Your Guide to Cardiac Surgery

Hartford HealthCare
Heart & Vascular Institute
Table of Contents

Welcome
Welcome letter ...................................1-1
List of key phone numbers ...............1-2
Guide to parking .................................1-3
Notes/questions page ........................1-4

Your Heart and Heart Surgery
Coronary artery disease & treatment.........................2-1
Heart valve diseases & treatments.................................2-6
Aortic aneurysm repair........................................2-12
Maze procedure for Atrial Fibrillation .......................2-13
Atrial-septal defect repair .................................2-14

Preparing for Surgery
Preparing for surgery.........................3-1
Preoperative instructions ..................3-2
Instructions for using Hibiclens™ 3-3

Day of Surgery
Checking in on the day of your surgery .......................4-1
What your family can expect ..................4-1
Your care team ...................................4-2
In the Operating Room ..........................4-2
In the Intensive Care Unit .....................4-2

Recovering in the Hospital
What to expect each day after surgery .................5-1
Your stay on B9E/B5E ...............................5-2
Managing pain ....................................5-2
Caring for your body after surgery ........................5-3
Post-operative nutrition......................5-3
Preparing for discharge .....................5-4

Recovering After Hospital Discharge
Helping your incision to heal ..........6-1
Nutrition .........................................6-1
Your emotional health ..................6-1
Follow-up appointments ..............6-2
Watching for weight gain ..............6-2
Preventing endocarditis .................6-3
When to call ................................6-3
Resuming activity .........................6-4
Regular exercise .........................6-5
Progressive walking program .........6-5
Driving .........................................6-6
Swimming ..................................6-6
Returning to work .........................6-6

Minimally Invasive Mitral Valve Repair
Instructions for minimally invasive mitral valve repair ....7-1
Activites ................................7-1
Showering ..................................7-1
Social habits and diet ....................7-1

Cardiac Rehabilitation
Cardiac Rehabilitation defined ........8-1
AACVPR article ................................8-2

Resources
Prevention of infective bacterial endocarditis (wallet card) ........9-1
Mended Hearts, Inc ..........................9-3
Helpful websites ...............................9-3
Welcome

In this section you will find:

- A welcome letter
- List of key phone numbers
- Parking information
- A page for your questions and notes
Welcome to The Heart & Vascular Institute.

We are pleased you chose our center for your heart surgery and pledge to do everything we can to provide you with a high quality experience.

We want you to be a partner with us in managing your heart health. Education is critical to helping you understand your individual heart problem and its treatment. It is quite normal to have questions about what will happen to you during and after your heart surgery. To help you understand the process, we have put together this booklet which addresses many frequently asked questions.

Everyone responds differently to surgery, and the recovery from each procedure varies somewhat as well. Despite these differences, we can make some generalizations.

We encourage you and your family to read through this booklet and to write down any questions you may have. You should also bring the booklet with you to all doctor and hospital appointments as your doctors or other members of the team may add information to the booklet. Having everything you need in one location will help make your experience as stress-free as possible for both you and your family.

It is our pledge that we will take exceptional care of you and communicate effectively with your family while you are in the hospital for your heart surgery.

Sincerely,

Robert C. Hagberg, MD
Chief of Cardiac Surgery
Cardiac Surgery Patient Care Team

Important Phone Numbers

Hartford HealthCare Medical Group
Cardiac Surgery
85 Seymour Street, Suite 919
Hartford, CT 06106
(860) 696-5520
Fax (860) 522-3951
Dr. Ayyaz Ali
Dr. Mohiuddin Cheema
Dr. Daniel Fusco
Dr. Robert Hagberg
Dr. Jonathan Hammond
Dr. Sabet Hashim
Dr. Chester Humphrey
Dr. David Underhill
Dr. David Yaffee

Surgical Schedulers
Pauline Boling (860) 524-2749
Mary Ramos (860) 524-2751

Hartford Hospital
80 Seymour Street
Hartford, CT 06102
Hartford Hospital Operator (860) 972-5000

GENERAL INFORMATION
Financial Assistance (860) 696-3100
Patient Relations (860) 972-1400
or (888) 515-5544
Admitting/Patient Accounts (860) 696-6010
Spiritual Care (860) 972-2251

ACCOMMODATIONS
Hudson Suites (860) 545-1111

HOSPITAL UNITS - Bliss Building
Cardiothoracic Intensive Care
Unit B9I (860) 972-5200
Nurse Manager (860) 972-5346

Step-Down/Telemetry
B9E/SD (860) 972-5299
Nurse Manager (860) 972-5037
B5E (860) 972-1830
Nurse Manager (860) 972-2558

MRN:
The MRN number is your family’s password necessary to obtain updates from the ICU staff

OTHER SERVICES
Assessment Center/Surgery Time Line (860) 972-3208
Integrative Medicine (860) 972-4444
(massage, reiki, guided imagery and more)
Social Work Services (860) 972-2966
Smoking Cessation (860) 972-3668
Case Coordinator/Discharge Planning (860) 972-3192
Public Safety (860) 545-2147
Integrated Anesthesia Associates (860) 282-4124
Guide to Parking at Hartford Hospital

VALET SERVICES:
Location: In front of the hospital’s main entrance.
Hours of Operation: Open 24 hours per day, 7 days a week.
Rates: $2 per hour up to the maximum daily rate of $9.

SELF-PARKING GARAGE HOURS OF OPERATION:
Location: The Public Parking Garage is attached to Hartford Hospital’s Medical Office Building at 85 Seymour Street.
Hours of Operation: Open 24 hours per day, 7 days a week.
Rates: $2 per hour up to a maximum daily rate of $9.

WEEKLY AND MONTHLY PASSES:
Available for valet services and self-parking garage at discount rates at the LAZ Parking kiosk located inside the main entrance of Hartford Hospital.

HANDICAPPED PARKING:
Handicapped parking is located in the circular drive in front of Hartford Hospital (80 Seymour St., Hartford, CT)

*Parking policies, including hours, rates and fees, are subject to change without notice.
My Questions

List here any questions you have for any member of your care team.

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This section contains explanations of heart conditions and the procedures used to correct them:

Coronary Artery Disease and Treatment
- Your coronary arteries
- Coronary artery disease
- Heart attack
- Bypass grafting

Heart Valve Diseases and Treatments
- Your heart valves
- Common valve diseases, symptoms, and treatments

Aortic Aneurysm Repair

Irregular Heart Rhythm and Treatment
- Atrial fibrillation
- Maze procedure

Atrial-Septal Defect Repair
Coronary Artery Disease and Treatment

- Your coronary arteries
- Coronary artery disease
- Heart attack
- Bypass grafting
Like all muscles in the body, the heart muscle needs a continual supply of oxygen to function. The coronary arteries wrap around the heart, providing it with oxygen-rich blood to function properly. The left main coronary artery splits into two branches called the left circumflex artery and the left anterior descending artery. They supply blood to the front, left and back of the heart. The right coronary artery supplies blood to the bottom, right and back of the heart.
Coronary Artery Disease

The heart muscle receives its blood supply from a network of spaghetti-like coronary arteries that lie on its outer surface.

The coronary arteries are subject to a disease called atherosclerosis, in which a buildup of cholesterol and other fats in the lining of the arteries progressively narrows the interior channel. This causes blood flow through the arteries to be reduced, and the heart muscle to receive an inadequate amount of oxygen. When more oxygen is needed than the arteries can deliver, the heart muscle cramps in response. This is called angina.

Over time, atherosclerosis can build up to a dangerous level. Sometimes, it forms a clot that can hinder blood flow. Other times, it forms a soft lump (plaque) covered by a fibrous cap that can easily rupture and spill its contents into the bloodstream. Either way, a heart attack-causing clot can occur.

Your surgeon plans to bypass the blockages to reroute oxygenated blood around the danger points to restore blood flow to your heart muscle, stop angina, and prevent a heart attack.
Heart Attack

A heart attack occurs when blood flow through the coronary arteries is interrupted. The severity of a heart attack depends on how long blood flow is stopped and how much heart muscle is affected. The faster you receive treatment to restore blood flow, the greater your chance of having minimal damage.

Doctors call heart attacks “myocardial infarctions (MIs).” There are two types:

- **NSTE MI.** This type of heart attack does not cause changes in the S-T segment of an EKG (see Figure 1a). Therefore, it is called a “non-ST segment elevation myocardial infarction” (NSTE MI). It is diagnosed by chemical changes in the blood that indicate damage to the heart muscle has occurred. NSTE MI usually indicates a clot is temporary or occurs in a minor blood vessel.

- **STEMI.** This is a major, full-blown heart attack, which clearly appears as an elevated ST segment on an EKG (see Figure 1b). STEMI heart attacks are caused by prolonged blockages of blood flow in major coronary arteries, which affects a significant area of heart muscle.

An EKG records the various electrical impulses in the heart that cause the heart to contract, pause for filling and contract again. The diagram on top shows a healthy heartbeat. The diagram on the bottom, in which the segment of the EKG between the S and T waves is elevated, indicates a heart attack.
Coronary Artery Bypass Grafting

For more than 40 years, coronary artery bypass grafting (CABG)—a procedure most people call “bypass surgery”-- has been the standard method for restoring blood flow to the hearts of patients with coronary artery disease. CABG has a low mortality rate and a high rate of success in restoring the flow of oxygen-rich blood, relieving angina and preventing heart attack.

In CABG surgery, the surgeon creates a new pathway by using blood vessels located in the chest (mammary arteries), leg (saphenous veins) or arm (radial arteries). If the saphenous veins are used, they will be removed through one or two small incisions (see illustration). Your surgeon will explain which blood vessels will be used for your procedure.

CABG may be done with or without a heart-lung machine (“pump”). Your surgeon will choose which option is best for you.

A surgeon will make an incision down the center of your sternum (breastbone) to access your heart. You will be connected to a heart-lung bypass machine, which will circulate your blood throughout your body during surgery. After surgery, the surgeon will close your breastbone with wires and your chest skin with internal and external stitches. The wires will stay in your chest permanently and are MRI-compatible.

MINIMALLY INVASIVE CABG

Sometimes CABG can be performed through a small incision in the side of the chest (thoracotomy). Your surgeon will let you know if you qualify for this procedure.
Coronary Artery Bypass Grafting

This illustration shows bypass grafts using a left internal mammary artery (LIMA) from the inside of the chest wall and a saphenous vein graft taken from the leg. If you have more than one blockage, more than one bypass may be needed.
Heart Valve Diseases and Treatments

- Your heart valves
- Common valve diseases, symptoms and treatments
The heart has four chambers. The left atrium receives oxygen-rich blood from the lungs. The right atrium receives blood from the body. The right ventricle sends blood to the lungs for oxygen. The left ventricle sends oxygen-rich blood out into the body. Four valves control proper blood flow through these chambers, serving as one-way doors to keep blood moving in the proper direction and not allowing any backflow.

- The aortic valve allows the flow of oxygenated blood from the left ventricle (lower left chamber) into the aorta and the rest of the body.
- The mitral valve allows oxygenated blood to flow from the left atrium (upper left chamber) to the left ventricle (lower left chamber).
- The pulmonary valve allows blood flow out of the right ventricle (lower right chamber) into the lungs.
- The tricuspid valve allows blood flow from the right atrium (upper right chamber) to the right ventricle (lower right chamber).

Any problem with the leaflets or supporting structures of those valves can cause symptoms.
Common Valve Diseases, Symptoms, and Treatments

AORTIC VALVE DISEASE

Aortic regurgitation occurs when the aortic valve does not close tightly enough, allowing blood to leak back into the left ventricle of the heart. Because the blood is not being efficiently pumped into the body, symptoms may occur.

Aortic stenosis occurs when the valves leaflets become scarred, calcified, or thickened and do not open like they should. When it becomes severe, the heart must work harder to pump the blood through the small opening which can result in symptoms and weakening of the heart muscle.

Common symptoms of aortic stenosis and aortic regurgitation are fatigue, shortness of breath, foot or ankle swelling, chest pain, discomfort, or tightness with exertion, palpitations, irregular heart rhythms, and lightheadedness.

Aortic valve replacement is the preferred treatment for aortic regurgitation or stenosis. The types of valves used for replacement are described on page 2-11.
MITRAL VALVE DISEASE

Mitral regurgitation is the most common form of heart valve disease, affecting about 4 million people in the United States. Mitral regurgitation occurs when the leaflets of the mitral valve do not close properly, allowing the blood in the heart to leak backwards into the left atrium. This condition is commonly caused by mitral valve prolapse but can also result from endocarditis (an acquired infection of the valve) or a heart attack.

Mitral valve prolapse occurs when the leaflets of the mitral valve bulge back or prolapse into the left atrium. Mitral valve prolapse affects approximately 8 million people in the United States and can run in families or be caused by a connective tissue disorder. Mitral valve prolapse is typically harmless, but in 10-15% of individuals, the prolapse leads to a lack of closure of the valve that starts to leak. In medical terms, this is known as mitral regurgitation.

Mitral stenosis occurs when the leaflets get thickened and stiff or fuse together, making the opening of the valve small. This condition is commonly caused by rheumatic fever but can also result from calcium build up associated with aging, renal failure, or radiation therapy.
Common symptoms of a mitral valve problem are shortness of breath, palpitations, leg swelling, and fatigue. If left untreated, severe mitral regurgitation or stenosis can lead to an irregular heart rhythm called atrial fibrillation. It can also lead to congestive heart failure, as well as cardiomyopathy, a weakening of the heart muscle.

Mitral valve repair is the preferred treatment for mitral regurgitation because your own restored valve is alive and can defend itself from infection. The individual also benefits from a longer and better quality of life as compared to a replacement because you do not need blood thinners to keep it from clotting. The likelihood of repair depends not only on the pathology of the valve but also on the skill and experience of the surgeon. Surgeons who have a track record of achieving a repair rate that exceeds 90% for degenerative mitral valves are called mitral repair experts. Hospitals where a mitral repair expert operates are called mitral valve reference centers. Hartford Hospital is recognized by mitral valve experts to be one of the national reference centers.

Individuals with severe mitral stenosis are typically referred for surgery when they develop symptoms. This is because mitral valves with stenosis are typically not repairable and replacement is often necessary. It is important to delay valve replacement as long as possible, while valve repair is recommended as soon as the valve is severely malfunctioning, even if the individual does not have symptoms.
**MINIMALLY INVASIVE MITRAL VALVE REPAIR**

In addition to the highly successful repair rate for mitral surgery, our team has had a large experience with the less invasive mini thoracotomy incision that avoids sternotomy. Minimally invasive surgery is done by making a small incision under the right breast and a small incision in the groin. When surgery is performed this way, patients are typically discharged to home 24-48 hours later, are able to drive 1 week after discharge, and resume normal activities with no restrictions 4 weeks from surgery. Individuals also benefit from reduced risk of infection, less postoperative pain, and a recovery time shortened by half compared to traditional open heart surgery.

![Minimally invasive mitral valve repair incision](image)

**TRICUSPID VALVE DISEASE**

Tricuspid regurgitation occurs when the tricuspid valve does not close properly and blood flows backwards into the right atrium. Tricuspid regurgitation is often the result of other valve pathology such as mitral or aortic stenosis or regurgitation. Tricuspid regurgitation may also be the result of infection (endocarditis) or be congenital in nature, like Ebstein’s anomaly.

Common symptoms of tricuspid regurgitation are swelling of the legs, abdominal bloating, fatigue, and decreasing exercise capacity.

Tricuspid valve repair is the preferred treatment for tricuspid regurgitation because it is associated with a lower risk of infection and it preserves heart function. Repair is commonly performed by placing a ring around the valve. If the valve cannot be repaired, it is replaced.
VALVE REPLACEMENT OPTIONS

When valve repair is not possible, the valve is removed and replaced with a mechanical or biological valve.

Mechanical valves are designed to imitate the functions of the natural valve. They open like a door on hinges and often produce a soft clicking sound when they close. They are very durable, but require blood thinners to prevent the development of blood clots.

Some biological valves are formed from cow (bovine) or pig (porcine) tissue. These valves do not last as long as the mechanical valves but they do not require long-term use of blood thinners. Some people who have a biological valve may be prescribed blood thinners for other reasons.
Aortic Aneurysm Repair
Aortic Aneurysm Repair

The aorta is the largest artery in the body. It extends from the heart through the chest and abdomen, where it splits in two and continues down the legs. Any segment of the aorta can develop a weakness, or aneurysm, in its wall. Many factors, including the size of the aneurysm and symptoms, dictate when to intervene.

Symptoms may include pain in the jaw, neck and upper back; chest or back pain; or coughing, hoarseness or difficulty breathing. However, many patients with aortic aneurysms have no symptoms at all. Large aortic aneurysms and those that produce symptoms may be treated to prevent the vessel from rupturing and causing rapid, life-threatening blood loss.

If you are undergoing thoracic aortic aneurysm repair, your surgeon will remove the damaged section of aorta and replace it with a strong, flexible Dacron tube.
Irregular Heart Rhythm and Treatment

- Atrial fibrillation
- Maze procedure
In a normal heart, the upper (atria) and lower (ventricles) chambers beat in perfect harmony, thanks to a complex system of electrical impulses that move with lightning speed. Problems in the electrical pathway can cause an irregular rhythm (arrhythmia), either fast or slow. Most arrhythmias can be controlled with medications or a pacemaker.

One of the most common arrhythmias is atrial fibrillation (Afi b). Afi b is not necessarily life-threatening in itself, but the episodes of racing, irregular heart rhythms can be highly distressing. Symptoms can include chest pain, dizziness and shortness of breath. Afi b also causes blood to pool in the left atrium, where it can clot before being pumped out into the body. For this reason, Afi b increases the risk of stroke.

In some people, Afi b can be controlled by medication or by a catheter-based procedure. When these methods fail to work, a surgeon may be needed to create a new electrical pathway on the surface of the heart. This is called maze surgery.

Maze surgery is performed under general anesthesia at the same time as coronary artery bypass surgery or valve surgery. The surgeon uses an instrument with a tip that generates radiofrequency waves or extreme cold to make a series of small scars on the surface of the heart in a particular pattern that resembles a maze. As the heart heals, these scars form a barrier that channel electrical impulses into the correct path.

**Minimally Invasive Maze Procedure**

The minimally invasive maze procedure is a stand-alone procedure for patients with atrial fibrillation. The procedure utilizes minimally invasive surgical techniques to electrically isolate the pulmonary veins from the left atrium and remove the left atrial appendage. This is done through small incisions on both sides of the chest between the ribs (bilateral mini-thoracotomy), and is assisted by the use of a small fiber-optic camera.
Atrial-Septal Defect Repair
ASDs may not cause symptoms until mid-life, at which time the person may begin to experience shortness of breath, fainting, arrhythmias, or fatigue. Large ASDs may lead to heart failure, atrial fibrillation, pulmonary hypertension, stroke, and damage to other heart valves.

Some ASDs, such as patent foramen ovales (PFO), significantly increase the risk of stroke. Some people with ASDs are unaware they have the condition until a stroke occurs.

**Repair techniques**
Depending on their size and location, surgery may be required to close the hole with stitches or a patch.
Preparing for Surgery

This section contains information on:

• Preparing for surgery
• Preoperative instructions
• Skin cleansing with Hibiclens™
Preparing for Surgery

Meeting with your surgeon
Your cardiologist has determined you may need heart surgery and has referred you to a surgeon. At the appointment, called a surgical consultation, your surgeon will discuss your heart condition and explain the type of surgery proposed to correct it.

Your surgeon will want to know what medications you are taking, since some of them will need to be stopped before your operation.

Your surgeon may use the diagrams in this book to better illustrate the operation you will be having. Be sure to write down any questions you have on page 1-4, so you don’t forget to ask.

At the end of the consult, the office will schedule a date for your surgery. The office will provide you with instructions, and in some cases make appointments for, any necessary pre-operative testing.

Meeting with a Cardiac Surgical Nurse Coordinator
The Coordinator performs many valuable roles designed to ensure you have the best possible experience and facilitates communication between the hospital, surgeon, and all members of your care team. The Coordinator will explain all aspects of your hospitalization, surgery, recovery and rehabilitation and will make sure any special needs you may have are accommodated. Your pre-operative education may occur in person, by telephone, or during a virtual visit. Your family and/or support person is encouraged to participate.

Selecting your Family Spokesperson
Due to patient privacy laws (HIPAA regulations), our ability to share information about your condition over the telephone is limited. That is why we recommend deciding ahead of time who your Family Spokesperson will be. It should be someone you can trust to relay messages accurately to concerned family members and friends.
Preoperative Instructions

In the days before your surgery, you will need to follow certain instructions, as detailed below. These instructions are important, so please check off each box after you have made note of the information:

- Your surgeon may ask you to stop taking certain medications for a period of time. Be sure to note which medications should be stopped, and how far in advance of surgery they need to be stopped.

- If you take vitamins, supplements, herbs, or dietary products, please tell your surgeon at your first meeting. You may need to discontinue taking some of them before your surgery.

- If you need CPAP at night for sleep apnea, tell your surgeon at your first meeting. You may bring the CPAP machine with you to the hospital for your surgery.

- If you smoke, you should quit now. Smoking interferes with the healing process and makes recovery from heart surgery much more difficult. If you would like smoking cessation counseling, please contact (860) 972-3668.

- If you drink alcohol, you should limit your consumption to no more than one glass of wine with dinner.

- If you develop a cold before your surgery, it does not necessarily mean your operation must be postponed. However, if you develop a fever higher than 101°F within a week before your surgery, call your surgeon immediately.

- Your skin is not sterile, so you can help prevent postoperative infections by making sure your skin is as germ-free as possible before your surgery. We will give you Hibiclens™, a skin cleanser that kills germs for up to 24 hours after use, to shower with the evening before and the morning of surgery. Instructions for Hibiclens™ use can be found on the following page.

- Male patients may have chest hair clipped and shaved by staff the morning of surgery. Please do not clip or shave chest hair prior to your admission to the hospital.

- One business day before surgery, you will receive a call between 1:00 p.m. and 6:00 p.m. letting you know what time your operation is scheduled to take place, and what time to report to the Admitting Department, Room 128 at the hospital. If you do not receive a call by 6:00 p.m., please call the Surgery Time Line at (860) 972-3208.

- Do not eat or drink after midnight before your surgery unless instructed by your provider.
**Instructions for using Hibiclens™**

General skin cleansing prior to your surgery is an important step in preventing post-operative infections. **You will need to take a shower the evening before and the morning of your surgery with the antiseptic, antimicrobial skin cleanser Hibiclens™.**

- Hibiclens™ is NOT to be used on the head or face; it is important to keep it out of your eyes, ears, and mouth.
- Hibiclens™ is also NOT to be used in the genital (“privates”) area.
- Hibiclens™ should NOT be used if you are allergic to chlorhexidine gluconate.
- See Hibiclens™ label for full product information and precautions.

**General instructions for showering:**

1. Wash your hair with your regular shampoo and then rinse your hair and body thoroughly.
2. Wash your face and genitals with your regular soap and then rinse your body thoroughly.
3. Use Hibiclens™ as you would any liquid soap to clean the rest of your body and then rinse your body thoroughly.
4. Dry yourself with a clean towel.
5. Do NOT apply lotions, deodorants, powders, or perfumes after your Hibiclens™ shower.
6. Put on clean clothing.
7. Sleep in a bed with clean sheets.
8. Do not sleep with pets after your Hibiclens™ shower.
4 The Day of Surgery

This section contains information on:

- Checking in on the day of your surgery
- What your family can expect while you are in surgery
- Your care team
- What you can expect in the Operating Room
- What you can expect in the Intensive Care Unit (ICU)
On the Day of Surgery

Checking in on the day of surgery

- Bring your drivers license or valid photo ID, and your insurance card(s).
- Leave money, jewelry and other valuable items at home.
- You may bring your cell phone to the hospital.
- Please arrive on time to the main entrance of Hartford Hospital (80 Seymour Street, Hartford, CT).
- Leave your car with valet (refer to pg. 1-3).
- You will first check-in to the Admitting Department, Room 128 (left side of the main lobby).
- We will ask you for the name of your Family Spokesperson.
- One family member/friend may accompany you to the Pre-op area. Any additional family/friends will be sent to the Surgical Waiting Area.
- You may wear eyeglasses, dentures, and/or hearing aids if they will help you communicate with the Pre-op team.

While in Pre-op

A nurse will take your weight and vital signs. The nurse will insert an intravenous line (IV) in a vein in your arm, ask you some questions, perform a physical assessment, and clip the hair off your body. The nurse will also swab the inside of your nose with an antiseptic solution as an infection prevention measure. A temporary dressing will be placed on your tailbone to prevent skin breakdown. Once you are up and moving around after your surgery, it will be removed.

A member of the Anesthesia team will place a special IV in the artery in your wrist. This IV will be used to monitor your blood pressure and allow staff to easily obtain blood work during surgery and while you are in the ICU.

What your family can expect

When you are taken to the operating room, your family members or friends accompanying you will be asked to wait in the Surgical Waiting Area on the 5th floor (Bliss Wing). During and immediately following surgery, our tracking system will make it easy for them to know your status. When you go to the operating room, your family members or friends will be given a tracking number to protect your privacy. Monitors will display your status. When you are in surgery, it will say, “Procedure.” When you have been moved to the ICU, your tracking number will disappear from the monitor. A liaison in the Surgical Waiting Area will be available Monday through Friday from 5:30 AM to 10 PM to answer questions and help to determine how long it will be before your surgeon or a designated team member will speak to the family spokesperson after the completion of the surgery.

The liaison will direct your family members or friends to the B9I (ICU) waiting room on the 9th floor of the Bliss Wing. To notify the B9I staff that family members or friends are present, please ring the intercom bell on the outside of the B9I doors or call 2-5200 from the phone in the B9I waiting room. Staff will let family members or friends visit once you are ready for visitors, usually within 30-60 minutes of your arrival to the unit.

For updates and questions that arise regarding a family member or friend in surgery on the weekend or after hours, please call (860) 972-2761.

The Day of Surgery
Your Care Team

Heart surgery is a team effort, and your operating room will be filled with medical professionals. In addition to your surgeon, there will be an anesthesiologist, a perfusionist (person who operates the heart-lung machine), physician assistants, nurses, and surgical technicians.

In the Operating Room

The operating room will be cold, bright, and bustling with activity. A nurse will check your name and the name of your surgeon, and verify this information on your wrist band.

Your anesthesiologist will administer your anesthesia through your IV. Although you will fall asleep quickly, your hearing will be the last sense to leave you. You can be assured that before the operation begins you will be completely anesthetized and will feel no pain. During the surgery, your EKG, blood pressure, breathing, pulse, and other functions will be closely monitored at all times.

In the Intensive Care Unit (ICU) - B9I

After the surgery, your care will be provided by an intensivist (a physician specializing in intensive care), a cardiologist, advanced practitioners, nurses, respiratory therapists, and patient care associates, all working with your surgeon. You will awaken in the Intensive Care Unit on Bliss 9I (B9I). You may awaken slowly, first by hearing nurses calling your name and talking to you. You will have a breathing tube and you will not be able to speak when you awaken. This tube will be removed once you are awake enough to breathe on your own, usually within six hours of the surgery ending.

You will also have a large number of tubes and lines attached to your body and linked to the monitoring equipment at your bedside. A tube called a Foley catheter will empty your bladder. You will have chest tube(s) located around your heart and/or lungs to remove any fluid that may collect after surgery. The tubes will be removed over the next few days. While in bed, you will have cuffs on your legs attached to a sequential compression device (SCD). The SCD will intermittently inflate the cuffs to prevent blood clots.

Your face and body may be swollen. This is entirely normal, and is the result of being given fluids during your surgery. You will be given medication to eliminate this extra fluid.

ICU visiting hours are posted, but they are flexible. However, we ask that your family members or friends limit their initial visit to 10-15 minutes, since we must provide you with a great deal of care during this time. We ask that you have no more than two visitors at a time, since it is important for the nurses to have a clear view of your bed and to monitor you closely during your stay in the ICU. No children are allowed in ICU. It is important for your family to know food, drink, and flowers are not allowed in the ICU. Family members are not allowed to sleep overnight in your ICU room.

You will stay in the ICU overnight and be moved to a telemetry floor (B9E/B5E) with other heart patients when your condition is stable, likely the following day. If we feel it is in your best interest, we will keep you in the ICU longer.
5 Recovering in the Hospital

This section contains information on:

- What to expect each day after surgery
- Your stay on B9E/B5E
- Managing pain
- Caring for your body after surgery
- Postoperative nutrition
- Preparing for discharge
What to Expect Each Day After Surgery

Every day, you can expect to:
- Be weighed in the morning
- Have your blood pressure, heart rate, oxygen level, and temperature checked
- Get out of bed for each meal
- Use your incentive spirometer 10 times every hour while you are awake
- Use your heart pillow to help you cough and breathe deeply
- Have your fluid intake and output monitored
- Have tubes, wires, and/or IVs removed
- See an increase in your activity level and tolerance
- Discuss discharge planning

On the first day after surgery, you can expect to:
- Have your dressing(s) changed
- Walk with assistance
- Begin eating a heart-healthy diet
- Have your Foley catheter removed

On days 2 through 5 after surgery, you can expect to:
- Have your dressing(s) changed or removed, if possible
- Receive medication to stimulate a bowel movement
- Take a shower
- Walk in the halls 2 to 4 times per day with assistance
- Have your oxygen removed

Prior to discharge, you can expect to:
- Walk in the halls 3 to 5 times per day
- Walk up and down stairs with staff assistance
- Move your bowels
- Have a chest x-ray in the Radiology Department
- Have an EKG
- Receive diet, wound care, activity, and medication instructions in preparation for discharge
- Finalize discharge plans
What to Expect After Surgery

Helpful information for your stay on B9E/B5E

Preventing pneumonia or incomplete expansion of your lung bases (postoperative atelectasis) is important. We expect you to use your incentive spirometer (breathing exerciser) 10 times every hour while you are awake. You will be given a heart pillow to hug while you cough and breathe deeply after using the spirometer. This pillow will help support your chest and allow you to take deeper breaths.

Every day you will be weighed, have your blood pressure, heart rate, oxygen level, and temperature checked. At meal time, you will get out of bed and walk to a chair, where you will eat your meals. Meals will be served at the following times:

Breakfast: 8:30 a.m. - 9:00 a.m.
Lunch: 12:30 p.m. - 1:00 p.m.
Dinner: 5:30 p.m. - 6:00 p.m.

The phone in your room will be shut off from 10:00 p.m. to 8:00 a.m.

At first, you will find the smallest tasks tiring. Be assured that your strength and stamina will increase as you progress through your stay. Before you are discharged, you will be able to walk around the halls and climb stairs with the help from staff.

Fall precautions

All cardiac surgery patients are on fall precautions. While hospitalized you will need to ask for assistance to get out of bed to the chair, bathroom and for walking.

Managing pain

You will experience some pain after your surgery. You will receive a multimodality regimen of pain medications that includes around the clock Tylenol and if not contraindicated Toradol, a strong anti-inflammatory agent. Do not hesitate to tell the nurse about severe pain for which you may receive an adequate dose of narcotics.
Caring for your body after surgery

Almost every patient is swollen after surgery from water-weight gain, but we will give you medication to eliminate the extra fluid.

Lying in bed will leave you susceptible to skin breakdown. We encourage you to get out of bed as often as possible to sit in a chair or walk. While you are in bed, you should turn often to relieve the pressure on any area of skin.

Do not touch your incision. Do not put lotions or creams on it. Do not scratch it or remove the scabs, as they are barriers to infection. You will be allowed to shower as soon as your chest tubes are removed.

The anesthesia and pain medications you received, combined with lack of activity, will slow down your bowel cycle. Do not be concerned. We will give you medications to help normal bowel function resume, along with a stool softener to prevent straining. A few days after surgery, you should be back to normal.

Postoperative nutrition

You will need extra calories to heal, but these calories should be in the form of high-quality proteins, vegetables and fruits. Your care team will monitor your diet and modify it as necessary.

Even if you do not have your normal appetite, we encourage you to eat. Your surgeon may recommend you follow a low-fat, no-added-salt diet after discharge. Your nurse will give you more detailed diet instructions to follow at home.

You may be instructed to avoid caffeinated and decaffeinated beverages for 3 weeks following surgery.

Managing blood glucose levels

After surgery, many patients experience elevated blood sugar levels, even if they do not have diabetes. If this happens to you, you probably fall into one of four categories:

1. Elevated blood sugar is a temporary reaction to the stress of surgery and will resolve in a few days or weeks. You may need injections of insulin until the condition resolves.
2. You had diabetes before surgery, but did not know it.
3. You had diabetes before surgery, but were able to control your blood glucose levels with oral medications. You may need insulin for a short time after surgery to regain control, but there is a good chance you will be able to resume using oral medications a few days or weeks after discharge.
4. You had diabetes before surgery, and controlled your blood glucose levels with insulin or a combination of insulin and oral medications. You may need larger doses of insulin to control your sugars in the first few days or weeks after surgery.
Preparing for discharge

You will stay on B9E/B5E until you are ready for discharge home. This next phase may include home care or, in a small number of cases, discharge to a skilled nursing facility for short-term rehabilitation. The length of time you will need for this phase depends on your individual progress and needs.

On the day of discharge, our goal is to have you discharged by 11 a.m. Please notify your family of your anticipated discharge date and time.

If you are going to a skilled nursing or rehabilitation facility, your case coordinator will assist you and your family in making these arrangements before you are discharged from the hospital.

We will send you home with a list of the medications that you should be taking for your heart and other medical problems. It is very important that you take all medications as directed. It is equally important that you not take any other medication (over-the-counter or prescription), that is not on this list without the permission of your doctor. Many medications you think are safe may interact with your heart medications, making them stronger or weaker.
Recovery After Hospital Discharge

This section contains:

- Helping your incision to heal
- Nutrition
- Your emotional health
- Follow-up appointments
- Watching for weight gain
- Preventing endocarditis
- When to call
- Resuming activity
- Regular exercise
- Progressive walking program
- Driving
- Swimming
- Returning to work
Helping Your Incision to Heal

- We encourage you not to smoke and will provide you with smoking cessation information. Call the Hartford Hospital Stop Smoking for Life Program at 860-972-3668 for smoking cessation assistance.
- If you have been instructed to wear a bra, you may wish to place a gauze dressing over the incision to protect it from rubbing and irritation.
- Take a shower daily and wash your incision gently with warm (not hot) water using your finger tips or a soft sponge. Avoid vigorous scrubbing. Be sure to dry the incision thoroughly with a clean towel. Do not take a bath or use a hot tub until the incision is fully healed. Do not put creams, oils, powders, or lotions on your incision, or scratch it. The incision will heal gradually over time. Leave the scabs alone. Do not cover your main incision unless it begins to drain. In this case, cover it with sterile gauze (available at your pharmacy) and call your surgeon.
- If your incision has a dressing, change it daily or more frequently if it becomes wet or soiled.
- When the drainage stops, you should stop applying the dressings and allow the incision to heal in the open air.
- It is not uncommon for the drain sites to leak. They rarely become infected. If they leak, cover them with a Band-Aid or dressing until they stop.
- **Notify your surgeon if you notice any of the following:**
  - Increased tenderness around the incision
  - Increased redness or swelling around the edges of the incision
  - Any drainage from the main incision
  - You need to change the dressing more often due to increased drainage
  - The incision or the drainage develops a bad smell

Nutrition

- You may benefit from a low cholesterol and/or low salt diet depending on your condition. It is more important to eat well for the first month after surgery than to follow a strict diet unless you have diabetes.
- You may be instructed to avoid caffeine or decaffeinated beverages for 3 weeks following surgery.

Your Emotional Health

It is not uncommon to be emotional after surgery. You may experience highs and lows. If your emotional health has not returned to normal within 3 months, speak with your primary care provider.
Your Follow-Up Appointments

You will be expected to see your surgeon and cardiologist within 2-4 weeks after you have been discharged from the hospital. You will be given time frames for these appointments when you are discharged, and it is your responsibility to book the appointments if they have not already been scheduled for you.

Watching for Weight Gain

You should weigh yourself at the same time every morning and record it. Be sure to wear the same amount of clothes and to use the same scale every day. This helps us monitor for fluid retention. For several weeks after surgery, the kidneys inappropriately secrete a hormone called antidiuretic hormone, that tells the body to hold water. To prevent fluid retention, avoid excessive fluid intake for the first several weeks after surgery unless otherwise instructed. Notify your doctor if you gain more than 2 pounds in one day or 5 pounds in one week.

Record your weight daily on this page and bring it to the next appointment with your cardiologist or cardiac surgeon.

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Recovering after Hospital Discharge
Preventing Endocarditis

Endocarditis is an infection of your heart valve(s). If you have a valve repair or replacement, you should ask your doctor to prescribe antibiotics for dental work or surgery. The antibiotics will help prevent endocarditis. Avoid dental work during the first three to six months after surgery. You may also need antibiotics prior to certain procedures. Please notify any provider planning to perform a procedure that you have had valve repair or valve replacement, and that you may need to be pre-medicated with antibiotics prior to that procedure. (Refer to page 9-1 in the Resources section of this book for details).

When to Call

If you develop any of the following symptoms, call your surgeon:

- Difficulty breathing
- Shortness of breath while lying flat
- Dry, hacking cough without a cold
- Pain that worsens with deep breathing
- Fever of 101 degrees or more
- Drainage, redness, inflammation, warmth or new soreness at the site of the incision
- Weight gain of 2 pounds in 1 day or 5 pounds in 1 week
- Swelling in the legs, ankles or stomach
- Dizziness, lightheadedness
- Increasing weakness and difficulty doing regular activities
- Pain in the calf that becomes worse when flexing the foot upwards towards the shin

If you develop any of the following symptoms, go to the nearest emergency room, or call 911:

- Shortness of breath not relieved by rest
- Coughing up bright red blood
- Angina-like chest pain similar to what you experienced before your surgery
- Heart rate faster than 150 beats/min with shortness of breath or new irregular heart rate
- Fainting spells
- Severe abdominal pain
- Bright red blood in your stool
- Sudden numbness or weakness in arms or legs
- Sudden severe headache
Resuming Activity

You need a balance of exercise and rest as you continue to recover. It may be necessary to modify some of your daily activities until your body heals.

It is important to get up and get dressed each morning. Wear comfortable, loose fitting clothes that do not put pressure on your incisions.

You may climb stairs. When you first go home, be sure to go slowly, taking one step at a time if necessary. Remember that it takes more energy to climb stairs than to walk. If you become tired as you climb, stop, rest, and then continue. DO NOT pull yourself up the stairs.

Pace yourself. If an activity hurts, stop immediately. Don’t try to do too much too soon, or you will be very tired the following day. Rest at least twice a day for 20-30 minutes with your legs elevated. Pay attention to your body: it may give you signals that you need to rest.

Follow the general guidelines to resume your activities safely. Your surgeon may adjust these on an individual basis.

** Weeks 1 and 2: **

Activities you can do:
- Shower, shave, and wash your hair (avoid tub baths for 6-8 weeks).
- Prepare basic foods.
- Do light housework: wash dishes, dust, make beds. Do not change sheets.
- Write, read, and type (desk work).
- Read, watch TV, and listen to music.
- Sew, knit, and do other crafts.
- Play cards and board games.
- Ride in a car as a passenger for short trips. Wear a seat belt.
- Walk up and down the stairs as tolerated.
- Walk daily as outlined in the Progressive Walking Program on page 6-5

** Weeks 3 and 4: **

Activities you can do:
- Dine out and prepare meals.
- Run errands and shop for groceries (avoid lifting!).
- Attend religious services, bingo, and movies.
- Play musical instruments.
- Do light housework. Do not change sheets.
- Gradually resume sexual activity. Use non-weight-bearing positions until your sternum has healed (12 weeks from surgery).
- Discuss cardiac rehabilitation with your Cardiologist or Surgeon.
- Continue the Progressive Walking Program daily.

** If you have had minimally invasive surgery, please refer to Section 7 for your specific instructions. **
Activities you should avoid doing during weeks 1-4:
- Lift more than 10 lbs.
- Lift infants or small children.
- Avoid unnecessary pushing or pulling activities. For example, it may be necessary for you to use your arms to push yourself out of a seated position.
- Shovel, dig, or cut grass or hedges.
- Walk a medium- to large-sized dog.
- Contact sports.

Weeks 5 and 6:
Activities you can do:
- Moderate housework—laundry, sweeping.
- Painting, light carpentry.
- Ride the mower and garden.
- Walk the dog.
- Lift up to 20 pounds.
Activities you should avoid doing:
- Shovel.
- Contact Sports.
- No ceiling or ladder work.

Regular Exercise
Regular exercise is essential to your recovery, and the Progressive Walking Program is the best way to increase your endurance safely. It accomplishes this goal by gradually increasing the distance or amount of time you are able to walk. Starting at week 1 or 2 after discharge and continuing over a 4- to 8-week period, you will gradually increase the length of your exercise time, while decreasing the number of walks you take per day.

Progressive Walking Program
It is important that you walk on level ground. If your neighborhood is hilly, or the weather is extreme, walk indoors. Walking in a mall, grocery store, or from room to room in your home is perfectly acceptable.

Guide your progression based on how you feel. Continue repeating the same step until you no longer feel fatigued. At that point, you are ready for the next step. You should be able to carry on a conversation while you walk. If you become too out-of-breath to talk, the activity is too vigorous.

The 6-Step Progressive Walking Program
Step 1: Walk 3-5 minutes three or four times daily for a total of 12-20 minutes.
Step 2: Walk 5-7 minutes three or four times daily for a total of 15-28 minutes.
Step 3: Walk 7-10 minutes two or three times daily for a total of 20-30 minutes.
Step 4: Walk 10-15 minutes twice daily for a total of 20-30 minutes.
Step 5: Walk 15-20 minutes twice daily for a total of 30-40 minutes.
Step 6: Walk 20-30 minutes once a day.

Once you are able to walk 20 minutes, you will benefit from adding warm-up and cool-down periods:
- Warmup: Walk slowly for 5 minutes.
- Exercise: Walk briskly for 20 minutes.
- Cool down: Walk slowly for 5 minutes.
Driving

- When you ride in a car, be sure to wear a seat belt for protection against injury.
- You may resume driving 4 weeks after surgery.

Swimming

- You should avoid swimming until your are 12 weeks from surgery.

Returning to Work

Many people can return to work four to six weeks after surgery. How soon you can go back depends on how well you are healing and what type of job you have. Your surgeon will tell you when it is safe for you to return to work.
Minimally Invasive Mitral Valve Repair

This section contains information on:

- Instructions for minimally invasive mitral valve repair
Instructions for Minimally Invasive Mitral Valve Repair

Following your discharge from the hospital, please make an appointment with your cardiologist in 1-2 weeks.
You may become easily fatigued and experience moderate chest discomfort during your first few weeks at home.

Activities
During this time you may do light housework, easy repairs, mall walking, and shopping.
You may perform activities if you feel comfortable doing them such as vacuuming, mowing the lawn, lifting, and playing golf.
Walking is a very important part of recovery. Start with a minimum of 3 five minute walks a day. Every day you should increase your distance.
You may use stairs as tolerated.
You may drive 1 week following discharge from the hospital.

Showering and care of the incisions
You may shower when you go home. Using your fingertips, gently wash your incisions with mild soap and water. Pat dry with a clean towel. Avoid tub bathing for eight weeks.

Social habits and diet
Do not smoke.
No caffeine for three weeks.
Sexual activity may be resumed two weeks after discharge. You may have one or two drinks of alcohol per day.
You may benefit from low cholesterol and/or low salt diet depending on your condition. Unless you have diabetes, it is more important to eat well for the first month after surgery, than to follow a strict diet.
Cardiac Rehabilitation

This section contains:

• Cardiac rehabilitation defined
• AACVPR article on benefits of cardiac rehabilitation
Cardiac Rehabilitation

Hartford Hospital cardiac surgeons highly recommend that patients participate in a cardiac rehabilitation program after a heart attack or heart surgery. Cardiac rehabilitation is a proven way to reduce the risk of a future heart problem, including fatal or nonfatal heart attack. It is so effective that most Medicare plans cover 36 cardiac rehab sessions.

You will benefit from cardiac rehabilitation if you have had:

- A recent heart attack
- Chest pain (angina)
- Angioplasty or stent procedure
- CABG
- Heart valve surgery
- Heart failure
- Cardiomyopathy
- Heart transplant

What cardiac rehab involves

Cardiac rehabilitation is a supervised exercise and education program designed specifically to help patients recover from a heart related hospitalization. Three times a week, participants exercise gently, gradually increasing their endurance under the watchful eye of nurses and exercise physiologists, who monitor their EKG and blood pressure.

In addition to supervised, safe exercise, cardiac rehab programs provide group and individual counseling and education sessions designed to help you make healthy lifestyle changes. These sessions cover heart-healthy dietary changes, weight loss, smoking cessation, and stress management.

You must have a physician’s referral to begin the program. Your cardiologist will likely work with you to arrange your rehabilitation at a cardiac rehab program in your area. Hartford Hospital offers cardiac rehabilitation programs in several locations, including Hartford, Glastonbury, and Farmington.

"The doctors saved my life, but Cardiac Rehabilitation taught me how to live it."
- Hartford Hospital cardiac rehab patient

Gearing up for better heart health

In addition to extending survival and improving heart health, the benefits of participating in cardiac rehab include:

- Improved energy and physical fitness
- Improved sense of well-being
- Improved ability to manage stress
- Increased ability to perform job or tasks
- Lower blood pressure
- Lower cholesterol and blood sugar levels
- Weight loss
What is Cardiac Rehabilitation?

- An individualized and personalized treatment plan, including evaluation and instruction on physical activity, nutrition, stress management, and other health related areas
- An important part of the treatment of your specific heart problem. If you have one of the following diagnoses you may be eligible to participate
  - Heart Attack
  - Angina
  - Cardiac surgery, such as coronary bypass or valve surgery
- Generally covered by most health insurance companies but check your plan to determine copays or other requirements. Contact your local Cardiac Rehabilitation facility to inquire what programs are available for patients who do not have insurance

Benefits of Cardiac Rehabilitation:

- Live longer and lessen your chances for another heart attack
- Control heart disease symptoms such as chest pain or shortness of breath
- Stop or reverse damage to your blood vessels in your heart
- Lessen the physical and emotional effects of heart disease
- Improve your stamina and strength, getting you back to your usual activities, including work, hobbies, and regular exercise
- Improve your confidence and well-being

Recent scientific studies have shown that people who complete a cardiac rehabilitation program can increase their life expectancy by up to five years.

Cardiac Rehabilitation Offers:

- Assessment of your personal risk factors for heart and blood vessel disease
- Beginning and maintaining a personalized exercise plan that works for you
- Psychological/stress assessment and counseling
- Education and support to make healthy lifestyle changes such as:
  - Maintaining a healthy weight
  - Heart healthy eating
  - Avoiding tobacco and environmental smoke
- Opportunity to meet and share stories with other patients like you
- Monitoring and better control of:
  - Blood pressure
  - Lipids/cholesterol
  - Diabetes
- Improved communication with your doctor and other healthcare providers about your progress following your cardiac event

This information is prepared and presented as a service to you from the American Association of Cardiovascular and Pulmonary Rehabilitation (AACVPR). To find the nearest Cardiac Rehabilitation Center visit www.AACVPR.org
9 Resources

This section contains information on:

- Prevention of Infective Bacterial Endocarditis
- Informational websites
- Further reading on heart disease and heart surgery
**Prevention of Infective Bacterial Endocarditis**

If you had valve surgery, cut out the wallet card on the following page.
PREVENTION OF INFECTIVE (BACTERIAL) ENDOCARDITIS

Wallet Card

This wallet card is to be given to patients (or parents) by their physician. Healthcare professionals: Please see back of card for reference to the complete statement.

Name: __________________________

needs protection from

INFECTIVE (BACTERIAL) ENDOCARDITIS
because of an existing heart condition.

Diagnosis: ________________________________

Prescribed by: ____________________________

Date: _________________________________

You received this wallet card because you are at increased risk for developing adverse outcomes from infective endocarditis (IE), also known as bacterial endocarditis (BE). The recommendations for prevention of IE shown in this card are based on the current AHA guideline.

Members of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines and the American Heart Association's Rheumatic Fever, Endocarditis, and Kawasaki Disease Committee together with national and international experts on IE extensively reviewed published studies in order to determine whether dental, gastrointestinal (GI), or genitourinary (GU) tract procedures are possible causes of IE. These experts determined that there is no conclusive evidence that links GI or GU tract procedures with the development of IE. They also concluded that antibiotics before dental procedures are reasonable for certain patients at increased risk of developing IE and at highest risk of poor outcomes from IE.

The practice of routinely giving antibiotics to patients at risk for endocarditis prior to a dental procedure is not recommended EXCEPT for patients with the highest risk of adverse outcomes resulting from IE (see below on this card). The Committees could not exclude the possibility that an exceedingly small number of cases, if any, of IE may be prevented by antibiotic prophylaxis prior to a dental procedure. If such benefit from prophylaxis exists, it should be reserved ONLY for those patients listed below. The Committees recognize the importance of good oral and dental health and regular visits to the dentist for patients at risk of IE.

These guidelines do not change the fact that your cardiac condition puts you at increased risk for developing endocarditis. If you develop signs or symptoms of endocarditis—such as unexplained fever—see your doctor right away. If blood cultures are necessary (to determine if endocarditis is present), it is important for your doctor to obtain these cultures and other relevant tests BEFORE antibiotics are started.

Antibiotic prophylaxis with dental procedures is reasonable for patients with cardiac conditions associated with the highest risk of adverse outcomes from endocarditis, including:

- Prosthetic cardiac valves, including transcatheter-implanted prostheses and homografts
- Prosthetic material used for cardiac valve repair, such as annuloplasty rings and chords
- Previous endocarditis
- Congenital heart disease (CHD) only in the following categories:*
  - Unrepaire...t with prosthetic device, whether placed by surgery or catheter intervention, during the first six months after the procedure†
  - Repaired CHD with residual shunts or valvular regurgitation at the site or adjacent to the site of a prosthetic patch or prosthetic device (which inhibit endothelialization)
- Cardiac transplantation recipients with valve regurgitation due to a structurally abnormal valve

*Except for the conditions listed above, antibiotic prophylaxis before dental procedures is not recommended for any other form of CHD.
†Prophylaxis is reasonable because endothelialization of prosthetic material occurs within six months after the procedure.
Dental procedures for which prophylaxis is reasonable in patients with cardiac conditions listed on reverse side.

Prophylaxis against IE is reasonable before dental procedures that involve manipulation of gingival tissue or the periapical region of teeth, or perforation of the oral mucosa.*

*Antibiotic prophylaxis is NOT recommended for the following dental procedures or events: routine anesthetic injections through noninfected tissue; taking dental radiographs; placement of removable prosthodontic or orthodontic appliances; adjustment of orthodontic appliances; placement of orthodontic brackets; and shedding of deciduous teeth and bleeding from trauma to the lips or oral mucosa.

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*IM—Intramuscular; IV—Intravenous
**Or other first or second generation oral cephalosporin in equivalent adult or pediatric dosage.
†Cephalosporins should not be used in an individual with a history of anaphylaxis, angioedema or urticaria with penicillins or ampicillin.

Gastrointestinal/Genitourinary Procedures: There is no evidence for IE prophylaxis in GI or GU procedures absent known enterococcal infection.

Other Procedures: procedures involving the respiratory tract or infected skin, tissues just under the skin, or musculoskeletal tissue for which prophylaxis is reasonable are discussed in the document referenced below.


Healthcare Professionals – Please refer to these recommendations for more complete information as to which patients and which dental procedures it would be reasonable for antibiotic prophylaxis to reduce risk of infective endocarditis.

ADA American Dental Association®

American Heart Association

American Stroke Association®

life is why

National Center
7272 Greenville Avenue
Dallas, Texas 75231-4596
www.heart.org

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Mended Hearts, Inc.

For more than 50 years, Mended Hearts has offered hope, encouragement and information to heart patients and their families. Hartford Hospital is pleased to partner with Mended Hearts in order to help patients like you have a good experience.

Before surgery, someone from Mended Hearts will call or visit you. After surgery, your Mended Hearts contact will be happy to provide answers to any questions you may have and to provide reassurance that your life after surgery can be rich and rewarding.

For more information on this national nonprofit organization, please visit www.mendedhearts.org.

Web Sites You May Find Helpful

Your Heart Valve
www.yourheartvalve.com

Heart Valve Surgery
www.heart-valve-surgery.com

American Heart Association
www.americanheart.org

American Heart Assication - Heart Hub
www.hearthub.org

American College of Cardiology
www.acc.org

Society of Thoracic Surgeons
www.sts.org

National Heart, Lung and Blood Institute
www.nhlbi.nih.gov/health

Suggested Reading on Heart Disease & Heart Surgery

The Open Heart Companion: Preparation and Guidance for Open-Heart Surgery by Maggie Lichtenberg

The Cardiac Recovery Handbook: The Complete Guide to Life after Heart Attack or Heart Surgery by Paul Kligfield, MD