Patient Guide to Cardiac Surgery
at the Massachusetts General Hospital
The cardiac surgical team at the Massachusetts General Hospital is committed to giving you the best medical care. As a patient, you are a part of our team. We think it is important for you to know what to expect before, during and after your surgery. We believe that when you have the appropriate information, you will not worry as much and you will recover better from your surgery. We hope this information will prepare you for your experience as a patient on the Cardiac Surgical Service. This booklet is only a general overview. Your surgeon or other health care provider may alter the plan to accommodate your particular condition.
Your Heart

Your heart is a muscle that pumps blood through your body. The blood moves through four chambers in the normal heart, the atria that collect blood and the ventricles that pump blood. The blood comes back to the right side of the heart from the body is low in oxygen. The right side of the heart moves the blood through two chambers, the right atrium and the right ventricle, to get the blood into the lungs, where the blood will again be filled with oxygen. The blood then goes through the left atrium into the left ventricle, which pumps the oxygen-rich blood back into the body.

Your heart has four valves that open in sequence to allow blood to move through the heart chambers and to prevent blood from leaking backward. The two valves on the right side of the heart are the tricuspid valve, which connects the right atrium to the right ventricle, and the pulmonary valve, which connects the right ventricle to the pulmonary artery, which delivers blood to the lungs. The two valves on the left side of the heart are the mitral valve, which connects the left atrium to the left ventricle, and the aortic valve, which connects the left ventricle to the aorta, which delivers blood to the body.

When the oxygen-rich blood comes out of the left ventricle into the aorta, the first artery branches from the aorta are the coronary arteries that supply the heart muscle with blood. Disease of these coronary arteries remains the primary cause of death in this country.

Coronary arteries can become diseased for several reasons. One important cause is the build-up of atherosclerotic plaques in the arteries that block the flow of blood to the heart muscle. Plaque is largely composed of cholesterol, a fatlike substance in the blood, that accumulates to form the plaques that hinder the flow of blood. When blood flow to the heart muscle is significantly decreased by these plaques, patients can experience chest pain, called angina pectoris. If the artery becomes totally blocked, the patient may suffer a heart attack, called a myocardial infarction. Factors which contribute to this cholesterol build-up include smoking, diabetes, high blood pressure, obesity, lack of exercise and genetic traits inherited from your parents.

• Heart valves can be abnormally formed from birth or can be damaged by rheumatic fever, bacterial infection and calcific degeneration, which may just be due to aging. The two most common types of valve disease are:

For some patients it is more comfortable to sleep in a reclining chair for a period of time or try taking one or two Tylenol tablets 30 to 60 minutes before going to bed. This usually helps to relieve the discomfort.

Incision

You should look at your incision before you leave the hospital. This is to help you identify any changes in the incision once you go home. If your incision becomes very tender, red, warm or drains fluid, call your doctor.

You may shower each day, washing your incision gently with soap and then patting it dry. Do not scrub the incision. Do not put any powders, ointments or lotions over the incision unless specifically told to do so by your surgeon. Itching, tingling or numbness along the incision line is normal.

Warning Signs

Signs and symptoms you should let your doctor know about:

• Temperature greater than 100 degrees F
• Any redness, tenderness, swelling, drainage from any incision
• Chills, nausea, vomiting, diarrhea, flu-like symptoms
• Chest pain or any discomfort like you had before your surgery
• Weight gain of greater than three pounds in two days
• Any signs or symptoms like you had before your surgery
Discharge Information

The purpose of this section is to provide you with information about some of the most common concerns and most frequently asked questions after surgery. Before discharge you will receive a packet of written discharge instructions which will include general guidelines about your diet, activity, risk factor information and caring for yourself at home. You will also receive information about the medications that you will be taking at home.

Exercise and Activities

Following discharge from the hospital, it is not uncommon to feel more tired and have more discomfort than you did during your final days in the hospital. Do not be alarmed by this, it is usually due to the increased level of activity at home and should improve soon. Be active. You may climb stairs, go for walks, go for rides in the car, etc. However, these activities should be increased gradually, each day building on the previous day’s activity level. Your doctor will inform you of the length of time you can expect to be out of work and of any other specific restrictions you may have.

Rest and Sleep

It is important that you get plenty of rest and sleep while you recover from your surgery. Your body will get tired from doing routine things like bathing, shaving or brushing your hair. This is because your body considers all activity as work and uses up more energy to get things done. Plan or build rest periods into your day. By balancing periods of activity with periods of rest you will not get overtired.

Try to get 8 to 10 hours of sleep each night. Do not to stay up late one night and then try to catch up on your sleep the next night. If you have a hard time sleeping at night you may be taking too many naps during the day. Try to work out a routine where you can nap during the day but still get a good night sleep.

Some patients may have a hard time sleeping because their chest hurts when they lay down. It might also hurt when turning from side to side.

- Narrowing: also called stenosis, which occurs when a valve does not open completely causing blood to flow through a smaller opening
- Leaking: also called regurgitation which results when a valve doesn’t close completely, allowing blood to flow backwards through the valve.

Categories of Cardiac Surgery:

Coronary Artery Bypass Surgery (CABG):
Bypass grafts are placed to coronary arteries with blockages by connecting the new graft to the artery past the point of narrowing. The conduit or tubing most commonly used to perform the bypasses includes
- The internal mammary (internal thoracic) artery: an artery attached to the inside of the front wall of the chest.
- The greater saphenous vein: an accessory vein that is found on the middle side of the thigh
- The radial artery: an artery in the lower arm

Heart Valve Surgery:
Valves in the heart that become stenotic (narrow) or insufficient (leaky) can be repaired or replaced. Different kinds of valves made from tissue or metal can be inserted. Your surgeon will discuss with you which type of repair or replacement your specific valve needs.

Aortic Surgery:
The aorta is the large blood vessel that carries the blood from the heart to the rest of the body. When it becomes enlarged to a certain size (aneurysm), or when the wall weakens or tears in an area (dissection), that part of the aorta can be replaced. A graft is used to replace the portion of the aorta that is involved. Sometimes the aortic valve may also be involved in these diseases.

Heart Failure Surgery and Transplantation:
When the muscle of the heart weakens due to various diseases (cardiomyopathy) and congestive heart failure results that no longer responds adequately to medication, a ventricular assist device (VAD) can be attached to the heart to allow the heart to recover or to act as an aid for the heart until a suitable donor is available for transplantation. In some cases the VAD acts as a permanent aid to the heart.

Adult and Pediatric Congenital Heart Surgery:
Children born with heart defects of various kinds and adults who have previously had heart repair and require further surgery undergo procedures to correct these defects. These will be discussed with you on an individual basis by your surgeon.
Prior to Admission

Insurance Approval for Admission

Your admission to the hospital and surgery will need to be approved by your insurance company. The Admitting Office and/or your surgeon’s office will call your insurance company to get approval for your admission and surgery. In addition, an Admitting staff person will call you to make sure the hospital has all of the right information to process your admission.

A few insurance plans require patients to bring a co-payment or deductible with them on the day of admission. If you have this type of insurance, the Admitting Office will call you before your admission to let you know if you need to bring a payment. If you have any questions about this, you may call the Admitting Office at (617) 726-6828.

Blood Donor Program

Some patients want to donate their own blood (autologous donor) before surgery. You will need to talk to your doctor to see if this is an option for you, as some patients should not donate blood for their surgery. If you want to use the autologous blood donor program at the MGH, please call the Blood Transfusion Service at (617) 726-3718 or visit the MGH Blood Donor Center website: www.massgeneral.org/blooddonor/

The MGH Blood Donor Center also offers a Designated Donor Program that allows friends and family to donate blood for your use during surgery. Designated Donor Programs may not suit the needs of all patients. Please call the donor center at (617) 726-8164 for information on the program.

The Blood Bank is located on the first floor of the Gray Building and they are open on Tuesday, Wednesday and Thursday from 7:30 am to 5:30 pm and on Friday from 8:30 am to 4:30 pm.

Cardiac surgery often requires the use of blood and/or blood products. If you have any questions about the use of blood and blood products during surgery, or if you are unwilling to receive blood or blood products, please let your surgeon know.

Chapel

The hospital chapel is located on the first floor of the Ellison Building. Our chaplains represent all religions and can offer you spiritual support and counseling. Let your nurse know if you would like this service, or call (617) 726-2220.

Interpreter Services (617) 726-6966

Cardiac Surgery Staff

Cary W. Akins, MD (617) 726-8218
Cox 648

Alan D. Hilgenberg, MD (617) 726-5548
Cox 646

Gus J. Vlahakes, MD (617) 726-1861
Cox 652

Joren C. Madsen, MD, D.Phil (617) 724-1130
Cox 654

Thomas E. MacGillivray, MD (617) 726-9563
Cox 650

Arvind K. Agnihotri, MD (617) 726-5608
Cox 642

Jennifer D. Walker, MD (617) 726-8841
Cox 644

Bruce R. Rosengard, MD (617) 643-0768
Cox 658

Nursing Staff of Cardiac Surgery Service

Your Nurse on Ellison 8 (617) 724-4810
Your Nurse on Blake 8 (617) 724-4410
Clinical Nurse Specialist-B8 (617) 724-3886
Clinical Nurse Specialist-E8 (617) 724-4820
is allowed on your diet. Mark the container with your name, date and room number. There is a refrigerator behind the nurses’ station where food can be stored.

**Bedside Telephone Dialing Instructions**

- **Local Call (within 617 area code):** Dial 9, 617 and the 7 digit telephone number.
- **Long Distance Call:** Dial 9, then 0, then the area code and the 7 digit telephone number.
- **Long Distance Using Own Carrier:** Dial 9, then your long distance company phone number.
- **International Call or Cablegram:** Dial 0 and the MGH operator will assist.

There is no charge for calling within the hospital. Simply drop the “72” at the beginning of the telephone number and just dial the remaining 5 digit extension.

TDD equipment is available on loan for the hearing impaired. Please ask your primary nurse.

After 10:30 pm, calls coming in to patients are automatically diverted to the unit’s nursing station and will not ring through to you. To stop incoming calls during the day, ask your nurse to unplug your phone.

Whenever you or a family member wants to use your own cell phone, it needs to be arm’s length away from the monitor. Nurses have cell phones which won’t interfere with medical equipment.

**Location and Parking**

The hospital address is 55 Fruit Street, Boston MA 02114. You can call the main hospital phone number (617) 726-2000 for directions or visit the hospital web page [http://www.mgh.harvard.edu/directions.html](http://www.mgh.harvard.edu/directions.html). A map is located on the inside back cover of this booklet to help with directions.

Parking can be found at the Fruit Street, Parkman Street and Yawkey garages that are located outside of the main entrance to MGH. There is a visitor parking rate available. Valet parking is located at the Wang ACC Lobby and the Yawkey Center entrances.

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**Home Preparation**

**Health Care Proxy**

A health care proxy is a legal document recognized in each of the 50 states. We encourage you to fill out a health care proxy and bring it with you on the day of admission. You must select someone that you trust to make crucial decisions about your health care on your behalf should you be unable to voice them. Make sure that the person you select as your health care proxy fully understands your wishes so that they are able to make the best decisions should their role be needed. Two individuals who are not acting as the health care proxy, your caregiver or relative must witness the health care proxy. Please visit [www.massmed.org/ma_proxy](http://www.massmed.org/ma_proxy) for the form and additional information. Forms are also available at your doctor’s office or can be filled out upon admission. We encourage your spouse or family member to have a copy as well.

**Smoking Cessation**

It is mandatory that you stop smoking before your operation. Smoking irritates your lungs, and as a result the body may not receive the amount of oxygen it needs to work well. When your lungs are not in top shape, it may take longer for you to recover from your surgery.

Stopping smoking may be very hard for you. This is especially true when you are under a lot of stress. The support of friends and family may make it easier to stop. They can help by not smoking around you or even trying to stop with you.

You can find information about programs that will help you to stop smoking by calling the MGH Tobacco Treatment Service (617) 726-7443; the American Lung Association of Massachusetts (508) 947-7204; and the Massachusetts Department of Public Health TRY-TO-STop (800) 879-8678.

**Dental Check Up**

You will need a dental check-up if you are having surgery on a heart valve and possibly for a congenital heart defect or a procedure on your aorta. You should mail or fax a written report from your dentist to your surgeon before admission. This dental check-up is very important so that any dental infection you might have can be treated before you are admitted to the hospital. Remember that you _must_ take an antibiotic before having any dental work done. Your cardiologist,
surgeon or dentist can give you a prescription for the antibiotic. Any dental procedure must be done far enough in advance to allow your gums to completely heal.

If you are having only coronary artery bypass surgery (CABG) and no other procedure on your heart or you do not have any of your own teeth left you do not need to have a dental check up. Please check with your surgeon’s office if you have any questions.

**Medication Restrictions**

If you are taking Aspirin or any medication that contains Aspirin, check with your surgeon regarding when to stop taking it prior to surgery. Aspirin is known as a blood thinner and can keep your blood from being able to clot. Aspirin can be found in many medications such as Alka-Seltzer, Anacin, Ascriptin, Bufferin, and Vanquish. Be sure to read the label of any medication that you take to be sure it does not have Aspirin in it. You may take Tylenol instead of Aspirin as needed.

There are other medications that can keep your blood from being able to clot. They include Advil, Aleve, Anturane, Atromid-S, Butazolidin, Clinoril, Coumadin, Garlic or other herbal supplements, Indocin, Motrin, Plavex, Persantine, and Valium. Please check with your doctor about taking any of these medications before your surgery. Call your doctor if you have questions about any medications you are unsure about.

**Continue** to take your other prescribed medications up until the time you are admitted to the hospital.

Please bring all of your prescription bottles with you to the hospital when you come for your pre-admission testing or on admission.

**New Health Problems**

Let your doctor know as soon as possible if you start to have any new health problems. This could include a fever, sore throat, draining sores, a cold, the flu or if you have been started on an antibiotic. It is important for you to be in the best shape possible at the time of your surgery. Your doctor may want to examine you and treat any problems early so your surgery is not delayed. You should try to stay away from people who are sick as it gets closer to your surgery date.

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## Helpful Information

### Nurse Call Light

The nurse call light is usually answered by a secretary at the front desk. It is helpful to let the staff know what you need so they can respond appropriately. If you are not able to speak, or if the people at the nurses' desk cannot hear you, a member of the nursing staff will be sent to your room. Please give your nurse a few minutes to respond to your call. If you do not get a response within a reasonable amount of time, use your call light again.

### Television

Basic television service is offered to patients free of charge. This includes Channel 2, (a public broadcasting channel), Channel 4, (CBS), Channel 9, (a Spanish language channel), Channel 10, (PAX TV), and Channel 29, (the patient education channel). For an extended selection of cable stations, a daily rental fee of $5 is required. To order this service, call 6-8888 and leave your name, room number and the name of your building. Television representatives visit the patient care units every afternoon and evening and request payment in advance by cash or check.

### Meals

You will receive a menu in the morning to order your meals for the next day. Please fill in the menu and have it ready by the end of breakfast. You will need to order everything for your meals including condiments. If you want extras, please order them as we do not always stock items on the floor.

**Serving Times**

- Breakfast: 8 am to 9 am
- Lunch: 12 noon to 1:30 pm
- Dinner: 5 pm to 6 pm

The kitchen on the floor closes after meals are served. When the kitchen is closed, the secretary at the nurses’ station can call the main food service for snacks. If your family would like to bring in food for you, they should check with your nurse to make certain that the food...
**Patient Education**

Your nurses and doctors will explain procedures and plans with you. If at any time you have questions, feel free to ask.

You can use The Blum Patient and Family Learning Center (BPFLC) to learn more about your heart condition and surgery. The BPFLC is located on the first floor, in the main hallway of the hospital and serves as a health library for patients and families who want to learn more about their health. Books, pamphlets, videos and internet access is available to help you research and learn about a health issue. The BPFLC is open Monday through Friday, 9:30 am to 6:30 pm and Saturday 11 am to 3 pm.

In your room you can watch videos that are provided on the television. Ask your nurse how to access these.

**Discharge Planning**

Your doctors, nurses, and therapists will all work together to create an individualized plan for your care when you go home. Once you are on Ellison 8, the Case Manager, a specially trained nurse who works with your health care team, will make sure your discharge plan meets your needs. If you have any questions or concerns about caring for yourself after you go home let your case manager know.

You will receive written instructions when you are discharged from the hospital to go home. These instructions will include general guidelines about your diet, activity, and caring for yourself at home. You will also receive information about the medications that you will be taking at home.

Not everyone will go directly home from the hospital. Patients who live alone with no support or need a little more recovery time may go to an inpatient rehabilitation facility for a short period of time before returning home. After surgery your physician, nurse, therapist and case manager will assess your discharge needs. If transfer to a rehabilitation facility is recommended, the case manager will provide you with a list of facilities that meet your medical needs and are also convenient for you and your family. Your family may visit these facilities before a final decision is made.

**Hospital Admission**

You will either be admitted to the hospital on the day before your scheduled surgery or on the morning of your surgery. Prior to your admission you will need to have pre-admission testing. There are no dietary restrictions on this day.

**Pre-admission testing scheduled for Monday through Friday**

Go to the General Admitting Office on the first floor of the Gray Building, located just past Coffee Central, at 7:30 a.m.. You will be asked to complete some forms. You will be given paperwork for your testing and you will be given a “personal belongings” bag.

Go to the the 2nd floor of the Wang Ambulatory Care Center (WACC), Room 290 for a chest x-ray

Go next door to WACC 221 for blood and urine tests and an electrocardiogram (EKG).

When your tests in this area have been completed and you have been given your EKG printout, go to the Cardiac Surgery Unit located on the 8th floor of the Ellison building (Ellison 8). Use the E elevators located in the central hallway of the Ellison building directly opposite the gift shop.

**Pre-admission testing scheduled for Sunday and holidays**

If your pre-admission testing is scheduled for Sunday or a holiday, it will be done on the Cardiac Surgery Unit.

Go to the Cardiac Surgery Unit located on the 8th floor of the Ellison Building (Ellison 8). Use the E elevators located in the central hallway of the Ellison building directly opposite the gift shop.
Medications that you were taking for other medical conditions will be restarted at this time. If you had been taking medications for other medical conditions such as gout, arthritis, menopause or thyroid disease that are not restarted, be sure to ask about them before you are discharged.

Diet

Your diet in the CSICU will be clear liquids. You will then be started on a low fat, low sodium (salt) diet. You may not have much of an appetite for the first few days after surgery. Over time your appetite should improve. You should try to eat something at each meal but don’t force yourself. The total amount of fluids that you can have will be restricted to 1500 cc per day (about 1½ quarts) until you are back to within two pounds of your weight before surgery. We ask that visitors check with the nurse before giving you any fluids.

Constipation

Constipation occurs when the bowel slows down and you are unable to have a bowel movement. This can be caused by anesthesia, pain medication, inactivity or limited fluid and food intake. Sometimes a laxative, stool softener or enema can help you have a bowel movement. Constipation is not serious and will get better once you are up and around more and you are eating and drinking better.

Postoperative Blues

After surgery you might feel blue or down in the dumps. It is common for people to feel very emotional during this time. Some people may find that they cry easily or become crabby. Sometimes people may have a bad dream or trouble remembering things. These feelings may be related to having had anesthesia, to loss of sleep and some of the medications you are taking. All patients have these feelings, but the degree and length of time the feelings last can be different for each person. As you become stronger and feel better you will have fewer and fewer blue days.

Arriving on Ellison 8

On Ellison 8 you will be met by a nurse who will:

- orient you to the unit;
- take and record your heart rate, respiratory rate, blood pressure, temperature and weight;
- have you fill out a patient information form to help in planning your care;
- teach you about your surgery and what to expect before and after your surgery.
- if you are scheduled for a cardiac catheterization you will be directed to Blake 9 for your scheduled procedure.

You will also be interviewed and have a physical examination by a physician assistant. He/She will review your medical history and ask questions about your symptoms, allergies, medications, past surgeries, or other hospital admissions you may have had in the past.

An anesthesiologist will visit and explain the planned anesthetic. The anesthesiologist will also:

- explain the medications that will help you go to sleep for your surgery
- explain any special intravenous (IV) lines used to give fluids and monitor your heart
- explain the different tubes used for the respirator and to drain fluid from your stomach
- ask you to sign a consent form to receive general anesthesia

Pre-admission testing may take several hours. Please plan on spending most of the day at the hospital. We will try to finish all testing and teaching as soon as possible.
Deep Breathing and Coughing
Your lungs need to stay clear for you to breathe well. The nursing staff will have you take deep breaths and cough while you are recovering from your surgery. This will help prevent any problems in the lungs like fluid build up or infection. A special device called an “Incentive Spirometer” is used to help you breathe more deeply. The nurse will show you how to use this and have you practice several times a day.

Activities
With your nurse's help you will be able to get out of bed the day after your surgery and take some steps in your room. Each day you will then increase the distance you walk. Your goal should be to increase the distance and the length of time you are walking, but not the speed at which you walk. By the time you leave the hospital, you should be walking 500 feet at least four times a day. You will be able to walk up and down 10 to 13 stairs by the evening of the fourth day after surgery. The staff will make sure you have a balance in the time you can rest and the time you can be up and active.

Your legs should be kept up and elevated when you are sitting in a chair or lying in bed. This is to keep your legs from getting swollen. Do not let your legs dangle over the side of the bed or from a chair for more than 15 minutes. You will also be shown some leg exercises to do to keep the swelling down and improve the circulation in your legs.

You will be able to take your first shower either on the evening of your third day after your pacing wires have been removed or the morning of the fourth day after surgery.

Medications
There are certain medications that your doctor may prescribe for you after your surgery. These medications include:

- an antiarrhythmic to keep your heart beat regular;
- an anticoagulant to keep your blood thinned;
- a vitamin and iron tablet to keep your red blood cell count and electrolytes normal;
- a diuretic or water pill to help you lose the extra fluid in your body.

There is a team of surgical and medical doctors and nurses who will work with you before and after your surgery. The Cardiac Surgical Service is set up to give each patient a wide variety of specialized services and care. While you are in the hospital the following people will be part of your care team:

- Cardiac Surgeon
- Cardiologist
- Chief Resident
- Anesthesiologist
- Surgical Residents
- Registered Nurses
- Patient Care Associates
- Clinical Nurse Specialist
- Physician Assistants
- Physical Therapists
- Respiratory Therapists
- Case Managers
- Social Worker
- Dietitian
- Occupational Therapists
- Chaplin

The Evening Before Surgery
We ask that your family take your belongings home for safe keeping. This includes all prosthetic devices, clothing, rings, watches, dentures, hearing aids, contact lenses and eye glasses. If your family is unable to bring them home, please inform your nurse and we will lock up your belongings prior to surgery.

The evening before your surgery, you can eat a normal meal, but do not eat, drink, or chew anything after 12 o'clock midnight. This includes gum, mints, water, etc.

When brushing your teeth, avoid swallowing any water.

Bathe or take a shower, washing from your neck down with the anti-bacterial soap provided.

You will then be shaved on the anterior portions of your body. The shaved areas will be painted with betadine.
The Day of Surgery

Before Surgery

You will be taken to the operating room area about one to two hours before your surgery starts. Your family may visit you before you go to surgery. They will need to come at least two hours before your surgery is scheduled to start.

Before leaving your room, you will gargle with a mouthwash. You may be given a sedative to help you relax and begin to make you feel drowsy. You will be taken to an area outside of the operating room where you will meet the Anesthesiologist and some of the operating room staff. The Anesthesiologist will put an intravenous (IV) line into your vein and give you some more sedative medicine. You will probably fall asleep at this time. Your heart surgery may take from three to six hours depending on its complexity.

Please understand that the surgery schedule sometimes has to change at short notice. If this happens, the date or time of your surgery may have to be changed. We will let you know as soon as possible if any changes have to be made.

Family Waiting Area

This will be a long day for your family. There is no right or wrong place for them to be. We suggest that they wait wherever they will be most comfortable. We will need a contact person identified and a number where that person can be reached. We recommend that if they are planning to wait at the MGH during your surgery, they do so in the Surgical Family Waiting Area, which is located on the first floor of the Gray building in the back lobby of the hospital. Your doctor will call your family when your surgery is finished. After surgery, it may take up to an hour to transfer you to the Cardiac Surgical Intensive Care Unit on Blake 8 (the 8th floor of the Blake building). Many families use this time to stop for lunch or coffee or to make phone calls. Once you have been admitted to the intensive care unit, and your family has talked with the doctor, your family may go to the Visitors Lounge on Blake 8. We ask that they use the house phone in the lounge to call into the Cardiac Surgical Intensive Care Unit before visiting you. The secretary or nurse will tell them when they can go into the intensive care unit to visit.

What to Expect Each Day

You and your nurse will plan your day together. Each day will usually follow the Patient Care Pathway. The pathway is a written plan of care that you will receive. The Pathway tells you what to expect each day while you are in the hospital for things like activity, diet, blood tests, EKGs, x-rays and medications.

The nurse will check your heart rate, blood pressure, temperature and breathing every two hours during the first 24 hours you are on Ellison 8. Sometimes a change in heart rate or heart rhythm is seen after cardiac surgery. This can be treated with medication and/or a temporary pacemaker.

Communication

Each morning between 5:45 am and 7:30 am the cardiac surgical team makes rounds on Ellison 8. Doctors, nurses and other members of the team will come into your room to examine you and review your progress over the past 24 hours.

There are also weekday collaborative rounds with all team members from 10 am - 11 am. At these rounds your daily plan of care is discussed with your nurse, the Physician Assistant, Physical Therapist, Case Manager, Resource Nurse and Social Worker.

Pain

We will make you as comfortable as possible. If your pain is adequately treated, you will be able to move around better and do things that will help you recover sooner. Sometimes patients are worried about taking pain medication and becoming addicted. This should not be a concern, as you will only be taking the pain medication for a short period of time. Please let the staff know as soon as you have any discomfort or if your pain medication is inadequate. To help assess your pain, the staff will ask you to rate your pain on a scale of 0 to 10. A score of 0 means you have no pain and a score of 10 means you are having the worst pain ever.

< 0 1 2 3 4 5 6 7 8 9 10 >
No Pain  Severe Pain
Transferring to Ellison 8, the Step-Down Unit

You will be transferred to the step-down unit on the 8th floor of the Ellison building once you are awake and stable. The nurses who work on Ellison 8 are specially trained to care for patients who have had cardiac surgery. You will be on a cardiac monitor until you leave the hospital. You will still have an IV in your arm, a urinary catheter in your bladder, possibly a chest tube or Blake drain and temporary pacing wires. You will also be receiving oxygen either through a mask or nasal prongs.

The nurse will get you settled and make you comfortable in your room. Your family is welcome to visit once you get settled. They may wait in the visitor’s lounge next to the elevators until they come in to see you. Visiting hours are 1 pm to 8 pm daily. If there is a special request for more visiting time, please ask the nurse and they will be happy to work out other times for your visitors.

Ellison 8 has only two private rooms. These rooms are often used for patients with special medical needs. There is also a six bed intermediate unit where patients coming from the ICU needing closer observation and/or more physical care may be placed for a few days prior to going to the regular floor. We will try to honor your request for a private room, but ask for your understanding if this is not possible.

The phone number for Ellison 8 is (617) 724-4810. We ask that each family designate one person to call about your condition. That person can then let everyone else in the family know how you are doing. We ask that you do not call during the change of shift when nurses are giving report. Change of shift occurs at 7 am to 7:30 am, 3 pm to 3:30 pm, 7 pm to 7:30 pm, and 11 pm to 11:30 pm. If the nurse is busy when you call, please leave your name and phone number and they will call you back as soon as possible.

After Surgery

Cardiac Surgical Intensive Care Unit

You will be taken to the Cardiac Surgical Intensive Care Unit (CSICU) after your surgery. The CSICU is a specialized unit designed to meet the needs of patients who have had cardiac surgery. The CSICU is staffed 24 hours a day by highly skilled and specially trained nurses and physicians.

The CSICU may seem noisy and busy but there will be a nurse close by to orient you to your surroundings, monitor your vital signs and make you as comfortable as possible.

When you start to wake up after surgery, you may feel bloated or puffy. This is due to extra fluid that will be in your body. Do not be alarmed as this is normal after surgery and you may weigh up to 10 to 20 pounds more than you did before surgery. After surgery your fluid and sodium (salt) intake will be limited. You will also receive a diuretic (water pill) to help get rid of the extra fluid in your body.

Initially you will have different tubes, lines and special medical equipment attached to you. This equipment is used to monitor your heart rate, heart rhythm, blood pressure, and the pressure within the chambers of your heart. You will not be able to move around a lot while you are hooked up to this equipment. The nurse will help you change your position in bed to keep you comfortable.

Monitoring and Life Support Equipment

Endotracheal Tube (breathing tube): After you have gone to sleep in the operating room, a breathing tube is put into your mouth and down into your windpipe. The tube is then connected to a ventilator (breathing machine). The ventilator does the work of breathing for you while you are asleep. The endotracheal tube may be in place when you wake up in the CSICU. This is because you may still have anesthesia in your body when you leave the operating room and it will take time (4 to 8 hours) for it to leave your body. In the meantime you may still need the ventilator to help you breathe.
Once you start to wake up, your nurse will talk to you to keep you awake. The more awake you are, the more breathing you will do on your own. You will not be able to talk while the endotracheal tube is in place but you can make your needs known. You will be able to nod “yes” or “no” when questions are asked and you can write things down on a pad of paper. The endotracheal tube does not hurt and is easy to breathe through. Try not to talk while the endotracheal tube is still in, as this will cause a gagging sensation.

The endotracheal tube is also used to help keep your lungs free of secretions. The nurse will suction mucus from your lungs through the endotracheal tube to help you breathe better.

The breathing tube will be removed as soon as you are fully awake and able to breathe without the help of the ventilator. After the tube is removed, you may have some soreness in your throat that should go away in a day or two. Once you are off the respirator, we will ask you to take deep breaths and cough to keep your lungs open and free of mucus.

*Intravenous (IV):* An Intravenous (IV) is a small soft catheter or tube that is placed into a vein in your body. Common sites include the hand, arm and neck. It is used as a direct way to give fluid or medication into the blood stream.

*Arterial Line (A line):* An Arterial Line (A line) is an IV catheter that is placed into the radial artery at the wrist. This is just below your thumb where you can usually feel your pulse. The A Line is used to draw blood samples for lab tests and to continuously monitor your blood pressure.

*Pulmonary Artery Catheter (PA line):* A Pulmonary Artery Catheter (PA line) is a catheter, similar to an IV, placed into a vein in the neck. The PA line is used to monitor the pressure inside the chambers of your heart.

*Cardiac Monitor:* A Cardiac Monitor is a piece of equipment that monitors your heart rate and heart rhythm similar to a continuous EKG.

*Blake Drain:* A Blake drain is soft flexible tube about the same diameter as a pencil that is about 18 inches long. It is inserted through a very small hole in the skin. It is placed into the space around the base of the lung to drain fluid that is produced in the first few days after surgery to prevent a build up of fluid. Several days after surgery, when the drainage slows down, it is slid out through the small hole.

*Chest Tube:* A Chest Tube is a plastic tube that is placed into your chest cavity during surgery. The chest tube is then connected to a plastic container or drainage system. The chest tube is used for draining fluids from your chest. It is usually removed the day after surgery or when the drainage becomes very minimal.

*Urinary Catheter (Foley Catheter):* A Urinary Catheter is a small soft tube that is put through the urethra into your bladder. It is then attached to plastic tubing and connected to a drainage bag. The purpose of the catheter is to collect urine. While the catheter is in place you may feel like you have to urinate. The catheter is usually removed the morning after you go to Ellison 8.

*Temporary Pacemaker Wires:* Temporary Pacemaker Wires are slender wires that are placed onto the surface of your heart. The ends of the wires come up through the skin and can then be attached to a pacemaker, if needed. The wires are usually removed 3 days after surgery.

As you recover, these IV lines and drainage tubes will be removed. Your doctor will decide when you are ready to be transferred from the CSICU on Blake 8 to the Cardiac Surgery Step Down Unit on Ellison 8.

Your family may visit you in the CSICU. If members of your family cannot visit, we ask that one person be named spokesperson; that person may call the CSICU [(617) 724-4410] any time day or night, and talk with your nurse. They may then relay information to other family members. The CSICU staff tries to be as flexible as possible with visiting hours. We ask that people try to visit between 10 am and 10 pm, two adults at a time, for 15 to 20 minutes each visit.
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**Transferring to Ellison 8, the Step-Down Unit**

You will be transferred to the step-down unit on the 8th floor of the Ellison building once you are awake and stable. The nurses who work on Ellison 8 are specially trained to care for patients who have had cardiac surgery. You will be on a cardiac monitor until you leave the hospital. You will still have an IV in your arm, a urinary catheter in your bladder, possibly a chest tube or Blake drain and temporary pacing wires. You will also be receiving oxygen either through a mask or nasal prongs.

The nurse will get you settled and make you comfortable in your room. Your family is welcome to visit once you get settled. They may wait in the visitor’s lounge next to the elevators until they come in to see you. Visiting hours are 1 pm to 8 pm daily. If there is a special request for more visiting time, please ask the nurse and they will be happy to work out other times for your visitors.

Ellison 8 has only two private rooms. These rooms are often used for patients with special medical needs. There is also a six bed intermediate unit where patients coming from the ICU needing closer observation and/or more physical care may be placed for a few days prior to going to the regular floor. We will try to honor your request for a private room, but ask for your understanding if this is not possible.

The phone number for Ellison 8 is (617) 724-4810. We ask that each family designate one person to call about your condition. That person can then let everyone else in the family know how you are doing. We ask that you do not call during the change of shift when nurses are giving report. Change of shift occurs at 7 am to 7:30 am, 3 pm to 3:30 pm, 7 pm to 7:30 pm, and 11 pm to 11:30 pm. If the nurse is busy when you call, please leave your name and phone number and they will call you back as soon as possible.

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**After Surgery**

**Cardiac Surgical Intensive Care Unit**

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The Day of Surgery

Before Surgery

You will be taken to the operating room area about one to two hours before your surgery starts. Your family may visit you before you go to surgery. They will need to come at least two hours before your surgery is scheduled to start.

Before leaving your room, you will gargle with a mouthwash. You may be given a sedative to help you relax and begin to make you feel drowsy. You will be taken to an area outside of the operating room where you will meet the Anesthesiologist and some of the operating room staff. The Anesthesiologist will put an intravenous (IV) line into your vein and give you some more sedative medicine. You will probably fall asleep at this time. Your heart surgery may take from three to six hours depending on its complexity.

Please understand that the surgery schedule sometimes has to change at short notice. If this happens, the date or time of your surgery may have to be changed. We will let you know as soon as possible if any changes have to be made.

Family Waiting Area

This will be a long day for your family. There is no right or wrong place for them to be. We suggest that they wait wherever they will be most comfortable. We will need a contact person identified and a number where that person can be reached. We recommend that if they are planning to wait at the MGH during your surgery, they do so in the Surgical Family Waiting Area, which is located on the first floor of the Gray building in the back lobby of the hospital. Your doctor will call your family when your surgery is finished. After surgery, it may take up to an hour to transfer you to the Cardiac Surgical Intensive Care Unit on Blake 8 (the 8th floor of the Blake building). Many families use this time to stop for lunch or coffee or to make phone calls. Once you have been admitted to the intensive care unit, and your family has talked with the doctor, your family may go to the Visitors Lounge on Blake 8. We ask that they use the house phone in the lounge to call into the Cardiac Surgical Intensive Care Unit before visiting you. The secretary or nurse will tell them when they can go into the intensive care unit to visit.

What to Expect Each Day

You and your nurse will plan your day together. Each day will usually follow the Patient Care Pathway. The pathway is a written plan of care that you will receive. The Pathway tells you what to expect each day while you are in the hospital for things like activity, diet, blood tests, EKGs, x-rays and medications.

The nurse will check your heart rate, blood pressure, temperature and breathing every two hours during the first 24 hours you are on Ellison 8. Sometimes a change in heart rate or heart rhythm is seen after cardiac surgery. This can be treated with medication and/or a temporary pacemaker.

Communication

Each morning between 5:45 am and 7:30 am the cardiac surgical team makes rounds on Ellison 8. Doctors, nurses and other members of the team will come into your room to examine you and review your progress over the past 24 hours.

There are also weekday collaborative rounds with all team members from 10 am - 11 am. At these rounds your daily plan of care is discussed with your nurse, the Physician Assistant, Physical Therapist, Case Manager, Resource Nurse and Social Worker.

Pain

We will make you as comfortable as possible. If your pain is adequately treated, you will be able to move around better and do things that will help you recover sooner. Sometimes patients are worried about taking pain medication and becoming addicted. This should not be a concern, as you will only be taking the pain medication for a short period of time. Please let the staff know as soon as you have any discomfort or if your pain medication is inadequate. To help assess your pain, the staff will ask you to rate your pain on a scale of 0 to 10. A score of 0 means you have no pain and a score of 10 means you are having the worst pain ever.

< 0 1 2 3 4 5 6 7 8 9 10 >
No Pain                          Severe Pain
**Deep Breathing and Coughing**

Your lungs need to stay clear for you to breathe well. The nursing staff will have you take deep breaths and cough while you are recovering from your surgery. This will help prevent any problems in the lungs like fluid build up or infection. A special device called an “Incentive Spirometer” is used to help you breathe more deeply. The nurse will show you how to use this and have you practice several times a day.

**Activities**

With your nurse’s help you will be able to get out of bed the day after your surgery and take some steps in your room. Each day you will then increase the distance you walk. Your goal should be to increase the distance and the length of time you are walking, but not the speed at which you walk. By the time you leave the hospital, you should be walking 500 feet at least four times a day. You will be able to walk up and down 10 to 13 stairs by the evening of the fourth day after surgery. The staff will make sure you have a balance in the time you can rest and the time you can be up and active.

Your legs should be kept up and elevated when you are sitting in a chair or lying in bed. This is to keep your legs from getting swollen. Do not let your legs dangle over the side of the bed or from a chair for more than 15 minutes. You will also be shown some leg exercises to do to keep the swelling down and improve the circulation in your legs.

You will be able to take your first shower either on the evening of your third day after your pacing wires have been removed or the morning of the fourth day after surgery.

**Medications**

There are certain medications that your doctor may prescribe for you after your surgery. These medications include:

- an antiarrhythmic to keep your heart beat regular;
- an anticoagulant to keep your blood thinned;
- a vitamin and iron tablet to keep your red blood cell count and electrolytes normal;
- a diuretic or water pill to help you lose the extra fluid in your body.

There is a team of surgical and medical doctors and nurses who will work with you before and after your surgery. The Cardiac Surgical Service is set up to give each patient a wide variety of specialized services and care. While you are in the hospital the following people will be part of your care team:

- Cardiac Surgeon
- Cardiologist
- Chief Resident
- Anesthesiologist
- Surgical Residents
- Registered Nurses
- Patient Care Associates
- Clinical Nurse Specialist
- Physician Assistants
- Physical Therapists
- Respiratory Therapists
- Case Managers
- Social Worker
- Dietitian
- Occupational Therapists
- Chaplin

**The Evening Before Surgery**

We ask that your family take your belongings home for safe keeping. This includes all prosthetic devices, clothing, rings, watches, dentures, hearing aids, contact lenses and eye glasses. If your family is unable to bring them home, please inform your nurse and we will lock up your belongings prior to surgery.

The evening before your surgery, you can eat a normal meal, but do not eat, drink, or chew anything after 12 o’clock midnight. This includes gum, mints, water, etc.

When brushing your teeth, avoid swallowing any water.

Bathe or take a shower, washing from your neck down with the antibacterial soap provided.

You will then be shaved on the anterior portions of your body. The shaved areas will be painted with betadine.
**Arriving on Ellison 8**

On Ellison 8 you will be met by a nurse who will:

- orient you to the unit;
- take and record your heart rate, respiratory rate, blood pressure, temperature and weight;
- have you fill out a patient information form to help in planning your care;
- teach you about your surgery and what to expect before and after your surgery.
- if you are scheduled for a cardiac catheterization you will be directed to Blake 9 for your scheduled procedure.

You will also be interviewed and have a physical examination by a physician assistant. He/She will review your medical history and ask questions about your symptoms, allergies, medications, past surgeries, or other hospital admissions you may have had in the past.

An anesthesiologist will visit and explain the planned anesthetic. The anesthesiologist will also:

- explain the medications that will help you go to sleep for your surgery
- explain any special intravenous (IV) lines used to give fluids and monitor your heart
- explain the different tubes used for the respirator and to drain fluid from your stomach
- ask you to sign a consent form to receive general anesthesia

Pre-admission testing may take several hours. Please plan on spending most of the day at the hospital. We will try to finish all testing and teaching as soon as possible.

Medications that you were taking for other medical conditions will be restarted at this time. If you had been taking medications for other medical conditions such as gout, arthritis, menopause or thyroid disease that are not restarted, be sure to ask about them before you are discharged.

**Diet**

Your diet in the CSICU will be clear liquids. You will then be started on a low fat, low sodium (salt) diet. You may not have much of an appetite for the first few days after surgery. Over time your appetite should improve. You should try to eat something at each meal but don’t force yourself. The total amount of fluids that you can have will be restricted to 1500 cc per day (about 1 ½ quarts) until you are back to within two pounds of your weight before surgery. We ask that visitors check with the nurse before giving you any fluids.

**Constipation**

Constipation occurs when the bowel slows down and you are unable to have a bowel movement. This can be caused by anesthesia, pain medication, inactivity or limited fluid and food intake. Sometimes a laxative, stool softener or enema can help you have a bowel movement. Constipation is not serious and will get better once you are up and around more and you are eating and drinking better.

**Postoperative Blues**

After surgery you might feel blue or down in the dumps. It is common for people to feel very emotional during this time. Some people may find that they cry easily or become crabby. Sometimes people may have a bad dream or trouble remembering things. These feelings may be related to having had anesthesia, to loss of sleep and some of the medications you are taking. All patients have these feelings, but the degree and length of time the feelings last can be different for each person. As you become stronger and feel better you will have fewer and fewer blue days.
**Patient Education**

Your nurses and doctors will explain procedures and plans with you. If at any time you have questions, feel free to ask.

You can use The Blum Patient and Family Learning Center (BPFLC) to learn more about your heart condition and surgery. The BPFLC is located on the first floor, in the main hallway of the hospital and serves as a health library for patients and families who want to learn more about their health. Books, pamphlets, videos and internet access is available to help you research and learn about a health issue. The BPFLC is open Monday through Friday, 9:30 am to 6:30 pm and Saturday 11 am to 3 pm.

In your room you can watch videos that are provided on the television. Ask your nurse how to access these.

**Discharge Planning**

Your doctors, nurses, and therapists will all work together to create an individualized plan for your care when you go home. Once you are on Ellison 8, the Case Manager, a specially trained nurse who works with your health care team, will make sure your discharge plan meets your needs. If you have any questions or concerns about caring for yourself after you go home let your case manager know.

You will receive written instructions when you are discharged from the hospital to go home. These instructions will include general guidelines about your diet, activity, and caring for yourself at home. You will also receive information about the medications that you will be taking at home.

Not everyone will go directly home from the hospital. Patients who live alone with no support or need a little more recovery time may go to an inpatient rehabilitation facility for a short period of time before returning home. After surgery your physician, nurse, therapist and case manager will assess your discharge needs. If transfer to a rehabilitation facility is recommended, the case manager will provide you with a list of facilities that meet your medical needs and are also convenient for you and your family. Your family may visit these facilities before a final decision is made.

**Hospital Admission**

You will either be admitted to the hospital on the day before your scheduled surgery or on the morning of your surgery. Prior to your admission you will need to have pre-admission testing. There are no dietary restrictions on this day.

**Pre-admission testing scheduled for Monday through Friday**

Go to the General Admitting Office on the first floor of the Gray Building, located just past Coffee Central, at 7:30 a.m.. You will be asked to complete some forms. You will be given paperwork for your testing and you will be given a “personal belongings” bag.

Go to the the 2nd floor of the Wang Ambulatory Care Center (WACC), Room 290 for a chest x-ray

Go next door to WACC 221 for blood and urine tests and an electrocardiogram (EKG).

When your tests in this area have been completed and you have been given your EKG printout, go to the Cardiac Surgery Unit located on the 8th floor of the Ellison building (Ellison 8). Use the E elevators located in the central hallway of the Ellison building directly opposite the gift shop.

**Pre-admission testing scheduled for Sunday and holidays**

If your pre-admission testing is scheduled for Sunday or a holiday, it will be done on the Cardiac Surgery Unit.

Go to the Cardiac Surgery Unit located on the 8th floor of the Ellison Building (Ellison 8). Use the E elevators located in the central hallway of the Ellison building directly opposite the gift shop.
Helpful Information

Nurse Call Light

The nurse call light is usually answered by a secretary at the front desk. It is helpful to let the staff know what you need so they can respond appropriately. If you are not able to speak, or if the people at the nurses' desk cannot hear you, a member of the nursing staff will be sent to your room. Please give your nurse a few minutes to respond to your call. If you do not get a response within a reasonable amount of time, use your call light again.

Television

Basic television service is offered to patients free of charge. This includes Channel 2, (a public broadcasting channel), Channel 4, (CBS), Channel 9, (a Spanish language channel), Channel 10, (PAX TV), and Channel 29, (the patient education channel). For an extended selection of cable stations, a daily rental fee of $5 is required. To order this service, call 6-8888 and leave your name, room number and the name of your building. Television representatives visit the patient care units every afternoon and evening and request payment in advance by cash or check.

Meals

You will receive a menu in the morning to order your meals for the next day. Please fill in the menu and have it ready by the end of breakfast. You will need to order everything for your meals including condiments. If you want extras, please order them as we do not always stock items on the floor.

Serving Times

Breakfast: 8 am to 9 am
Lunch: 12 noon to 1:30 pm
Dinner: 5 pm to 6 pm

The kitchen on the floor closes after meals are served. When the kitchen is closed, the secretary at the nurses' station can call the main food service for snacks. If your family would like to bring in food for you, they should check with your nurse to make certain that the food

Medication Restrictions

If you are taking Aspirin or any medication that contains Aspirin, check with your surgeon regarding when to stop taking it prior to surgery. Aspirin is known as a blood thinner and can keep your blood from being able to clot. Aspirin can be found in many medications such as Alka-Seltzer, Anacin, Ascriptin, Bufferin, and Vanquish. Be sure to read the label of any medication that you take to be sure it does not have Aspirin in it. You may take Tylenol instead of Aspirin as needed.

There are other medications that can keep your blood from being able to clot. They include Advil, Aleve, Anturane, Atromid-S, Butazolidin, Clinoril, Coumadin, Garlic or other herbal supplements, Indocin, Motrin, Plavex, Persantine, and Valium. Please check with your doctor about taking any of these medications before your surgery. Call your doctor if you have questions about any medications you are unsure about.

Continue to take your other prescribed medications up until the time you are admitted to the hospital.

Please bring all of your prescription bottles with you to the hospital when you come for your pre-admission testing or on admission.

New Health Problems

Let your doctor know as soon as possible if you start to have any new health problems. This could include a fever, sore throat, draining sores, a cold, the flu or if you have been started on an antibiotic. It is important for you to be in the best shape possible at the time of your surgery. Your doctor may want to examine you and treat any problems early so your surgery is not delayed. You should try to stay away from people who are sick as it gets closer to your surgery date.
is allowed on your diet. Mark the container with your name, date and room number. There is a refrigerator behind the nurses’ station where food can be stored.

**Bedside Telephone Dialing Instructions**

- Local Call (within 617 area code): Dial 9, 617 and the 7 digit telephone number
- Long Distance Call: Dial 9, then 0, then the area code and the 7 digit telephone number
- Long Distance Using Own Carrier: Dial 9, then your long distance company phone number
- International Call or Cablegram: Dial 0 and the MGH operator will assist.

There is no charge for calling within the hospital. Simply drop the “72” at the beginning of the telephone number and just dial the remaining 5 digit extension.

TDD equipment is available on loan for the hearing impaired. Please ask your primary nurse.

After 10:30 pm, calls coming in to patients are automatically diverted to the unit’s nursing station and will not ring through to you. To stop incoming calls during the day, ask your nurse to unplug your phone.

Whenever you or a family member wants to use your own cell phone, it needs to be arm’s length away from the monitor. Nurses have cell phones which won’t interfere with medical equipment.

**Location and Parking**

The hospital address is 55 Fruit Street, Boston MA 02114. You can call the main hospital phone number (617) 726-2000 for directions or visit the hospital web page [http://www.mgh.harvard.edu/directions.html](http://www.mgh.harvard.edu/directions.html). A map is located on the inside back cover of this booklet to help with directions.

Parking can be found at the Fruit Street, Parkman Street and Yawkey garages that are located outside of the main entrance to MGH. There is a visitor parking rate available. Valet parking is located at the Wang ACC Lobby and the Yawkey Center entrances.

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**Home Preparation**

**Health Care Proxy**

A health care proxy is a legal document recognized in each of the 50 states. We encourage you to fill out a health care proxy and bring it with you on the day of admission. You must select someone that you trust to make crucial decisions about your health care on your behalf should you be unable to voice them. Make sure that the person you select as your health care proxy fully understands your wishes so that they are able to make the best decisions should their role be needed. Two individuals who are not acting as the health care proxy, your caregiver or relative must witness the health care proxy. Please visit: [www.massmed.org/ma_proxy](http://www.massmed.org/ma_proxy) for the form and additional information. Forms are also available at your doctor’s office or can be filled out upon admission. We encourage your spouse or family member to have a copy as well.

**Smoking Cessation**

It is mandatory that you stop smoking before your operation. Smoking irritates your lungs, and as a result the body may not receive the amount of oxygen it needs to work well. When your lungs are not in top shape, it may take longer for you to recover from your surgery.

Stopping smoking may be very hard for you. This is especially true when you are under a lot of stress. The support of friends and family may make it easier to stop. They can help by not smoking around you or even trying to stop with you.

You can find information about programs that will help you to stop smoking by calling the MGH Tobacco Treatment Service (617) 726-7443; the American Lung Association of Massachusetts (508) 947-7204; and the Massachusetts Department of Public Health TRY-TO-STOP (800) 879-8678.

**Dental Check Up**

You will need a dental check-up if you are having surgery on a heart valve and possibly for a congenital heart defect or a procedure on your aorta. You should mail or fax a written report from your dentist to your surgeon before admission. This dental check-up is very important so that any dental infection you might have can be treated before you are admitted to the hospital. Remember that you must take an antibiotic before having any dental work done. Your cardiologist,
Prior to Admission

Insurance Approval for Admission

Your admission to the hospital and surgery will need to be approved by your insurance company. The Admitting Office and/or your surgeon’s office will call your insurance company to get approval for your admission and surgery. In addition, an Admitting staff person will call you to make sure the hospital has all of the right information to process your admission.

A few insurance plans require patients to bring a co-payment or deductible with them on the day of admission. If you have this type of insurance, the Admitting Office will call you before your admission to let you know if you need to bring a payment. If you have any questions about this, you may call the Admitting Office at (617) 726-6828.

Blood Donor Program

Some patients want to donate their own blood (autologous donor) before surgery. You will need to talk to your doctor to see if this is an option for you, as some patients should not donate blood for their surgery. If you want to use the autologous blood donor program at the MGH, please call the Blood Transfusion Service at (617) 726-3718 or visit the MGH Blood Donor Center website: www.massgeneral.org/blooddonor/

The MGH Blood Donor Center also offers a Designated Donor Program that allows friends and family to donate blood for your use during surgery. Designated Donor Programs may not suit the needs of all patients. Please call the donor center at (617) 726-8164 for information on the program.

The Blood Bank is located on the first floor of the Gray Building and they are open on Tuesday, Wednesday and Thursday from 7:30 am to 5:30 pm and on Friday from 8:30 am to 4:30 pm.

Cardiac surgery often requires the use of blood and/or blood products. If you have any questions about the use of blood and blood products during surgery, or if you are unwilling to receive blood or blood products, please let your surgeon know.

Chapel

The hospital chapel is located on the first floor of the Ellison Building. Our chaplains represent all religions and can offer you spiritual support and counseling. Let your nurse know if you would like this service, or call (617) 726-2220.

Interpreter Services  (617) 726-6966

Cardiac Surgery Staff

Cary W. Akins, MD  (617) 726-8218
Cox 648

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Cox 642

Jennifer D. Walker, MD  (617) 726-8841
Cox 644

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Cox 658

Nursing Staff of Cardiac Surgery Service

Your Nurse on Ellison 8  (617) 724-4810
Your Nurse on Blake 8  (617) 724-4410
Clinical Nurse Specialist-B8  (617) 724-3886
Clinical Nurse Specialist-E8  (617) 724-4820
Discharge Information

The purpose of this section is to provide you with information about some of the most common concerns and most frequently asked questions after surgery. Before discharge you will receive a packet of written discharge instructions which will include general guidelines about your diet, activity, risk factor information and caring for yourself at home. You will also receive information about the medications that you will be taking at home.

Exercise and Activities

Following discharge from the hospital, it is not uncommon to feel more tired and have more discomfort than you did during your final days in the hospital. Do not be alarmed by this, it is usually due to the increased level of activity at home and should improve soon. Be active. You may climb stairs, go for walks, go for rides in the car, etc. However, these activities should be increased gradually, each day building on the previous day’s activity level. Your doctor will inform you of the length of time you can expect to be out of work and of any other specific restrictions you may have.

Rest and Sleep

It is important that you get plenty of rest and sleep while you recover from your surgery. Your body will get tired from doing routine things like bathing, shaving or brushing your hair. This is because your body considers all activity as work and uses up more energy to get things done. Plan or build rest periods into your day. By balancing periods of activity with periods of rest you will not get overtired.

Try to get 8 to 10 hours of sleep each night. Do not to stay up late one night and then try to catch up on your sleep the next night. If you have a hard time sleeping at night you may be taking too many naps during the day. Try to work out a routine where you can nap during the day but still get a good night sleep.

Some patients may have a hard time sleeping because their chest hurts when they lay down. It might also hurt when turning from side to side.

- Narrowing: also called stenosis, which occurs when a valve does not open completely causing blood to flow through a smaller opening
- Leaking: also called regurgitation which results when a valve doesn’t close completely, allowing blood to flow backwards through the valve.

Categories of Cardiac Surgery:

Coronary Artery Bypass Surgery (CABG):
Bypass grafts are placed to coronary arteries with blockages by connecting the new graft to the artery past the point of narrowing. The conduit or tubing most commonly used to perform the bypasses includes
- The internal mammary (internal thoracic) artery: an artery attached to the inside of the front wall of the chest.
- The greater saphenous vein: an accessory vein that is found on the middle side of the thigh
- The radial artery: an artery in the lower arm

Heart Valve Surgery:
Valves in the heart that become stenotic (narrow) or insufficient (leaky) can be repaired or replaced. Different kinds of valves made from tissue or metal can be inserted. Your surgeon will discuss with you which type of repair or replacement your specific valve needs.

Aortic Surgery:
The aorta is the large blood vessel that carries the blood from the heart to the rest of the body. When it becomes enlarged to a certain size (aneurysm), or when the wall weakens or tears in an area (dissection), that part of the aorta can be replaced. A graft is used to replace the portion of the aorta that is involved. Sometimes the aortic valve may also be involved in these diseases.

Heart Failure Surgery and Transplantation:
When the muscle of the heart weakens due to various diseases (cardiomyopathy) and congestive heart failure results that no longer responds adequately to medication, a ventricular assist device (VAD) can be attached to the heart to allow the heart to recover or to act as an aid for the heart until a suitable donor is available for transplantation. In some cases the VAD acts as a permanent aid to the heart.

Adult and Pediatric Congenital Heart Surgery:
Children born with heart defects of various kinds and adults who have previously had heart repair and require further surgery undergo procedures to correct these defects. These will be discussed with you on an individual basis by your surgeon.
Your Heart

Your heart is a muscle that pumps blood through your body. The blood moves through four chambers in the normal heart, the atria that collect blood and the ventricles that pump blood. The blood comes back to the right side of the heart from the body is low in oxygen. The right side of the heart moves the blood through two chambers, the right atrium and the right ventricle, to get the blood into the lungs, where the blood will again be filled with oxygen. The blood then goes through the left atrium into the left ventricle, which pumps the oxygen-rich blood back into the body.

Your heart has four valves that open in sequence to allow blood to move through the heart chambers and to prevent blood from leaking backward. The two valves on the right side of the heart are the tricuspid valve, which connects the right atrium to the right ventricle, and the pulmonary valve, which connects the right ventricle to the pulmonary artery, which delivers blood to the lungs. The two valves on the left side of the heart are the mitral valve, which connects the left atrium to the left ventricle, and the aortic valve, which connects the left ventricle to the aorta, which delivers blood to the body.

When the oxygen-rich blood comes out of the left ventricle into the aorta, the first artery branches from the aorta are the coronary arteries that supply the heart muscle with blood. Disease of these coronary arteries remains the primary cause of death in this country.

Coronary arteries can become diseased for several reasons. One important cause is the build-up of atherosclerotic plaques in the arteries that block the flow of blood to the heart muscle. Plaque is largely composed of cholesterol, a fatlike substance in the blood, that accumulates to form the plaques that hinder the flow of blood. When blood flow to the heart muscle is significantly decreased by these plaques, patients can experience chest pain, called angina pectoris. If the artery becomes totally blocked, the patient may suffer a heart attack, called a myocardial infarction. Factors which contribute to this cholesterol build-up include smoking, diabetes, high blood pressure, obesity, lack of exercise and genetic traits inherited from your parents.

- Heart valves can be abnormally formed from birth or can be damaged by rheumatic fever, bacterial infection and calcific degeneration, which may just be due to aging. The two most common types of valve disease are:

For some patients it is more comfortable to sleep in a reclining chair for a period of time or try taking one or two Tylenol tablets 30 to 60 minutes before going to bed. This usually helps to relieve the discomfort.

Incision

You should look at your incision before you leave the hospital. This is to help you identify any changes in the incision once you go home. If your incision becomes very tender, red, warm or drains fluid, call your doctor.

You may shower each day, washing your incision gently with soap and then patting it dry. Do not scrub the incision. Do not put any powders, ointments or lotions over the incision unless specifically told to do so by your surgeon. Itching, tingling or numbness along the incision line is normal.

Warning Signs

Signs and symptoms you should let your doctor know about:

- Temperature greater than 100 degrees F
- Any redness, tenderness, swelling, drainage from any incision
- Chills, nausea, vomiting, diarrhea, flu-like symptoms
- Chest pain or any discomfort like you had before your surgery
- Weight gain of greater than three pounds in two days
- Any signs or symptoms like you had before your surgery
Welcome to the MGH Cardiac Surgical Service

The cardiac surgical team at the Massachusetts General Hospital is committed to giving you the best medical care. As a patient, you are a part of our team. We think it is important for you to know what to expect before, during and after your surgery. We believe that when you have the appropriate information, you will not worry as much and you will recover better from your surgery. We hope this information will prepare you for your experience as a patient on the Cardiac Surgical Service. This booklet is only a general overview. Your surgeon or other health care provider may alter the plan to accommodate your particular condition.

“Your Heart” - Courtesy of Jennifer D. Walker M.D. & Cary Akins M.D.
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