

A PATIENT GUIDE TO CARDIOTHORACIC SURGERY



Stony Brook Heart Institute

TABLE OF CONTENTS

-  **Welcome**
-  **Your Cardiothoracic Surgery Team**
-  **About Your Heart Surgery**
-  **Planning for Your Surgery**
-  **Cardiac Anesthesia**
-  **Your Care After Surgery**
-  **Managing Pain**
-  **Discharge Information**
-  **Information for Family and Friends**
-  **Educational Materials**
-  **Helpful Telephone Numbers**
-  **Glossary of Terms**

WELCOME TO STONY BROOK MEDICINE

At Stony Brook Medicine, we focus on improving the lives of our patients, families and communities, educating skilled healthcare professionals, and conducting research that expands clinical knowledge.

Our cardiothoracic team is committed to providing you with excellent care. Part of that care is to educate you and furnish information that will help you regain good health. By becoming an active, involved and well-informed member of the healthcare team, you will play a vital role in your treatment and recovery.

We are pleased to provide this Patient Guide, which contains general information about heart surgery, including what you and your family can expect. However, please be aware that the experience may be different for each person, depending on specific procedures and the needs of each individual.

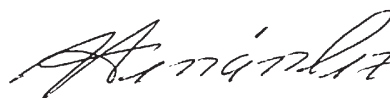
We encourage you to bring this binder with you to appointments with your surgeon, as well as when you come to the hospital for your surgery.

On behalf of our entire cardiothoracic team, we invite you to allow us to provide the best care possible.

Sincerely,



James R. Taylor Jr., MD, FACS
Co-Director, Stony Brook Heart Institute
Chief, Division of Cardiothoracic Surgery
Professor of Surgery



Harold A. Fernandez, MD
Co-Director, Stony Brook Heart Institute
Deputy Chief, Division of Cardiothoracic Surgery
Professor of Surgery

YOUR CARDIOTHORACIC SURGERY TEAM



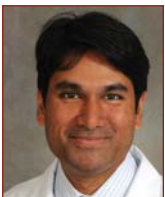
JAMES R. TAYLOR JR., MD, Co-Director, Stony Brook Heart Institute; Chief, Division of Cardiothoracic Surgery and Professor of Surgery, is board certified in cardiothoracic and general surgery, and has extensive experience in heart surgery, including valve, bypass and valve/bypass combined.



HAROLD A. FERNANDEZ, MD, Co-Director, Stony Brook Heart Institute; Deputy Chief, Division of Cardiothoracic Surgery and Professor of Surgery, is board certified in cardiothoracic and general surgery and has extensive experience in heart surgery, including minimally invasive valve surgery.



THOMAS V. BILFINGER, MD, ScD, Professor of Surgery, is board certified in thoracic surgery, general surgery and surgical critical care, and has extensive experience in both heart surgery and chest surgery. He is director of our program in Thoracic Surgery that includes management of lung cancer.



SANDEEP GUPTA, MD, Assistant Professor of Surgery, is board certified in general surgery and board eligible in cardiothoracic surgery. He has extensive experience in all forms of adult heart disease.



ALLISON J. MCLARTY, MD, Associate Professor of Surgery, is board certified in thoracic surgery and general surgery and has extensive experience in heart surgery for treating all forms of adult heart disease. She heads our Thoracic Aortic Surgery program and Left Ventricular Device (LVAD) program.



FRANK C. SEIFERT, MD, Associate Professor of Surgery, is board certified in thoracic surgery, general surgery, and surgical critical care and has extensive experience in heart surgery for all forms of adult heart disease. He heads our program in Minimally Invasive Coronary Bypass Surgery.

YOUR CARDIOTHORACIC SURGERY TEAM



JAMES R. TAYLOR JR., MD

Professor of Surgery

Co-Director, Stony Brook Heart Institute

Chief, Division of Cardiothoracic Surgery

Board Certifications

Cardiothoracic Surgery
Surgery (General)

Hospital Affiliation

Stony Brook University Hospital

Clinical Practice Began

1991

Academic Year Appointed at Stony Brook

2012

Education and Training

Medical School

Medical University of South Carolina

Residency

New York Hospital-Cornell

Medical Center

Fellowship

New York Hospital-Cornell

Medical Center

Honors and Awards

America's Top Doctors: New York Metro Area
(2009, 2010, 2012)

Patients' Choice Award

(2012)

Practice Site

Stony Brook Medicine

Stony Brook, NY

Phone: (631) 444-1820

Fax: (631) 444-8963

Special Interests

Aortic Aneurysm Surgery

Aortic Valve Surgery

Aortic Valve-Sparing Aneurysm Surgery

Blood Conservation

Cardiothoracic Surgery

Coronary Artery Disease

Hypertrophic Obstructive Cardiomyopathy

Minimally Invasive Valve Surgery

Mitral Valve Repair

Transcatheter Aortic Valve Replacement

Valvular Heart Disease

YOUR CARDIOTHORACIC SURGERY TEAM



HAROLD FERNANDEZ, MD

Professor of Surgery

Co-Director, Stony Brook Heart Institute

Deputy Chief, Division of Cardiothoracic Surgery

Board Certifications

Cardiothoracic Surgery
Surgery (General)

Hospital Affiliation

Stony Brook University Hospital

Clinical Practice Began

2001

Academic Year Appointed at Stony Brook

2012

Education and Training

Medical School

Harvard Medical School

Residency

New York University
Medical Center

Fellowship

New York University
Medical Center

Honors and Awards

America's Top Doctors: New York Metro Area
(2008 – 2012)

Double-star rating for Isolated Coronary
Artery Bypass Graft Surgery (CABG) by the
New York State Department of Health
Statistics (2006 – 2009)

Discovery en Espanol — Hispanic Heritage
Award (2008)

Special Interests

Aortic Aneurysm Surgery

Aortic Dissections

Aortic Valve Surgery

Congestive Heart Failure

Coronary Artery Disease

Gene Therapy for Intimal Hyperplasia

High-Risk Bypass Surgery (CABG)

Minimally Invasive Surgery

Mitral Valve Repair

Re-Operative Open Heart Surgery

Transcatheter Aortic Valve Replacement

Video-Assisted Thoracic Surgery

Languages

Spanish

YOUR CARDIOTHORACIC SURGERY TEAM



THOMAS V. BILFINGER, MD, ScD

Professor of Surgery
Director, Thoracic Surgery

Board Certifications

Thoracic Surgery
Surgery (General)
Surgery (Critical Care)

Hospital Affiliation

Stony Brook University Hospital

Clinical Practice Began

1978

Academic Year Appointed at Stony Brook

1989

Education and Training

Medical School

University of Zurich

Residency

University of Chicago
University of Texas Medical Branch

Fellowship

University of Texas Medical Branch

Honors and Awards

Guide to America's Top Surgeons
(Consumers' Research Council of America)
(2004, 2006, 2007, 2009)
America's Top Doctors: New York Metro Area
(2002 – 2012)
Patients' Choice Award
(2010 – 2012)
Compassionate Doctor Recognition
(2010 – 2011)

Special Interests

Adult Cardiac Surgery
Aortic Aneurysm Surgery
Bypass Surgery
Coronary Artery Disease
Endovascular Aneurysm Stents
Heart Defects
Lung Cancer Surgery
Minimally Invasive Thoracic Surgery

Languages

French, German, Italian

YOUR CARDIOTHORACIC SURGERY TEAM



SANDEEP GUPTA, MD

Assistant Professor of Surgery

Board Certification

Surgery (General)

Hospital Affiliation

Stony Brook University Hospital

Clinical Practice Began

2009

Academic Year Appointed at Stony Brook

2009

Education and Training

Medical School

University of Vermont

Residency

Cleveland Clinic

Fellowship

Cleveland Clinic

Honors and Awards

Guide to America's Top Surgeons
(2009)

(Consumers' Research Council of America)

Cleveland Clinic Innovator Award

Special Interests

Aortic Surgery

All-Arterial Grafting

Bypass Surgery

Congestive Heart Failure

Coronary Artery Bypass Grafting

Complex Mitral Valve Repair

Minimally Invasive Valve Surgery

Re-Operative Heart Surgery

Robot-Assisted Mitral Valve Repair Surgery

Languages

Hindi

YOUR CARDIOTHORACIC SURGERY TEAM



ALLISON J. MCLARTY, MD

Associate Professor of Surgery
Co-Director, Ventricular Assist Device Program
Head, Thoracic Aortic Surgery

Board Certifications

Thoracic Surgery
Surgery (General)

Hospital Affiliation

Stony Brook University Hospital

Clinical Practice Began

1988

Academic Year Appointed at Stony Brook

1997

Education and Training

Medical School

Columbia University College of
Physicians & Surgeons

Residency

Columbia-Presbyterian Medical Center

Fellowship

Mayo Clinic, Rochester, MN

Honors and Awards

Guide to America's Top Surgeons
(Consumers' Research Council of America)
Village Times Herald "Woman of
the Year in Health" (2002)
Town of Brookhaven "Woman of the Year"
Award in Medicine (2011)

Practice Sites

Stony Brook Medicine
Stony Brook, NY
Phone: (631) 444-1820
Fax: (631) 444-8963

Peconic Bay Medical Center
Riverhead, NY
Phone: (631) 548-6000

Northport Veterans Affairs Medical Center
Phone: (631) 754-7918
Fax: (631) 544-5308

Special Interests

Acute Myocardial Infarction
Aortic Surgery
Bypass Surgery
Congestive Heart Failure
Coronary Artery Disease
Endovascular Aortic Surgery
Lung Cancer Surgery
Minimally Invasive Thoracic Surgery
Valve Surgery
Valvular Heart Disease
Ventricular Assist Device (VAD) Surgery

YOUR CARDIOTHORACIC SURGERY TEAM



FRANK C. SEIFERT, MD

Associate Professor of Surgery
Director, Minimally Invasive Bypass Surgery

Board Certifications

Thoracic Surgery
Surgery (General)
Surgery (Critical Care)

Hospital Affiliation

Stony Brook University Hospital

Clinical Practice Began

1974

Academic Year Appointed at Stony Brook

1983

Education and Training

Medical School

University of Chicago,
Pritzker School of Medicine

Residency

University of Chicago

Fellowship

Stanford University

Honors and Awards

Guide to America's Top Surgeons
(2004, 2006, 2007, 2009)
(Consumers' Research Council of America)

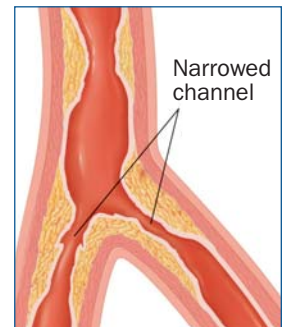
Special Interests

Acute Myocardial Infarction
Aortic Aneurysm Surgery
Beating Heart (Off-Pump) Surgery
Bypass Surgery
Congestive Heart Failure
Coronary Artery Disease
Heart Defects
MIDCAB and OPCAB
Minimally Invasive Heart Surgery
Robot-Assisted Heart Surgery
Valvular Heart Surgery

CORONARY ARTERY DISEASE AND CORONARY BYPASS SURGERY

The goal of coronary artery bypass grafting (CABG) is to improve blood flow to your heart.

Your heart is a muscle, about the size of your fist. It pumps blood and oxygen to the organs and tissues of your body through a network of pipes called arteries and veins. Your heart muscle needs oxygen-rich blood to do its job so it feeds some right back to itself. The vessels that feed the heart are called “coronary arteries.” They branch off from your body’s main blood supplier, which is called the “aorta.”



Problems happen when your coronary arteries clog and prevent your heart from getting the blood and oxygen it needs. One way to get around the clog is to make a new path. Surgeons can take healthy veins or arteries from another part of your body and use them to build a new road and “bypass” the clog. CABG can relieve chest pain and improve the quality of your life, especially when combined with a healthy lifestyle.

YOUR CONDITION

What causes clogged arteries?

Healthy arteries are like hollow pipes. When they’re wide open, blood flows through them easily. As we age, these pipes can narrow or clog like the plumbing in your house. These clogs are caused by a buildup of cholesterol, fat and other substances. Narrowing of the arteries is called coronary artery disease (CAD).



Blocked artery

Chest pain and heart attacks

When your heart muscle isn’t getting the blood it needs, your body lets you know. Physical or emotional stress may cause you to feel pain or tightness in your chest. This pain is called “angina.” If you’ve felt this, you know that once you rest or take your pills, these feelings usually go away. But angina is NOT a heart attack. Heart attacks happen when part of the heart’s blood supply gets completely cut off and can’t find another route. When this happens, parts of the heart can die and muscle is replaced with scar tissue.

How can you tell if you’re having a heart attack and not angina?

The pain of a heart attack can be severe. Some people say it feels like an elephant sitting on their chest. Unlike angina, the pain of a heart attack doesn’t go away after resting or taking medication. By creating clear pathways around the clogs, CABG can help prevent a heart attack and improve your symptoms.

HEART VALVE DISEASE AND HEART VALVE REPAIR/REPLACEMENT

The goal of this operation is to repair or replace a malfunctioning heart valve so that life-threatening conditions can be prevented from developing later.

THE HEART

The heart is a muscle that pumps blood through your body. It's divided into four chambers:

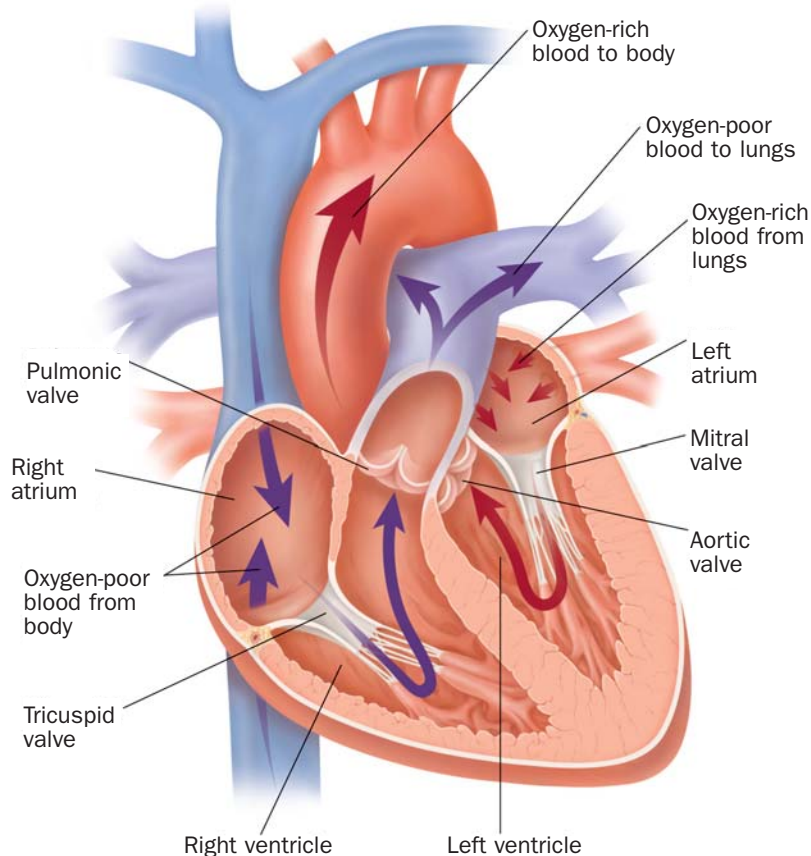
- The chambers on your right side are called the “right atrium” and the “right ventricle.”
- The chambers on your left side are called the “left atrium” and the “left ventricle.”

WHAT ARE HEART VALVES?

- Valves are one-way gates in the heart that keep blood flowing between the chambers and in the same direction. There are four valves in the heart and each one has strong flaps called “leaflets” that control blood flow.
- Leaflets open to let blood move through the heart and out to the rest of the body. Then they close to keep blood from leaking back in the wrong direction.
- The chambers and valves all work together to keep blood flowing in one direction.

THIS IS HOW BLOOD TRAVELS THROUGH THE HEART

- Blood fills the right atrium.
- Then it moves into the right ventricle.
- At this point, blood needs oxygen, so it moves from the right ventricle into the lungs where it gets some oxygen.
- Oxygen-rich blood then returns from the lungs and fills the left atrium.
- From here, blood moves through the “mitral valve” and into the left ventricle.
- The left ventricle pumps blood through the “aortic valve” and into the “aorta,” which is the main pipeline for blood leaving the heart.



ABOUT YOUR HEART SURGERY

- When oxygen-rich blood leaves the aorta, it goes out to feed the body with oxygen.
- After oxygen has been delivered, blood returns to the heart, and the whole process starts again.
- The left side of the heart pumps blood to the entire body, so it has to work a lot harder than the right side. And because the mitral and aortic valves are on the heart's left side, it's usually these valves that have problems.

YOUR CONDITION

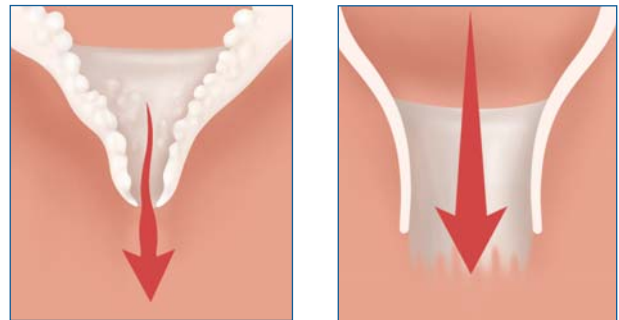
The two most common heart valve conditions are:

- Narrowing (“stenosis”)
- Leakage (“insufficiency” or “regurgitation”)

NARROWING (STENOSIS)

Stenosis happens most often in the aortic valve. When a healthy aortic valve is open, it's about as big as a half dollar (mitral valves are a little bigger). But sometimes a valve's opening becomes narrow. In many cases, this is caused by the natural wear and tear of aging.

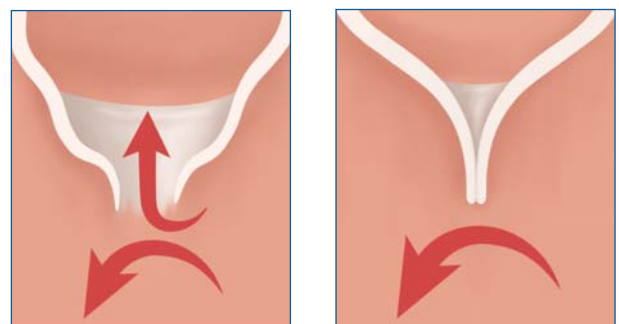
As we get older, calcium can form on the valve's leaflets. As this builds up, the opening can become more narrow, and blood can't flow as easily through the valve.



LEAKAGE (INSUFFICIENCY OR REGURGITATION)

Leakage happens more often in the mitral valve than the aortic valve. When a valve leaks, the leaflets don't close completely, and some blood leaks backward rather than all of it flowing completely in one direction.

In a healthy heart, blood flows from the left atrium, through the mitral valve, and into the left ventricle. But if there's leakage, some blood flows back into the left atrium instead of out to the rest of the body as it should, and your body doesn't get all the oxygen-rich blood that it needs.



Like stenosis, valve leakage happens because the valve simply wears out as we get older. But other things like a defective valve at birth, or if you had rheumatic fever as a child, can also cause a leak.

ABOUT YOUR HEART SURGERY

WHAT HAPPENS TO THE HEART WITH STENOSIS AND LEAKAGE?

Both valve stenosis and leakage make the heart work harder. With stenosis, it has to work harder to pump blood through a narrowed valve. When a valve leaks, the heart has to enlarge and strain so the body gets enough oxygen-rich blood.

All of this extra work can make the walls of the heart thicker or it can cause enlargement of the heart chamber. This prevents the heart from working as it should and over time can lead to serious or even life-threatening problems.

WHAT YOU MAY FEEL WITH STENOSIS OR A LEAK

You can have valve stenosis or leakage and not even know it or feel a thing. But if your condition becomes more severe, there are a few things you could feel. For instance, you may have:

- Shortness of breath
- Chest pain (“angina”)
- Lightheadedness
- Fainting
- Fatigue
- Your doctor may hear a “whooshing” sound when he listens to your heart (“heart murmur”).
- You could feel a combination of these symptoms or you may not feel anything; it really just depends on your condition.

ARRHYTHMIA

The heart has its own electrical system, and electrical signals typically fire in rhythm to give the heart a steady beat. An “arrhythmia” is anything that changes this steady beat and makes the heart feel like it’s fluttering or skipping a beat. One of the most common arrhythmias is “atrial fibrillation.”

Atrial fibrillation

With this, the electrical signals in the atria “short circuit,” or the heart’s upper chambers pump in a fast or irregular way. So in addition to fixing or replacing a valve, your surgeon may treat atrial fibrillation during this operation as well.

SELECTING A VALVE

If you’re having a valve replaced, a number of factors need to be considered before deciding if you will get a “mechanical valve” or a “tissue valve.” These factors include:

- Your age
- Personal preference
- Other medical conditions

ABOUT YOUR HEART SURGERY

You and your surgeon will talk about these things to decide which kind of heart valve is right for you.

Mechanical valve

Like a normal valve, mechanical valves have flaps that open and close. They're made of a strong, carbon-based material and a cloth ring.



Mechanical valves are designed to last forever. But the downside to mechanical valves is that blood clots can sometimes form on them. If a clot breaks off, it can enter the bloodstream and block an artery. This can be very serious.

Tissue valve

Tissue valves are often made up of a cloth sewing ring attached to a pig valve, or to three leaflets fashioned from the thin layer of tissue found around a cow's heart (pericardium). Because tissue valves aren't as strong as mechanical valves, they tend to wear out over time. How long before a tissue valve wears out varies; they typically last about 15 years. When a valve finally wears out, another open-heart operation to replace the valve may be needed.



BLOOD-THINNING MEDICATION: MECHANICAL VALVE VS. TISSUE VALVE

If you get a mechanical valve, you will have to take at least one pill of blood-thinning medication every day to prevent blood clots. You will have to do this for the rest of your life. You will also need to have your blood tested regularly to make sure your medication levels are right.

Blood clots are NOT as common in tissue valves as with mechanical valves. So with tissue valves, you most likely will NOT have to take blood thinners for the rest of your life. You may have to take them for several months after the operation (just until your heart gets used to its new valve).

ABOUT YOUR HEART SURGERY

MINIMALLY INVASIVE VALVE SURGERY

For some patients, valve replacement or repair can be performed through a small incision between the ribs. Your surgeon will use special instruments as well as a camera to reach and operate on the heart through a smaller opening called a mini-thoracotomy. This minimally invasive procedure may produce less trauma, less pain and faster recovery than traditional valve surgery.

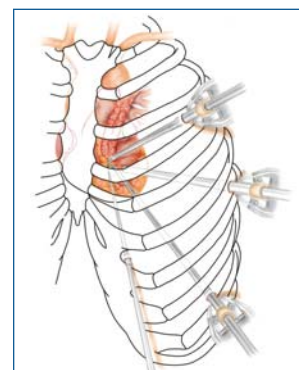


MINIMALLY INVASIVE BYPASS SURGERY

Patients who need bypass procedures involving one or two vessel grafts may be eligible to undergo minimally invasive direct coronary artery bypass (MIDCAB). The MIDCAB approach allows bypasses to be performed using small incisions on the beating heart. This beating heart bypass is performed using a special stabilization device. MIDCAB may produce less trauma, less pain and faster recovery than traditional open-heart surgery.

ROBOT-ASSISTED SURGERY

We also perform robot-assisted MIDCAB using the da Vinci® S HD™ Surgical System to work in the chest cavity through a very small incision. During MIDCAB surgery performed with the da Vinci robot, the surgeon's hand movements are seamlessly translated into more precise movements via a set of high-tech instruments and with a steadiness greater than the human hand. With the accompanying high-definition 3D endoscope, surgeons have twice the viewing resolution and 20 percent more viewing area compared with conventional methods.



BEFORE YOUR SURGERY

THINK OF YOURSELF AS A KEY MEMBER OF YOUR HEALTHCARE TEAM

Even though you're having surgery on your heart, your surgeon needs to learn about your overall health and your health history. When you give your doctor your important health information, you increase your chance for success. Let your doctor know if:

- You have any other health conditions.
- You're allergic to anything like penicillin or latex.
- You, or anyone in your family, have ever had a bad reaction to anesthesia.
- For your safety, it's important to make a list of everything you take. You may need to get some medications out of your system in the weeks before surgery. This includes: aspirin, anti-inflammatory drugs like Advil™ or Motrin®, blood-thinners like Coumadin® or Plavix®, injections, all prescription and over-the-counter drugs, herbal supplements like Ginkgo biloba, vitamins and recreational drugs.

For a complete list of what to stop taking and when, ask your doctor.

SMOKING

To help prevent problems during and after the operation, you may need to stop smoking before surgery.

TESTS

Before your surgery, you will have a number of tests such as an “angiogram” (also called “cardiac catheterization”). An angiogram is a movie of your heart beating that your surgeon uses to see the blockages to plan your surgery. You may also have an echocardiogram, which is a heart ultrasound that shows heart function.

IF YOU ARE HAVING VALVE SURGERY

If you haven't gone to the dentist in a while, ask your doctor if you should go BEFORE the operation. Why? When you have work done on your teeth and gums, bacteria can enter the bloodstream. If bacteria settles around the new valve, it can cause an infection.

After the operation, you will most likely have to take antibiotics before you visit the dentist or have a medical procedure like a colonoscopy. You may have to do this for the rest of your life.

ABOUT YOUR HEART SURGERY

COMFORT AND SUPPORT

It's a good idea to ask a family member or a friend to be there with you for comfort and support. Think of this person as your partner in care.

Doctors and nurses prefer to have one "go to" person for all communication. He or she should be able to speak up for you, ask questions, and give information about your health. Be sure to introduce this person to your doctors and your nurses so they know it is acceptable to share your health information with them.

THE NIGHT BEFORE SURGERY

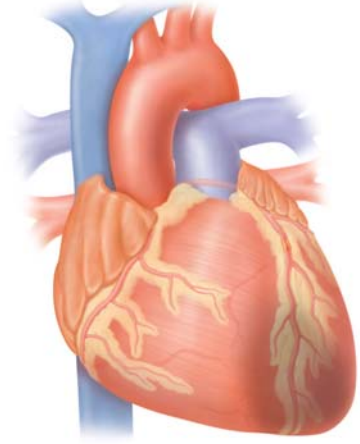
- Do NOT eat or drink anything after midnight.
- If you need to take a pill, take it with a small sip of water.

THE MORNING OF SURGERY

You will meet with your anesthesiologist to talk about your anesthesia. As you know, anesthesia is the medicine that puts you into a deep sleep during the procedure.

CORONARY ARTERY BYPASS GRAFTING (CABG) SURGERY

Surgery begins with a cut through the breastbone or between the ribs (“MIDCAB”). These are then carefully separated and the thin layer of tissue around the heart is opened and folded back. Veins and arteries will be harvested from your leg, arm, or chest, usually through small incisions using a TV camera, to use as your bypass grafts.



- **“On-pump”** CABG is often done by connecting you to a heart-lung machine, which pumps blood for you during the operation. A trained technician closely monitors the heart-lung machine to make sure everything works as it should.
- **“Off-pump”** surgery is selected if your surgeon chooses not to use the heart-lung machine and operates on the heart while it is still beating. Special devices are used to stabilize the heart so the bypasses can be created while the heart is beating.

Please ask your surgeon what is planned for your operation and why.

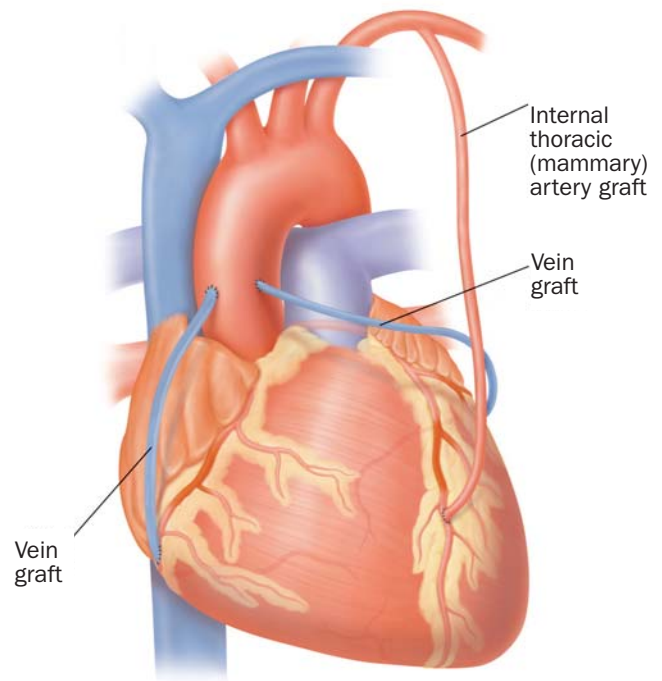
For Either Bypass Technique

- Your surgeon attaches the bypass grafts above and below the blockage.
- One end of the graft is sewn onto your aorta (your body’s main blood supplier).
- The other end of the graft is sewn past the blockage so blood can flow around the clog.
- Often, the mammary artery from the chest is used as a graft. It remains attached at one end and is grafted onto the coronary artery on the other.

ABOUT YOUR HEART SURGERY

Once the Bypasses are Created

- For on-pump surgery, the heart-lung machine is disconnected, and your heart will start to pump on its own. For off-pump surgery, this step is unnecessary.
- Small tubes are placed in your chest to drain any excess fluid.
- Pacing wires may be placed alongside your heart to help it beat normally during your hospital recovery.
- Your breastbone is repaired with wires and your chest is closed. For MIDCAB surgery, the rib space is closed with sutures.
- You will see the drain tubes and pacing wires just below your scar when you wake up. These will be removed in a day or so.



YOUR PROCEDURE

Your surgeon will go over the specific plan for your procedure and recovery. This will give you a general sense of how surgery will go. The operation can take anywhere from three to five hours.

BEFORE SURGERY BEGINS

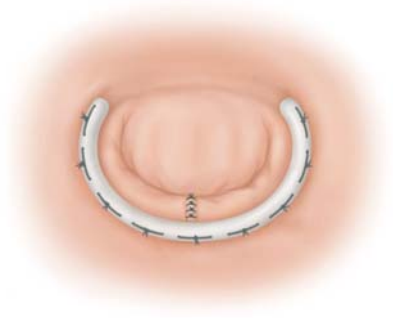
- You will be connected to monitors that measure your blood pressure, heart rate and oxygen in your blood.
- An intravenous line (IV) will be placed in your hand or your arm. This is so you can receive antibiotics, medication and fluids.
- This surgery is done under general anesthesia, which puts you into a deep sleep.
- First, you will receive a sedative through your IV. The medication may sting or burn a little when it goes in, which is normal.
- The anesthesiologist will place an oxygen mask over your mouth and nose and ask you to take deep breaths.
- Very quickly, you will fall asleep. After this, you really won't remember anything about the procedure.
- Once you're asleep, a tube is placed in the back of your throat or down your windpipe to help you breathe.
- Another IV that measures the pressure in your heart may be placed through a vein in your neck.
- A soft tube may also be placed in your bladder to drain urine.

VALVE SURGERY

- Your surgeon will start by making a cut over the breastbone or between the ribs (minimally invasive surgery).
- Next, the thin layer of tissue that surrounds the heart will be opened.
- To perform this operation, your surgeon will need to temporarily stop your heart. You will be connected to something called a “heart-lung machine.” The machine will do the heart’s job during the operation and keep oxygen-rich blood flowing through your body.
- What your surgeon does next depends on your condition.

Mitral Valve Repair

- If the mitral valve is causing problems, your surgeon will open the heart to see the valve.
- Then the mitral valve is examined to see how much damage there is.
- If the valve can be fixed, your surgeon may repair it so the leaflets open and close normally.
- Repair usually includes placement of a ring around the valve’s rim to improve its shape and size.
- The valve leaflets may be re-tailored to improve their closing properly.
- Many times, a damaged mitral valve can be repaired. But if your surgeon finds that a valve has too much damage, it may need to be replaced. Replacement is almost always required for aortic valve disease.



Valve Replacement

For valve replacement, your surgeon will make a cut in the heart or aorta to see the damaged valve.

- Next, the damaged valve is removed.
- The valve opening is then measured so that the right size replacement valve can be selected.
- To attach the new valve, stitches are placed in the valve’s rim.
- The new valve is fitted and stitched to the opening where your valve was located.
- After placing the new valve, your surgeon will stitch the heart or aorta closed.
- If any other heart problems need to be treated, your surgeon may fix those as well. For instance, if you have atrial fibrillation (when electrical signals in your heart go a little haywire), your surgeon may treat it with the Maze procedure.

Maze Procedure

The Maze procedure treats atrial fibrillation by making thin cuts or burn lines in either of the heart’s upper chambers. Scar tissue forms on the lines.

ABOUT YOUR HEART SURGERY

Because electrical signals can't travel across scar tissue, the signals are re-routed so they move between the scar lines. This way, the signals move normally between the heart's upper and lower chambers.

After Valve Repair/Replacement

- Your surgeon will allow your heart to beat on its own again.
- The heart-lung machine is then disconnected.
- To help your heart beat normally, "pacing wires" may be placed alongside your heart.
- Your surgeon will also place tubes in your chest to drain fluid.
- The breastbone is then closed with wire, if needed, or the rib space is sutured closed.
- The skin is closed, usually with dissolvable stitches.

AFTER YOUR SURGERY

IN THE ICU

After surgery, expect to feel groggy and a little out of it. If you feel queasy or have the chills, just ask your nurse to help you get comfortable. You will be hooked up to some monitors and your IV line for medication and fluids. You may also see tubes and pacing wires in your chest, but these will be removed in a day or so.

- EKG wires will be on your chest.
- A monitor on your finger will measure the oxygen in your blood.
- You will still have several IV lines for pain medication and fluids, and a special IV in your neck to measure heart function.

BREATHING TUBE

One thing that may concern or frighten you is if you wake up to find that your breathing tube is still in and you can't speak. Most people don't recall the tube being removed. If the tube is still in place when you wake up, just try to breathe normally. It will be removed soon, so just let it continue to breathe for you. It should not be uncomfortable, just a little like snorkeling.

WILL I BE IN A LOT OF PAIN AFTER SURGERY?

Many people say they're surprised by how well they feel. You can, of course, expect your chest to be a little sore. To help with any pain and soreness, your nurse will give you medication. You may also have a button that's attached to a pain pump. This lets you give yourself pain medication when you need it. This button is only for YOU to use so make sure that anyone who visits you in the hospital knows they should NOT push it for you.

YOUR HOSPITAL STAY

After a night or so in the Intensive Care Unit (ICU), you will move to your hospital room. As soon as you're ready, a nurse will help you get up and walk. Moving around can help prevent blood clots from forming in your legs and helps you regain strength. Most people stay in the hospital for 5 to 7 days.

LUNG STRENGTH

Your lungs may be a little weak after surgery, so it's important to get them back in shape. To do this, you may be asked to:

- Take deep breaths.
- Cough a lot.
- Use an "incentive spirometer," which looks like a small plastic toy. As you breathe in, a little ball flies up to show you how deeply you're breathing. This keeps your lungs clear and helps prevent lung infections as you recover.

ABOUT YOUR HEART SURGERY

GOING HOME

Once your doctor thinks you're ready, you can go home or to a cardiac rehabilitation facility, usually about a week after surgery. Make sure you have someone to drive you home and stay with you. In fact, your doctor may tell you not to drive for a while. Ask your doctor what his instructions are for you.

FIRST FEW WEEKS

In the first few weeks after you go home, you will have follow-up appointments with your surgeon. You may have to see your cardiologist as well. This is so they can see how you're recovering and how well your new valve or bypass/graft is working.

WHAT YOU SHOULD AND SHOULD NOT DO IN THE FIRST FEW WEEKS

- Try to walk as much as comfort allows (it's a great way to regain strength and help prevent blood clots in your legs).
- Do NOT lift anything too heavy. If you need to pick up something that's even a little heavy (like a gallon of milk), ask someone to get it for you.
- If you smoke, you should quit. Talk to your doctor about ways to help make quitting easier.

ABOUT BATHING

- To help prevent an infection, you will want to keep your incisions as dry as possible for a while.
- Your doctor may tell you NOT to soak in any water.
- Showering will most likely be fine.
- Do not go swimming or take baths until your doctor says it's okay.

YOUR RECOVERY PERIOD

After surgery, it's probably going to take 6 to 8 weeks before you can get back to your normal activities. If you have any problems during recovery, please call your doctor.

Call your doctor immediately if you have:

- A fever of 101° or higher
- Pain that does not get better with medication
- Sudden, severe shortness of breath, or chest pain
- A fast or irregular heartbeat that does not go away
- Pain, redness or swelling in one or both of your legs
- Nausea, or you can't keep food down
- Drainage from your incision
- Swelling in your hands, ankles or stomach

If you experience anything unusual or something just feels wrong, don't be afraid to call.

ABOUT YOUR HEART SURGERY

WHEN CAN I RETURN TO WORK AND OTHER ACTIVITIES?

You will gradually feel stronger and will return to your normal activities. Walking every day is a great way to regain your strength and increase your energy, but take it slow at first.

Your cardiologist may want to set you up with a Cardiac Rehabilitation Program. Depending on how physically active your job is, you may be able to go back to work in 3 to 6 weeks.

When you feel ready to be more active or resume your sex life, talk with your surgeon if you have questions.

If you haven't already, you may need to change what you eat. Eating healthy, non-fatty foods like fruits, vegetables and whole grains may help keep your new bypasses open. It's up to you to eat well, exercise and follow your doctor's advice so you can stay healthy.

OP CARD

You should receive an ID card from us in the mail after you are home. It will have your name, your doctor's name and other information about your new heart valve.

The card is small enough to fit in your wallet or purse. If there is ever a medical emergency, the card has valuable information a hospital might need.

AFTER VALVE SURGERY

SPECIAL CONSIDERATIONS

Clicking Sound

If you get a mechanical valve, you may notice a soft clicking sound when it's quiet or when you're falling asleep. This is just the sound of your new valve doing its job. Not all valves click. But if you hear something in there, it's nothing to worry about.

Blood Thinners

Many people who have valve surgery take blood thinners soon after their operation. These help prevent blood clots from forming around your new valve. If you get a tissue valve, some doctors will have you take blood-thinning medication for the first 6 to 12 weeks after surgery.

But if you have a mechanical valve, you will take blood-thinning medication and test your levels regularly for the rest of your life. If this is the case, there's a lot you need to know.

Your healthcare team will need to figure out how much blood-thinning medication is right for your system, so they will need to test the levels in your blood.

Testing Your Blood Thinner Levels

While you're still in the hospital, your levels will be tested every day. It will then have to be done every 3 to 5 days for about a month after leaving the hospital. To have your blood tested after you've gone home, you may:

- Need to visit the hospital or your doctor's office
- Need to have a nurse come to your home
- Be able to use a home-testing kit so you can test the levels on your own (more common if you have a mechanical valve)

If you have any questions about having your blood-thinner levels tested, ask your surgeon.

What Can Throw Off the Balanced Blood-Thinner Levels in My System?

- Foods high in vitamin K like spinach
- Medications like aspirin
- Changing what you eat or drink, or what medications you take

Even though you will be able to eat and drink whatever you want, it's important that you're consistent about what you eat and the medications you take.

If your blood-thinner levels are too high it can cause bleeding. If they're too low, blood clots may form. So if you change what you eat or start taking a new medication, you may need to take higher or lower doses of your medicine.

ABOUT YOUR HEART SURGERY

Speak to your nurse or physician if you are interested in learning more about Emmi®.

WHAT IS EMMI?

Emmi is a free, interactive program you and your family can view online, anytime, anywhere. It's an easy way to learn what to expect before, during and after your upcoming medical or surgical procedure. People say that learning about their procedure with Emmi is like listening to a friend. It's quick, simple and very helpful.

SIT BACK AND TURN UP YOUR SOUND

With a conversational voice and clear animations, Emmi takes you step by step from the days before surgery to the weeks after you go home. You can find out about the risks and benefits of the procedures, and the alternatives. And it answers those questions you never seem to remember when you're in the doctor's office. It even answers the ones you didn't know you had.

ASK FOR YOUR FREE EMMI ACCESS CODE

To get started with Emmi, you need a personal access code from your doctor or health-care provider. This code lets you sign in from any computer that's connected to the Internet. What's more, you can share this code with your family, so everybody is getting the same information. Having everyone on the same page really helps.

WHAT PEOPLE ARE SAYING ABOUT EMMI

After watching Emmi, 96 percent of over 30,000 patients said that Emmi improved their understanding of what to expect before their upcoming procedure. Eighty-nine percent said that Emmi made them feel more comfortable and confident about having their procedure.

The information contained in the "About Your Heart Surgery" section is part of an EmmiPrep® program and is provided courtesy of Emmi Solutions, LLC. At Stony Brook University Hospital, we prescribe Emmi programs for patients to watch to give a good understanding of what happens before, during and after your procedure. Please be sure to watch the online version of the Emmi program prescribed to you, and it will give a better idea what your experience may be like. More information about Emmi Solutions is available at www.emmisolutions.com.

PLANNING FOR YOUR SURGERY: WHAT TO EXPECT AND DO

	SURGERY	
	The Night Before Surgery	The Day of the Surgery
What to Expect	<ul style="list-style-type: none"> • Someone from our staff will call you to let you know when and where to report for your surgery. • If you are already in the hospital, a staff member will tell you what time your surgery is scheduled. 	<ul style="list-style-type: none"> • When you arrive at the scheduled time and place, your surgeon and anesthesiologist will meet with you. • You will be given medication and will be asleep in the OR for 3 to 5 hours. • After surgery, you will go to the Cardiothoracic Intensive Care Unit (CTICU) for recovery. • When you are awake several hours after surgery, your breathing tube will be removed. • You may receive liquids and a light meal. • Pain medication will be given to you as needed. • You may stay overnight in the CTICU. • It is routine to have various tubes and drains, which may be removed within a day of surgery. • You will have blood work and chest x-rays.
What You Can Do	<ul style="list-style-type: none"> • Eat a healthy dinner. • Do not eat or drink anything after midnight, except for small sips of water to take your medications. • Take all your morning medications, unless told to do otherwise. • Take a shower using chlorhexadine, a preparation provided to you. • If you develop unusual pain, fever, diarrhea, nausea, vomiting or other medical changes, call the Division of Cardiothoracic Surgery main office at (631) 444-1820. 	<ul style="list-style-type: none"> • You may not return to the same room after surgery. Prior to surgery, give your belongings to your family, including dentures, hearing aids, jewelry, watches and money. • Cough, and do breathing exercises using your incentive spirometer every hour you are awake after surgery. • Family members are welcome to visit. After surgery, they will be updated in our waiting room. • You are strongly encouraged to walk with assistance.

PLANNING FOR YOUR SURGERY

	RECOVERY	
	Day 1	Day 2
What to Expect	<ul style="list-style-type: none"> • You may take clear liquids as tolerated. • Your chest tubes and urine catheter may be removed as your condition improves. • Pain medication will be given as needed. • You will be encouraged to sit up in a chair. • A physical therapist will review your exercise plan. • You may find that medications you were taking before surgery may be changed. • When medically stable, you will be transferred to 16 South, the surgical floor. • Feeling some fatigue after surgery is normal. 	<ul style="list-style-type: none"> • You may take a regular diet as tolerated. A decreased appetite is normal. • Your weight will be checked. • You will bathe, with assistance. • You will walk 3 to 4 times a day, with assistance. • Pain medication will be given as needed. • Feeling some fatigue after surgery is normal.
What You Can Do	<ul style="list-style-type: none"> • Cough and do breathing exercises. • Begin discussing your discharge plans with the nurse, social worker, physical therapist and nutritionist. • Make sure your family members are included in your discharge planning and post-op education. • Family and friends are welcome to visit. • You are strongly encouraged to walk with assistance. 	<ul style="list-style-type: none"> • Cough and do your breathing exercises. • Family and friends are welcome to visit. • You are strongly encouraged to walk with assistance. • Your social worker and case manager will include your family members in your discharge planning.

PLANNING FOR YOUR SURGERY

	RECOVERY	
	Day 3	Day of Discharge
What to Expect	<ul style="list-style-type: none"> • You will walk 3 to 4 times during the day, independently. • You will walk up and down the stairs with the assistance of a physical therapist. • Pain medication will be given as needed. • Laxatives will be prescribed as needed. 	<ul style="list-style-type: none"> • Your nurse practitioner will determine when you may shower. • You will walk independently 3 to 4 times a day, as well as up and down the stairs with assistance. • Your nurse practitioner or discharge nurse will visit to explain discharge instructions and medications. • You will receive a printed set of discharge instructions. • You will be discharged to home or to rehabilitation. • The cardiac surgery team will call you over the next several days to answer questions and make an appointment with your surgeon.
What You Can Do	<ul style="list-style-type: none"> • Cough and do your breathing exercises. • Discuss home care with a social worker. • Arrange for your ride home. • WALK. 	<ul style="list-style-type: none"> • Continue to cough and do breathing exercises. • Review your discharge instructions and home medications with the discharge nurse. • WALK.

CARDIAC ANESTHESIA

Anesthesia is a painless sleep state that is brought about by various drugs. Our anesthesiologists are physicians who are specially trained in anesthesiology, with additional training in “Anesthesia for the Heart.” The anesthesiologists on our team are:

Thomas Floyd, MD

Christopher Gallagher, MD

Igor Izrailtyan, MD

Peter Oleszak, MD

Bharathi Scott, MD

Syed Shah, MD

Before you receive anesthesia, you will meet with your anesthesiologist. Be prepared to talk about your recent and past health history, including any medications you may be taking, allergies, and tobacco and alcohol use. This crucial information will help the anesthesia specialist plan the care that is best for you.

It is important to know that it is not unusual to be concerned or uneasy. During this meeting, you also will be given information about your anesthetic care. We encourage you to ask questions.

On the day of surgery, you may receive medication prior to coming to the Operating Room. When you arrive at the hospital, the anesthesia team members will greet you, accompany you to the operating room, and place the appropriate monitors necessary for your care. Your anesthesiologist will remain with you in the operating room throughout the surgical procedure to continuously monitor you and ensure that you are safe and pain free.

Using state-of-the-art equipment, we will monitor your heart, blood pressure, blood oxygen and carbon dioxide, the pressures in your heart, and the function of your heart, lungs, kidney, and brain. These monitors help the anesthesiologist make appropriate medical decisions to ensure your safety during the surgery.

After surgery, the anesthesiology team will accompany you to the Cardiothoracic Intensive Care Unit (CTICU), and a full report of your Operating Room care will be given to the CTICU team. Your anesthesiologist will visit you after surgery to check on you and answer any additional questions you may have.

YOUR CARE AFTER SURGERY

The type of care you need changes as your condition improves. Immediately after surgery, you will be in the Cardiothoracic Intensive Care Unit (CTICU). As you improve, you will be moved to 16 South, first to Cardiac Intermediate Care, and then to the Cardiac Telemetry Unit. At all times, we are committed to making sure that you have the care you need to ensure your safety and speed your recovery.

As you are moved to the different locations, you may notice differences in your day-to-day care, as follows:

	RECOVERY		
	Cardiothoracic Intensive Care Unit (CTICU)	16 South Cardiac Intermediate Care	16 South Cardiac Telemetry
Your Surgeon	Your surgeon will discuss your plan of care each day.	Your surgeon will discuss your plan of care each day.	Your surgeon will discuss your plan of care each day.
Nurses	Nurses are generally assigned to care for 1 or 2 patients.	Nurses are generally assigned to care for 4 patients.	Nurses are generally assigned to care for 4 to 6 patients.
Nurse Practitioners and Physician Assistants	Physician assistants help with your care and may insert or remove some of your tubes and lines.	Nurse practitioners monitor your care and work with the social worker to prepare you for discharge.	Nurse practitioners monitor your care and work with the social worker to prepare you for discharge.
Nursing Assistants	Nursing assistants may help with your hygiene needs.	Nursing assistants may take vital signs and assist with hygiene.	Nursing assistants may take vital signs and assist with hygiene.
Vital Signs	Vital signs are taken every 1 to 2 hours.	Vital signs are taken about every 4 hours.	Vital signs are taken every 4 hours for the first 24 hours, and then during every shift.

YOUR CARE AFTER SURGERY

	RECOVERY		
	Cardiothoracic Intensive 50+ Care Unit (CTICU)	16 South Cardiac Intermediate Care	16 South Cardiac Telemetry
Chest X-Ray	A chest x-ray will be taken in your room every morning at approximately 5 am.	A chest x-ray will be taken in your room every morning at approximately 5 am.	A chest x-ray will be taken in your room every morning at approximately 5 am.
Heart Monitoring	Heart rate and blood pressure are continuously monitored.	Heart rate and blood pressure are continuously monitored.	Heart rate is continuously monitored.
Bathing	Bathing is done primarily during the evening.	Bathing is done during the day or evening.	Bathing is done during the day or evening.
Your Room	You will be in a private room.	Some rooms are semiprivate.	Some rooms are semiprivate.
Meals/ Distinguished Dining	Distinguished Dining will be called for you to order your meals.	Call Distinguished Dining at 4-2900 to order your meals. Refer to your menu.	Call Distinguished Dining at 4-2900 to order your meals. Refer to your menu.
TV/Phone Rental	TV and phone rental is available at 4-1465.	TV and phone rental is available at 4-1465.	TV and phone rental is available at 4-1465.

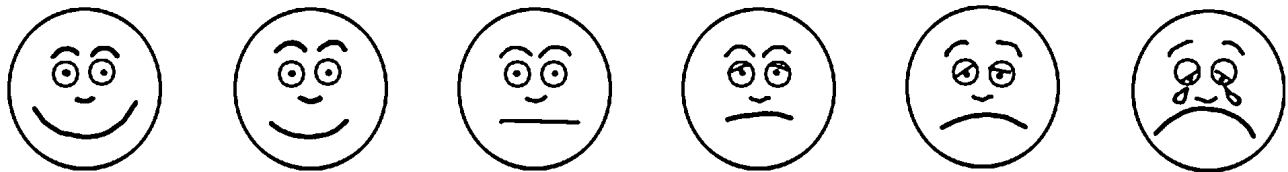
MANAGING PAIN

Pain relief is an important part of your healthcare. By effectively managing and treating pain, you will heal better, enjoy greater comfort, and have fewer complications following surgery. You will be able to start walking and doing breathing exercises sooner, which will help you regain your strength as well as avoid problems, such as pneumonia and blood clots.

After your anesthesia wears off and while you are in the Cardiothoracic Intensive Care Unit (CTICU), pain medication will be given through an intravenous (IV) line, a pill or a pain patch. After being moved from CTICU, pain medication will probably be in the form of a pill, but may also be given through the IV line.

Tell your nurse as soon as you feel pain or discomfort — before it becomes too severe. If pain worsens when getting out of bed, walking or doing breathing exercises, ask for pain medication before performing these activities. Don't hesitate to ask for pain medication. It is harder to ease pain once it has started.

To help better understand and help minimize your pain, you will be asked to rate your pain on a scale of 0 to 10. A rating of "0" means that you are not feeling any pain, and a rating of "10" means that you are in extreme pain. Please use the chart below to help rate your pain.



0	1 - 2	3 - 4	5 - 6	7 - 8	9 - 10
No Pain	Mild Pain	Moderate Pain	Severe Pain	Very Severe Pain	Worst Possible Pain

PAIN MEDICATION AT HOME

When you are ready to leave the hospital, you may be prescribed pain medication to take when you are home. Take this medication as prescribed. If your pain medication makes you feel tired, drowsy or dizzy, call your doctor. If your pain medication causes constipation, drink 8 to 10 glasses of water a day and eat a well-balanced diet that includes fruits and vegetables. If you are still constipated, try a gentle laxative.

DISCHARGE INFORMATION

STONY BROOK SURGICAL CARE CENTER

37 Research Way

East Setauket, NY 11733

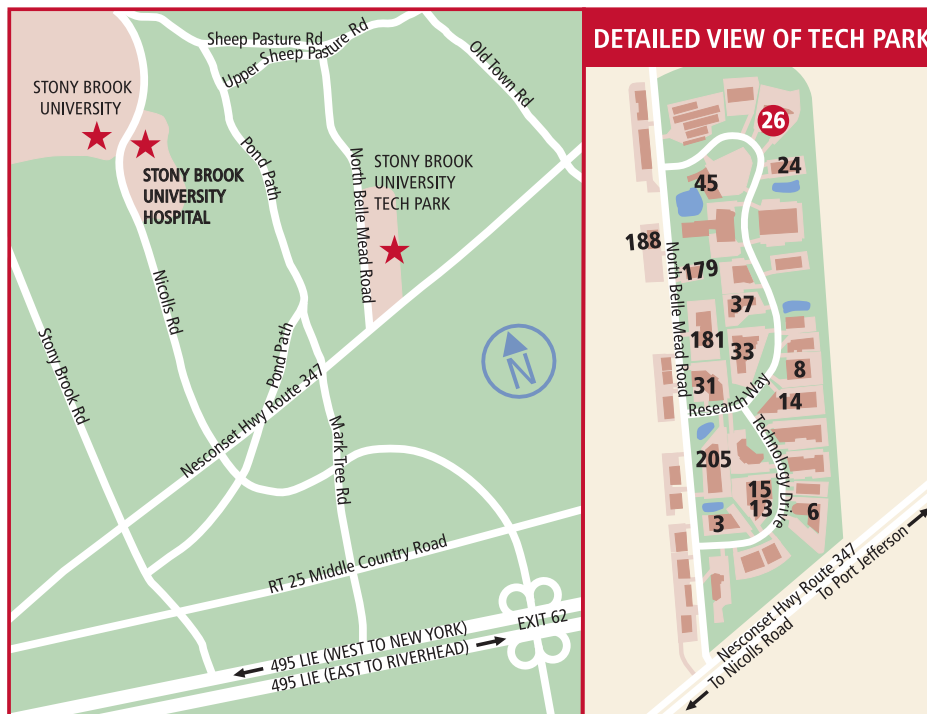
(631) 444-4545

Long Island Expressway (Rte. 495)

Take the Long Island Expressway to Exit 62 (Nicolls Road). Continue north on Nicolls Road. Make a right onto Route 347 (Nesconset Highway), heading east. At the third traffic light, turn left onto Belle Mead Road. Turn right onto Research Way (Stony Brook Technology Park). Building 37 is on the left, where you will find convenient parking.

Route 347 (Nesconset Highway) Heading West

Travel 3.3 miles east of Route 112. Turn right onto Belle Mead Road. Turn right onto Research Way (Stony Brook Technology Park). Building 37 is on the left, where you will find convenient parking.



INFORMATION FOR FAMILY AND FRIENDS

THE DAY OF SURGERY

Inpatient: Immediate family members who wish to see you before surgery should arrive one to two hours before your scheduled surgery time.

Outpatient: If you are coming from home, family members can accompany you to Pre-Surgical Admissions, where you will be prepared for your surgery.

There are two waiting rooms. Your surgeon will tell your family where to wait. The Surgical Waiting Room is located on Level 4, and the phone number is (631) 638-2931. The Heart Center Waiting Room is on Level 5, and the phone number is (631) 444-8324. Family members should check in with the receptionist in the waiting room, and leave a cell or home phone number so that they can be contacted when information about you becomes available. The surgeon will talk with family members in the waiting area when the surgery is completed.

PARKING

Parking for visitors is available in the hospital parking garage for a fee. A monthly pass might be a less expensive option for your family when they visit you and for your follow-up visits with your surgeon. Good for 30 days, the monthly pass can be purchased at the Parking Garage Office for \$30. The telephone number for the Parking Garage Office is (631) 444-6608.

Valet parking is also available in the hospital parking garage during the following hours:

7 am to 9 pm, Monday through Friday

9 am to 9 pm, Saturday and Sunday

The valet parking fee is \$6.

INFORMATION FOR FAMILY AND FRIENDS

DINING SERVICES

The Market Place Café and the Skyline Deli serve hot meals and sandwiches. Starbucks offers specialty coffees, teas, pastries, baked goods and grab-and-go sandwiches.

Market Place Café

Level 5, off the Hospital Lobby

Monday through Friday: midnight to 10:30 am and 11 am to 8 pm

Saturday: midnight to 8 pm

Sunday: closed

Skyline Deli

Level 5, off the Hospital Lobby

Monday through Friday: 8 am to 3 pm

Saturday: closed

Sunday: midnight to 8 pm

Late Night Service (Out of the Deli)

Nightly: 12 am to 7 am

Starbucks

Level 5, Hospital Lobby

Monday through Friday: 6 am to midnight

Saturday and Sunday: 7 am to midnight

GIFT SHOP

The Gift Shop is located in the Main Lobby of the Hospital on Level 5. The shop offers a variety of gifts, flowers, cards and magazines for purchase. The Gift Shop is open Monday through Friday from 8 am to 8 pm, Saturday from 10 am to 8 pm and Sunday from 11 am to 7 pm.

CHAPEL

The Chapel is located in the Main Lobby of the Hospital on Level 5, and is open 24 hours a day. Please call the hospital operator if you would like a visit with someone from our hospital Chaplaincy Office.

TV AND PHONE RENTAL

Television and phone rentals can be arranged by calling 4-1465.

AND THE BEAT GOES ON

It is important that you become proactive in learning about ways to access cardiac rehabilitation services. You need to ask about this during your follow-up visits with your cardiologist or regular internist.

Services such as physical therapy, nutritional education and stress management are important in enhancing your heart health.

In addition, awareness about the possibility of post-operative depression and/or anxiety following surgery is valuable. While everyone who has had surgery does not develop depression, it does happen to some. We urge you to monitor your mood, and we urge family members to monitor this with you as well.

The symptoms of depression are:

- Persistent sad, anxious or “empty” mood
- Feelings of hopelessness or pessimism
- Feelings of guilt, worthlessness or helplessness
- Loss of interest or pleasure in hobbies and activities that were once enjoyed, including sex
- Decreased energy, fatigue or the feeling of being “slowed down”
- Difficulty concentrating, remembering or making decisions
- Insomnia, early morning awakening or over sleeping
- Appetite or weight changes
- Restlessness or irritability

If five or more of these symptoms are present every day for at least two weeks and interfere with routine daily activities such as work, self care, childcare, or your social life, we recommend that you seek an evaluation for depression.

In the event you develop depression or are interested in any of our stress management groups, do not hesitate to contact us to further evaluate your needs.

HELPFUL TELEPHONE NUMBERS

All numbers are within the (631) area code.

Stony Brook University Hospital	689-8333
Cardiothoracic Surgery Main Office	444-1820
Pre-Admission Testing	444-2948
Pre-Surgical Admissions	444-1002
Cardiothoracic Intensive Care Unit (CTICU)	444-2275
CTICU Nurse Manager	444-8310
16 South	444-1600
16 South Nurse Manager	444-3603
Surgery Waiting Room, Level 4	638-2931
Heart Institute Waiting Room	444-8324
16 South Discharge Room	444-7295
Food and Nutrition Services	444-2900
Social Work Services	444-2552
Chaplaincy	Dial "0" from any Hospital phone
TV/Phone Rental	444-1465
Parking Garage	444-6608
Patient/Guest Relations	444-2880
HealthConnect®	444-4000
Customer Accounts	444-4151

GLOSSARY OF TERMS

TERM	DEFINITION
Anesthesia	Medications that prevent pain during surgery
Angina Pectoris	A feeling of heaviness or burning in the chest and/or discomfort in the arm when the heart does not receive sufficient blood
Angioplasty	A procedure where a catheter (narrow tube) with a balloon attached is inserted into the artery so blood will flow more freely
Aorta	The main blood vessel leading from the heart to the rest of the body
Aortic Valve	The overflow valve for the left ventricle of the heart that squeezes blood out and then closes to keep blood from leaking back into the ventricle
Arrhythmia	Any abnormal heartbeat
Cardiac Catheterization	A procedure where dye is placed in a catheter (a narrow tube used to evaluate heart function) and then passed through blood vessels to see if there are any blockages
Cardiologist	A physician who specializes in heart disease
Cardiothoracic Surgeon	A surgeon who specializes in heart, lung and chest surgeries
Coronary Arteries	Vessels that provide blood flow to the heart

GLOSSARY OF TERMS

TERM	DEFINITION
Coronary Artery Bypass Grafting (CABG)	A type of heart surgery that reroutes blood around clogged arteries to improve blood flow and oxygen to the heart muscle. The arteries that bring blood to the coronary arteries can become clogged by plaque, a buildup of fat and cholesterol or slowing or stopping blood flow through the heart's blood vessels, which can lead to chest pain or a heart attack. Increasing blood flow to the heart muscle can relieve chest pain and reduce the risk of heart attack.
Coronary Artery Disease	The blood vessels are narrow, making it difficult for the blood to flow to the heart
Defibrillator	A device that monitors the heartbeat and can deliver an internal electric shock to restore the heart rhythm back to normal
Echocardiogram (ECHO)	A sound wave picture of the heart
Electrocardiogram (EKG)	A test that shows electrical impulses of the heart
Health Care Proxy/Living Will	A document where you make your healthcare decisions known
Heart Failure	The heart muscle weakens and is unable to pump blood efficiently through the body
Heart Attack	Damage to the heart muscle due to insufficient blood supply; also called myocardial infarction
Magnetic Resonance Imaging (MRI)	A technique that uses high-power magnets and radiofrequency waves to capture images giving physicians a view "inside the body"

GLOSSARY OF TERMS

TERM	DEFINITION
Minimally Invasive Direct Coronary Bypass (MIDCAB)	A technique where coronary bypass surgery can be performed with a small chest incision
Mini-Thoracotomy	A small incision between the ribs to allow access to the heart without opening the sternum, used for minimally invasive valve or CABG surgery
Nurse Practitioner	A registered nurse with a master's degree and advanced clinical practice who collaborates with a patient's physician to manage healthcare. The nurse practitioner also incorporates health promotion and disease prevention as well as patient and family education into daily practice
Off-Pump Coronary Artery Bypass (OPCAB)	A technique where coronary bypass surgery can be performed while the heart is still beating. Referred to as "beating heart" surgery.
Pacemaker	A small implanted electrical device that helps regulate your heart rhythm
Physician Assistant	A highly-trained professional who, under the supervision of a physician, can provide many of the same services as a physician
Positron Emission Tomography (PET)	A type of scan that provides information about the metabolic function of cells
Regurgitation	A leaky heart valve
Robot-Assisted Surgery	Minimally invasive surgery that employs the use of remote manipulation device ("robot") to assist work through small incisions
Stenosis	The narrowing of a valve or an artery

GLOSSARY OF TERMS

TERM	DEFINITION
Stent	A small spring-like device that is placed into an artery or blood vessel to stabilize or keep open
Stress Test	A test that shows how much stress the heart can take and helps the physician to determine if there is a blockage
Valve	A bodily structure that controls the direction of blood flow through the heart
Valve Repair	A technique to surgically correct the valve to avoid a valve implant
Ventricle	The main pumping chamber of the heart



Stony Brook **Medicine**

stonybrookmedicine.edu

(631) 444-4000

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