

Your Guide to Cardiac Surgery

Hartford 
HealthCare
Heart & Vascular Institute

To find a digital copy of this book

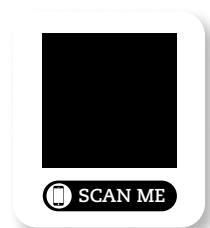


Table of Contents

Welcome letter 1-1

General Information..... 1-3

List of key phone numbers 1-4

Guide to parking 1-5

Accommodations..... 1-5

Notes/questions page..... 1-6

Your Heart and Heart Surgery 2-1

Coronary Artery Disease and
Treatment 2-3

Heart Valve Disease and
Treatments 2-9

Irregular Heart Rhythm and
Treatment 2-17

Aortic Aneurysm Repair 2-19

Bentall Procedure 2-21

Atrial-Septal Defect Repair..... 2-23

Septal Myectomy to Treat Hypertrophic
Cardiomyopathy 2-25

Preparing for Surgery 3-1

Preparing for surgery..... 3-2

Preoperative instructions..... 3-3

Instructions for using Hibiclens™ ... 3-4

Day of Surgery 4-1

Checking in on the day
of your surgery 4-2

While in Pre-op 4-2

What your family can expect..... 4-3

Your Operating Room Team 4-3

In the Operating Room..... 4-3

Silver Surgery Providers 4-4

In the Intensive Care Unit 4-4

Recovering in the Hospital..... 5-1

What to expect after surgery 5-2

Your stay on B9E/B5E 5-2

Post-operative nutrition 5-2

What to expect each day
after surgery..... 5-3

Fall precautions 5-4

Managing pain 5-4

Caring for your body after surgery .. 5-4

Managing glucose levels 5-5

Preparing for discharge 5-5

Recovering After Hospital Discharge.. 6-1

Helping your incision to heal 6-2

Nutrition 6-2

Your emotional health 6-2

Follow-up appointments..... 6-3

Watching for weight gain..... 6-3

Preventing endocarditis..... 6-4

When to call..... 6-4

Resuming activity..... 6-5

Returning to work..... 6-5

Swimming 6-5

Progressive walking program 6-6

Cardiac Rehabilitation and Lifestyle Medicine Program 7-1

Cardiac Rehabilitation defined..... 7-2

AACVPR article..... 7-3

Lifestyle Medicine Program 7-4

Resources..... 8-1

Prevention of infective bacterial
endocarditis (wallet card)..... 8-2

Mended Hearts, Inc..... 8-5

Women's Heart 8-5

Helpful websites 8-6

Stop Smoking Cessation program.... 8-7

Advance Directives 8-8

Appointment of Health Care
Representative..... 8-9

Living Will or Health Care
Instructions..... 8-11

Welcome to The Heart & Vascular Institute.

We are pleased you chose Hartford HealthCare's (HHC) Heart & Vascular Institute (HVI). Our team's commitment to providing the highest quality of care and upholding the best levels of patient safety and satisfaction has made us one of the most elite cardiac surgery programs in the nation. We share the following distinctions so that you and your family will have confidence in the care we provide:

Twice a year, the Society of Thoracic Surgeons (STS) ranks more than one thousand cardiac surgery centers in the United States and assigns a one to three-star rating for patient outcomes in the following five surgical categories:

- Aortic valve replacement
- Coronary artery bypass grafting
- Mitral valve replacement and repair
- Combined mitral valve replacement/repair and coronary artery bypass grafting
- Combined aortic valve replacement/repair and coronary artery bypass grafting

Hartford Hospital has consistently earned the distinction of being one of only a few programs nationally, and the only one in Connecticut, to earn a perfect 3-star STS rating in all five surgical categories.

Along with the high rating from STS, Hartford Hospital has earned the **Mitral Valve Repair Reference Center Award** from the Mitral Valve Foundation and the American Heart Association for the fourth consecutive year. Hartford Hospital is one of 24 centers in the nation to earn this distinguished award.

In 2021, HHC Heart & Vascular Institute was awarded The Joint Commission's **Comprehensive Cardiac Center (CCC) Certification**, becoming the first and remaining the only cardiac program in New England to be awarded this prestigious designation.

For the second time, every one of HHC's seven acute-care hospitals has achieved a highly valued **"A"** grade for safety from the **Leapfrog Group**, making us one of only three healthcare systems in the U.S. to achieve such an elite level of quality and safety.

continued on back



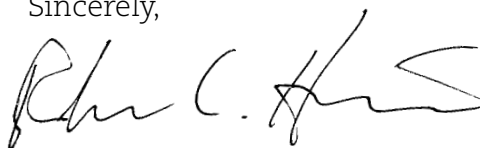
We want you to be a partner with us in managing your heart health. Education is critical to helping you understand your individual heart problem and its treatment. It is quite normal to have questions about what will happen to you during and after your heart surgery. To help you understand the process, 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 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 throughout your cardiac surgery journey.

Sincerely,



Robert C. Hagberg, MD
Chief of Cardiac Surgery



1 General Information

In this section you will find:

- List of key phone numbers
- Parking information
- Accommodations
- A page for your questions and notes

Cardiac Surgery Patient Care Team

Important Phone Numbers and Contact Information

HARTFORD HEALTHCARE MEDICAL GROUP CARDIAC SURGERY

85 Seymour Street, Suite 919
Hartford, CT 06106

..... (860) 696-5520

..... Fax (860) 278-3357

Dr. Dina Al Rameni
Dr. Mohiuddin Cheema
Dr. Daniel Fusco
Dr. Robert Hagberg
Dr. Jonathan Hammond
Dr. Sabet Hashim
Dr. Suguru Ohira
Dr. Sheelagh Pousatis
Dr. David Yaffee
Dr. Jason Zakko

HARTFORD HOSPITAL

80 Seymour Street
Hartford, CT 06102

Hartford Hospital Operator (860) 545-5000

GENERAL INFORMATION

Financial Assistance (860) 696-3100

Patient Advocates (860) 972-1400
or (888) 515-5544

Admitting/Patient Accounts (860) 696-6010

Spiritual Care (860) 972-2251

HOSPITAL UNITS - Bliss Building

Cardiothoracic Intensive Care

B3N (860) 972-8700

B2N (860) 972-8470

MRN:

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

Step-Down/Telemetry

B9E/SD (860) 972-5299

B5E (860) 972-1830

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) 972-9300

Public Safety (860) 545-2147

Integrated Anesthesia Associates (860) 282-4124

Case Coordinator
/Discharge Planning (860) 972-3192

B3N/B9E (860) 972-3192

B5E (860) 972-3307
(860) 972-1403

Please notify the office with any changes to your insurance coverage prior to surgery.

Please visit **HartfordHospital.org** and/or **HartfordHealthCare.org** for the most up-to-date information on the following:

Heart & Vascular Institute:
hartfordhealthcare.org/heart



Patients with Disabilities - Support Person Policy

For visitor Guidelines, please visit:

hartfordhealthcare.org/health-wellness/coronavirus/visitor-safety



Hartford Hospital Visitor Policy is subject to change without notice.

If you do not have internet access you may call the Hartford Hospital Operator (860) 545-5000 for assistance.

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:

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 discounted rates at the Cashier's Office located near front lobby 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.*

Accommodations

The Capitol Hotel (860) 455-4001
440 Asylum Street, Hartford, CT 06103

**Please mention Hartford Hospital affiliation to receive a reduced rate.*

2 Your Heart and Heart Surgery

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

Irregular Heart Rhythm and Treatment

- Atrial fibrillation
- Maze procedure

Aortic Aneurysm Repair

Bentall Procedure

Atrial-Septal Defect Repair

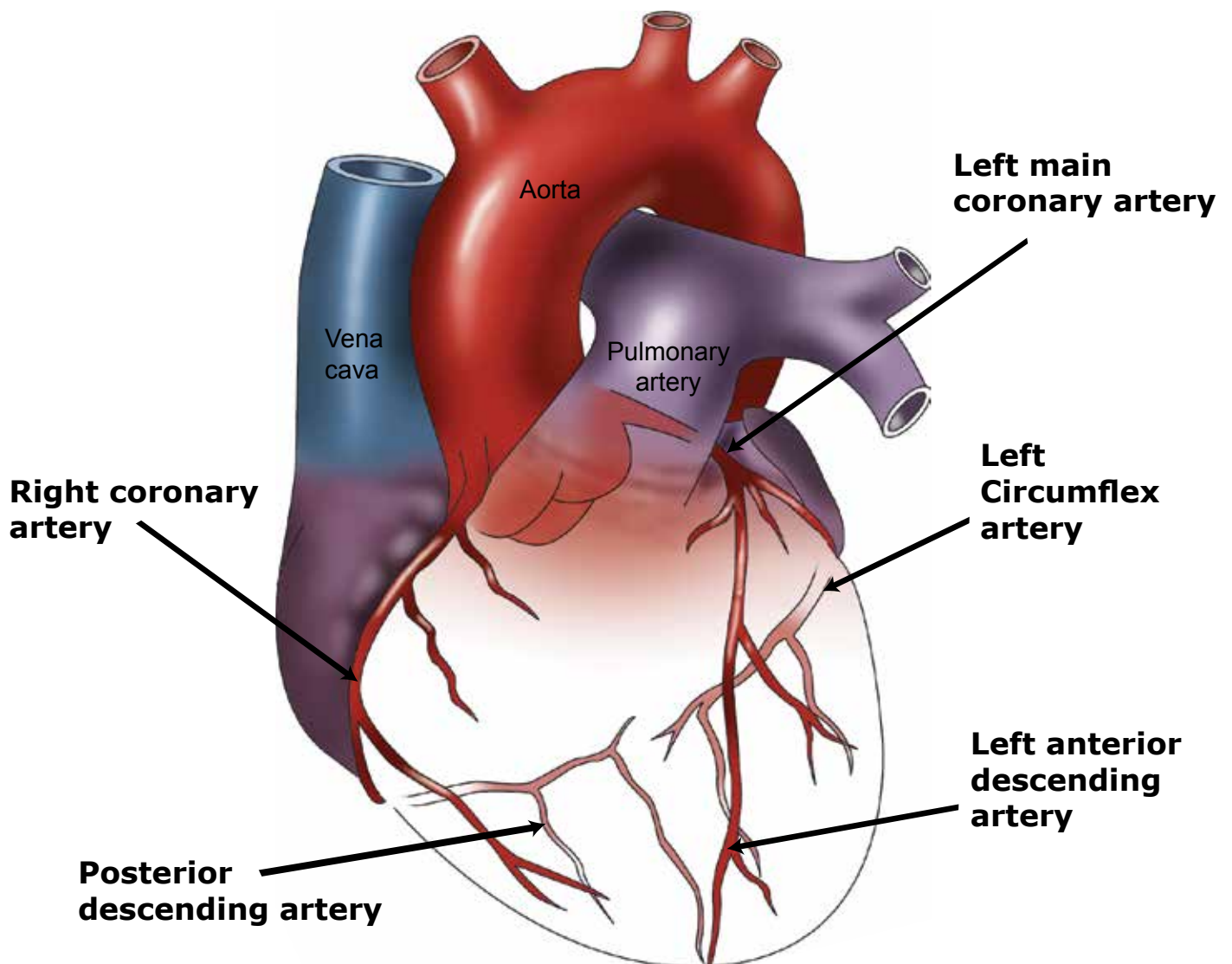
Septal Myectomy to Treat Hypertrophic Cardiomyopathy

Coronary Artery Disease and Treatment

- Your coronary arteries
- Coronary artery disease
- Heart attack
- Bypass grafting

Your Coronary Arteries

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.



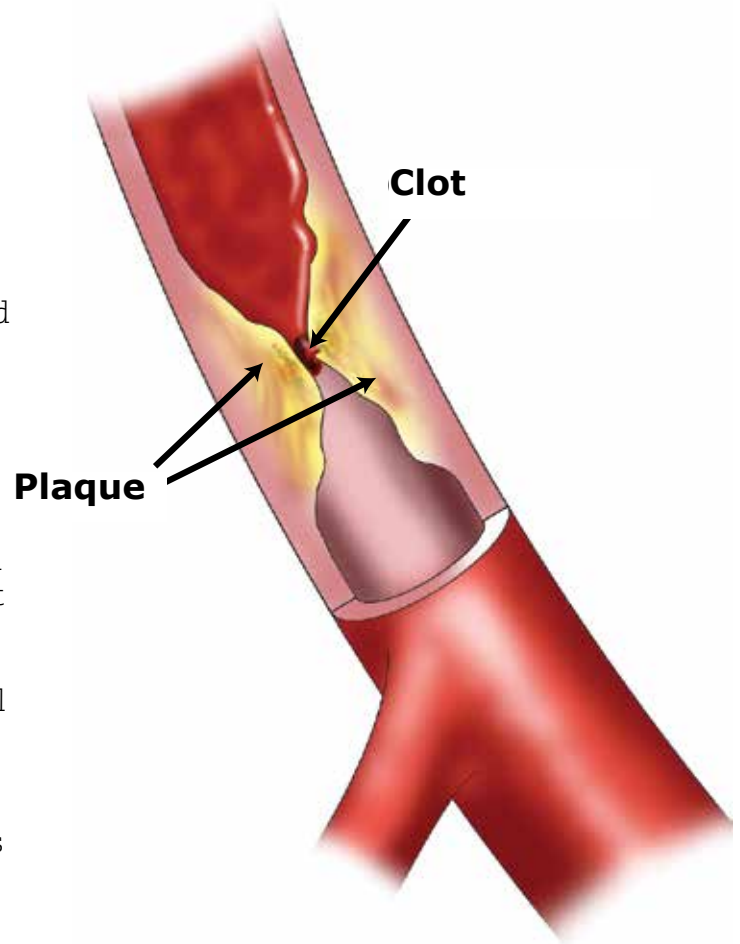
Coronary Artery Disease

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:

- **NSTEMI.** 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” (NSTEMI). It is diagnosed by chemical changes in the blood that indicate damage to the heart muscle has occurred. NSTEMI 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.

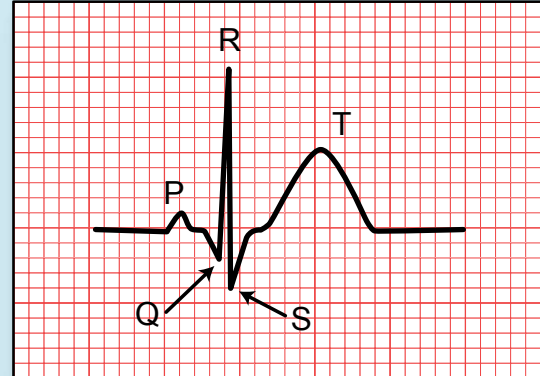


Figure 1a

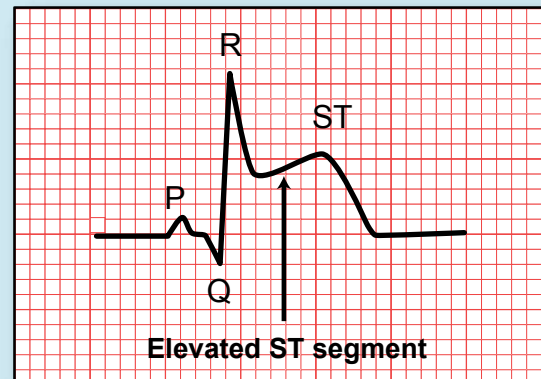


Figure 1b

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.

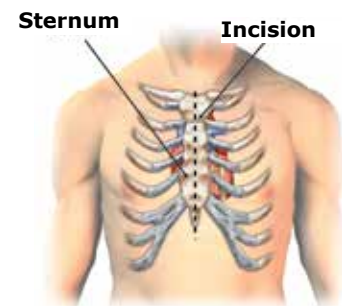
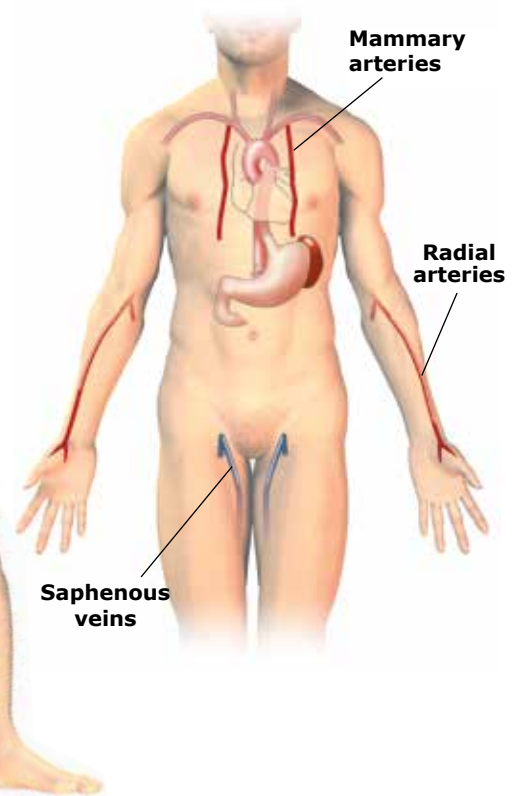
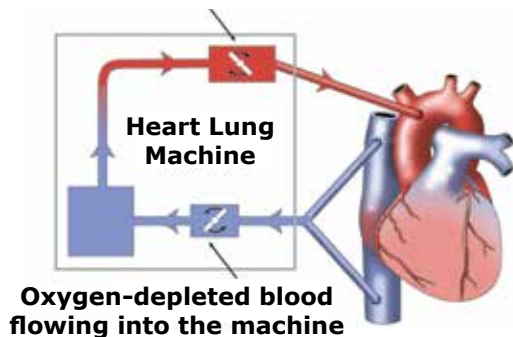
Coronary Artery Bypass Grafting

For more than 60 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.

Most cardiac procedures require Cardiopulmonary Bypass.

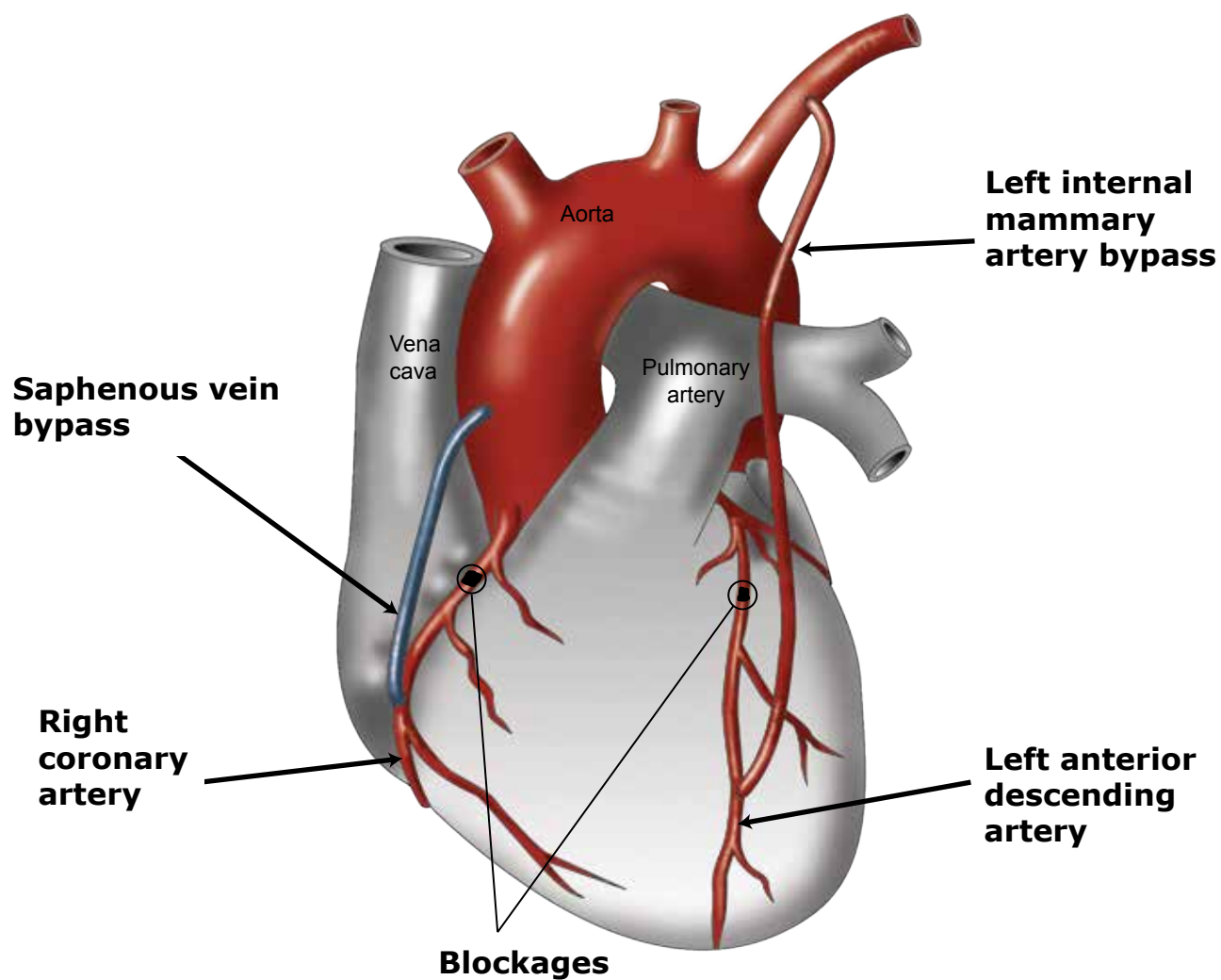
Freshly oxygenated blood being returned to the body



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.

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

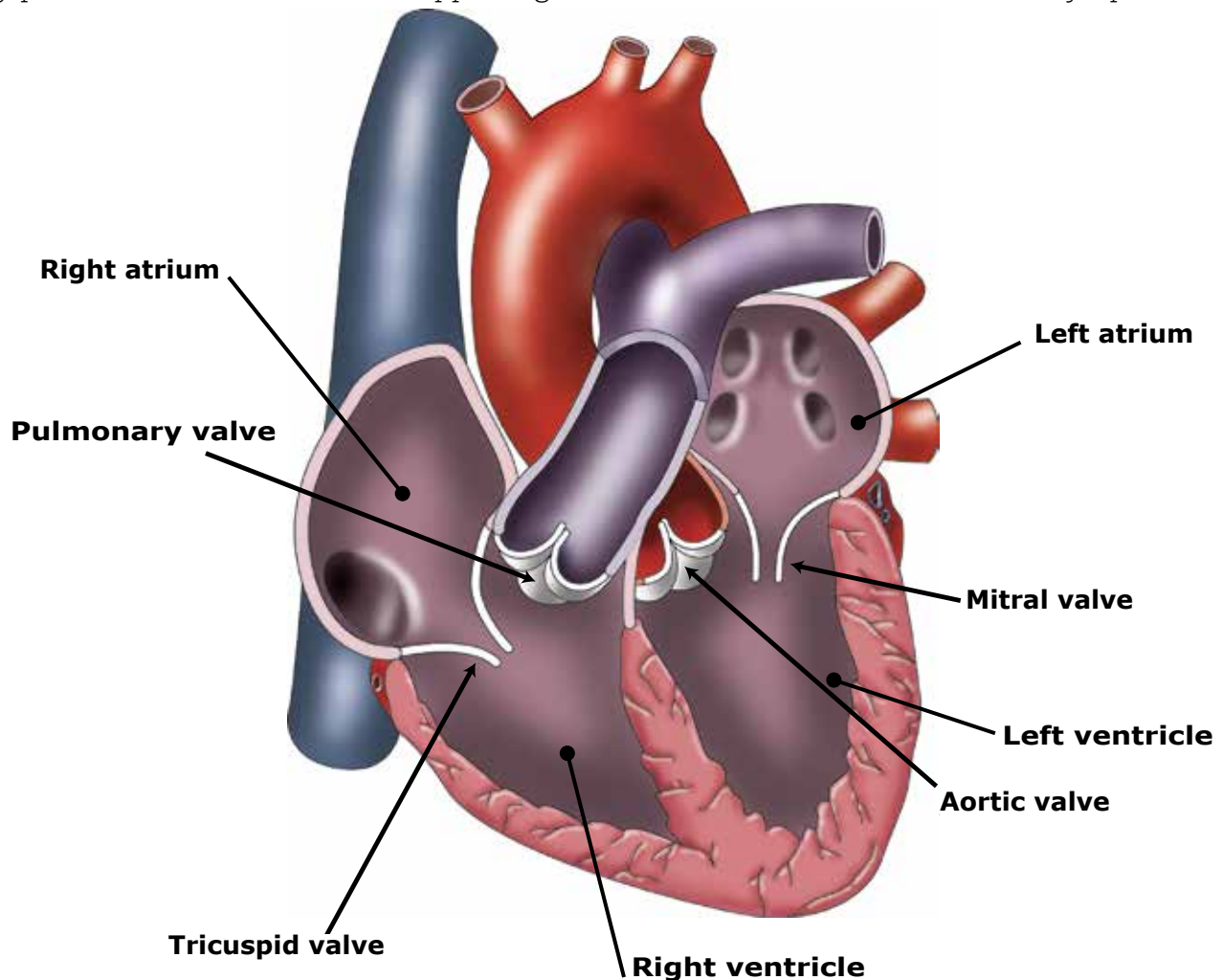
- Your heart valves
- Common valve diseases, symptoms and treatments

Your Heart Valves

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.



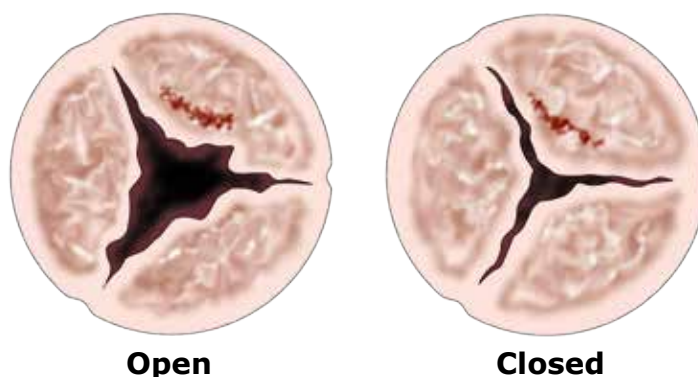
Common Valve Diseases, Symptoms, and Treatments

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 valve 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.

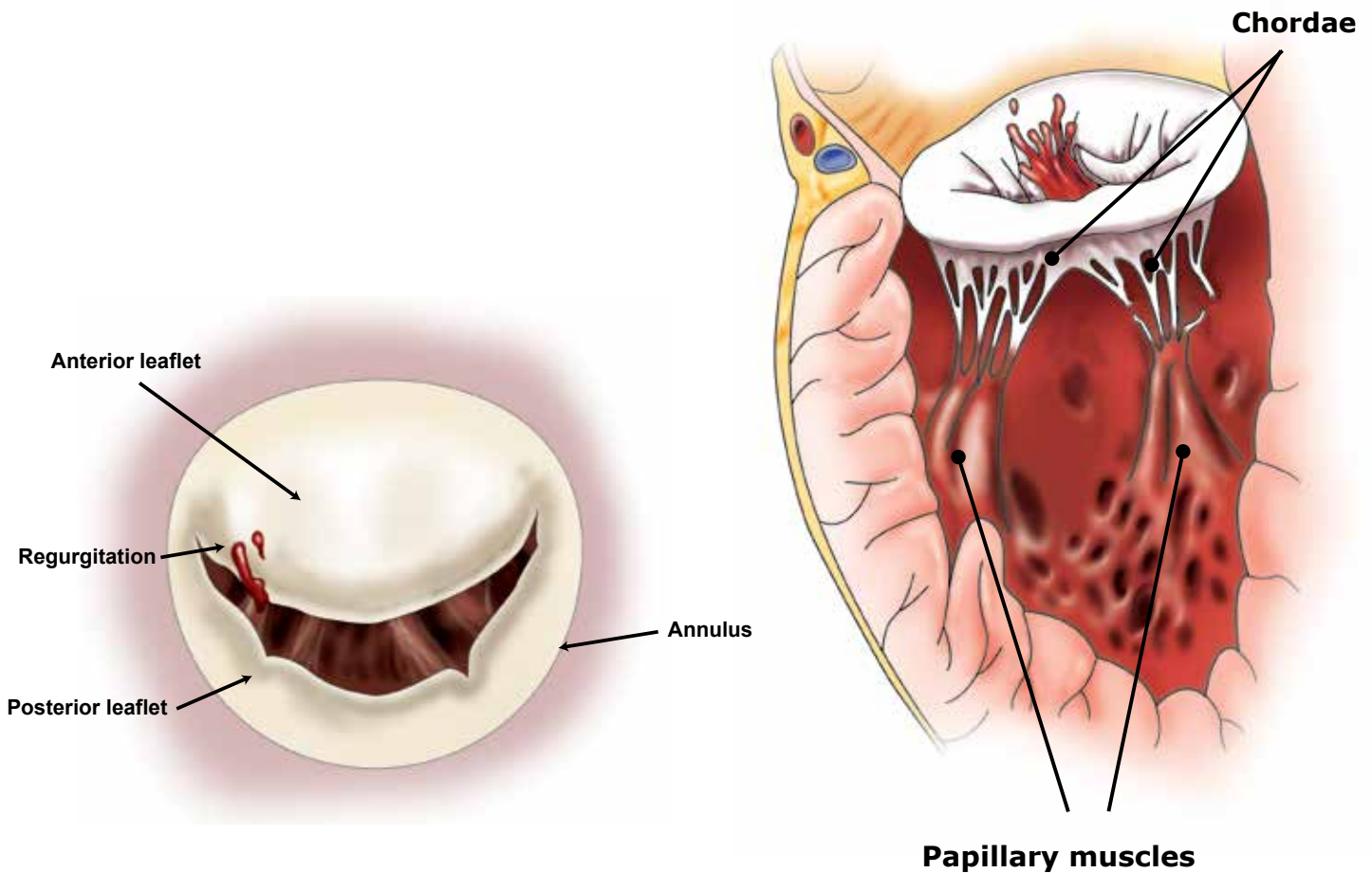


Aortic valve replacement is the preferred treatment for aortic regurgitation or stenosis. The types of valves used for replacement are described on page 2-15.

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.

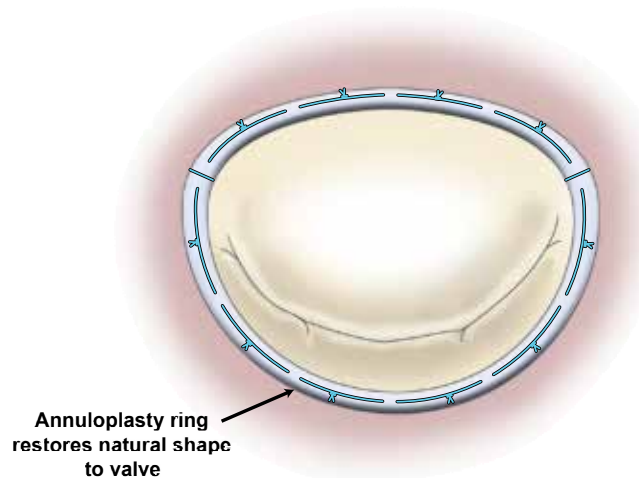
Mitral valve prolapse occurs when the leaflets of the mitral valve bulge back or prolapse into the left atrium. Mitral valve prolapse affects approximately 8 million people in the United States and can run in families or be caused by a connective tissue disorder. Mitral valve prolapse is typically harmless, 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.

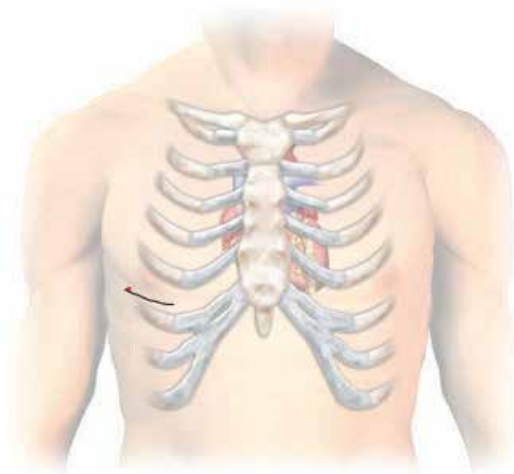
Mitral valve repair is the preferred treatment for mitral regurgitation because your own restored valve is alive and can defend itself from infection. The individual also benefits from a longer and better quality of life as compared to a replacement because you do not need blood thinners to keep it from 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

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

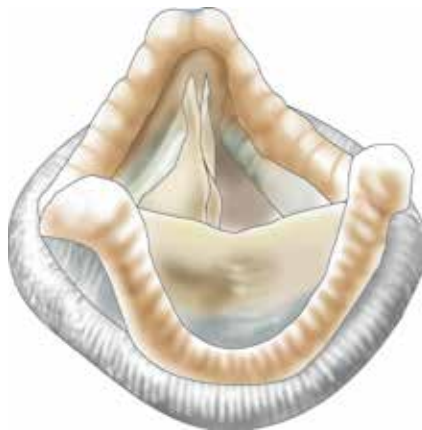
When valve repair is not possible, the valve is removed and replaced with a mechanical or biological valve. There is no need for anti-rejection medication with the mechanical or biologic valve.

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 the blood thinner Coumadin (Warfarin/Jantovan) to prevent the development of blood clots.



Mechanical valve

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.



Biological valve

Irregular Heart Rhythm and Treatment

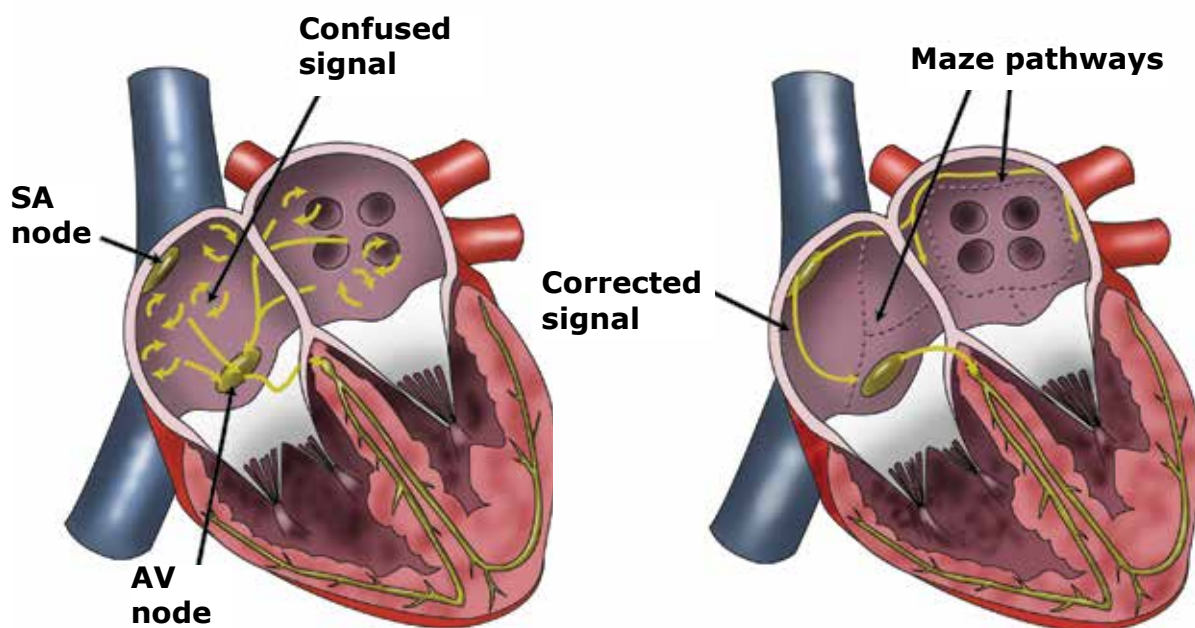
- Atrial fibrillation
- Maze procedure

Maze Procedure for Atrial Fibrillation

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 (Afib). Afib 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. Afib also causes blood to pool in the left atrium, where it can clot before being pumped out into the body. For this reason, Afib increases the risk of stroke.

In some people, Afib 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.

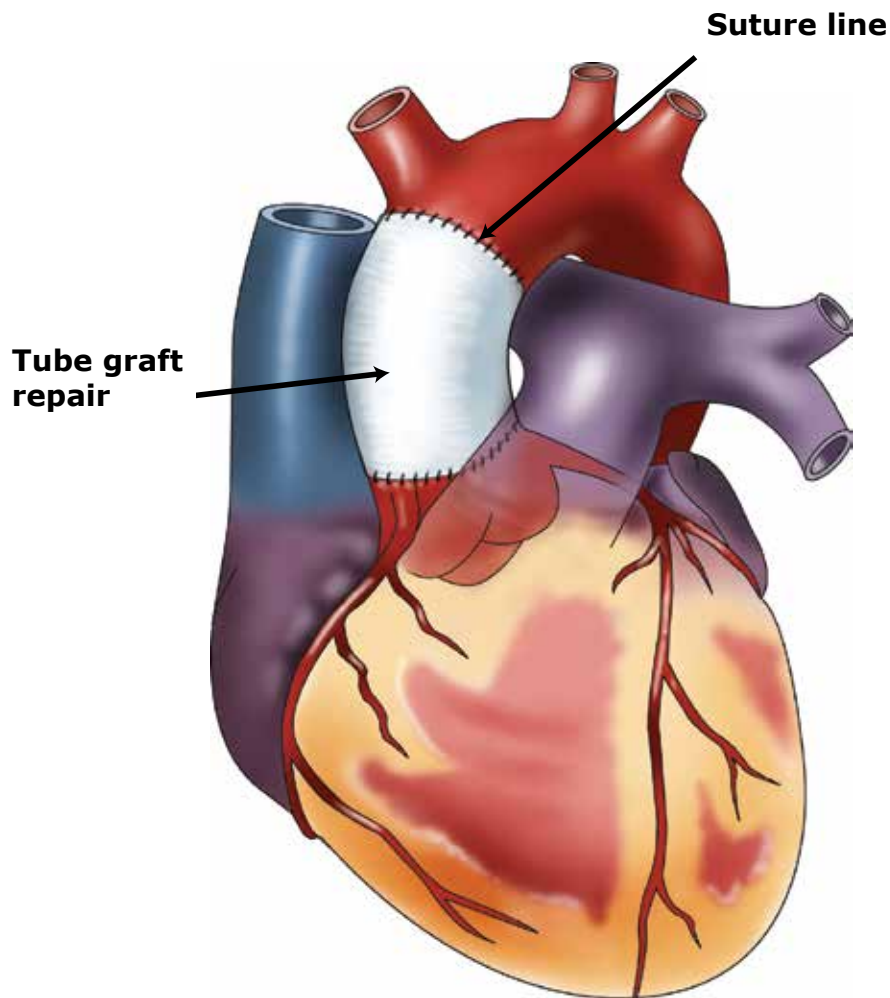
Minimally Invasive Maze Procedure

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.

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.

Bentall Procedure

(Aortic Aneurysm Repair & Aortic Valve Replacement)

Bentall Procedure

The Bentall procedure is a type of cardiac surgery done to replace the aortic valve, aortic root, and sometimes the ascending aorta. This procedure is done when the aortic valve is leaking (regurgitating) or closing (stenotic) and the aorta is enlarged (aneurysm) or is enlarged with a tear (dissection).

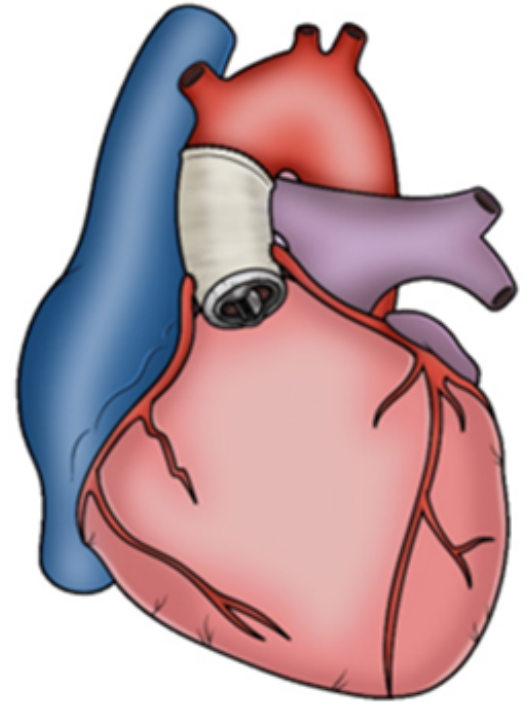
Some people with aortic regurgitation or stenosis and an aortic aneurysm have no or few symptoms. A common sign of an aortic valve problem is a heart murmur. About 20% of people with an aneurysm and dissection have a genetic predisposition to it which means it runs in families.

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

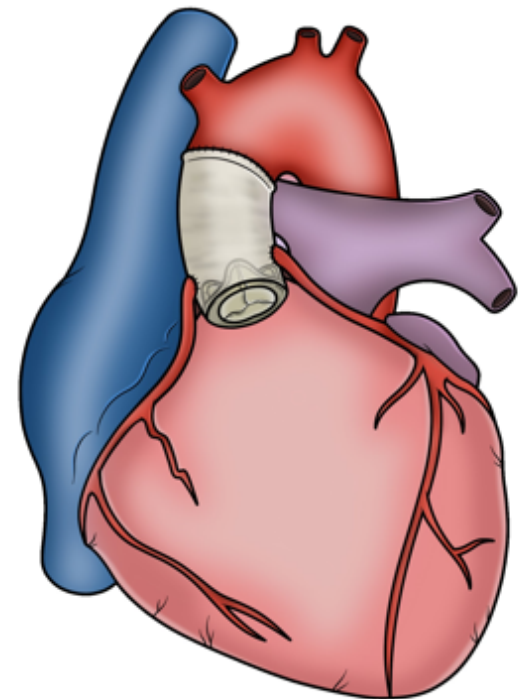
Common symptoms of an aortic aneurysm or dissection are chest pain or sudden-onset of tearing chest pain radiating to the back, passing out (syncope), or gastrointestinal symptoms.

The Bentall procedure is done through the sternum while you are under general anesthesia. During the surgery, you will be placed on the heart lung machine, and may require a period of time where all circulation is stopped (circulatory arrest). If circulatory arrest is required, your body will be cooled way down to protect your vital organs. The surgeon then places a clamp on the aorta above the aneurysm and removes the aortic valve and the portion of aorta above the valve that is enlarged or enlarged with a tear. The valve and the aorta are then replaced with a strong flexible Dacron tube graft which has a valve sewn within it. On page 2-15, you will find types of valves commonly used for the valve replacement. Once the graft and valve are sewn in, the clamp is removed, and you will be taken off the heart lung machine (see page 2-7).

Hartford Hospital has surgeons that are experts in performing the Bentall procedure.



Bentall with a mechanical valve

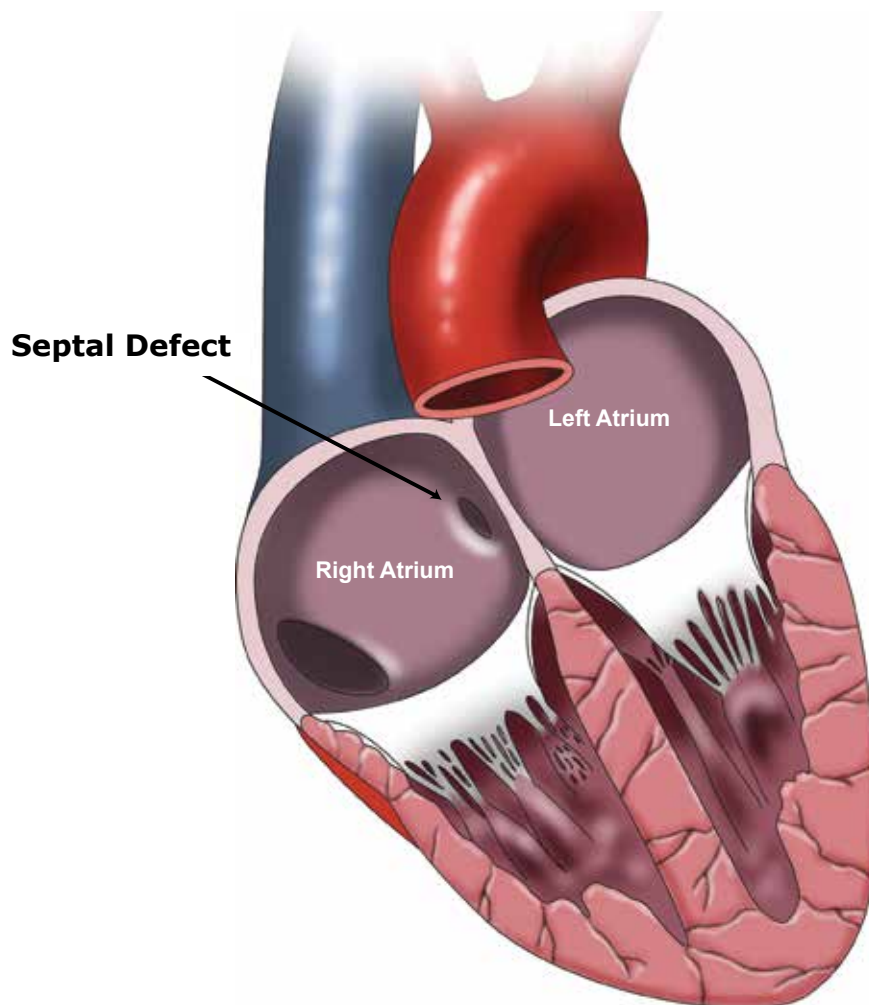


Bentall with a biological valve

Atrial-Septal Defect Repair

Atrial-Septal Defect Repair

Before birth, blood flows freely through a hole in the membrane (septum) dividing the upper chambers of the heart (atria). The normal process is for this hole to close shortly after birth. When it fails to close, or when a separate hole develops in the septum, blood can pass back and forth between the atria. Such holes are called atrial-septal defects (ASD).



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 ovals (PFO), significantly increase the risk of stroke. Some people with ASDs are unaware they have the condition until a stroke occurs.

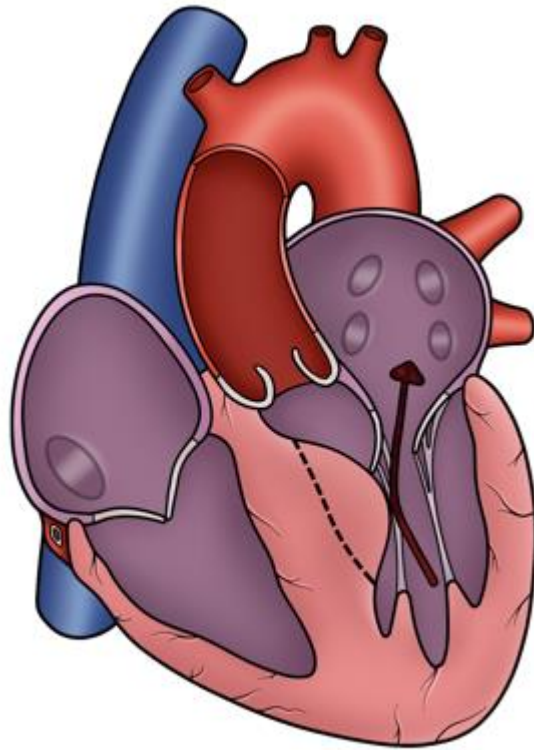
Repair techniques

Depending on their size and location, surgery may be required to close the hole with stitches or a patch.

Septal Myectomy to Treat Hypertrophic Cardiomyopathy

Septal Myectomy to Treat Hypertrophic Cardiomyopathy

Hypertrophic Cardiomyopathy (HCM) is a disease in which the thickest part of the heart muscle, usually the wall (septum) between the two bottom chambers (ventricles), becomes thickened (hypertrophic) and blocks or reduces the blood flow from the left ventricle to the aorta. This thickening can make it harder for the heart to pump blood. It may also cause the mitral valve to become stretched out and leak.



Hypertrophic Cardiomyopathy

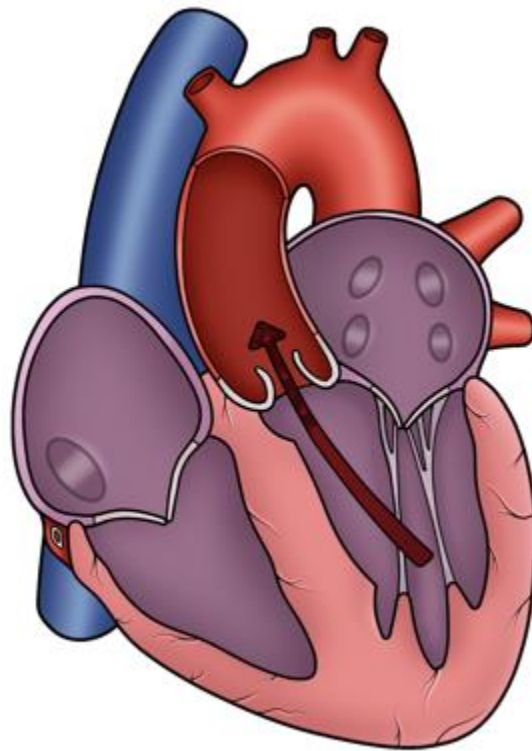
Many people with HCM do not know they have the disease because they have few or no symptoms however, a small number of people with HCM develop symptoms. One or more of the following symptoms are common in people with HCM:

- Shortness of breath, especially with exercise
- Chest pain, especially with exercise
- Fainting, especially during or just after exercise
- Dizziness
- Lightheadedness
- Fast, fluttering, or pounding heartbeats (palpitations)
- Swelling in the ankles, feet, legs, abdomen
- Fatigue (feeling tired)

People with hypertrophic cardiomyopathy may develop life threatening irregular heart rhythms (arrhythmias) or sudden death. A classic finding in people with symptomatic HCM is a heart murmur. HCM is a familial disease which means it is more common in some families.

HCM treatment options include medication (Camzyos), a catheter-based approach (Alcohol septal ablation), and surgery (Septal myectomy). Septal myectomy is the gold-standard treatment for people who continue to have symptoms despite medications or for people who are not candidates for medication.

Septal myectomy surgery is open heart surgery and performed under general anesthesia. Through the aortic valve, the surgeon removes part of the thickened septum that is bulging into the left ventricle. Sometimes the surgeon will need to perform mitral valve repair during septal myectomy surgery. Septal myectomy eliminates the obstruction and restores blood flow within the heart and out to the body, treating HCM and its associated symptoms. Hartford Hospital has surgeons that are experts in HCM treatment and surgery.



Following Septal Myectomy

3 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/Nurse Navigator

The Coordinator/Navigator 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/Navigator 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.

Advance Directives

Advance Directives (Living Will and Appointment of a Health Care Representative) are important documents that tell your Health Care Providers and your family members what actions you want taken under certain medical conditions, and identifies who will make medical decisions for you if you are unable to communicate your preferences.

If you already have Advance Directives, please bring a copy to your Consultation with your Cardiac Surgeon. If you complete the Advance Directives prior to surgery, you may fax (860) 278-3357 your copy to the Surgeon's office to be scanned into your electronic medical record.

- For additional information, resources and forms you can search 'Advance Directives' on the following web sites: Hartfordhospital.org and Ct.gov or contact the CT Office of the Attorney General 860.808.5318.
- You may also complete the forms provided in Chapter 8.
- 2 witnesses (18 years or older) are required.
- If you are not a CT resident, you may search your local, state web site for your specific documents.

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 or designated team member 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.
- Personal CPAP machines are now allowed in the hospital. Individuals who use a CPAP machine at home and prefer not to bring their own to the hospital, will be provided equipment by the Respiratory Therapy Department.
- 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) 972-9300.
- If you use marijuana, you should eliminate for seven days prior to surgery.
- 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 MyChart message by 4:30pm letting you know what time to report to the Admitting Department, Room 128 at the hospital. If you do not receive notification by MyChart, you will receive a phone call between 1:00pm and 6:00pm. If you have not received any notification by 6:00 p.m., please call the Surgery Time Line at (860) 972-3208.
- You are encouraged to have an active MyChart Account.**
- 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. **If you have not received an 8 ounce bottle of Hibiclens™ Solution (Chlorhexidine Gluconate 4% Solution), you may purchase Hibiclens™ or antibacterial wash (Dial) from your local pharmacy without a prescription.**

- If you are allergic to (Chlorhexidine Gluconate) Hibiclens™, wash as you usually do with Dial antiseptic/antibacterial soap.
- 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.
- See Hibiclens™ label for full product information and precautions.

Bathing Before Surgery:

This is a **two-step process** to be done the **night before** and the **morning of surgery**.

Please follow the steps below:

1. Shower as usual. Turn the water off and stay in the shower.
2. Apply half the bottle of Hibiclens™ on a clean washcloth.
3. Apply the soap from your neck down to your toes (including arms) **avoiding your face and private area.**
4. Leave the soap on your skin for 2 minutes.
5. Turn the water back on and rinse off.
6. Dry off with a clean towel and put on clean clothing.

Do not use lotion, powder, perfume, cologne or deodorant after showering with antibacterial wash.

7. Sleep in a bed with clean sheets.

Please note: If you are a hospitalized patient awaiting cardiac surgery, your pre-operative skin scrubs may be completed utilizing **Chlorhexidine wipes/cloths without a shower**. Your Nursing Team will assist you.

4 The Day of Surgery

This section contains information on:

- Checking in on the day of your surgery
- While in Pre-op
- What your family can expect while you are in surgery
- Your Operating Room Team
- In the Operating Room
- Silver Surgery Providers
- What you can expect in the Intensive Care Unit (ICU)

Checking in on the day of surgery

- Your Family Spokesperson and visitor must show a photo ID at the visitor desk.
- Bring your drivers license or valid photo ID, and your insurance card(s).
- Bring a copy of your Advance Directive if it is not already scanned into your chart.
- Leave money, jewelry and other valuable items at home.
- You may bring your cell phone and cell phone charger to the hospital.
- Women: Bring a comfortable wireless, supportive bra.
- 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).
- You may wear eyeglasses, dentures, and/or hearing aids if they will help you communicate with the Pre-op team.
- Your Family Spokesperson (one person) may stay with you in Pre-op until you go into surgery.
- You will be asked for the name of your Family Spokesperson and their phone number.
- To minimize the congregation of visitors and promote social distancing for the safety of patients, following your check in to the Admitting Department, we ask that family members or friends accompanying you to the hospital on the day of surgery return home to wait during surgery. If this is not possible, a **maximum of 2 family members or friends** will be directed to the Surgical Waiting Area on the 5th floor (Bliss Wing).

Regardless of where your Family Spokesperson waits during the surgery, the surgeon or surgeon's representative will speak with your Family Spokesperson directly by telephone once the surgery is completed.

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 continuously 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

Family members who wait in the Surgical Waiting Area will be given a tracking number. A monitor in the Surgical Waiting area will display your status using the tracking number. When you are in surgery, it will say “Procedure” and when you are moved to the ICU, your tracking number will disappear from the screen.

The B2N/B3N ICU staff needs 1 hour to admit you into the ICU before your Family Spokesperson can visit or call the ICU for an update. The B2N and B3N ICUs are located in the Bliss North Wing. To notify the ICU staff that the Family Spokesperson is present, please ring the intercom bell outside of the ICU doors. Staff will let the Family Spokesperson visit once you are ready for visitors. The telephone numbers for B2N and B3N can be found on page 1-4. Please note that the Hartford Hospital visitor policy is subject to change without advance notice.

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

Your Operating Room 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.

The 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.

Silver Surgery Providers

The Silver Surgery Service provides care 24-hours-a-day, 7 days-a-week, for all Cardiac Surgery patients under the direct supervision of your Cardiac Surgeon. The Silver Surgery Providers consist of Advanced Practitioners (APRNs and Physician Assistants) who assess, coordinate and collaborate with your Cardiac Surgeon, Nurse and essential members of your Care Team. The Silver Surgery Team member involved with your care is available to provide a daily medical update to your Family Spokesperson.

If your Family Spokesperson would like a daily update from the Silver Surgery Provider, please have them notify your nurse of this request upon their arrival to your hospital room. If your Family Spokesperson is unable to visit in person and would like a daily update from the Silver Surgery Provider caring for you, they may call **(860) 972-8700**. If your Family

Spokesperson has not received a call back within two hours, please ask them to call again.

In the Intensive Care Unit (ICU) - B2N/B3N

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 technicians, all working with your surgeon. You will awaken in the ICU. 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. You will have soft wrist restraints to help prevent you from removing the breathing tube prematurely. This tube will be removed once you are awake enough to breathe on your own, usually sometime within six hours of the surgery ending.

You will also have a 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 fluids given during your surgery. You will be given medication (diuretics) to eliminate this extra fluid.

ICU visiting hours are posted. We ask that your Family Spokesperson limit their initial visit to 10-15 minutes, since we must provide you with a great deal of care during this time. It is important for your family to know that food, drink, and flowers are not allowed in the ICU. Family members are not allowed to sleep overnight in your ICU room. No more than 2 people are permitted at your bedside during your hospital stay.

You will stay in the ICU overnight and be moved to a telemetry floor (B9E/B5E) that specializes in Cardiac Surgery care when your condition is stable, likely the following day. Some patients need more time in the ICU. Each person recovers at their own pace.

5 Recovering in the Hospital

This section contains information on:

- What to expect after surgery
- Your stay on B9E/B5E
- Postoperative nutrition
- What to expect each day after surgery
- Fall precautions
- Managing pain
- Caring for your body after surgery
- Managing blood glucose levels
- Preparing for discharge

What to Expect After Surgery

Helpful information for your stay on B9E/B5E

If your Family Spokesperson would like a daily update from the **Silver Surgery Provider**, please have them notify your nurse of this request upon their arrival to your hospital room. If your Family Spokesperson is unable to visit in person and would like a daily update from the **Silver Surgery Provider** caring for you, they may call **(860) 972-5299** if you are on the Stepdown or Telemetry units. If your Family Spokesperson has not received a call back within two hours, please ask them to call again.

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.

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.

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.

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 Heart Healthy Diet (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 to prevent atrial fibrillation (Afib). Afib is a temporary, irregular heart rhythm that occurs in 30 – 35% of patients following heart surgery because the heart is “irritable.” Caffeine (which is found in decaffeinated coffee) can provoke Afib in some patients after Cardiac Surgery.

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 (IS) 10 consecutive inhales 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



**Incentive Spirometer
(I.S.)**



Heart Pillow

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. To keep you safe and prevent injury, a bed/chair alarm will remind you and alert your care team if you attempt to mobilize without assistance.

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.

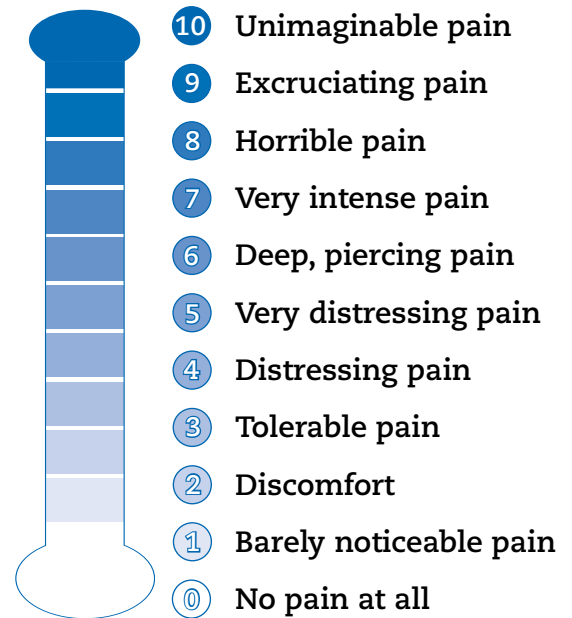
Caring for your body after surgery

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 to sit in a chair or walk as often as possible. 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. On the second day after surgery, a Dulcolax suppository will be given to you to stimulate a bowel movement. The suppository works efficiently for most patients without causing diarrhea or cramping. If you choose to decline the suppository, you will be given 60ml of Milk of Magnesia (MOM). A few days after surgery, you should be back to normal.



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:

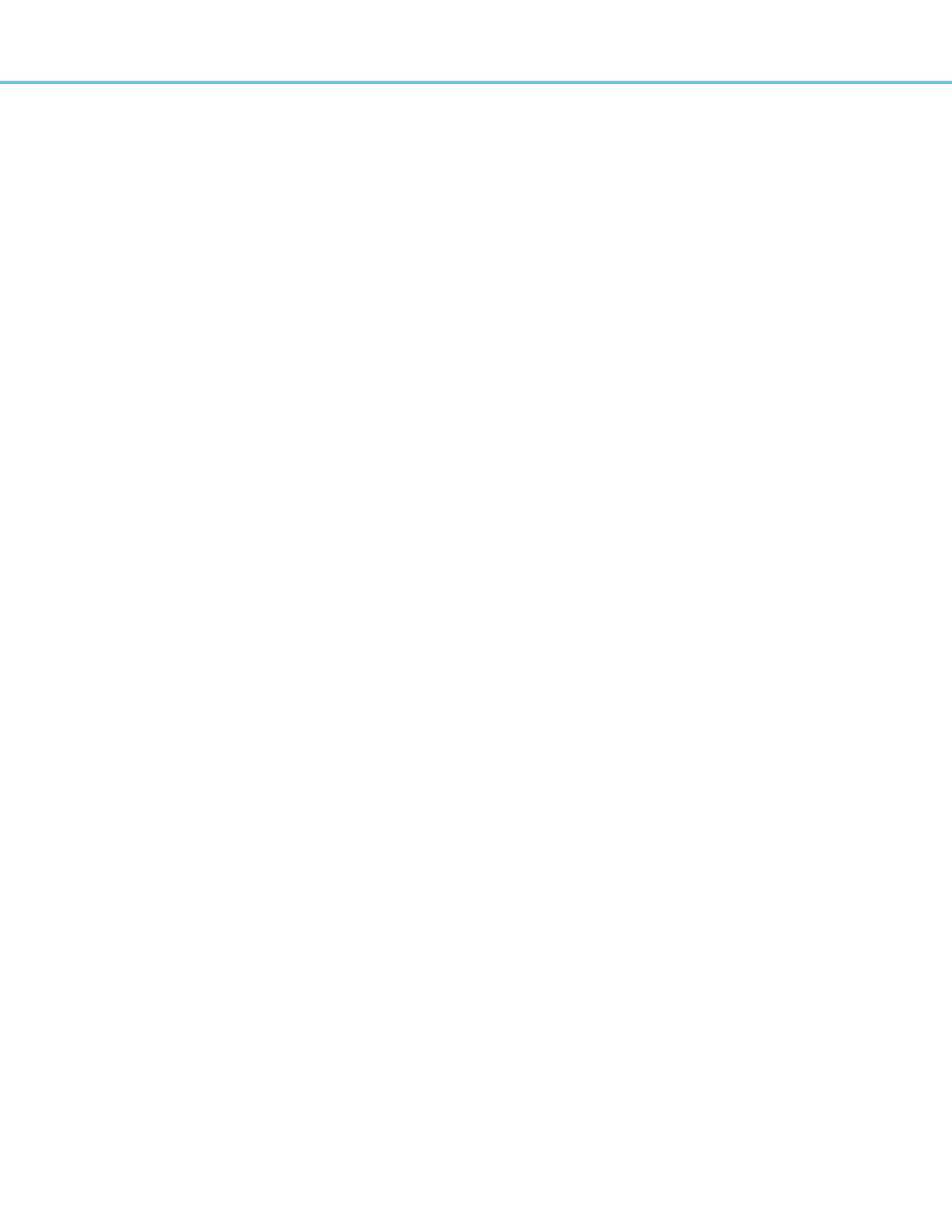
1. Elevated blood sugar is a temporary reaction to the stress of surgery and will resolve in a few days or weeks. You may need injections of insulin until the condition resolves.
2. You had diabetes before surgery, but did not know it.
3. You had diabetes before surgery, but were able to control your 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. Physical Therapy / Occupational Therapy may play a key role in assessing your readiness and needs for discharge. 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. Your case coordinator will assist you and your family in making the necessary arrangements for home care or short-term rehabilitation before you are discharged from the hospital.

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.

We will send you home with a list of the medications that you should be taking for your heart and/or 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 surgeon. Many medications you think are safe may interact with your heart medications, making them stronger or weaker.



6 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
- Progressive walking program

Helping Your Incision to Heal

- It takes 3 months for your incisions to heal. It is not unusual to hear a click in the chest during this time.
- We encourage you to **avoid smoking** and will provide you with smoking cessation information. You may also wish to call the Hartford Hospital Stop Smoking for Life Program at 860-972-9300 for smoking cessation assistance.
- When wearing a non-underwire bra, you may wish to place a gauze dressing over the incision to protect it from rubbing and irritation.
- Take a **shower daily** and gently wash your incision gently with mild soap and 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. Leave the scabs alone. The incision will heal gradually over time. 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. If they leak, cover them with a Band-Aid or dressing until they stop. The drain sites rarely ever become infected.
- **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 Heart Healthy diet (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.
- It is best to avoid or at least minimize caffeinated products the first 3 weeks after 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. You may find support for emotional wellness through the Lifestyle Medicine Program (Chapter 8-3).

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 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 surgery, 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 at 860.696.5520:

- 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 higher
- 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

When you go home, you already have walked and climbed the stairs in the hospital. You had showered and you were deemed ready for more activities.

1. You can shower- Keep the wound dry after showering. Avoid baths for 4 weeks.
2. You can do the stairs.
3. Walk as tolerated. For those who would benefit from a structured walking program, refer to page (6-5 new) and follow the Progressive Walking Program.
4. Do not push, pull, or lift more than 10 pounds for 4 weeks.
5. You may drive around town 3 weeks after discharge from the hospital.

The most annoying symptom you will have after surgery is fatigue. Your body is trying to heal itself and therefore consumes lots of calories. You may benefit from a low cholesterol or low salt diet or both depending on your condition. It is more important to eat well the first month after surgery than to follow a strict diet.

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.

Swimming

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

Progressive Walking Program (a structured walking program)

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. Following your discharge and continuing over a 4- to 8-week period, you will **gradually increase the length and time of your walking**, while decreasing the number of walks you take per day.

It is important that you walk on level ground. If your neighborhood is hilly, or the weather is extreme (below freezing or over 90 degrees Fahrenheit), 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. Cardiac Rehabilitation (Chapter 8) is generally prescribed 4-6 weeks after surgery. Your Cardiologist or Cardiac Surgeon will finalize that referral at the time of your follow-up visit.

See the following chart for progression.

The 6-Step Progressive Walking Program

	Duration	Frequency	Total	Completed in Hospital
Step 1	At least 3-5 minutes	At least 3-4X/Day	At least 12-20 Minutes/Day	<input checked="" type="checkbox"/>
Step 2	At least 5-7 minutes	At least 3-4X/Day	At least 15-28 Minutes/Day	<input type="checkbox"/>
Step 3	At least 7-10 minutes	At least 2-3X/Day	At least 20-30 Minutes/Day	<input type="checkbox"/>
Step 4	At least 10-15 minutes	At least 2X/Day	At least 20-30 Minutes/Day	<input type="checkbox"/>
Step 5	At least 15-20 minutes	At least 2X/Day	At least 30-40 Minutes/Day	<input type="checkbox"/>
Step 6	At least 20-30 minutes	At least 1X/Day	At least 20-30 Minutes/Day	<input type="checkbox"/>

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.

7 Cardiac Rehabilitation and Lifestyle Medicine Program

This section contains:

- Cardiac rehabilitation defined
- **AACVPR** article on benefits of cardiac rehabilitation
- Lifestyle Medicine

Cardiac Rehabilitation

Hartford Hospital cardiac surgeons highly recommend that patients participate in a cardiac rehabilitation program after a heart attack or cardiac 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

***“The doctors saved my life,
but Cardiac Rehabilitation
taught me how to live it.”***

- Hartford Hospital cardiac rehab patient

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. Hartford HealthCare Heart and Vascular Institute offers Cardiac Rehabilitation programs at several locations. Our Cardiac Surgery Team will facilitate a referral to a program that is convenient for you.

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

Cardiac Rehabilitation

An Individualized Supervised Program For You

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
 - » Coronary artery angioplasty or stents
 - » Heart failure
 - » Heart transplantation
- 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

Lifestyle Medicine Program

We believe the key to reversing chronic diseases and achieving better health lies in empowering individuals to make attainable and sustained lifestyle changes.

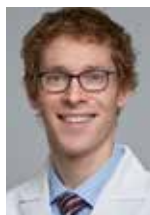
The Program

A Lifestyle Medicine visit begins with a thorough assessment of your eating and exercise habits, smoking and substance use history, sleep quality and general mental health state.

Based on that assessment, we work together with you to identify the changes that can get you on the road to more optimal health. We focus just as much on the how as the what, using web-based tools and patient education to help us understand our patient's behaviors and where small changes can lead to big results.

Our multidisciplinary team includes a board-certified cardiologist, PA/APRNs, registered dietitians, sleep medicine specialists, behavioral health specialists, and a tobacco/substance abuse cessation expert. We tailor referrals to our various team members based on the individual needs of our patients.

Our Providers



Steven Borer, DO, FACC, DipABLM

Board-certified cardiologist & Lifestyle Medicine provider



Joseph Taliercio, APRN, DipACLM

Board-certified Lifestyle Medicine provider



Brad Biskup, PA-C, DipACLM

Board-certified Lifestyle Medicine provider

Locations

Bloomfield

2 Northwestern Drive, Suite 100

Cheshire

280 S. Main Street, Suite 205

Hartford

100 Retreat Avenue, Suite 811

Farmington

11 South Road, Suite 100

Manchester

376 Tolland Turnpike, Suite 101 and
256 North Main Street

Mystic

100 Perkins Farm Drive, Suite 202

Schedule an appointment:

To make an appointment with one of our providers and get started on the journey to a healthier you, please call 860.522.5712.

8 Resources

This section contains information on:

- Prevention of Infective Bacterial Endocarditis
- Mended Hearts
- WomenHeart
- Informational websites
- Stop Smoking Cessation Program
- Further reading on heart disease and heart surgery
- Advance Directives

Prevention of Infective Bacterial Endocarditis

Endocarditis is an infection of your heart valve(s). If you have had a heart valve repair or replacement, you should ask your doctor to prescribe antibiotics for dental work, surgery, or persistent high temperatures. The antibiotics will help prevent endocarditis. For your convenience, this booklet has a wallet card containing the guidelines for prescribing antibiotics prior to dental work or surgery. Please cut the card out of this booklet. Add your name, surgery, surgeon's name and date of surgery. Keep the completed card in your wallet so that you can show it to your dentist or any healthcare provider who may be performing a procedure or surgery on you in the future.

Avoid dental cleanings or dental work during the first 6 months after surgery. If you require urgent dental work within 6 months of surgery, please contact your surgeon's office for guidance.

To prevent infection following valve surgery, it is also important to refrain from getting new piercings or tattoos for 6 months after surgery.



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:
 - Unrepaired cyanotic CHD, including those with palliative shunts and conduits
 - Completely repaired congenital heart defect with prosthetic material or 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.

Antibiotic Prophylactic Regimens for Dental Procedures

Situation	Agent	Regimen—Single Dose 30-60 minutes before procedure	
		Adults	Children
Oral	Amoxicillin	2 g	50 mg/kg
Unable to take oral medication	Ampicillin OR	2 g IM or IV*	50 mg/kg IM or IV
	Cefazolin or ceftriaxone	1 g IM or IV	50 mg/kg IM or IV
Allergic to penicillins or ampicillin— Oral regimen	Cephalexin**†	2 g	50 mg/kg
	OR		
	Clindamycin	600 mg	20 mg/kg
	OR		
Allergic to penicillins or ampicillin and unable to take oral medication	Azithromycin or clarithromycin	500 mg	15 mg/kg
	Cefazolin or ceftriaxone†	1 g IM or IV	50 mg/kg IM or IV
	OR	600 mg IM or IV	20 mg/kg IM or IV
	Clindamycin		

*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.

Adapted from *Prevention of Infective Endocarditis: Guidelines From the American Heart Association*, by the Committee on Rheumatic Fever, Endocarditis, and Kawasaki Disease. *Circulation*, 2007; 116: 1735-1754. Accessible at <http://circ.ahajournals.org/cgi/reprint/CIRCULATIONAHA.106.183095>.

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®

The Council on Scientific Affairs of the American Dental Association has approved this statement as it relates to dentistry.



Mended Hearts, Inc.

For more than 70 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.

If you are hospitalized before surgery, someone from Mended Hearts may 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.

You will find helpful information on our local, CT Chapter 9 Mended Hearts website: www.mendedheartsct.org.

John Klimczak, your CT Chapter 9 representative may be reached at (860) 593-9419 or jklimczak@sbcglobal.net.

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

Taking Care of Our Hearts, Together

.....
Being diagnosed with heart disease or having recently gone through a cardiac event may leave you feeling alone and scared. Being able to speak with someone who has been in your shoes and can say, "I understand what you're going through because I've been there, too," can make all the difference.

We invite you to reach out to one of our specially-trained peer support volunteers. These champions for women living with heart disease can listen to your story and share their own unique experience. Through this connection, you'll gain critical peer support and a link to additional resources that will help you on your heart health journey.

Call or email one our volunteers directly to get connected.



Pat Srenaski, RN
WomenHeart Champion
Congenital Valvular Heart Disease/
Open Heart Surgery/Aortic Valve
Replacement

Pat.Srenaski@hhchealth.org
860.680.2656



Sharon Corlette
WomenHeart Champion
Coronary Artery Disease/Open
Heart Surgery/CABG

Auntsharon8@gmail.com
860.747.2273

15434 Aug2021



WOMENHEART

THE NATIONAL COALITION FOR
WOMEN WITH HEART DISEASE

Web Sites You May Find Helpful

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

Your Heart Valve
www.yourheartvalve.com

American Heart Association
www.americanheart.org

American Heart Association - Heart Hub
www.hearhub.org

Hartford HealthCare - Heart & Vascular Institute
www.hartfordhealthcare.org/heart

See our *Cardiac Surgery Clinical Outcomes Report*



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

STOP

Smoking & Vaping Cessation Program

Become smoke, tobacco, and vape free.

Learn about behavioral techniques, medication options and receive ongoing counseling support.

We can offer you

- English & Español speaking tobacco treatment specialists
- Individual or group counseling
- Relapse prevention
- Support & education
- Personalized quit plan
- Discuss medication options

Get Help Quitting

Quitting smoking/vaping can be hard and may require multiple tries. The good news is there are proven treatments – medications and counseling – that can improve your chances of quitting for good.

Reasons to Quit

HEALTH

Chances of cancer, heart disease, stroke, chronic obstructive pulmonary disease (COPD), and other diseases goes down. Easier breathing and less coughing.

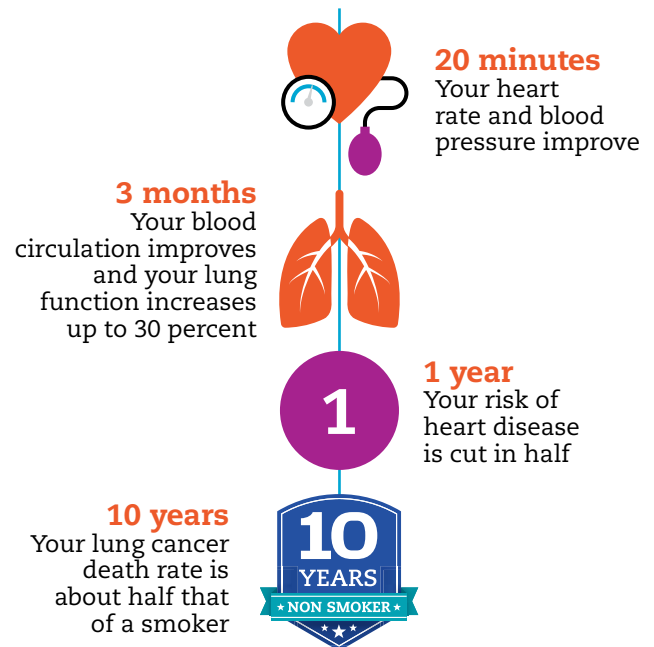
FAMILY AND LOVED ONES

More time to spend with family and loved ones. Set a good example for children & keep them safe from the danger of secondhand smoke.

LIFESTYLE

More time and energy to do the things you love. More money to spend.

How Quitting improves your health



Eligibility

Adults 18 years of age or older who are ready to quit or willing to reduce with the goal of quitting in the next 3 months.

To schedule an appointment call:

Hartford Hospital Community Health
132 Jefferson Street, Hartford
860.972.9300

To learn more contact:

Program Coordinator: Ricardo Rico, BSW, TTS
860.972.3668
ricardo.rico@hhchealth.org

Advance Directives

Advance Directives (Living Will and Appointment of a Health Care Representative) are important documents that tell your Health Care Providers and your family members what actions you want taken under certain medical conditions, and identifies who will make medical decisions for you if you are unable to communicate your preferences.

If you already have Advance Directives, please bring a copy to your Consultation with your Cardiac Surgeon.

If you complete the Advance Directives prior to surgery, you may fax (860) 278-3357 your copy to the Surgeon's office to be scanned into your electronic medical record.

- For additional information, resources and forms you can search 'Advance Directives' on the following web sites: Hartfordhospital.org and Ct.gov or contact the [CT Office of the Attorney General](#) 860.808.5318.
- You may also complete the forms provided on the following pages.
- 2 witnesses (18 years or older) are required.
- **If you are not a CT resident**, you may search your local, state web site for your specific documents.

NAME (PRINT): _____

DATE OF BIRTH: _____



**STATE OF CONNECTICUT
APPOINTMENT OF HEALTH CARE REPRESENTATIVE**

I understand that, as a competent adult, I have the right to make decisions about my health care. There may come a time when I am unable, due to incapacity, to make my own health care decisions. In these circumstances, those caring for me will need direction and will turn to someone who knows my values and health care wishes. By signing this appointment of health care representative, I appoint a health care representative with legal authority to make health care decisions on my behalf in such case or at such time.

I appoint _____ to be my health care representative. If my attending physician determines that I am unable to understand and appreciate the nature and consequences of health care decisions and to reach and communicate an informed decision regarding **my health care representative is authorized to (1) accept or refuse any treatment, service or procedure used to diagnose or treat my physical or mental condition, except as otherwise provided by law, such as psychosurgery or shock therapy as defined in Conn. Gen. Stat. § 17a-540, and (2) make the decision to provide, withhold or withdraw life support systems.**

I direct my health care representative to make decisions on my behalf in accordance with my wishes as stated in a living will, or as otherwise known to my health care representative. In the event my wishes are not clear or a situation arises that I did not anticipate, my health care representative may make a decision in my best interests, based upon what is known of my wishes.

If _____ is unwilling or unable to serve as my health care representative, I appoint _____ to be my alternative health care representative.

This request is made, after careful reflection, while I am of sound mind.

_____ / _____ / _____ (Date) X _____

WITNESSES' STATEMENTS

This document was signed in our presence by _____ the author of this document, who appeared to be eighteen years of age or older, of sound mind and able to understand the nature and consequences of health care decisions at the time this document was signed. The author appeared to be under no improper influence. We have subscribed this document in the author's presence and at the author's request and in the presence of each other.

X _____
(Witness)

X _____
(Witness)

X _____
(Number and Street)

X _____
(Number and Street)

X _____
(City, State and Zip Code)

X _____
(City, State and Zip Code)

NAME (PRINT): _____

DATE OF BIRTH: _____



**STATE OF CONNECTICUT
LIVING WILL or HEALTH CARE INSTRUCTIONS**

If the time comes when I am incapacitated to the point when I can no longer actively take part in decisions for my own life, and am unable to direct my physician as to my own medical care, I wish this statement to stand as a statement of my wishes.

I, _____, the author of this document, request that, if my condition is deemed terminal or if I am determined to be permanently unconscious, I be allowed to die and not be kept alive through life support systems.

By terminal condition, I mean that I have an incurable or irreversible medical condition which, without the administration of life support systems, will, in the opinion of my attending physician, result in death within a relatively short time. By permanently unconscious I mean that I am in a permanent coma or persistent vegetative state which is an irreversible condition in which I am at no time aware of myself or the environment and show no behavioral response to the environment.

Specific Instructions

Listed below are my instructions regarding particular types of life support systems. This list is not all-inclusive. My general statement that I not be kept alive through life support systems provided to me is limited only where I have indicated that I desire a particular treatment to be provided.

	<u>Provide</u>	<u>Withhold</u>
Cardiopulmonary Resuscitation	_____	_____
Artificial Respiration (including a respirator)	_____	_____
Artificial means of providing nutrition and hydration	_____	_____
_____	_____	_____
_____	_____	_____

Other specific requests: _____

I do want sufficient pain medication to maintain my physical comfort. I do not intend any direct taking of my life, but only that my dying not be unreasonably prolonged.

This request is made, after careful reflection, while I am of sound mind.

_____ / _____ / _____ (Date) X _____



WITNESSES' STATEMENTS

This document was signed in our presence by _____ the author of this document, who appeared to be eighteen years of age or older, of sound mind and able to understand the nature and consequences of health care decisions at the time this document was signed. The author appeared to be under no improper influence. We have subscribed this document in the author's presence and at the author's request and in the presence of each other.

x _____
(Witness)

x _____
(Number and Street)

x _____
(City, State and Zip Code)

x _____
(Witness)

x _____
(Number and Street)

x _____
(City, State and Zip Code)

