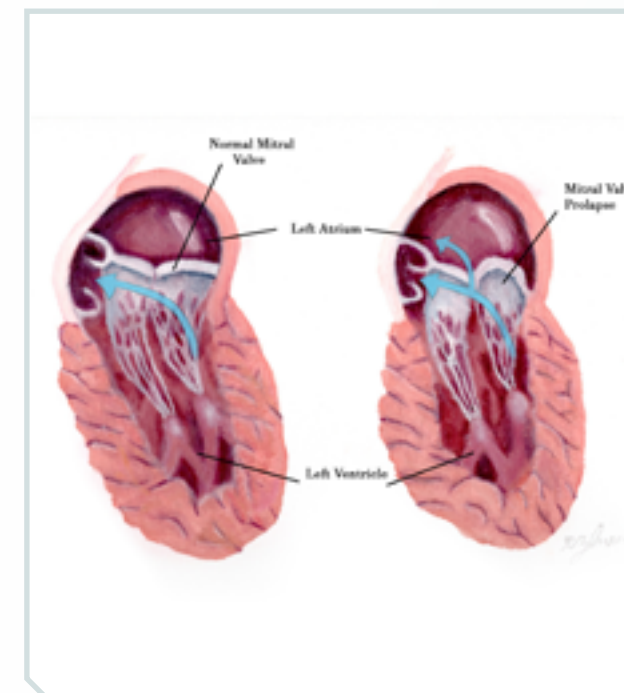
- Chest X-rays are taken in the CVICU, or in the imaging department following your surgery. You may expect chest X-rays at different times during your hospitalization stay.

### Circulation

- After surgery your circulation is compromised due to inactivity for an extended period of time. A soft foam dressing will be applied to your buttock area to protect pressure points. This will prevent skin breakdown often caused from inactivity. Once your activity increases, the dressing will be removed.
- Circulation of your legs is also important to prevent blood clots. Your doctor will order elastic stockings to wear. These stockings help blood flow back to your heart and prevent blood from pooling in the veins of your legs. The nursing staff will apply these stockings every morning and remove them at bedtime. The morning after surgery the nursing staff and physical therapist will assist you in getting out of bed and sitting in a chair.

### Mitral Valve Disease

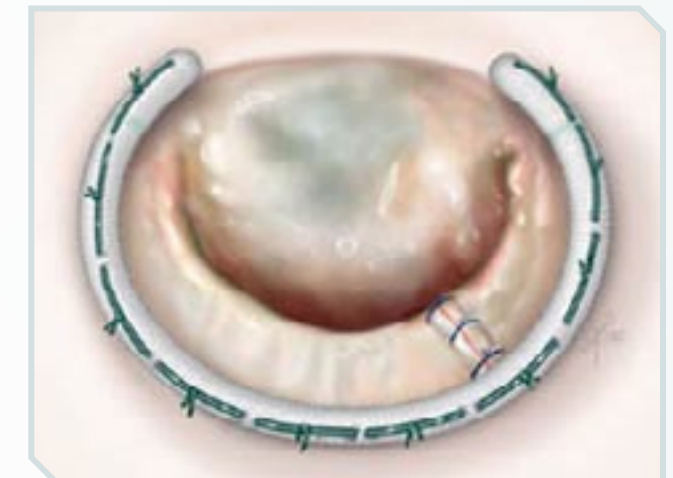
- The mitral valve is located between the left atrium and left ventricle and essentially separates the heart from the lungs.
- Thin parachute-like structure composed of two leaflets attached to the ventricle by thin cords.
- The mitral valve can become diseased due to a problem with either the leaflets or heart muscle.
- Most common mitral valve problem is mitral regurgitation (leakage) caused by mitral valve prolapse.
- Mitral regurgitation can also be caused by a cardiomyopathy (weakening of the heart muscle).
- Mitral valve stenosis (narrowing) is caused mainly by rheumatic heart disease and is much less common today.
- Mitral valve surgery is recommended when regurgitation or stenosis is severe and the patient develops symptoms (shortness of breath and fatigue most commonly).



### Mitral Valve Surgery

#### Mitral Valve Repair

- Most patients with mitral valve disease are candidates for mitral valve repair.
- If the valve CAN be repaired, repair is preferable to replacement.
- Advantage to the patient is improved quality of life, better heart function, and no need to take long-term blood thinners.



Picture showing completed mitral repair for mitral prolapse  
(Used with permission from Medtronic)

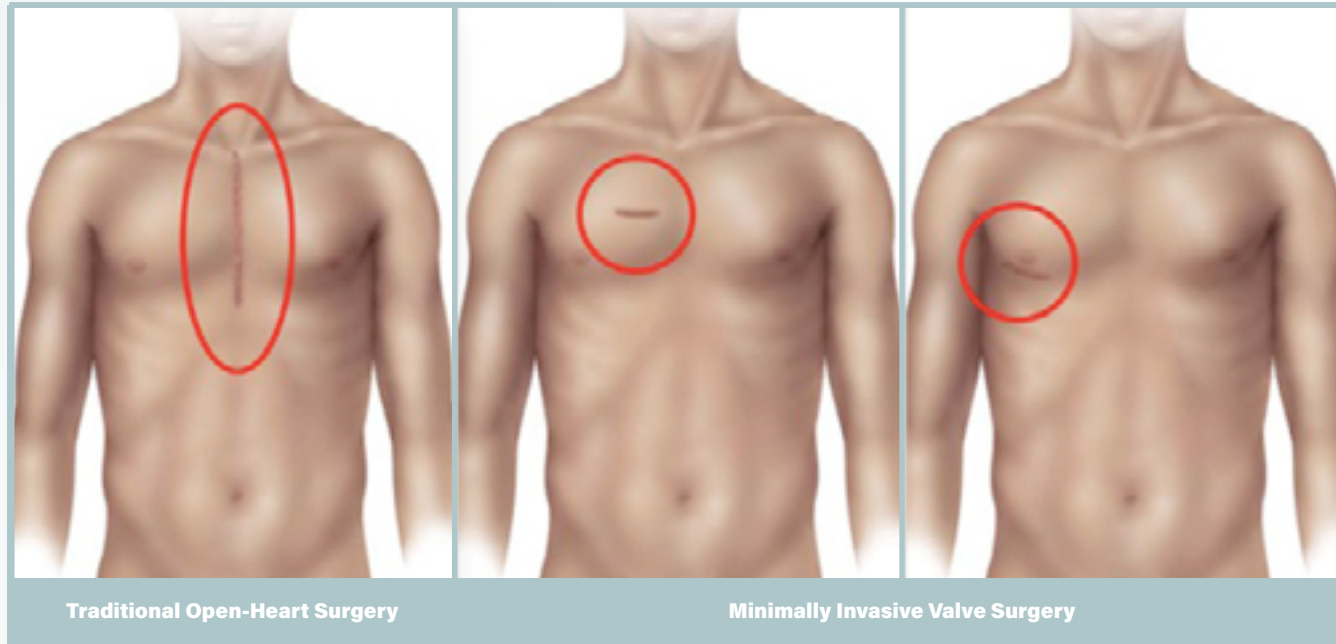
#### Mitral Valve Replacement

In some patients the mitral valve is severely diseased and a repair is not possible. In those patients, the valve has to be replaced.

#### Bioprosthetic valve (tissue: pig or cow)

- Advantage
  - No long-term Coumadin (a blood thinner) required
- Disadvantage
  - Not as durable as mechanical valves.
  - About a 10% chance the patient will need repeat surgery in 10 to 15 years.





(Picture used with permission from Edwards Lifesciences)

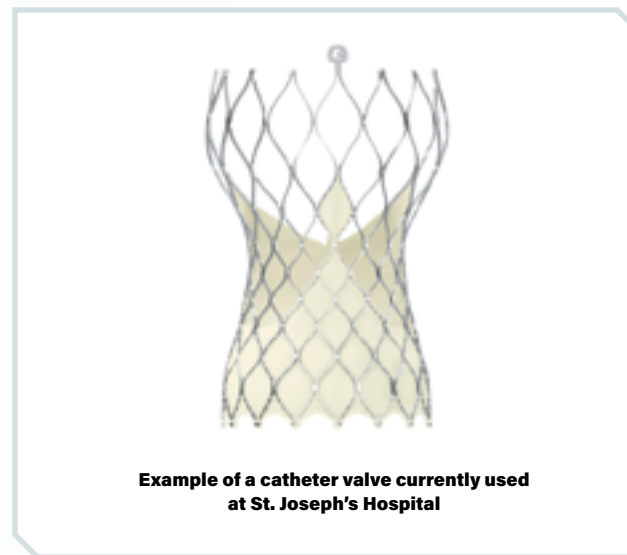
**Minimally Invasive Approaches**

- Two basic approaches
  - Mini-thoracotomy (small incision between the ribs)
  - Mini-sternotomy (small upper partial breastbone dividing incision) approach
- Both allow the patients to get back to full activity faster compared to a conventional sternotomy approach.
- Very commonly performed at St. Joseph's

- Valve can be placed through other approaches if the legs' arteries are too small.
- It is anticipated that this procedure will expand in the future.

**Transcatheter Aortic Valve Replacement (TAVR)**

- New option for patients who are not candidates for a conventional or minimally invasive AVR
- TAVR procedure involves the cardiologist and cardiac surgeon working as a team to place a new valve via a catheter placed in the femoral artery (groin artery). The only incision for the patient is a small groin incision.



Example of a catheter valve currently used at St. Joseph's Hospital

(Used with permission from Medtronic)

**Care in the Step-Down Unit (D4)**

Your surgeon has approved your transfer from the intensive care unit to be cared for on the step-down unit. Here the remainder of your recovery will take place until you are discharged to home.

The telemetry floor is also known as D4. D4 is located on the fourth floor in the surgical tower. Here you will be cared for by a team of specialty trained nurses, and other members of your care team, including a physical therapist, dietitian, cardiac rehabilitation nurse and case manager. Our goal is to prepare you for a safe discharge.

Most patients are transferred to the post-cardiac floor the day following their surgery. This may vary depending on your progress.

- Once on the floor, the cardiac team will continue to see you daily to discuss your plan of care and discharge.
- The surgeon who performed your surgery may not always be present during morning rounds, but available if you should have any further questions that cannot be answered at that time.
- The Case Manager will also be involved in your care to facilitate and address your discharge needs.

**What to Expect Each Day After Surgery**

<b>EVERY DAY</b>	<ul style="list-style-type: none"> <li>• Be weighed every morning</li> <li>• Have your blood pressure, heart rate, oxygen level, and temperature checked</li> <li>• Get out of bed for each meal</li> <li>• Use your incentive spirometer 10 times every hour while you are awake</li> <li>• Use your heart pillow to help you cough and breathe deeply</li> <li>• Have your fluid intake and output monitored</li> <li>• See an increase in your activity level and tolerance</li> </ul>
<b>DAY 1</b>	<ul style="list-style-type: none"> <li>• Sit in a chair for your meals</li> <li>• Walk in your room with assistance</li> <li>• Begin eating a heart-healthy diet</li> <li>• Begin discharge planning with the care team and your family</li> </ul>
<b>DAYS 2 &amp; 3</b>	<ul style="list-style-type: none"> <li>• Have your dressings changed or removed, if possible</li> <li>• Have your Foley catheter removed</li> <li>• Take a shower</li> <li>• Walk in the halls 2 to 4 times per day with assistance</li> <li>• Have your oxygen removed</li> <li>• Increase the amount of food you eat</li> <li>• Begin discharge planning with the care team and your family</li> <li>• Finalize discharge plans</li> </ul>
<b>DAYS 4 &amp; 5</b>	<ul style="list-style-type: none"> <li>• Walk in the halls 3 to 5 times per day</li> <li>• Walk up and down stairs with staff assistance</li> <li>• Continue to increase your food intake to help the healing process</li> <li>• Receive diet and medication instructions in preparation for discharge</li> <li>• Finalize discharge plans</li> </ul>

## Activity

- Early activity following heart surgery has been shown to improve the speed of recovery, decrease complication rate, and make patients feel better overall.
- Fatigue is very common after surgery so do not get discouraged.
- We encourage patients to get out of bed for meals.
- We will provide assistive devices such as canes and walkers as needed. You will continue to increase your daily activity by gradually increasing the time in which you walk and the distance you walk.
- The goal for all cardiac surgery patients is to walk three times a day and to sit in a chair for all meals.
  - The nurses and physical therapist will assist you in walking.
  - We ask that you walk two times on the day shift (7 a.m. - 3:30 p.m.) and once on the evening shift (3 p.m. - 11:30 p.m.).
  - You may walk more as tolerated.

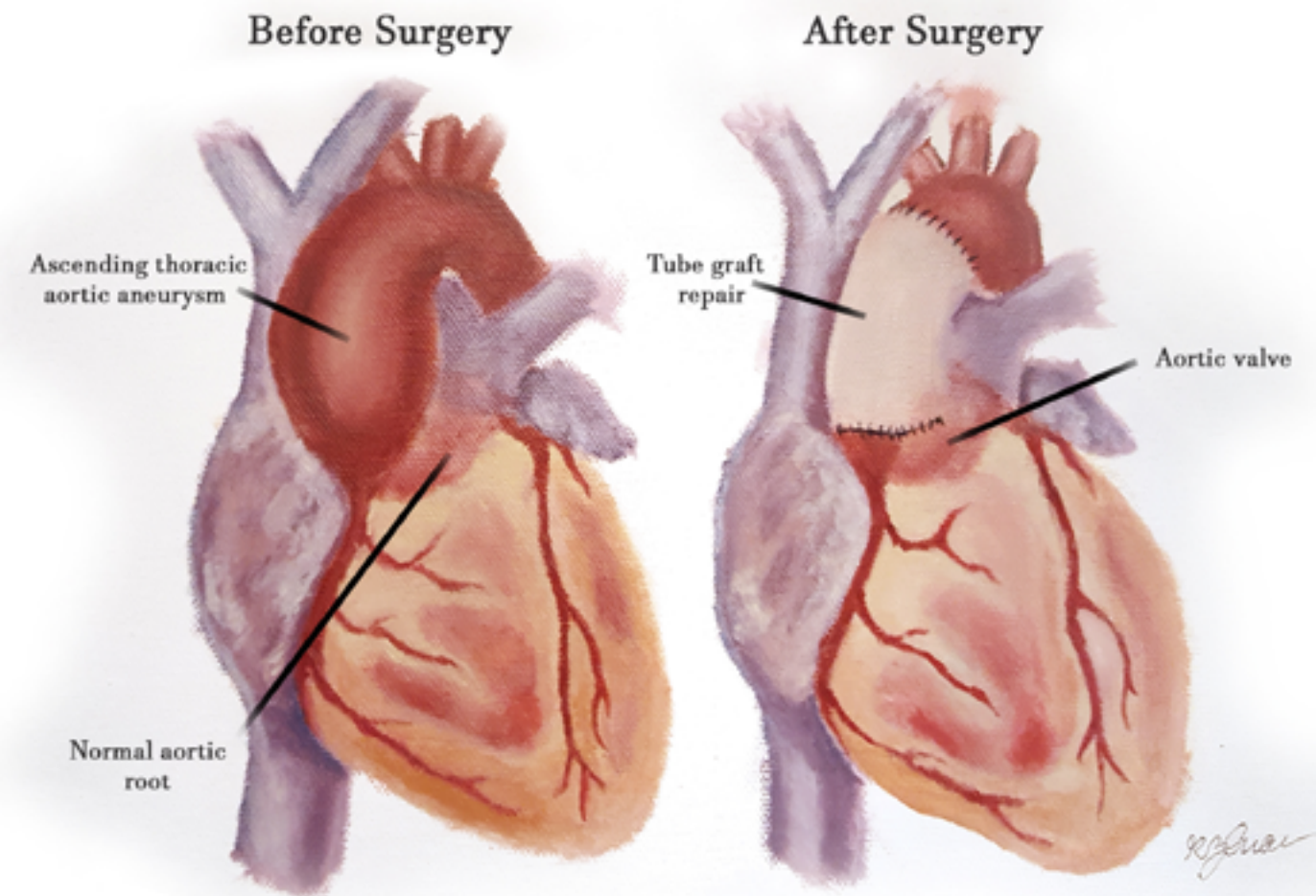
## Diet

- It is very common to have a poor appetite and for food to not taste right after surgery but this will improve with time.
- After your surgery, eat three meals, or six smaller meals each day.
- Eating a balanced diet with adequate calories and protein will help your incisions to heal.
- Select 1-2 high protein foods at each meal such as eggs, meats, poultry, fish, dairy products, and beans.
- If you continue with a poor appetite and intake your Physician or Registered Dietitian may suggest you try nutritional supplements to help meet your protein and calorie needs for healing.
- Following surgery most patients are started on a low-saturated fat, low-sodium diet.

- St Joseph's Hospital offers ROOM SERVICE, which allows you to call for each meal when you are ready. In the Intensive Care Unit, your nurse will help you order meals. Once on the D4 step-down unit, you will have a phone in your room and can call for yourself to order your meals.
  - Choose food items with blue apples and red hearts. The blue apples identify foods lower in sodium and the red hearts identify foods lower in saturated fats.
- Other accommodations will be made if you have diabetes or have other dietary needs.
- If you have diabetes and are prescribed a consistent carbohydrate diet, select a total of four carbohydrate servings at each meal. The number in parentheses ( ) next to each food item is the number of carbohydrates servings in the food.
- Good blood sugar control helps you heal, and avoid infections.
- The representatives in the Nutritional Services Call Center will be able to assist you in making the appropriate meal choices while you are in the hospital.

## Case Management

- The case managers will round with the cardiac surgery team daily to discuss your plan of care and keep you updated of any changes.
- A case manager or discharge planner is a registered nurse who serves as a resource for you and your family through support, and education with clinical expertise.
- Case management is a collaborative process of planning, care coordination, and advocacy for options and services to meet a patient and family's health needs.
- Your case manager will coordinate and manage all of your anticipated discharge needs.





**Endoscopic Saphenous Vein Harvest**

- Minimally invasive approach in which surgeons use an endoscope (thin surgical tube with a light, camera, and instrument on the end) to dissect the vein carefully through a small incision below the knee.
- Standard approach at St. Joseph's

**Heart Valve Disease and Treatment**

**Aortic Valve Disease**

- Aortic valve separates the left ventricle from the aorta, has three thin leaflets, and is the final valve blood flows through as it exits the heart.
- Can become either stenotic (tight) or insufficient (leak).
- Aortic valve disease can be either congenital (present at birth) or acquired (develops over time).
- Most common congenital problem is a bicuspid (two leaflet) aortic valve
- Most common acquired problem is called calcific aortic stenosis.
- Surgery is required when the valve becomes severely diseased and the patient develops symptoms (commonly angina, syncope (passing out), and shortness of breath)

**Aortic Valve Surgery**

**Aortic Valve Replacement (AVR)**

Aortic valve replacement involves removing the patient's diseased valve and replacing it with one of the options below. Conventional replacement involves placing the patient on the heart lung machine.

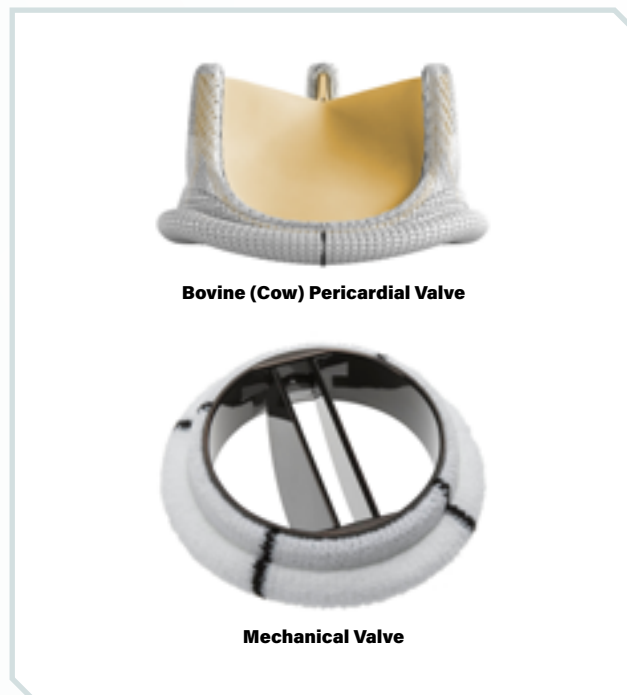
**Bioprosthetic Valve (Tissue Valve: Pig or Cow)**

- Tissue valve most commonly from a pig or cow.
- Very common: 90% of all valves replaced in U.S.

- Advantage
  - No long-term Coumadin (a blood thinner) required
- Disadvantage
  - Not as durable as mechanical valves.
  - About a 10% chance the patient will need repeat surgery in 10 to 15 years.

**Mechanical Valve**

- Advantage
  - Very structurally durable, failure very rare
- Disadvantage
  - Patient has to take long-term Coumadin (also called Warfarin), which carries an increased risk of bleeding.
  - Make an audible clicking sound.



(Used with permission from Edwards Lifesciences and Medtronic)





## Cardiac Rehabilitation

- A Cardiac Rehabilitation Nurse will visit you in the hospital.
- Cardiac rehabilitation has many long-term benefits and we encourage every patient to attend.
- Patients generally begin cardiac rehabilitation once cleared by their surgeon and cardiologist, about 6-8 weeks after surgery.

## Frequently Asked Questions (FAQs) For Discharge

Your discharge process begins on admission to the hospital. The team will ask you questions about how you care for yourself on admission so we can anticipate possible needs after your surgery.

### When will someone from the hospital meet with me to discuss my discharge plan?

A case manager will also meet with you the day after your procedure to review, update, and finalize your hospital discharge plan to ensure a safe return to home.

### How do I contact my case manager if I have a discharge related question?

You can contact the Hospital case management department at (315) 448-5678. Please feel free to leave a message during the evening or weekend hours.

### Will I be able to go home after my surgery?

That will depend upon how well you are able to move after your surgery. A physical therapist will assess you after your surgery and determine whether you are appropriate to go home or need a brief stay at short-term rehabilitation facility to gain strength.

### Will I need someone to take care of me at home?

Our goal is for you to have a safe discharge. Our team will assess your individual needs and work with you and your family to develop a safe discharge plan.

### What if I am too weak to resume my normal activities?

You will be evaluated by a physical therapist following your surgery to assess your ability to move. If they determine that you are too weak to resume your normal activities safely they will recommend you go to a short-term rehabilitation facility in your area to gain strength. Or you may benefit from having a physical therapist come to your home for several visits.

### How do I arrange for homecare services?

The RN case manager will perform an assessment of your homecare needs following your surgery. They will work with you and your insurance plan to identify a homecare agency that your plan participates with. The case manager will review any copayments required by you and complete all required paperwork and referrals.

### What is short-term rehabilitation?

Short-term rehabilitation is a program located in a separate skilled nursing facility that provides supportive services from professional personnel that include registered nurses, licensed practical nurses, physical therapists, occupational therapists, speech pathologists, and certified nursing assistance. They will assist you with daily therapies designed to help you return to your previous activity level. You stay overnight at the facility, in a shared room, receiving all medications, meals, and therapies at the facility.

### How do I pay for short-term rehabilitation?

The case manager will review your insurance plan for short-term rehabilitation benefits with you. You will be given a choice of several skilled nursing facilities to choose from. Your short-term rehabilitation benefits are determined by your insurance plan. Private insurance and managed Medicare plans have varying copay amounts. Medicaid has no copayment responsibility. Medicare patients not enrolled in a managed care plan will receive full payment of rehabilitation services day 0 to day 20. Days 21 to 100 have a copayment.

### Factors You Can't Change

- Family History
- Gender
- Age
- Diabetes

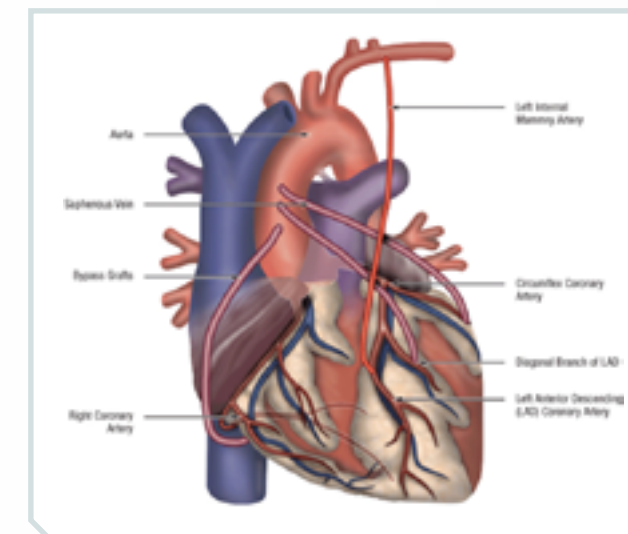
### Other Factors to Consider

- Inflammatory diseases (rheumatoid arthritis, psoriasis, lupus)
- Gum disease
- Air pollution
- Sleep apnea
- Emotional stress

### CAD Treatment Options

- Lifestyle Changes
  - Quitting Smoking
  - Low Fat Diet
  - Regular Exercise
  - Reduce Stress
- Medical Therapy
- Stents, also called Percutaneous Coronary Intervention (PCI)
- Coronary Artery Bypass Grafting (CABG)

### Coronary Artery Bypass Grafting (CABG)



- Arteries (left internal mammary artery (LIMA)) and veins (saphenous vein from the leg) are used to bypass the blocked coronary arteries and improve the blood supply to the heart muscle.
- Most durable CAD Treatment Option
- CABG surgery is usually performed with the heart stopped which requires placing the patient on the heart-lung machine or cardiopulmonary bypass

### Minimally Invasive Options

#### Off-pump Coronary Artery Bypass Grafting (OPCAB)

- Procedure where bypass surgery is performed on a beating heart without the use of cardiopulmonary bypass (the heart-lung machine)
- Conventional CABG is the gold standard, but the OPCAB technique may benefit selected high-risk patients

#### Robotic-assisted Coronary Bypass Grafting

- A minimally invasive option where a single or double vessel bypass is performed
- The daVinci surgical robot is used to dissect the left internal mammary artery (LIMA) off the inside of the chest. The LIMA is then connected to the target coronary artery through a small incision (mini-thoracotomy) between the ribs.
- Shorter time in hospital and faster recovery time compared to conventional CABG

#### Hybrid Surgery

Combining robotic-assisted coronary bypass with stenting of other coronary arteries.

- Involves the cardiac surgeon and cardiologist working as a team to treat the patient's coronary artery disease in the most minimally invasive way possible.
- The cardiac surgeon performs a robotic-assisted single-vessel coronary bypass and the cardiologist places a stent to treat the disease in the other coronary arteries.
- St. Joseph's hospital is one of the few centers in Upstate New York that offers this procedure.

## Understanding the Heart

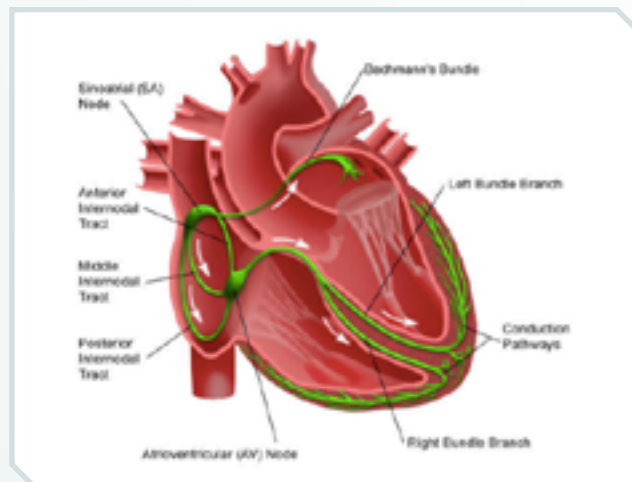
### Heart Facts

- The women's heart weighs about 8 ounces and a man's about 10 ounces.
- The heart is a little larger than your fist and sits in the chest between the lungs.
- The heart pumps about 5 quarts of blood each minute and about 2,000 gallons per day throughout the body.
- The heart beats about 100,000 times each day and about 2.5 billion times over a 70 year lifetime.
- The first hearts specialists emerged after World War I and modern cardiac surgery first began in the late 1960s.

### Coronary Artery Anatomy

- Two main coronary arteries (left and right) supply blood to the heart muscle.
- The left has two large branches called the left anterior descending (LAD) and circumflex arteries.
- The term three vessel coronary disease refers to the right coronary and two left side branches (LAD and circumflex)

### Heart Conduction System



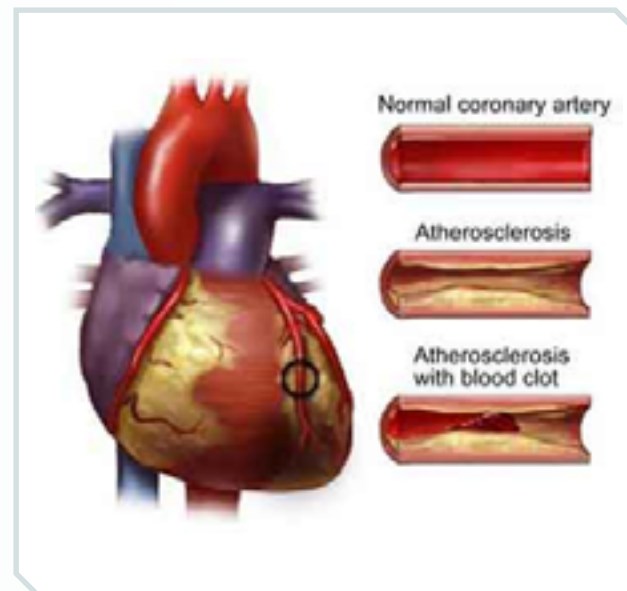
- The heart has a conduction or electrical system, which causes the heart to beat.

- The heart has its own internal pacemaker called the sinoatrial (SA) node, which sends an electrical signal to the atrium (top chamber) causing it to contract.
- The signal continues through the atrioventricular (AV) node and into the ventricle (bottom chamber) causing it to contract and force blood out.

## Heart Disease and Treatment

### Coronary Artery Disease (CAD) and Treatment

- Coronary artery disease or atherosclerosis occurs when fat and cholesterol deposits build up on the inside of the coronary arteries.
- The fatty deposits continue to thicken and enlarge throughout a person's life. Called atherosclerosis, this thickening narrows the arteries and can decrease or block blood flow to the heart.
- When a clot forms, a heart attack may occur.



### What Causes Coronary Artery Disease?

- Smoking
- High Fat and Cholesterol Diet
- High Blood Pressure
- Lack of Exercise



### How long do patients typically stay at short-term rehabilitation?

Typically at least one week, but your stay will depend upon your progress.

### How do I get transportation to short-term rehabilitation?

You will be transported by wheelchair van or stretcher van. You will be responsible for payment of this transportation as insurance plans do not cover this expense with the exception of Medicaid. The case manager will work with the transportation companies on your behalf to set up your transportation. Many companies require you to pay at the time of service, but some will bill you later. These private transportation companies are not affiliated with the hospital. If you want your family to transport you to rehabilitation, please discuss this with your case manager.

### Who can help me with my disability and family leave paperwork?

Our office can assist you with filling out these forms.



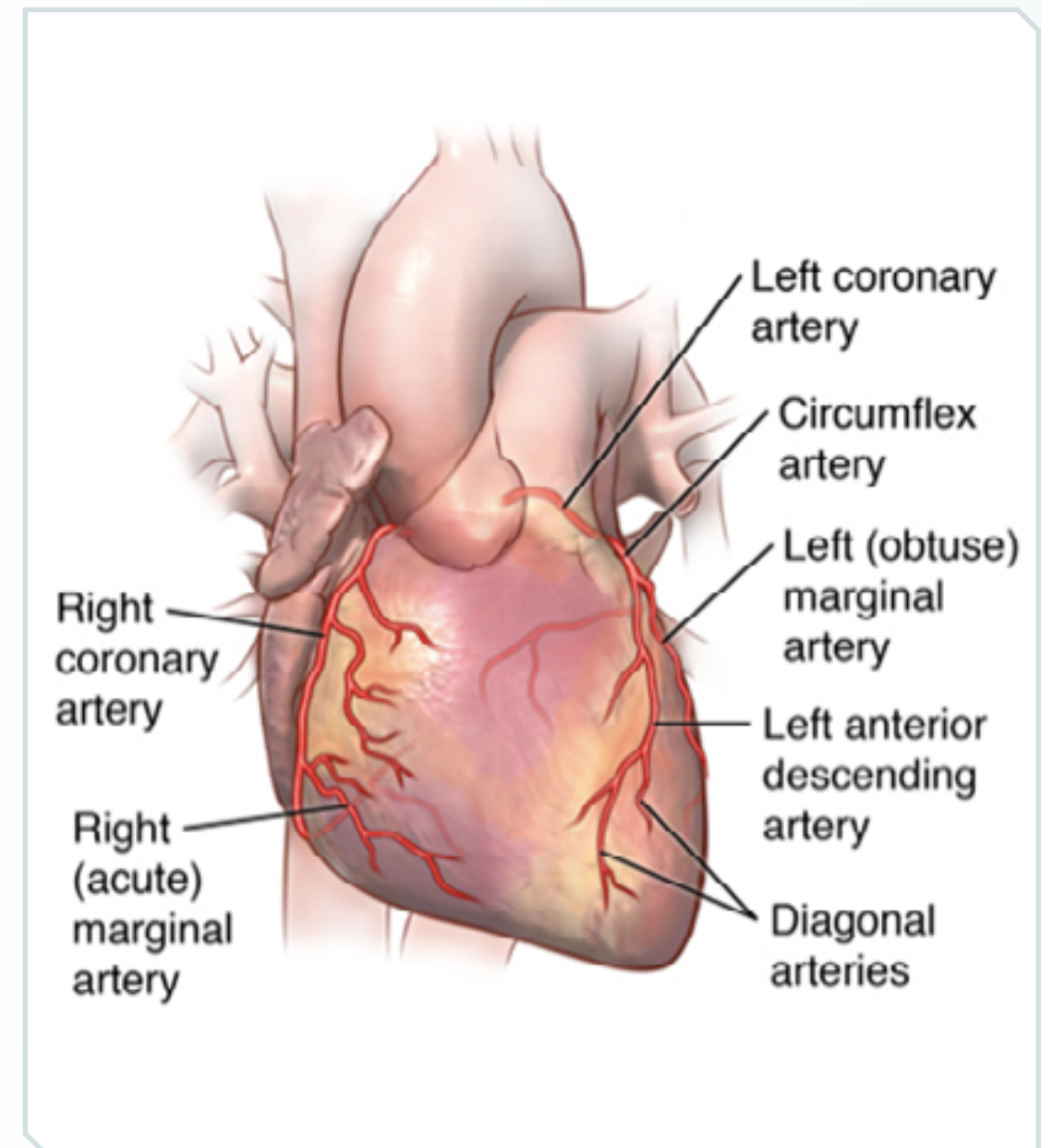


PART  
**04**

# RECOVERY AFTER HOSPITAL DISCHARGE

## Coronary Artery Anatomy

- Two main coronary arteries (left and right) supply blood to the heart muscle.
- The left has two large branches called the left anterior descending (LAD) and circumflex arteries.
- The term three vessel coronary disease refers to the right coronary and two left side branches (LAD and circumflex)

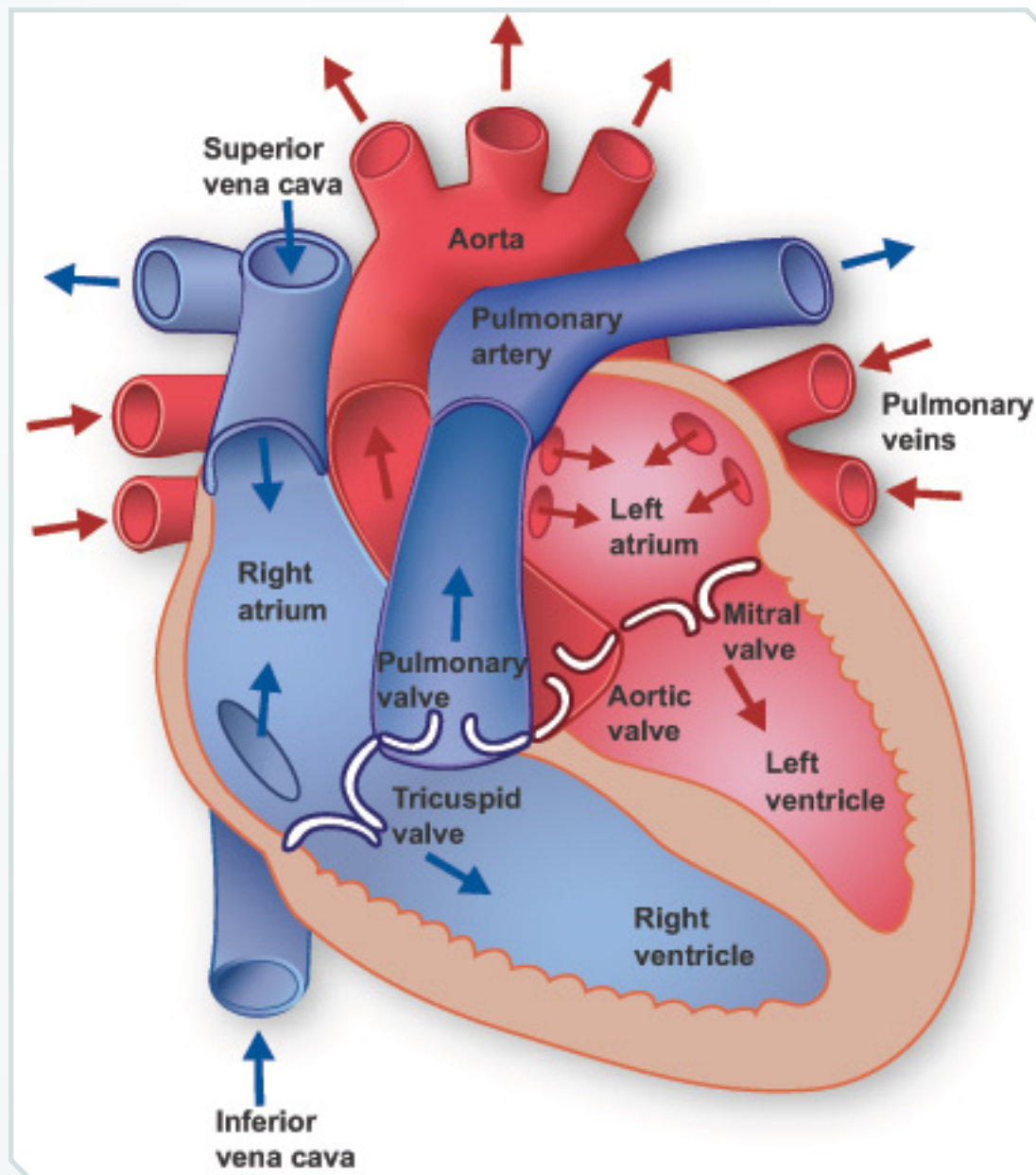




## Understanding the Heart

### Heart Anatomy

- The normal heart has four chambers (right and left atriums, right and left ventricles) and four valves (Tricuspid, Mitral, Aortic and Pulmonic)



## Preparing for Discharge

- Average length of stay in the hospital is 5-7 days following surgery but depends on what type of surgery was performed. Your length of stay will also vary depending on your recovery.
- The team will be assessing you daily to be sure you are meeting the milestones necessary to discharge. The case manager will check in with you to see if there are any other resources you might need prior to discharge.
- In order for you to be discharged from the hospital you must: Eat, drink, move your bowels and urinate, walk, and have your pain under control. If you cannot do these things you will not be discharged from the hospital.
- Once your surgeon feels you are ready to be discharged, the nurse will review your discharge instructions including diet, activity and follow-up appointments with your cardiologist, primary care physician, and surgeon.
- The pharmacist will also visit and review any new medications you have been started on while in the hospital and answer any questions you might have.
- We will also schedule your follow-up appointment with your surgeon. We will notify you of any appointments you will need to make with your primary doctor and cardiologist.

**You can anticipate checkout time on the day of discharge to be before 11:00 a.m.**

- Please make plans to have a ride ready so your discharge is not delayed.
- If you are going to short-term rehabilitation, we will arrange transportation for you to the facility.
- Your discharge will be the final step in your care while in the hospital. Should you have questions or concerns, do not hesitate to ask any member of the health care team. Your care is important to us.

## Road Map to Recovery Incision Care

- Your incisions will be closed with dissolvable stitches covered by a layer of glue. There will be no staples.
- No matter what type of incision you have, your incision sites are easy to care for.
- Monitoring your incision after surgery is important. We will ask you to look at your incision daily.
  - Watch for signs and symptoms of infection. Call your surgeon if you have a temperature above 101 degrees; if you have redness or swelling; yellow or thick drainage (pus) from your incisions.
- Wash your incisions daily with mild soap and warm water. Continue to use the soap given from the hospital until it is gone. Avoid vigorous scrubbing.
- It is very common to experience numbness around the incision. This will improve with time.
- Because incisions sunburn easily, be sure to protect them from overexposure to sunlight during the first year after surgery. The scar will pigment more (be darker) if exposed to the sun. Do not apply any lotions, creams, oils, or powders to your incisions unless prescribed by your cardiac surgeon.
- Please leave your incision open to air. There is no need for any dressings at home unless there is drainage. Itching and tightness and/or numbness along the incision is normal. A lump at the top of your chest incision is normal and will go down in a couple of months.

## Leg Incision

If your surgery involved taking a bypass from your leg, follow these guidelines:

- Avoid crossing your legs because this impairs circulation.
- Avoid sitting in one position or standing for prolonged periods of time.
- Elevate your leg whenever possible when sitting.

- Check your leg daily for swelling. The swelling should decrease when you elevate your leg, but it might recur when you stand again.
- If you continue to have leg swelling or it becomes worse, notify your doctor.
- If elastic stockings (TED Hose) were prescribed for you, wear the elastic stockings during the day while up for at least three weeks after discharge. The stockings will help decrease swelling in your legs. Be sure to remove your stockings with assistance at bedtime. Wash these stockings with mild soap and water and air dry them.

**Walking**

- Walking is one of the best forms of exercise because it increases circulation throughout the body and to the heart muscle. It is important to increase your activity gradually. Walk at your own pace. Stop and rest if you get tired. Each person progresses at a different rate after heart surgery. You need a balance of rest and exercise for your recovery. Plan to rest between activities and to take short naps as necessary.
- Stop any activity immediately if you feel short of breath, notice irregular heartbeats, feel faint or dizzy, or have chest pain. Rest until the symptoms subside. If they continue for more than 20 minutes, notify your surgeon.
- Stop any exercise if you experience shortness of breath, dizziness, leg cramping, unusual fatigue, and/or chest pain or discomfort. Notify your surgeon if these symptoms persist.
- Monitoring your pulse rate helps to keep your activities within a safe heart rate range. Take your pulse rate before and after activity. Once you can feel the pulse, count it for 15 seconds and multiply by four. This will tell you how many times your heart is beating in one minute. Your nurse can show you how to take your pulse if you are unsure. If your post-exercise pulse rate is more than 30 beats faster than your resting pulse rate you have exercised too hard. You will need to modify your activity.

- Activity is important to your recovery. Should you have any further questions about your restrictions, please ask a member of the cardiac surgery team for recommendations.
- Unless your doctor tells you differently, you can climb stairs.

**Heart-Healthy Nutrition**

A Low Sodium, Low Saturated Fat diet is recommended after cardiac surgery.

**Low Sodium**

- Limit the amount of sodium you eat to less than 2,000 milligrams (mg) per day.
- Read food labels to help you to choose healthy products.
- Foods with 140mg of sodium per serving or less are considered a low sodium food. This can be difficult to find.
- Aim to avoid foods with greater than 300mg of sodium per serving.
- Avoid canned and processed foods that have added salt or sodium.
- Put down the salt shaker. ¼ tsp. of salt provides 600mg of sodium; use fresh herbs and spices to enhance the flavor of your food.

**Low Saturated Fats and Trans Fats**

- Avoid foods high in saturated fat and trans fats.
- This includes: fatty meat, poultry skin, bacon, sausage, whole milk, cream, baked goods and butter.
- When reading labels, aim for 0g of trans fats and no more than 5g of saturated fat.
- Limit the amount of total fat (includes heart-healthy fat) to 50-75g per day.
- Avoid fried foods.

**Local Hotels**

For updated hotel list and pricing search "Syracuse, NY" in the website [www.hotels.com](http://www.hotels.com).

 <b>\$15 PER NIGHT</b> <small>(Social work referral needed)</small>	<b>Sarah House</b> 130 Roberts Ave Syracuse, NY 13207 (315) 475-1747	<b>Ronald McDonald House</b> 1027 E Genesee St Syracuse, NY 13210 (315) 476-1027	
	 <b>\$44-\$70 PER NIGHT</b>	<b>Maplewood</b> 400 7th North St Liverpool, NY 13088 (315) 451-1511	<b>Super 8 Motel</b> 421 7th North St Liverpool, NY 13088 (315) 451-8888
 <b>&gt;\$70 PER NIGHT</b>	<b>Jefferson Clinton</b> 416 S. Clinton St Syracuse, NY 13202 (315) 425-0500	<b>Candlewood Suites</b> 5414 S Bay Rd Syracuse, NY 13212 (315) 454-8999	<b>Courtyard Syracuse Downtown</b> 300 West Fayette St Syracuse, NY 13202 (800) 491-6126
	<b>Crowne Plaza</b> 701 E. Genesee St Syracuse, NY 13210 (315) 479-7000	<b>Ramada Inn</b> 1305 Buckley Rd Syracuse, NY 13212 (800) 230-4134	<b>Hotel Skyler</b> 601 South Crouse Ave Syracuse, NY 13210 (315) 701-2613
	<b>Parkview Hotel</b> 713 E. Genesee St Syracuse, NY 13210 (315) 476-4212	<b>Comfort Inn</b> 6701 Buckley Rd Syracuse, NY 13212 (315) 457-4000	<b>Quality Inn</b> 401 7th North St Liverpool, NY 13088 (855) 239-9223
	<b>Genesee Grande</b> 1060 E. Genesee St Syracuse, NY 13210 (315) 476-4212	<b>Crest Hill Suites</b> 6410 New Venture Gear Dr East Syracuse, NY 13057 (315) 432-5595	<b>Hampton Inn and Suites</b> 3017 Erie Blvd East Syracuse, NY 13224 (315) 373-0333
	<b>Sheraton University</b> 801 University Ave Syracuse, NY 13210 (315) 475-3000	<b>Quality Inn &amp; Suites</b> 454 James St Syracuse, NY 13203 (315) 425-0015	<b>Homewood Suites</b> 275 Elwood Davis Rd Liverpool, NY 13088 (315) 451-3800
	<b>Hampton Inn</b> 417 7th North St Liverpool, NY 13088 (315) 479-9900	<b>Residence Inn Downtown</b> 300 West Fayette St Syracuse, NY 13202 (315) 422-4864	<b>The Craftsman Inn</b> 7300 E. Genesee St Fayetteville, NY 13066 (315) 637-8000





CAMPUS MAP

**Website Links**

**Cardiac Surgery Patient Education Website**  
<http://cedu.sjhsyr.org>

**Society of Thoracic Surgeons**  
[www.sts.org](http://www.sts.org)

**The Patient Guide to Heart, Lung, and Esophageal Surgery**  
[www.ctsurgerypatients.org/adult-heart-disease](http://www.ctsurgerypatients.org/adult-heart-disease)

**The Cardiothoracic Surgery Network**  
[www.ctsnet.org](http://www.ctsnet.org)

**American Association for Thoracic Surgery**  
[www.aats.org](http://www.aats.org)

**American Heart Association**  
[www.heart.org](http://www.heart.org)

**The International Society for Minimally Invasive Cardiothoracic Surgery**  
[www.ismics.org](http://www.ismics.org)

**American College of Cardiology**  
[www.acc.org](http://www.acc.org)

**Transcatheter Aortic Valve Replacement (TAVR) Educational Site**  
[www.tavrbyedwards.com](http://www.tavrbyedwards.com)

**Mended Hearts Organization**  
[www.mendedhearts.org](http://www.mendedhearts.org)

**Website for Patients Created by Adam Pick, A Heart Surgery Patient**  
[www.heartvalvesurgery.com](http://www.heartvalvesurgery.com)

**Government Website for Information on Vitamin K Containing Foods**  
[ods.od.nih.gov/factsheets/VitaminK-Consumer/](http://ods.od.nih.gov/factsheets/VitaminK-Consumer/)

**More Detailed Information on Coumadin**  
[www.coumadin.com](http://www.coumadin.com)

**New York State Department of Health Smoking Cessation Website**  
[www.nysmokefree.com](http://www.nysmokefree.com)

**Academy of Nutrition and Dietetics**  
[www.eatright.org](http://www.eatright.org)

**What should I eat?**

A Mediterranean Diet has been shown to promote heart health.

- Eat more fresh fruits, vegetables, beans, nuts, seeds, legumes, whole grains, olive oil, poultry without the skin, fish, low-fat dairy.
- Eat more omega-3 fats (heart-healthy fats) and foods that have omega-3s include salmon, tuna, mackerel, and sardines.
- Aim to eat fish twice a week.
- Eat more fiber.
- Aim for 20-30g of fiber per day.
- Foods high in fiber include oats, beans, fruits, vegetables, and whole grains.
- Aim for 5 cups of fruits and vegetables per day.

NOTE: If you would like more information about changing your diet, please ask your nurse or health care provider for the Registered Dietitian to come speak with you.

**Sex**

- You can resume sexual relations when you feel comfortable. For many people this is about two to four weeks after discharge unless instructed differently by your doctor. You should avoid any positions that place stress on your chest or arms. Please ask your nurse for more detailed information, if needed.

**Driving**

- You can ride as a passenger in a car at any time. Avoid driving three to six weeks after surgery. This time period is recommended to allow your breastbone (sternum) to heal. Check with your surgeon if you want to drive sooner.

**Flying**

- The minimum time before it is safe to fly after heart surgery is generally 2 to 3 weeks but you should check with your surgeon before taking any trip.

**Sleep**

- It is very common to have trouble sleeping for a few weeks. This will improve with time. It is OK to sleep on your side as long as you don't lift greater than 5-10 pounds for 2 months following surgery.

**Emotions**

- A cardiac surgical procedure is stressful to both the body and the mind.
- Depression is very common following cardiac surgery and you can be reassured that it almost always improves with time.
- It is also very common to have periods of confusion and short-term memory loss. This will also improve with time.

**Cough**

- It is very common to experience a cough following cardiac surgery but this will resolve with time.
- This is most commonly due to the breathing tube but can also be due to medication called an ACE inhibitor (see medication section).
- It is important to use your pillow to stabilize your chest when you cough.

**Showers**

- You can take showers after your pacing wires are out. Avoid direct pressure of water on your incision. Avoid bathing until your incisions are completely healed.

**Dress**

- Wear comfortable, loose-fitting clothes that do not put pressure on your incisions.

**Work**

- Most patients will begin to feel like returning to light work six to 12 weeks after surgery. For jobs requiring heavy lifting such as construction work we recommend not returning to work for a minimum of 3 months following surgery. Check with your surgeon before returning to work.

### Monitoring Your Recovery

#### Daily Checklist: First Month After Returning Home

- ✔ Record weight (same time each day)
- ✔ Check Incision (dry, weeping, or red, clicking with movement)
- ✔ Record use of incentive spirometer (5 uses per day)
- ✔ Check legs for swelling
- ✔ Record temperature
- ✔ Note walking duration

### When to Resume Usual Activities

FIRST 6 WEEKS	AFTER 6 WEEKS	AFTER 3 MONTHS
<ul style="list-style-type: none"> <li>• Light housekeeping (dusting, setting the table, washing dishes, folding clothes)</li> <li>• Light gardening (potting plants, trimming flowers)</li> <li>• Needlework, reading</li> <li>• Cooking meals</li> <li>• Climbing stairs</li> <li>• Small mechanical jobs</li> <li>• Shopping</li> <li>• Attending sports events, church, movies, and restaurants</li> <li>• Passenger in car</li> <li>• Walking treadmill, stationary bike</li> <li>• Playing cards/games</li> </ul>	<ul style="list-style-type: none"> <li>• Continue activities of first 6 weeks (but you may be able to tolerate more)</li> <li>• Return to work part-time if your job does not require lifting, and returning is approved by your surgeon</li> <li>• Heavy housework (vacuuming, sweeping, laundry)</li> <li>• Heavy gardening (mowing lawn, raking leaves)</li> <li>• Ironing</li> <li>• Business or recreational travel</li> <li>• Fishing, boating</li> <li>• Light aerobics (no weights)</li> <li>• Walking dog on leash</li> <li>• Driving a small car or truck</li> </ul>	<ul style="list-style-type: none"> <li>• Continue activities of 1-3 months (but you may be able to tolerate more)</li> <li>• Heavy housework (scrubbing floors)</li> <li>• Heavy gardening (shoveling snow, digging)</li> <li>• Sports: football, soccer, softball, baseball, tennis, bowling, golfing, swimming, water skiing, skydiving, hunting</li> <li>• Jogging, bicycling, weight-lifting, push-ups</li> <li>• Motorcycle riding</li> </ul>

Keep in mind that all of these activities need to be in the 10-pound weight limit or less until 6 weeks after surgery.

### Important Numbers - Your Cardiac Surgery Care Team

#### CARDIOVASCULAR SURGEONS OFFICE

##### 104 Union Ave., Suite 1002, Syracuse

Dr. Nazem	(315) 423-7192
Dr. Lutz	(315) 423-7192
Dr. Zhou	(315) 423-7192

##### 104 Union Ave., Suite 1008, Syracuse

Dr. Marvasti	(315) 422-4442
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#### CARDIAC SURGERY PROGRAM COORDINATOR

Kelly LaRocca	(315) 448-5655
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#### CARDIAC SURGERY UNITS

##### Cardiovascular Intensive Care Unit (CVICU)

D3 East CVICU	(315) 726-6600
CVICU Manager	(315) 448-5453

##### Step-Down/Telemetry

D4 Cardiovascular Unit	(315) 726-6240
D4 Manager	(315) 448-5751

#### GENERAL INFORMATION

Hospital Operator	(315) 448-5111
Admitting Office	(315) 448-5230
Patient Billing	(315) 448-3555
Surgical Waiting Room	(315) 448-6125

#### OTHER SERVICES

Preadmission Testing	(315) 703-5108
Case Management/Discharge Planning	(315) 448-5678
Patient Experience Office	(315) 448-5559
Social Work Services	(315) 448-5175
Spiritual Care Office	(315) 448-5116



**Skilled Nursing Facilities (continued)**

\*\* preferred facilities

**Susquehanna Nursing & Rehabilitation Center**

282 Riverside Drive  
Johnson City, NY 13790

**United Methodist Home**

863 Front Street  
Binghamton, NY 13905

**Vestal Park Rehabilitation Center**

860 Old Vestal Road  
Vestal, NY 13850

**Willow Point Nursing Home**

3700 Old Vestal Road  
Vestal, NY 13850

**Fulton County**

**Fulton Center**

847 Co Hwy 122  
Gloversville, NY 12078

**Herkimer County**

**Alpine Rehabilitation Center**

755 East Monroe Street  
Little Falls, NY 13365

**Folts Center**

104 North Washington Street  
Herkimer, NY 13350

**Mohawk Valley Health Care Center**

99 Sixth Avenue  
Ilion, NY 13357

**Valley Health Services**

690 West Germain Street  
Herkimer, NY 13350

**Jefferson County**

**Carthage Area Hospital**

1001 West Street Road  
Carthage, NY 13619

**River Hospital**

4 Fuller Street  
Alexandria Bay, NY 13607

**Samaritan Keep Nursing Home**

133 Pratt St  
Watertown, NY 13601

**Samaritan Summit Village**

22691 Campus Dr  
Watertown, NY 13601

**The Country Manor**

1045 West Street  
Carthage, NY 13619

**St. Lawrence County**

**Highland Nursing Home**

182 Highland Road  
Massena, NY 13662

**Riverledge**

8101 St Highways 68  
Ogdensburg, NY 13669

**St Joseph's Home**

950 Linden Street  
Ogdensburg, NY 13669

**St Regis Nursing Home**

89 Grove Street  
Massena, NY 13662

**United Helpers Maplewood Nursing Home**

205 State St Rd  
Canton, NY 13617

**Tompkins County**

**Beechtree Care Center**

318 South Albany Street  
Ithaca, NY 14850

**Cayuga Ridge Extended Care**

1229 Trumansburg Road  
Ithaca, NY 14850

**Groton Community Health Care Center**

120 Sykes Street  
Groton, NY 13073

**Oak Hill Manor Nursing Home**

602 Hudson Street  
Ithaca, NY 14850

**Madison County**

**The Grand Rehab at Chittenango**

331 Russell Street  
Chittenango, NY 13037

**Community Memorial Hospital**

150 Broad Street  
Hamilton, NY 13346

**Crouse Community Center**

101 South Street  
Morrisville, NY 13408

**Oneida Healthcare**

323 Genesee Street  
Oneida, NY 13421

**When to Call**

- It's important to know that when you go home we are only a phone call away.
- Unless there is a life-threatening emergency we ask that you CALL FIRST.
  - There is always a nurse or nurse practitioner in our office during working hours and there is always a surgeon on call during nights, weekends, and holidays to answer questions and guide you.
- The following guide will help decide when to go to the Emergency Room or Call the Office (See Phone list on page 37).
- Sometimes a patient will need to be readmitted to the hospital within the first few weeks after surgery.
  - If possible, we prefer that you come to back to St. Joseph's Hospital.
  - If you are readmitted to an outside hospital we ask that the doctors caring for you call us so we can help them care for you.



**Call 911 or go to Emergency Room if you Experience**

- Severe chest pain (Angina) similar to before surgery
- Heart Rate > 150 beats per minute with shortness of breath
- Fainting spells
- Sudden severe headache
- Sudden numbness or weakness in arms or legs
- Shortness of breath not relieved by rest
- Severe abdominal pain
- Coughing up bright red blood
- Bright red stool



**Call Your Surgeons Office for the Following Urgent Problems**

- Extreme fatigue
- Elevated temperature more than 101.0° F or 38.0° C 2 times within 24 hours
- Persistent bleeding or oozing from incisions
- Sharp pain when taking a breath
- Skin rash
- Weight gain of more than 2 pounds within 24 hrs
- Worsening ankle swelling or leg pain
- Urinary tract infection: frequency, burning, or blood with urination
- Pain in calf that becomes worse with movement



PART  
**05**

**CARDIAC MEDICATIONS**

**Skilled Nursing Facilities (continued)**

\*\* preferred facilities

**Harding Nursing Home**  
220 Tower Street  
Waterville, NY 13480

**Heritage Health Care Center**  
1657 Sunset Ave  
Utica, NY 13502

**Katherine Luther Home**  
110 Utica Road  
Clinton, NY 13323

**Presbyterian Home for CNY**  
4290 Middle Settlement Road  
New Hartford, NY 13413

**The Grand**  
801 North James Street  
Rome, NY 13440

**Rome Hospital**  
1500 North James Street  
Rome, NY 13440

**St Joseph Nursing Home**  
2535 Genesee Street  
Utica, NY 13501

**St Luke's Home**  
1650 Champlin Ave  
Utica, NY 13501

**Sunset Nursing & Rehabilitation Center**  
232 Academy Street  
Boonville, NY 13309

**The Pines at Utica Center for Nursing & Rehabilitation**  
1800 Butterfield Ave  
Utica, NY 13501

**Cortland County**

**Cortland Park**  
193 Clinton Ave  
Cortland, NY 13045

**Cortland Regional**  
134 Homer Ave  
Cortland, NY 13045

**Crown Center**  
28 Kellogg Road  
Cortland, NY 13045

**Chenango County**

**One Terrace Heights**  
1 Terrace Heights  
New Berlin, NY 13411

**Chenango Memorial Hospital**  
179 North Broad Street  
Norwich, NY 13815

**Norwich Rehabilitation Center**  
88 Calvary Drive  
Norwich, NY 13815

**Valley View Manor Nursing Home**  
40 Park Street  
Norwich, NY 13815

**Cayuga County**

**Auburn Nursing Home**  
85 Thornton Ave  
Auburn, NY 13021

**Finger Lakes Center for Living**  
20 Park Ave  
Auburn, NY 13021

**Howd Nursing Home**  
7 Keeler Ave  
Moravia, NY 13118

**The Commons on St. Anthony Street**  
3 St. Anthony Street  
Auburn, NY 13021

**Broome County**

**Absolut Center for Nursing & Rehabilitation at Endicott**  
301 Nantucket Drive  
Endicott, NY 13760

**Bridgewater Center for Rehabilitation & Nursing**  
159-163 Front Street  
Binghamton, NY 13905

**Good Shepard Village at Endwell**  
14 Village Drive  
Endwell, NY 13760

**Good Shepard-Fairview Home**  
80 Fairview Avenue  
Binghamton, NY 13904

**Ideal Senior Living Center**  
601 High Ave  
Endicott, NY 13760

**James G Johnston Memorial Nursing Home**  
286 Deyo Hill Road  
Johnson City, NY 13790



### Skilled Nursing Facilities

\*\* preferred facilities

#### Onondaga County

**Loretto\*\***  
700 East Brighton Ave  
Syracuse, NY 13205  
(315) 413-3401

**Iroquois\*\***  
4600 Southwood Heights Drive  
Jamesville, NY 13078  
(315) 469-1300

**The Cottages at Garden Grove\*\***  
5460 Meltzer Drive  
Cicero, NY 13039  
(315) 413-3066

**Central Park Rehabilitation & Nursing Center**  
116 East Castle Street  
Syracuse, NY 13205  
(315) 475-1641

**Community General Hospital**  
4900 Broad Rd  
Syracuse, NY 13215  
(315) 492-5231

**The Crossings (Minoa)**  
217 East Avenue  
Minoa, NY 13116  
((315) 656-7277

**Elderwood**  
4800 Bear Road  
Liverpool, NY 13088  
(315) 457-9946

**James Square**  
918 James Street  
Syracuse, NY 13203  
(315) 474-1561

**Menorah Park**  
4101 East Genesee Street  
Syracuse, NY 13214  
(315) 446-9111

**Sunnyside Care Center**  
7000 Collamer Road  
East Syracuse, NY 13057  
(315) 656-7218

**Syracuse Home Association**  
7740 Meigs Road  
Baldwinsville, NY 13207  
(315) 638-2521

**Van Duyn**  
5075 West Seneca Turnpike  
Syracuse, NY 13215  
(315) 449-6000

**Veterans Administration Rehabilitation**  
800 Irving Avenue  
Syracuse, NY 13210  
(315) 425-2686

#### Oswego County

**Seneca Hill Manor\*\***  
20 Manor Drive  
Oswego, NY 13216  
(315) 349-5302

**Michaud Residential**  
453 Park Street  
Fulton, NY 13069  
(315) 592-2009

**Morning Star**  
17 Sunrise Drive  
Oswego, NY 13126  
(315) 342-4790

**Pontiac Nursing Home**  
303 East River Road  
Oswego, NY 13126  
(315) 343-1800

**Seneca Hill Manor**  
20 Manor Drive  
Oswego, NY 13126  
(315) 349-5302

**St. Lukes Nursing Home**  
299 East River Road  
Oswego, NY 13126  
(315) 342-3166

#### Oneida County

**Bethany Garden**  
800 West Chestnut Street  
Rome, NY 13440

**Betsy Ross Health Related Facility**  
1 Elsie Street  
Rome, NY 13440

**Charles T Sitrin Nursing Home**  
2050 Tilden Avenue, Box 1000  
New Hartford, NY 13413

**Colonial Park Rehabilitation & Nursing Center**  
950 Floyd Avenue  
Rome, NY 13440

**Eastern Star Home & Infirmary**  
8290 State Route 69  
Oriskany, NY 13424

**Focus Rehabilitation & Nursing Center at Utica**  
1445 Kemble Street  
Utica, NY 13501

### Medications are an essential part of your treatment.

During your stay, you may be started on various cardiac medications. Before leaving the hospital, you will be given a list of medications to be taken at home. Knowing the names, dose, purpose, and side effects of your medication, is very important.

**Table of Common Cardiac Medications**

MEDICATION	EXAMPLES	PURPOSE	POSSIBLE SIDE EFFECTS
<b>Antibiotics</b>	<ul style="list-style-type: none"> <li>Cefazolin (Kefzol/Ancef)</li> <li>Vancomycin</li> </ul>	<ul style="list-style-type: none"> <li>Reduce Risk of Infection</li> </ul>	<ul style="list-style-type: none"> <li>Allergic Reaction</li> </ul>
<b>Beta Blockers</b>	<ul style="list-style-type: none"> <li>Metoprolol (Lopressor or Toprol XL)</li> <li>Atenolol (Tenormin)</li> <li>Carvedilol (Coreg)</li> </ul>	<ul style="list-style-type: none"> <li>Lower Heart Rate</li> <li>Lower Blood Pressure</li> </ul>	<ul style="list-style-type: none"> <li>Fatigue</li> <li>Dizziness</li> </ul>
<b>Antiplatelet Agents</b>	<ul style="list-style-type: none"> <li>Aspirin</li> <li>Plavix</li> </ul>	<ul style="list-style-type: none"> <li>Prevent Blood Clots</li> </ul>	<ul style="list-style-type: none"> <li>Bleeding</li> </ul>
<b>Statins</b>	<ul style="list-style-type: none"> <li>Pravastatin (Pravachol)</li> <li>Simvastatin (Zocor)</li> <li>Rosuvastatin (Crestor)</li> <li>Atorvastatin (Lipitor)</li> </ul>	<ul style="list-style-type: none"> <li>Reduce Cholesterol Levels</li> </ul>	<ul style="list-style-type: none"> <li>Muscle Weakness</li> <li>Elevated Liver Enzymes</li> </ul>
<b>ACE Inhibitors</b>	<ul style="list-style-type: none"> <li>Lisinopril (Zestril/Prinivil)</li> <li>Enalapril (Vasotec)</li> <li>Ramipril (Altace)</li> </ul>	<ul style="list-style-type: none"> <li>Lower Blood Pressure</li> <li>Treat Heart Failure</li> </ul>	<ul style="list-style-type: none"> <li>Dizziness, Dry Cough</li> <li>Kidney Damage</li> </ul>
<b>Angiotensin receptor blockers (ARB)</b>	<ul style="list-style-type: none"> <li>Losartan (Cozaar)</li> <li>Olmesartan (Benicar),</li> <li>Irbesartan (Avapro)</li> <li>Valsartan (Diovan)</li> </ul>	<ul style="list-style-type: none"> <li>Lower Blood Pressure</li> <li>Treat Heart Failure</li> </ul>	<ul style="list-style-type: none"> <li>Dizziness</li> <li>Kidney Damage</li> </ul>
<b>Nitrates</b>	<ul style="list-style-type: none"> <li>Nitroglycerin</li> <li>Isosorbide mononitrate (Imdur)</li> </ul>	<ul style="list-style-type: none"> <li>Treat Chest Pain</li> <li>Lower Blood Pressure</li> <li>Treat Heart Failure</li> </ul>	<ul style="list-style-type: none"> <li>Headache</li> <li>Dizziness</li> </ul>

**Table of Common Cardiac Medications (continued)**

MEDICATION	EXAMPLES	PURPOSE	POSSIBLE SIDE EFFECTS
<b>Calcium Channel Blockers</b>	<ul style="list-style-type: none"> <li>Amlodipine (Norvasc)</li> <li>Diltiazem (Cardizem CD or Cartia XT)</li> </ul>	<ul style="list-style-type: none"> <li>Lower Heart Rate</li> <li>Lower Blood Pressure</li> </ul>	<ul style="list-style-type: none"> <li>Dizziness</li> <li>Fatigue, Flushing</li> </ul>
<b>Narcotics</b>	<ul style="list-style-type: none"> <li>Fentanyl (Duragesic)</li> <li>Hydrocodone-acetaminophen (Lortab, Norco)</li> <li>Oxycodone-acetaminophen (Percocet)</li> </ul>	<ul style="list-style-type: none"> <li>Control Pain</li> </ul>	<ul style="list-style-type: none"> <li>Drowsiness</li> <li>Constipation</li> </ul>
<b>Anti-Arrhythmic</b>	<ul style="list-style-type: none"> <li>Amiodarone (Pacerone)</li> <li>Sotalol (Betapace)</li> </ul>	<ul style="list-style-type: none"> <li>Control and Prevent Irregular Heartbeat</li> </ul>	<ul style="list-style-type: none"> <li>Dizziness</li> <li>Slow Heart Rate</li> <li>Thyroid or Lung problems (rare)</li> </ul>
<b>Diuretics</b>	<ul style="list-style-type: none"> <li>Furosemide (Lasix)</li> </ul>	<ul style="list-style-type: none"> <li>Remove Excess Fluid</li> <li>Lower Blood Pressure</li> <li>Treat Heart Failure</li> </ul>	<ul style="list-style-type: none"> <li>Increased Urination</li> <li>Muscle Cramps</li> <li>Low Potassium Level</li> </ul>
<b>Aldosterone Antagonist</b>	<ul style="list-style-type: none"> <li>Spironolactone (Aldactone)</li> </ul>	<ul style="list-style-type: none"> <li>Remove Excess Fluid</li> <li>Lower Blood Pressure</li> <li>Treat Heart Failure</li> </ul>	<ul style="list-style-type: none"> <li>High Potassium</li> <li>Increased Urination</li> </ul>
<b>Diabetic Medications</b>	<ul style="list-style-type: none"> <li>Insulin glargine (Lantus)</li> <li>Insulin lispro (Humalog)</li> <li>Insulin regular (Humulin R)</li> </ul>	<ul style="list-style-type: none"> <li>Control Blood Sugar</li> <li>Reduce Risk of Infection</li> </ul>	<ul style="list-style-type: none"> <li>Low Blood Sugar</li> </ul>
<b>Anticoagulants</b>	<ul style="list-style-type: none"> <li>Heparin (IV form)</li> <li>Warfarin (Coumadin)</li> <li>Dabigatran (Pradaxa)</li> <li>Rivaroxaban (Xarelto)</li> </ul>	<ul style="list-style-type: none"> <li>Prevent and Treat Blood Clots</li> <li>Reduce Stroke Risk</li> </ul>	<ul style="list-style-type: none"> <li>Bleeding</li> </ul>

FOOD GROUPS	RECOMMENDED FOODS	FOODS TO AVOID
<b>Fruits and Vegetables</b>	<ul style="list-style-type: none"> <li>Fresh, frozen, or canned vegetables without added fat or salt</li> <li>Fresh, frozen, canned, or dried fruit</li> <li>When using canned products, rinse under water first</li> </ul>	<ul style="list-style-type: none"> <li>Fried fruits or vegetables</li> <li>Fruits or vegetables prepared with butter, cheese or cream sauce</li> <li>Canned vegetables (unless no salt added or low sodium)</li> <li>Frozen vegetables with sauces</li> <li>Sauerkraut and pickled vegetables</li> <li>Canned or dried soups (unless they are low sodium or salt free)</li> <li>French fries and onion rings</li> </ul>
<b>Grains</b>	<ul style="list-style-type: none"> <li>Whole grain bread, rolls, pitas</li> <li>Low-sodium crackers, pretzels and chips</li> <li>Shredded or puffed wheat, puffed rice</li> <li>Cooked cereals — regular or quick such as oatmeal</li> <li>Brown rice</li> <li>Whole grain pasta</li> </ul>	<ul style="list-style-type: none"> <li>Quick breads prepared with baking soda</li> <li>Bread crumbs or stuffing mix from a store</li> <li>High-fat bakery products such as doughnuts, biscuits, croissants, Danish pastries, pies, cookies</li> </ul>
<b>Fats, Oils, and Nuts</b>	<ul style="list-style-type: none"> <li>Olive oil</li> <li>Canola oil</li> <li>Soybean oil</li> <li>Flaxseed oil</li> <li>Walnuts</li> <li>Almonds</li> <li>Ground flaxseed</li> </ul>	<ul style="list-style-type: none"> <li>Butter</li> <li>Stick margarine</li> <li>Shortening</li> <li>Partially hydrogenated oils</li> <li>Tropical oils (coconut, palm, palm kernel oils)</li> <li>Salted nuts</li> </ul>
<b>Condiments</b>	<ul style="list-style-type: none"> <li>Fresh or dried herbs</li> <li>Spices without added salt</li> </ul>	<ul style="list-style-type: none"> <li>Salt, sea salt, garlic salt</li> <li>Seasoning mixes containing salt</li> <li>Bouillon cubes</li> <li>Catsup</li> <li>Barbecue sauce</li> <li>Worcestershire sauce</li> <li>Soy sauce</li> <li>Miso</li> <li>Salsa</li> <li>Pickles, olives, relish</li> </ul>
<b>Alcohol</b>		<ul style="list-style-type: none"> <li>Check with your doctor. Generally, do not have more than one drink per day (1 drink=5 ounces (oz) wine, 12 oz beer, or 1-½ oz liquor)</li> </ul>



**Long-term Exercise Goals**

(After completion of Phase 2)

How Much?

- At least 30 minutes per day
- 5 days per week

What Type?

- Aerobic
  - Brisk walking at a minimum
  - Vigorous exercise that causes you to break a sweat if you can
  - Heart rate monitor is generally unnecessary
- Warm-up
  - Before each exercise session: movement based, like a light jog
- Cool-down and stretching
  - After completing the workout

**The Big 5 Things YOU Can Do to Prevent Heart Disease**

- ✓ Don't Smoke
- ✓ Exercise
- ✓ Healthy Diet (Mediterranean)
- ✓ Check your blood pressure
- ✓ Have your cholesterol levels checked

**Additional Nutrition Information**

FOOD GROUPS	RECOMMENDED FOODS	FOODS TO AVOID
<b>Milk</b>	<ul style="list-style-type: none"> <li>• Nonfat (skim) or low-fat (1% fat) milk</li> <li>• Fat-free and low-fat cheeses with less than 150mg sodium per serving</li> <li>• Hard cheese, low-fat cheddar or mozzarella</li> <li>• Low-fat cottage cheese (check the sodium!)</li> </ul>	<ul style="list-style-type: none"> <li>• Whole Milk</li> <li>• 2% Fat Milk</li> <li>• Whole milk yogurt or ice cream</li> <li>• Cream</li> <li>• Half &amp; half</li> <li>• Cream cheese</li> <li>• Sour cream</li> <li>• Processed cheese</li> </ul>
<b>Meat and Other Protein Foods</b>	<ul style="list-style-type: none"> <li>• Lean cuts of beef and pork (loin, leg, round, extra-lean hamburger), skinless poultry, fish</li> <li>• Venison and other wild game</li> <li>• Nuts and nut butters</li> </ul>	<ul style="list-style-type: none"> <li>• Higher-fat cuts of meats (ribs, t-bone steak, regular hamburger)</li> <li>• Bacon</li> <li>• Sausage</li> <li>• Cold cuts, such as salami or bologna</li> <li>• Corned beef</li> <li>• Organ meats (liver)</li> <li>• Poultry with skin</li> <li>• Fried meat, poultry, and fish</li> </ul>

**Additional Medication Information**

**Coumadin (Warfarin)**

- Blood thinner used for patients with mechanical heart valves, atrial fibrillation (rapid heartbeat), and blood clots
- Requires frequent blood test monitoring
- Dose of medication is adjusted based on blood test results
- Foods rich in Vitamin K can block action of Coumadin (Warfarin)
  - Examples of Vitamin K rich foods: beef liver, pork liver, green tea, alfalfa, asparagus, broccoli, brussel sprouts, cabbage, cauliflower, collard greens, kale lettuce, spinach, turnip, greens, watercress
  - Important to eat a consistent diet
- Can interact with many medications
- Takes several days to reach desired level of action

**Vitamins and Supplements**

- Vitamins and supplements are over-the-counter medications
  - They cause biological changes
  - They can interact with other medicines
  - "All natural" does not guarantee safety
- Do not take a supplement without telling your doctor, especially if you take a blood thinner such as Coumadin
- Do not count on supplements to lower your cholesterol
  - A healthy diet, exercise, and if necessary a statin (cholesterol lowering) medication are safer and more effective
- Folic acid, Vitamin C, and Iron are medications that will be prescribed for discharge

**Pharmacy Services**

- Our pharmacists will review your current medications at your pre-admission testing appointment. Some of your medications may be stopped or changed for your surgery. After surgery, your daily medications may change. We will review your list of medications again prior to discharge.
- A pharmacist in the cardiovascular intensive care unit (CVICU) will round with the cardiac surgery team Monday thru Friday and review your medications daily.
- Once you are transferred out of the intensive care unit to the step-down unit, the pharmacist on D4 will review your medications daily. Upon discharge from the hospital, a pharmacist will meet with you and review your medications and understanding of any new medications prescribed while in the hospital.
- Please note: Over-the-counter medications (OTC) will be included on your list of medications to take at discharge. It will be your responsibility to pick up these over-the-counter medications in addition to your prescriptions at your local pharmacy.



PART  
**06**

## RESOURCES

### Cardiac Rehabilitation

Cardiac Rehabilitation is a program that includes exercise, education, and counseling.

#### Cardiac Rehabilitation Phase 1 (1-4 weeks)

- Begins in the hospital and continues immediately upon discharge to home or short-term rehabilitation.
- The goal is for you to take 3 walks a day while you are in the hospital. As your strength increases, the length and time of these walks will also increase.
- The walking that you do in the hospital will continue once you are discharged.
- Begin walking slowly to warm up. Gradually increase your pace and walk for the duration indicated below. Gradually slow your walking pace to cool down.
- As your strength increases, slowly increase the amount of walking you do over the next several weeks. When Level 1 begins to feel too easy, progress to Level 2 and so on.
  - LEVEL 1: Walk 10 minutes continuously 3 times a day.
  - LEVEL 2: Walk 15 minutes continuously 2 times a day.
  - LEVEL 3: Walk 20 minutes continuously 2 times a day.
  - LEVEL 4: Walk 30 minutes continuously 1 time a day.
- DO NOT use any exercise equipment at home, no treadmills or bicycles. We do not want you to fall and hurt your chest incision. Keep your feet on the ground.
- If you exercise outdoors:
  - Avoid weather extremes like heat (above 78 degrees) and humidity, cold (below 25 degrees) and wind.
  - Choose a walking route that is safe and relatively flat.
  - Let someone know where you will be walking and when you will be back.
  - If you can't go outside, walk inside your house. An alternative is mall walking.

- Don't exercise immediately after eating. It's best to wait at least an hour.
- Breathe deeply and regularly during exercise. Don't hold your breath.
- Avoid activities that involve excessive or heavy pulling, pushing, lifting or strain.

#### Cardiac Rehabilitation Phase 2 (1 to 2 months later)

- A referral form will be given to you by your nurse when you are discharged.
- Generally starts 6-8 weeks following your surgery.
- If you start within 2 months after your surgery you will have to avoid lifting more than 5-10 pounds until you reach the 2 month mark.
- The goal of this program is to continue to build your strength and endurance while monitoring your heart so that you are exercising safely.
- Studies have shown that people who have had open heart surgery and attend an outpatient cardiac rehabilitation program have a 25% less chance of complications.
- You will be asked to assess your risk factors for the development of coronary artery disease.
- Please take a moment to look these over to identify what your risk factors may be.
- Risk factors within your control:
  - Smoking
  - Blood sugar control if you are a diabetic
  - Cholesterol levels
  - Obesity
  - Blood Pressure
  - Stress
  - Sedentary lifestyle
- Our cardiac rehabilitation nurse will meet with you after your surgery to discuss your specific risk factors and lifestyle changes that can be made to further prevent heart disease.