Surgical Instructions

After Heart Surgery

What to Expect
To our patients:

The Bluhm Cardiovascular Institute of Northwestern Memorial Hospital is a world-class heart and vascular program that offers comprehensive services and state-of-the-art surgical treatments in all areas of cardiovascular care. The Bluhm Cardiovascular Institute and the clinicians on the medical staff continually receive awards and top rankings for innovative heart and vascular disease treatments and procedures. We are committed to progressive clinical care in an environment organized to meet patient needs while advancing research.

This booklet has been developed to answer your basic questions and provide information about recovering from heart surgery, including what you will experience while you are in the hospital, pain management, diet, activities, preparing to go home and post-surgery.

At the Bluhm Cardiovascular Institute, we are dedicated to ensuring that you and your family have the best possible experience and that you thoroughly understand your care plan. Please contact your physician or nurse practitioner if you have additional questions or concerns.

Sincerely,

Bluhm Cardiovascular Institute Team
What You Need to Know About Recovering from Heart Surgery

This booklet will help answer any questions you may have about recovering from heart surgery. While this information provides an overview of what you can expect during the recovery process, you may have additional questions or issues related to your specific procedure. Your physician or nurse will provide you with more detailed information.

Heart surgery may be performed in one of three ways:

- **Minimally invasive**, which consists of a small, 3-5 inch incision that is made in the upper or lower chest and opens part of your breastbone (mini-sternotomy). The exact site of the incision depends on the specific surgery being performed. At the end of surgery, the breastbone is wired together and the incision is closed with sutures (see Figure 1).

- **A sternotomy** requires a 6- to 8-inch incision in the middle of your chest and opens your breastbone. At the end of surgery, the breastbone is wired together and the incision is closed with sutures (see Figure 2).

- **A thoracotomy** (chest incision) between the ribs. The exact site of the incision depends on the specific surgery being performed (see Figure 3).

**After Surgery**

Following your surgery, you will go directly to the Intensive Care Unit (ICU) where you will spend your next 24 hours. Your surgeon will speak to your family to answer any questions they may have.
**Intensive Care Unit**

When you wake up, you will be in the ICU. You may feel groggy, thirsty or cold. The nursing staff will be at your bedside often to check on you and keep you comfortable. You will remain in bed. The nurse will assist you in turning from side to side every two hours. To improve your circulation and prevent blood clots, you may have elastic stockings or sequential compression devices on your legs. A sequential compression device consists of an air pump connected to a sleeve, which is placed around each leg. The pump forces air into different parts of the sleeve in sequence, creating pressure around the calves.

You will have many tubes and wires attached to your body.

- A tube in your throat will help you breathe. While the tube is in place you will not be able to speak. Do not try to speak. You will be asked “yes” and “no” questions so you can communicate with the nurse. The tube will be removed as soon as you are able to breathe well enough on your own.

- Chest tubes will collect fluid that may build up around your heart and lungs. These tubes often are removed the day after surgery; some chest tubes may stay in longer.

- A catheter (tube) in your bladder will drain urine. The nurses will check your urine output often. This catheter usually is removed after you leave the ICU.

- A monitor will record your heart rate, rhythm and blood pressure.

- Pacing wires, placed during surgery, will be connected to a temporary pacemaker to assist with slow heart rates as needed. Most often these wires are removed the day before you go home.

- Intravenous (into the vein) lines will be used during and after your surgery to provide fluid, medicines and blood if needed. These intravenous lines will be removed when you no longer need them.
Once the breathing tube is removed, your nurse will have you begin deep breathing and coughing exercises. To be sure you are taking deep breaths, you will use an incentive spirometer. You should take 10 deep breaths every hour that you are awake. Your nurse will show you how to do this and how to support your incision with a pillow when coughing. This, along with turning in bed, helps prevent mucus and fluid buildup in your lungs and avoid complications, such as pneumonia.

**Pain Management**

You will have a pain relief pump. This pump is connected to a thin catheter (tube) that rests inside your chest along the length of the incision. The pump delivers an ongoing flow of pain medicine directly into the incision site. A clear dressing and tape hold the catheter in place. A belt with a small pouch supports the pump and the tubing. Most patients have the pain relief pump for about 72 hours. This pump, along with either intravenous or oral medicines, should control your pain. Incision pain and tenderness will lessen over the next two weeks.

It is important that you take your pain medicine as needed. Good pain relief can help you become more active and speed your recovery. Let your nurses and physicians know how your pain medicine is working. Rate your pain on a scale of zero to 10, with zero meaning no pain and 10 being the worst.

**Diet**

After your breathing tube is removed, you will be able to eat ice chips. Slowly, you will progress to a liquid diet. When you are able to tolerate solids, you will resume a regular diet.

**Activity**

On the day after surgery, your activity will be increased. You will first sit at the side of the bed and in the chair. When you are getting out of bed, do not use your chest muscles or arms to pull yourself up. Cross
your arms over your chest, sit up and swing your legs over the side of the bed. This will help your breastbone heal if you have had a sternotomy.

As you are able, your nurse will assist you with a short walk in your room and later, in the hall. It is normal to feel weak and wobbly at first. Always ask your nurse for help when getting out of bed.

You will be cared for in the ICU one to two days. Sometimes your condition may require a longer stay.

**Step-down Unit**

As you progress, you will be transferred to the Step-down Unit, where you will receive care until you go home. Your heart rhythm will be monitored while in the hospital. You will also play a more active role in your care.

The nurse will help you bathe. You will learn how to wash around your incision. Do not apply any lotions or creams to your incision. Once all your tubes and drains have been removed you may take a shower with help. Your chest incision may appear bruised and may be discolored from the soap used to wash your skin before surgery.

You will be encouraged to gradually increase your activity each day. You may begin walking in the halls three to four times each day and sitting in a chair for all your meals. Remember to increase the time and distance each time you walk. This light exercise will help you become stronger as you prepare to go home. A physical therapist or the cardiac rehabilitation staff will visit during this time. Be sure to follow their exercise guidelines.

As you recover, continue to use your incentive spirometer and to cough and deep breathe 10 times every hour while awake. A dietician may visit to explain any specific diet guidelines. These
may include a low-sodium diet to prevent fluid buildup, limiting the fluids you drink and a low-fat, low-cholesterol diet.

**Preparing to Go Home**

Talk with your physician and nurse about your care at home and begin making plans for who will help you when you are released from the hospital and for the first few weeks. For some patients, this may include a short stay at a skilled nursing facility. There, the focus will be to help you become stronger, exercise and perform self-care skills and routine activities.

Our Case Management department will assist with these plans. Before going home, your nurse will review your release instructions regarding diet, activity and care of your incision. Your nurse also will review when and how to call your physician about any problems and follow-up physician visits.

You will be given a list of medications to take at home. Be sure to ask your nurse for a copy of the guidelines for taking medications following heart surgery. For each medication you will be taking, it is important that you understand:

- The name of the medication
- The purpose and how it works
- Directions for how and when to take your medication
- Potential side effects that should be reported to your physician
- Special guidelines such as whether the medicine may interact with your other medicines or foods.

Be sure you understand your care instructions when going home. Your physician or nurse will answer any questions that you or your family may have.

Patients typically leave the hospital at 11 a.m. An aide will take you by wheelchair to the driveway between the Feinberg and Galter pavilions. As you will be unable to drive, please arrange for a friend or family member to meet you at this location to take you home.
Home Care

General Guidelines

When you go home, you will need someone to help with daily chores and meals.

Patients who have had:

- Minimally invasive surgery usually are back to normal routines in about four weeks. Full recovery takes about six to eight weeks.
- Full sternotomy or thoracotomy may have a longer recovery time. Many patient activities are limited for six to eight weeks.

During the first weeks of recovery, it is common to tire easily. Plan your activities to allow for rest periods. Mood swings, not feeling like yourself and sleep problems also are common. These issues will pass with time.

Remember to take things slowly and talk about these feelings with friends and loved ones.

Be sure to take your incentive spirometer home. Continue to use your incentive spirometer and to cough and deep breathe 10 times every hour while awake. Wear your elastic stockings as instructed by your physician.

Weigh yourself daily, at the same time, on the same scale and with the same amount of clothing. Report any weight gain of more than three pounds in one day to your surgeon.

Diet

At first your appetite may be poor. Eat small meals with healthy snacks between meals. Foods high in protein will promote healing. Make sure your diet includes fruits and vegetables to help avoid constipation. Follow any guidelines provided by the dietician or your physician.
**Activity**

Keep active. Follow your physician’s advice on resuming activity. Begin with short distances and walk every one to two hours. Slowly increase the distance you walk each day. Do not attempt strenuous exercise until approved by your physician. Forceful movement or pressure can affect the healing of your chest incision and breastbone.

Do not lift:

- More than 10 pounds for the first six weeks after surgery
- Anything above your head

**Intercourse**

If you are able to walk a flight of stairs without becoming short of breath, you can resume intercourse. Avoid positions that put pressure on your upper arms or chest area for six to eight weeks until your breastbone heals. Do not have sex right after eating. You should allow two to three hours to digest your food. Be sure you are well rested.

**Driving**

Do not drive until you talk with your physician. Minimally invasive surgery patients often resume driving after four weeks. For patients who have had a full sternotomy, this could take six to eight weeks as motion from turning the steering wheel can affect the healing breastbone. You should not drive until you are pain-free and are not taking any pain medicine. If your car has air bags, ride in the back seat wearing your seatbelt.
Work

Your surgeon will let you know when you are able to return to work. Your ability to return will depend on your work and its demands. You may discuss this with your physician at your first follow-up exam.

Showering and Wound Care

You may shower. At first you may feel weak when you shower. Avoid long showers with very hot water. It also is helpful to have someone nearby to assist as needed. Stand with your back to the water and allow the water to run over your shoulders. Use a mild soap to gently wash the incision site. Carefully pat dry and do not rub. Keep your incision clean and dry. To prevent infection, do not use powders, colognes or lotions near your incision. Inspect the site daily. Your chest incision will look bruised and may be numb, itchy or sore.

- Report any signs of infection to your physician, including:
  - Increased redness, swelling or pain at the site
  - Thick drainage or pus from the incision

Fever

Medications

Follow your physician’s medication guidelines. Take only the medications you are given when you go home. If you are unsure about what medications to take or whether to resume your routine medications, contact your physician.

Warfarin or Coumadin®

If you are taking blood thinner such as warfarin (Coumadin®), please refer to the warfarin booklet you received from your healthcare provider. It provides information about foods to avoid, medicine that cannot be taken and when to call your physician. It is important to know the reason for taking warfarin (Coumadin®) and for how long you will need this medication. You will require weekly blood work after going home until you are on a stable dose.
Managing Your Pain

- Take pain medicine as directed.
- Do not take more than 4,000 mg of acetaminophen or Tylenol® in a 24-hour period.
- Do not take ibuprofen or any products containing ibuprofen unless you have discussed this with your physician.

To prevent nausea, take pain medicine with food. Contact your physician if your medicine does not control the pain.

When to Call Your Physician

Please call your physician if you have:

- Chest pain not related to your incision site
- A temperature of 101.5° F or higher
- Increased shortness of breath
- Weight gain of more than three pounds in one day
- The sensation that your heart seems to be beating very slow or fast, or is skipping beats

If you are taking bloodthinners such as warfarin (Coumadin®), call your physician if you have:

- Bloody or dark (black) tarry stools
- Dark or bloody urine
- Unexplained bruising or bleeding
- Frequent or severe headaches

Follow-up Care

It is important to keep all appointments for blood work, tests and physician exams. Your Cardiac Surgery Outpatient Clinic visit with your surgeon or nurse practitioner will be ____week(s) after going home. You also will receive an order for a chest X-ray. On the day you leave the hospital, the nurse will arrange a follow-up physician’s appointment. If this is not done, please call the Division of Cardiac
Surgery at Northwestern Medical Faculty Foundation at 312-695-2885 to set up an appointment. You will see a nurse practitioner or your surgeon during this visit.

Please note that it is important for you to see either your referring physician or cardiologist within two to three weeks after going home.

Talk with your physician about:

- A referral to a cardiac rehabilitation or routine exercise program
- Returning to work
- Driving
- Your current medications (your primary care physician or should refill your prescriptions after the first month upon returning home)
- Any questions you may have
At Northwestern Memorial Hospital, a comprehensive range of inpatient and outpatient services are provided in a healing environment where patients and their caregivers are supported by advanced technology and an organizational commitment to quality and patient satisfaction. We are a major referral center for the Midwest and beyond with a longstanding tradition of providing patient-focused care.

As one of the country’s premier academic medical centers, Northwestern Memorial serves as the primary teaching hospital for Northwestern University’s Feinberg School of Medicine. We are committed to the advancement of healthcare through clinical innovation, medical education and scientific research. The medical staff represents virtually every specialty and is comprised of more than 1,460 affiliated physicians who also serve as faculty members of the Feinberg School. At Northwestern Memorial, physicians and nurses are supported by the efforts of more than 6,000 employees and hospital volunteers who work to advance our mission of Patients First.

Northwestern Memorial’s heart and heart surgery specialties are ranked among the nation’s best by *U.S.News & World Report* magazine.
For More Information

Please contact us with any questions, for consultations or to request additional materials:

Bluhm Cardiovascular Institute of Northwestern Memorial Hospital
675 N. Saint Clair St.
Galter Pavilion, Suite 19-100
Chicago, IL 60611

Toll-free Line: 866-662-8467

Northwestern Medical Faculty Foundation, Division of Cardiac Surgery
312-695-2885

At night or on weekends, call 312-695-4965 and ask for the Cardiothoracic Surgery fellow to be paged.

To learn more about the Bluhm Cardiovascular Institute, please visit www.heart.nmh.org.

If you would like additional information about Northwestern Memorial Hospital, please visit www.nmh.org.