

# **The Johns Hopkins Hospital**



**JOHNS HOPKINS**  
M E D I C I N E

## **Cardiac Surgery Post-operative Care Booklet**

This booklet is designed to help answer the most frequently asked questions of patients about their care after discharge from the hospital following heart surgery.

September 2013



# Welcome

♥ To help assist us with planning for discharge we ask that the patient, family member or significant other fill out as much information as possible below.

Patient Name: \_\_\_\_\_ Surgeon: \_\_\_\_\_

## Emergency Contacts Phone Numbers

Name: \_\_\_\_\_ Relationship: \_\_\_\_\_ Phone: \_\_\_\_\_

Name: \_\_\_\_\_ Relationship: \_\_\_\_\_ Phone: \_\_\_\_\_

## Doctor Information

Cardiologist Name: \_\_\_\_\_ Phone: \_\_\_\_\_

Primary Care Physician Name: \_\_\_\_\_ Phone: \_\_\_\_\_

## Additional Specialty Doctors

Name: \_\_\_\_\_ Specialty: \_\_\_\_\_ Phone: \_\_\_\_\_

Name: \_\_\_\_\_ Specialty: \_\_\_\_\_ Phone: \_\_\_\_\_

## Medication/Prescription Information

Do you have prescription coverage with your insurance? Yes or No

Pharmacy Name: \_\_\_\_\_ Phone: \_\_\_\_\_

## Are you from out of town?

Where do you plan to stay after discharge from the hospital and for how long?

\_\_\_\_\_



# **Important for Patient Safety**



**Do not take any medications  
from home.**

**If you have your own  
medications with you, please  
send them home with your  
family.**



# Important Contact Information

## Who Do I Call?



- **Call 911 for EMERGENCIES:**
  - Sudden speech or vision changes or other symptoms of a stroke
  - Chest pain or symptoms that you had prior to your operation
  - Severe shortness of breath
- **For questions or concerns related to your MEDICATIONS, SURGICAL RECOVERY or to REPORT CONCERNS INCLUDING URGENT MATTERS, call or page the Outpatient nurse on-call:**

**Monday – Friday 10:00AM – 5:00PM**  
**Office: 410-614-2825**

**OR**

**Monday – Friday 7:00AM – 5:00PM**  
**Pager: 410-283-3779**

- **URGENT matters ONLY:**  
Page the Cardiac Surgery Senior Resident Physician on-call.  
**Monday – Friday after 5:00PM; ALL Day Saturday, Sunday, and holidays**  
**Pager: 410-283-1109**
- **Questions regarding insurance, post-operative appointments, disability, FMLA, or return to work letters:**  
Please contact your surgeon's assistant at the number listed on the following page.

### **Directions Of How To Page:**

Dial the pager number and wait for the beep. After the beep, enter your phone number including your area code, then press the pound sign (#) and hang up. The outpatient nurse, nurse practitioner, or physician will call you back. If you do not receive a return call within 30 minutes, please page again.

**Johns Hopkins Hospital**  
**Division of Cardiac Surgery**

**1800 Orleans Street**  
**Zayed Tower 7<sup>th</sup> Floor**  
**Baltimore, MD 21287-4618**  
**[www.hopkinsmedicine.org/heart](http://www.hopkinsmedicine.org/heart)**

**Important Phone Numbers:**

Office number: 410-955-2800

Office fax number: 410-955-3809

**Office Hours:**

Monday thru Friday

8:30AM to 5:00PM

**Dr. Duke E. Cameron**

Assistant: Lori Garrison

**410-955-2698**

**Dr. John V. Conte**

Assistant: Rachel Sommers

**410-955-1753**

**Dr. Ashish S. Shah**

Assistant: Donna Riley

**410-502-3900**

**Dr. Luca A. Vricella**

Assistant: Donna Riley

**443-287-1262**

**Dr. Kaushik Mandal, Dr. Joel Price and Dr. Chris Sciortino**

Assistant: Barbara Fleischman

**443-287-6952**

# What You Need to Know During Your Recovery

**What to report to the Surgical Team:** Refer to Important Contact section for pager numbers in the first section of this booklet

- Temperature of 101° F or greater.
  - Observe ALL of your incisions for increased redness, tenderness, or swelling.
  - New or increased drainage from any incision site.
  - Weight gain of 2-3 pounds in one day or 3-5 pounds in one week.
  - Increased or new shortness of breath not relieved by rest. Inability to sleep flat.
  - New or increased cough.
  - New onset or increased dizziness.
  - Chest pain or other symptoms that feel similar to how you felt before your operation.
  - Increased leg swelling or inability to bear weight or walk.
  - Sudden grinding, clicking or popping sensation in your chest incision.
- 

## Treatments and Personal Care:

- Plan for someone to stay with you for the first week after discharge
- Check your **temperature** every morning and evening, or anytime you feel flushed or warm. Record it **on the “Daily Weight & Temperature Chart”**.
- **Weigh** yourself every morning after urination and prior to eating and dressing. Record your weight **on the “Daily Weight & Temperature Chart”**.
- You should **shower daily**. Keep your back to the shower stream. Do not soak in the bath tub or swim until cleared by your surgeon.

- Proper care of your incision(s) will help promote healing. Gently wash your incision **daily** using only mild soap and **water**. Do not rub or scrub. Rinse and pat dry.
- Do not apply peroxide, Neosporin, creams, lotions, or powders to your incision(s).
- If you have steri-strips remove them one week after they are applied.
- Sometimes a small suture at the old chest tube site(s) will remain. This will be removed by the home health nurse.
- Take only the medications prescribed at discharge.
- For constipation, you may take an over the counter laxative other than the one prescribed or use a suppository if needed. (See **Constipation Fact Sheet** ).
- Keep your feet up when you are sitting for an extended period of time.

## Activities:

- Follow the exercises shown to you by the physical therapist.
- Your progress may be slow over the next 6 weeks. **Consistent daily activity is very important to your recovery.** Do not overdo it: you gain nothing by pushing yourself too hard after surgery.
- Walk at a comfortable pace a minimum of 2-3 times a day.
- Prioritize your tasks and space your activities. Allow for short rest periods throughout the day. During the day it is better for you to rest in a sitting position.
- You may sleep on your side as long as it doesn't cause you any discomfort. Try placing some pillows along your back for added support.
- **Take your incentive spirometer home with you.** The breathing exercises shown to you by the nursing staff are important to continue during your recovery at home.
- **Remember: PLEASE Do Not Smoke!** Smoking is harmful to your health. Avoid ALL tobacco products.

## Chest (Sternal) Precautions and Guidelines:

The sternum (breastbone) takes approximately 4-6 weeks to for the initial phase of healing, but it **takes 2-3 months to heal completely**. Until your sternum fully heals, these general guidelines must be followed after your heart surgery.

**If you feel a grinding, clicking or popping in your sternum during any activity, call your cardiac surgery team immediately. Refer to the “Important Contact Information” section.**

### Restrictions for the next 6 weeks:

- **NO lifting objects heavier than 10 pounds:** (A gallon of milk weighs approximately 8 pounds; use this as a guide for lifting objects.) Do not lift pets, children, groceries, garbage bags, suitcases, heavy laundry, etc. **No HEAVY** lifting for 3 months.
- **Do not drive** a car until your cardiac surgeon gives you approval (4-6 weeks). You may be a passenger in the front seat, but **slide the seat back as far as possible from the dash if the vehicle is equipped with airbags**. Ride in the back seat, if you are able.
- **Do not pull with your arms.** Do not use the bed rails to pull yourself up while in bed. When sitting, you should try to use the large muscles in your legs to stand. You may use your arms to gently balance yourself as you stand.
- **Avoid pushing, pulling, and carrying** objects (especially up or down stairs or hills). Do not move furniture or push heavy doors.
- **Avoid bending at the waist** to pick up objects from the floor or low surfaces. Bend at the knees or ask for help.
- **Do not strain** when having a bowel movement. **Avoid** opening tight jar lids or stuck windows.
- **Limit stairs** for the first week or so, plan your day so that you only climb stairs when necessary. **(Preferably 2 round trips per day)**. Take your time, go slowly and use a handrail to help with your balance. If you become tired, short of breath, or dizzy while stair climbing, sit down and rest.

# Specific Activities to Avoid While Your Sternum is Healing:

## Restrictions for the next 6 weeks:

- **No** exaggerated arm movements.
- **Avoid** using the **moveable arms** on stationary bikes or other exercise equipment.
- **NO** sweeping, mopping, heavy cleaning (especially washing floors on hands and knees), vacuuming.
- **NO** shoveling snow or dirt, raking leaves, using a push or riding lawn mower, or washing the car.
- **NO** motorcycling, outdoor biking, tennis, swimming, bowling, fishing, horseback riding, hunting, golf, weight lifting and other sports which require twisting or force.
- Discuss any other specific activities with your surgeon.

## **Diet:**

- A heart-healthy diet helps with healing, limits fluid build-up, and prevents further damage to your heart's blood vessels refer to the "**Heart Healthy Eating**" section for more specific information.
- Eat foods high in protein and fiber as well as fresh fruits and vegetables to help with healing.
- **Limit** foods that are high in saturated fat and cholesterol.
- **Do not add salt** to your food when cooking.
- Drink water with meals and **limit** sodas and caffeine.

- If you have diabetes, managing your blood sugar is an important part of the healing process after surgery. **Limit** concentrated sugars and sweets. See the “**Diabetes Information**” section for more information.
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**Home Care Appointments:** Questions/concerns regarding home care should be directed to the specific home care agency that will follow you.

- Home care nursing will be arranged for you by the in-patient home care coordinator. Then your home care agency will contact you by phone before the 1<sup>st</sup> visit.
- A visit will be scheduled for approximately 24-72 hours after you are discharged from the hospital. Weekends and holidays may delay the time up to 72hours.

## **Post-operative Appointments:**

- **The Cardiac Surgeon’s appointment will be mailed to your home after discharge. The surgeon will see you in approximately 4 weeks.**
- Call your Cardiac Surgeon’s office if you have not received your appointment within 2 weeks after discharge from the hospital. (Refer to “**Important Contact Information**” section for the office number).
- Call your Cardiologist to schedule a follow up appointment. Usually you will see your cardiologist after your follow up with the Cardiac Surgeon; however it is up to the cardiologist and they may choose to see you earlier.
- Call your primary care doctor as needed for any general medical questions. If you are a diabetic you may need to follow up in 2 weeks after discharge about your blood glucose levels especially if they were elevated during your hospital stay or insulin was added to your medication regimen.







## What Should I Do About My Trip Home?

**It is important to make arrangements for your trip home for early in the morning on the day of discharge.**

- Have a friend or family member bring in clothes for you to wear home.
- You **should not** wear restrictive clothing such as girdles, garters, tight pants, or socks with an elastic band .
- If your trip home takes several hours, you may ask them to bring a pillow and blanket so that you can rest comfortably.
- If your trip home is longer than one hour, we suggest that you stop for short rests so you can walk around and exercise your legs (weather permitting).
- If you are taking public transportation such as an airline, you may have to adjust your reservation date depending on your hospital course. Have your family or significant other make special arrangements for a shuttle service, baggage assistance, and a wheel chair to use at the airport.
- Remember, for out of town patients under certain circumstances, your surgeon may ask you to stay locally for a few days up to a week before you fly or are driven home.



## Weight Management?

- Don't forget to record your weight on the **“Daily Weight & Temperature Chart”**
- **Do not** plan to diet in order to lose weight until at least **1 month** after surgery. Your body needs the necessary proteins and nutrients to heal properly.



## What Can I Eat?

- Eat smaller, more frequent meals to help with the lack of appetite that is normal for the first few weeks after discharge. Read through **“Heart Healthy Eating”** for specific ideas.

**Nutrition videos are available to you in the hospital. These videos are routinely updated and a list of videos can be found on Channel 62 or 66 of the hospital television system.**

- If you have particular questions about your diet or nutritional concerns, you can ask to talk with a nutritionist.

**In order to allow time to schedule a visit with the nutritionist, please let your nurse know you are interested in this at least 24 hours before your discharge.**

## Exercise Precautions and Guidelines:

- Wait 30 min-1 hour after a meal before exercising.
- **Avoid** exercising outdoors in extreme temperatures (less than 32°F or greater than 85°F) heavy winds, or in high humidity.
- **Walk at a comfortable pace, slowly increasing your distance.** Many patients find it helpful to start walking in a short loop close to home, or at a mall or park where there are benches to stop and rest.
- You should be able to perform the “**Talk Test**” while exercising: it should be easy to carry on a conversation and breathe comfortably as you exercise. **If you find you are breathless, or having trouble breathing, slow your pace or stop and rest. Your body is telling you that it is working too hard.**
- Do not exercise if your resting heart rate is **greater than 120 beats per minute** (*see instructions on how to take your pulse on the next page*)
- Your cardiac surgeon will determine when it is appropriate for you to begin a Cardiac Rehabilitation: Phase II Program. For more information refer to the “**Cardiac Rehabilitation**” tab of this booklet



If you experience **ANY OF THE FOLLOWING** symptoms while exercising: **STOP** the activity and consult your physician as soon as possible.

- Chest, arm, or jaw pain, tightness, or heaviness in your chest
- Dizziness/lightheadedness
- Extreme increase in pulse rate
- Irregularity of pulse (skipping a beat)
- Nausea
- Shortness of breath

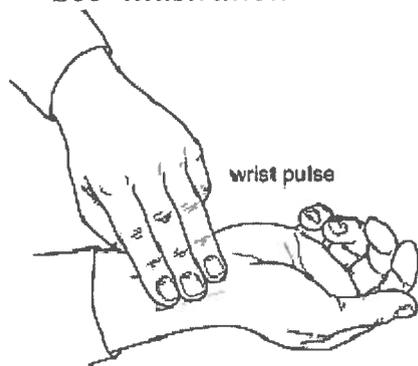
# Instructions for Taking your Pulse Rate:

## What is your pulse?

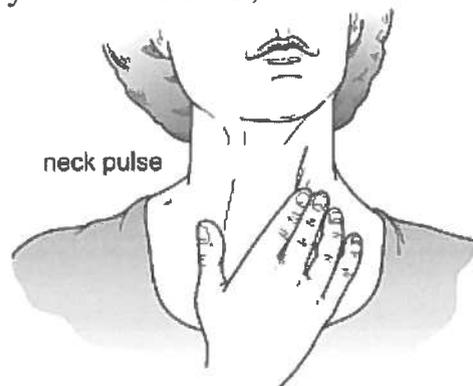
Your pulse is your heart rate, the number of times your heart beats in one minute. Your pulse rate is lower when you are at rest and increases with exercise. **A normal pulse is 60-100 beats per minute**

## How to take your pulse

- 1. Radial (wrist) Pulse:** Place the tips of your index, second, and third fingers on the palm side of your other wrist, below the base of the thumb. *See illustration*



- Or Carotid (neck) Pulse:** Place the tips of your index and second fingers on your lower neck, on either side of your windpipe. *See illustration*



- 2.** Press lightly with your fingers until you feel the blood pulsing beneath your fingers. You might need to adjust and move your fingers up or down slightly until you feel the pulsing.
- 3.** Use a watch or clock with a second hand. Count your pulse for **15 seconds**.
- 4.** Multiply that number by 4 to get the beats per minute (BPM).

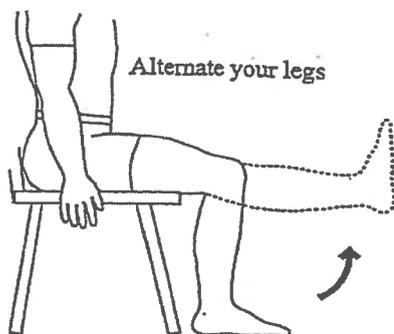
Example: 
$$\frac{20 \text{ beats}}{\text{(Beats in 15 seconds)}} \times 4 = \frac{80 \text{ BP M}}{\text{(pulse)}}$$

# Home Exercise Program:

## 1. KNEE EXTENSION:

Starting position: Sitting straight all the way back in a chair with your feet flat on the floor.

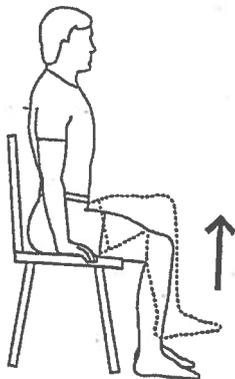
Raise one foot to straighten knee, keeping toes pointed to the ceiling throughout the movement; lower leg down slowly. Repeat on the other leg. Perform **10** times on each leg.



## 2. HIP FLEXION:

Starting position: Sitting straight all the way back in a chair with your feet flat on the floor.

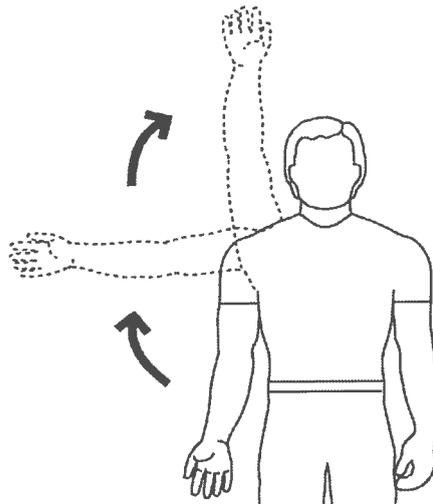
Lift one knee towards chest. (without straining). Lower the leg down. Repeat on the other leg. Perform **10** times on each leg.



### 3. SHOULDER ABDUCTION:

Starting position: Sitting all the way back in a chair with your arms down by your sides.

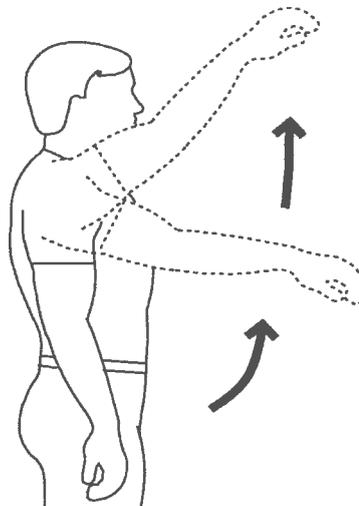
Raise one arm out to the side and then overhead while keeping your elbows bent. Lower arms back down. Perform **10** times on each arm.



### 4. SHOULDER FLEXION:

Starting position: sitting straight all the way back in a chair with your arms straight and hands on your knees.

Lift one arm straight over your head and lower back down. Repeat with the other arm. Perform **10** times on each arm.



# How to Prevent Falls at Home

## Who is at risk?

**Anyone can fall**, at any time and at any place. However, a fall can be a very serious, possibly life threatening event for **anyone age 64 or older**. An illness or surgery may affect your strength and balance, making you more likely to fall.

### What Could Lead to a Fall?



### Unsafe environment:

- Poor fitting or inadequate footwear
- Inappropriate use of assistive devices, canes, walkers, or wheelchairs
- Wet or Waxed floors
- Loose carpet, tiles, or throw rugs
- Poor lighting
- Objects or furniture blocking walking area, that may be tripped over

### Illnesses or medical conditions that can make you unsteady on your feet or at risk for injury from a fall:

- Poor vision or hearing
- Poor mobility
- Muscle weakness
- Low blood pressure
- Low blood sugar
- Seizures
- Poor nutrition or dehydration
- Medication side effects
- Medications that make you at risk for bleeding (aspirin, plavix, or Coumadin/warfarin)

## How Can I Prevent Falls in My Home?

### Safety Checklist



- ✓ When getting out of bed, sit on the side of the bed before standing up
- ✓ Securely mount grab bars in bathrooms: near toilet, bath tub, and shower
- ✓ Install hand rails on both sides of stairways
- ✓ Make sure your home is well lit
- ✓ Use night-lights in the bedroom, bathroom, hallways, and stairways
- ✓ Remove throw rugs, or fasten them securely to the floor with carpet tape
- ✓ Tack down any loose carpeting, especially at the edges
- ✓ Remove loose tiles, or have them repaired
- ✓ Remove electrical cords from pathways
- ✓ Wear non-slip footwear

## When Should I Call my Doctor?



- Notify your doctor immediately if you have fallen and describe how the fall happened.
- If you experience any medication side effects that affect your vision, balance, or make you feel dizzy

# Constipation Fact Sheet:

## What is constipation?



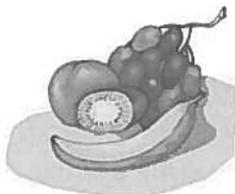
Constipation occurs when your normal bowel movements become difficult, incomplete, or infrequent. Some people think they should have a bowel movement every day. This is not true. Each person's body develops its own normal number of bowel movements. It depends on the food you eat, how much you exercise, and sometimes the medication you take.

When constipation occurs, the stool can be hard and dry; sometimes even painful to pass. At one time or another, almost everyone gets constipated. In most cases, it lasts a short time and is not serious.

It is important to tell the nurse what your regular bowel habit is and if you need to use stool softeners or laxatives to maintain your routine.

## What can you do?

### 1. Eat



*Eat more Fiber!* Fiber helps form soft, bulky stool. It is found in many vegetables, fruits, and grains. Be sure to add fiber a little at a time, so your body gets used to it slowly. Limit foods that have little or no fiber such as ice cream, cheese, meat, snacks like chips and pizza, and processed foods such as instant mashed potatoes or already-prepared frozen dinners. Make sure to *drink plenty* of water with high fiber foods:

Fruit	Vegetables	Breads, Cereals, and Beans
Peaches Prunes Raspberries Tangerines	Acorn squash, raw Broccoli, raw Brussels sprouts, raw Cabbage, raw Cauliflower, raw Spinach, cooked Zucchini, raw	Black-eyed peas, cooked Kidney beans, cooked Lima beans, cooked Whole-grain cereal, cold (All-Bran, Total, Bran Flakes) Whole-grain cereal Whole-wheat or 7-grain bread

<p><b>2.</b> <b>Drink</b></p> 	<p>Drink plenty of water or other liquids such as fruit or vegetable juices and clear soups. Liquid helps keep the stool soft and easy to pass, so it's important to drink enough fluids. Try not to drink liquids that contain caffeine or alcohol. Caffeine and alcohol tend to dry out your digestive system. Always check with your doctor or nurse to see if you have any fluid restriction orders.</p>
<p><b>3.</b> <b>Exercise</b></p> 	<p>Regular exercise helps your digestive system stay active and healthy. You don't need to become a great athlete, simply getting up and moving around will help.</p>
<p><b>4.</b> <b>Relax</b></p> 	<p>Allow yourself enough time and privacy to have a bowel movement. Sometimes we feel so hurried that we don't pay attention to our body's needs. Make sure you don't ignore the urge to have a bowel movement.</p>
<p><b>5. Laxatives</b></p> 	<p>Use laxatives only if your doctor says you should. Laxatives are medicines that will make you pass a stool. Most people who are mildly constipated do not need laxatives. However, if you are doing all the right things and you are still constipated, or if you are considered at risk to develop constipation your doctor may recommend stool softeners or laxatives for a limited time.</p>
<p><b>6. Medications</b></p> 	<p>Check with your doctor about the medicines you take. Medicines such as calcium pills, pain pills with codeine in them, some antacids, iron pills, diuretics (water pills), and medicines for depression can cause constipation. If you take medicine for another problem, be sure to ask your doctor whether it could cause constipation.</p>

## Key Points to Remember



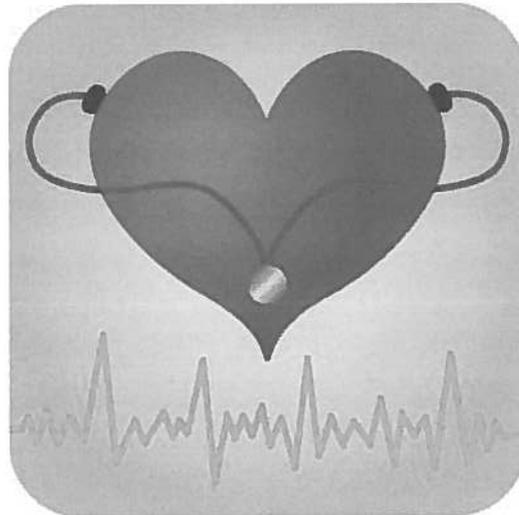
- Constipation affects almost everyone at one time or another.
- In most cases, following these simple tips will help prevent constipation:
  - Eat a variety of foods, especially high fiber foods like beans, bran, whole grains, and fresh fruits and vegetables.
  - Drink plenty of liquids.
  - Exercise regularly.
  - Don't ignore the urge to have a bowel movement.
  - Understand that normal bowel habits are different for everyone.
  - If your bowel habits change, check with your doctor.
- Most people with mild constipation do not need laxatives. However doctors may recommend laxatives for a limited time for people with chronic constipation.
- Medicines that you take for another problem might cause constipation.

## What Can I do to Prevent Further Problems from My Heart Disease?

Lifestyle changes and the proper use of medicines after your surgery can help to lower your risk of having a future heart attack or stroke. We call this important message the **ABCs of Heart Disease Prevention**.

Important areas of your lifestyle to consider include Alcohol use, Blood pressure control, Cigarette/Cigar smoking, and Diabetes prevention and control. Diet and weight control and Exercise are also important lifestyle areas to pay attention to and are also covered in this booklet.

The following pages include information from the American Heart Association and your health care team on heart healthy habits to incorporate into your lifestyle.



# Can I Drink Alcohol?

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**Drinking large amounts of alcohol can increase your blood pressure, cause weight gain, and can make your heart muscle weak.**

- Talk with your doctor about whether you should drink any alcohol if you are taking medicines. If your doctor tells you it is alright to have alcohol, then be aware of the following:
  - **Women** should have no more than **one** alcoholic drink per day.
  - **Men** should have no more than **two** alcoholic drinks per day.
  - “One drink” means no more than ½ ounce of pure alcohol.
- **Examples of one drink are:**
  - (1) 12 ounce beer
  - (1) 4 ounce glass of wine
  - (1) 1½ ounce of 80-proof spirits
  - (1) 1 ounce of 100-proof spirits

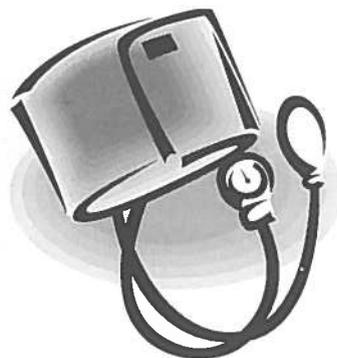


# Will I Need to Take Blood Pressure Medicine?

Blood pressure is the pressure in the arteries when the heart beats (“systolic” or the upper number) and when the heart is at rest between beats (“diastolic” or the lower number). **Normal blood pressure should be less than 120/80.** If you have diabetes, your blood pressure should be less than 130/80.

**High blood pressure can cause further damage to your blood vessels and make you more likely to have a heart attack, stroke, or kidney problems.** Your surgery did not “cure” the cause of your high blood pressure. If you have been told to take medicine to help control your blood pressure, it is important to follow your doctor’s instructions.

- Practice healthy lifestyle habits to help control your blood pressure.
  - If you smoke, you should stop.
  - Eat a healthy diet low in cholesterol, fat, and salt.
  - If you are overweight, talk to your doctor about when and how to lose weight.
  - Make exercise a regular part of your life.
  
- **American Heart Association** <http://www.americanheart.org>
  - Click on “Getting Healthy” to find general patient information.





## Must I Stop Smoking?

**Smoking increases your blood pressure, decreases the amount of exercise you can do, and increases your chances of getting a blood clot. You are being discharged with a health condition that is made worse by smoking.**

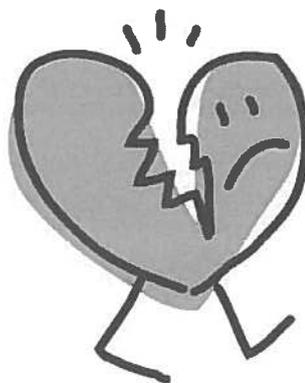
- Try to **quit** smoking. Don't give up if you smoke one cigarette.
- Ask your family and friends for their help to quit smoking. If someone in your household smokes, ask them to quit with you.
- Avoid things that tempt you to smoke, like drinking coffee or alcohol.
- Hard candy or chewing gum can take the place of smoking.
- Talk to your doctor or nurse about ways to stop smoking.
  - Ask about a nicotine replacement, such as gum, patch, nasal spray, or an inhaler, and/or a medication, to decrease the desire, or craving to smoke.
  - Ask your doctor for a referral to a program to help you stop smoking.
  - Many county health departments offer free smoking cessation classes; others require a fee. Some insurance companies will pay for smoking cessation programs. Contact your insurance company.
  - **American Heart Association** <http://www.americanheart.org>
  - **American Lung Association** <http://www.marylandlung.org>
    - 410-560-2120 (Maryland)
    - Click on "Stop Smoking"

## How Long Will My Surgical Pain Last?

You may, for a few weeks after surgery, feel generalized aches, especially in your shoulders and back. This often comes from muscles being stretched during surgery.

- Your incision may hurt with weather changes or “morning stiffness”.
- You may use a heating pad at home, if you wish. (Do not sleep while using a heating pad. Avoid high heat settings.)
- Try to keep a good posture while you are sitting, standing, and walking. Do not let your head and shoulders slump forward.
- You will be sent home with a prescription for a mild narcotic (pain killer) to help with any pain or discomfort you may feel. After 1 to 2 weeks the narcotic should no longer be necessary.
- Instead of a narcotic, you can use Tylenol to relieve generalized aches in your shoulders, back, and breastbone.
- **Limit your dose of Tylenol - Do not exceed 4 grams a day. Remember, 4 grams = 4000 mg.**

If the mammary artery was used for a bypass graft, you may experience pain or numbness along the left side of the incision. This will gradually improve over several weeks, but you may have some numbness in the skin for several months.



## How Can I Control the Stress in My Life?

- The key is not to try and eliminate ALL stressors: this is not realistic and can cause more stress. Instead, try to handle, reduce, and relieve your stress.
- Be aware of what you eat: excessive caffeine, salt, and sugar can directly stimulate the stress response.
- Examine your expectations. Are you being realistic about your time and abilities? Or are you trying to fit too much into a busy schedule?
- Learn how to say NO! This is important after your surgery while your body heals. Make time for YOU.
- Physical therapists, doctors, and nurses all talk about how important it is to reduce the physical stress on your heart. However, not enough emphasis is placed on emotional stress. Emotional stressors can include work, family, economic and social pressures and the hospitalization itself. If you do not manage these stressors, they can have a negative effect on your whole body, including your heart.
- Talk out the problem. Try not to hold your feelings inside. This can result in very real physical symptoms such as high blood pressure, headaches, or feelings of indigestion.
- Try to take a walk. Regular exercise will keep both mind and body healthy.

## Caregiver Information

- **US Administration of Aging**  
<http://www.eldercare.gov>
  - Area agencies on aging assist ages 60 and older and their caregivers
- **Medicare caregiver information**  
<http://www.medicare.gov/caregivers>
  - Help with billing
  - Overwhelmed? Get Help.
  - Care options?

## When Can I Return to Work?

The decision to return to work is based on the emotional and physical demands of your job and the progress of your recovery. Your surgeon will discuss when you can return to work during your follow-up visit.

## When Can I Resume Sexual Activity?

- Sex can be resumed as you feel ready (**wait at least 2-3 weeks after surgery**).
- Having sexual activity is no more strenuous than walking 5 level blocks or climbing 2 flights of stairs. If you are able to do this, you should be able to resume sexual activity. **Wait one hour** after eating a full meal
- Avoid any positions in which you **bear weight on your arms**; this will put too much strain on your incision and chest.
- If you experience any discomfort or – most importantly – chest pain: **STOP!**

## When Can I Anticipate Full Recovery?

- Remember, it takes six weeks to three months for you to fully recover. It is a gradual process. Week by week you should be increasing your strength and your daily activities. Everyone increases their activity level at different rates.
- At first, dressing, personal hygiene, reading, writing, visiting, walking, and resting should fill your day. You will slowly begin doing activities such as household chores.
- Avoid sleeping too much during the day except for an hour nap, if needed. Rest in a sitting position. If you sleep too much during the day you will be unable to sleep at night, producing a pattern of sleepless nights and tired days.

Some patients may have emotional changes or feel depressed after their surgery. These changes or feelings may vary in frequency and intensity. These feelings should be discussed with your doctor.

# What Questions Should I Ask at My Follow-up Appointment?

The following are ideas of questions to ask your **Cardiac Surgeon** during your follow up visit:

1. When can I drive?
2. When can I go back to work?
3. What are my limitations (lifting and exercise) at this point in my recovery?
4. When can I resume recreational activities (golf, swim, gym, biking)?
5. When am I officially released from your care? Who do I contact if I have a problem that I feel is related to the surgery?
6. Should I still be taking pain medicine?
7. Can I sleep on my side or stomach?
8. When Can I start Phase II Rehabilitation and who will write the referral?
9. How do I handle feelings of depression?

**For patients with diagnosed coronary artery disease, please discuss if you are or should be taking a Beta Blocker, Ace Inhibitor, cholesterol medication, and aspirin or Coumadin (also known as warfarin).**



## Special Considerations for Patient's After Valve Surgery

### **Prevention of Infective Endocarditis (Heart Valve Infection):**

- ♥ Antibiotic Prophylaxis for Dental Procedures is reasonable **ONLY** for patients with **heart conditions** with the **highest risk** of poor outcomes from infective endocarditis. Refer to patient list below.

### **Patients include:**

1. Have artificial heart valves
2. Have artificial material is used in heart valve repair
3. History of endocarditis
4. Heart transplant recipients with valve disease
5. Congenital heart disease **ONLY** for following patients:
  - ♥ Unrepaired cyanotic congenital heart disease, includes those with palliative shunts and conduits
  - ♥ Completely repaired congenital heart disease with artificial materials or device; whether placed by surgery or catheter for 6 months after the procedure
  - ♥ Repaired congenital heart disease with remaining heart defects near the artificial patch or device

### **Dental procedures included:**

1. Involve manipulation of the gingival (gums) tissue or peri-apical (near root) region of teeth
2. Involve cutting or scraping of the oral mucosa

### **Dental procedures NOT included:**

1. Anesthetic injections (ie. novacaine)
2. Dental x-rays

3. Placement or removal of orthodontic (ie. braces or retainers) or prosthodontic (ie. partial or full dentures) appliances
4. Placement of orthodontic brackets
5. Bleeding from trauma to lips or oral mucosa

- ♥ Antibiotic prophylaxis solely to prevent infective endocarditis is **NO** longer recommended for gastrointestinal or genitourinary procedures.
- ♥ If you have further questions or concerns related to preventing infective endocarditis and antibiotics discuss it with your cardiologist or cardiac surgeon.

Adapted from *Prevention of Infective Endocarditis: Guidelines From the American Heart Association*, by the Committee of Rheumatic Fever, Endocarditis, and Kawasaki Disease. *Circulation*, 2007; 116: 1736-1754.

Accessible at:

<http://circ.ahajournals.org/cgi/reprint/CIRCULATIONAHA.106.183095>

### **Valve Clicking:**

A heart valve containing a metal disc (St. Jude or Carbomedics) may produce a clicking sound as it closes. It can be louder with activity or more noticeable when you are resting. As you adjust to the sound, it will become less distracting.

Annuloplasty Ring



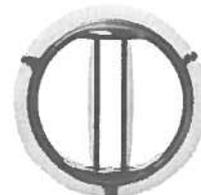
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Tissue Valve



© St. Jude Medical, Inc.

Mechanical Valve



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## Anticoagulation after Valve Surgery

**Coumadin (warfarin)** is an anticoagulant or “blood thinner” which helps to prevent your blood from forming harmful clots.

- **Mechanical Valves:** As blood passes through a mechanical valve, there is an unusual tendency for blood clots to form. This makes it necessary for you to take Coumadin for the rest of your life.
- **Mitral Tissue Valves:** The tissue valve or ring repair may cause blood clots to form, until a smooth layer of cells covers the surface (this takes approximately 4-6 weeks). During this time, Coumadin will usually be necessary. **Your Cardiac Surgeon will decide if you need to take Coumadin or not.**
- **America’s Anticoagulation Resource - [www.ptinr.com](http://www.ptinr.com)**

**A blood test (known as an INR) must be drawn within 3-5 days after discharge home.**

- Once you are home, a nurse from your Home Care Agency will draw your blood. (If you do not hear from your Home Care Agency within 48 hours of discharge, please page the appropriate number listed under your surgeon’s name in the front section of this book under “Important Contact Information”).
- Generally, a weekly blood test is necessary to decide upon the correct dose and will be progressed to once a month when the blood test results have stabilized.

**Your daily dose of Coumadin may vary. The doctor who follows your Coumadin therapy will tell you what dose to take and when you need to get your next blood test.**

Take your Coumadin **ONLY** once a day, at the same time, preferably between 6:00 PM and bedtime.

It is important to review “**Tips for Preventing Bleeding**” and “**Warfarin (Coumadin): Guide for Patients and Families**” handouts on the following pages for more specific information.

## Tips for Preventing Bleeding

### What can I do to help prevent bleeding?

- Use a soft toothbrush or toothettes with gentle brushing.
- Do not blow your nose too hard or scratch the inside of your nose.
- Shave with an electric razor – do not use a razor blade.
- Do not walk barefoot. Wear slip-resistant footwear.
- Be careful not to fall or bruise yourself by bumping into objects.
- Be careful when using sharp objects such as scissors.
- Do not push too hard while having bowel movements. You may take stool softeners and laxatives if ordered by your doctor.
- Do not use enemas, suppositories or tampons.
- Apply firm pressure or an ice bag to any area of bleeding for at least 5 minutes. Continue applying pressure if bleeding does not stop.
- Talk to your nurse, doctor or physical therapist about what exercises are safe for you.

### When should I call my doctor or nurse?

Let your doctor or nurse know right away if you have:

- Bleeding from any body part, that will not stop with 5 minutes of pressure
- Unusual headache
- Abdominal pain
- Dark bowel movements
- Heavier than usual menstrual period
- Petechiae (small, red spots on skin)
- Easy bruising
- Blood in your stools or urine



The Johns Hopkins Hospital  
Patient Information

**Warfarin (Coumadin®): Guide for  
Patients and Families**

Original Date  
Interdisciplinary  
Clinical Practice  
Manual MDU 023  
Appendix C  
Date 09/14/2009

Revised/ Reviewed  
04/13/10

Why do I have  
to take  
warfarin?

- Warfarin is an effective medicine to prevent new blood clots and to keep existing ones from getting bigger. It does not dissolve existing clots. Your body does that naturally.
- A blood clot can slow or stop the flow of blood. Blood clots can cause pain in your legs (known as DVT) or chest (known as PE). Clots can also cause stroke, disability, or death. Prompt treatment is important.
- Warfarin may be used in people who have conditions such as;
  - atrial fibrillation (irregular heart rhythm)
  - DVT (Deep Vein Thrombosis or a blood clot in a vein)
  - heart attacks
  - heart valve replacements
  - peripheral vascular disease (build up of plaque in blood vessels of the legs)
  - pulmonary embolism (blood clot in your lung)
  - stroke
  - valvular heart disease (any problem with one of the four valves in the heart)
  - Pulmonary hypertension (high blood pressure in the arteries that supply the lungs)
- Warfarin is safe and effective if used carefully, but it's a balancing act. Too much can cause a dangerous amount of bleeding; too little can allow new clots to form. The right level is important.

Get your INR  
Blood Tests:

- Go for your INR blood tests at least once a month. Many people get tested as often as once a week when first started on warfarin.
- At every visit, always ask for your INR number and know what your target range is supposed to be. It may be 2.0-3.0; 2.5-3.5; or even higher. But a number that's too high shows more risk for bleeding. A number that's too low shows more risk of clots.
- The amount of warfarin you take may change when your INR number changes. This will help keep your warfarin at the right level.



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**Take the right  
medicines:**

- Warfarin has other brand names, Coumadin® and Jantoven™. Do not take Coumadin® or Jantoven™ in addition to warfarin. This will double your dose and can be unsafe.
- Warfarin medicines are color-coded by strength. If you get a different color tablet than usual, ask your doctor or pharmacist about it. To simplify the process, it's best to use just one pharmacy.
- Try to avoid taking other medicines that can make you bleed more easily. These include aspirin, Motrin, Advil, ibuprofen, Aleve, or naproxen.
- Read all new medicine labels to make sure they don't contain aspirin before using them. If you're not sure, ask your doctor or pharmacist.
- Tylenol (acetaminophen) is usually OK to take, but check with your doctor first.
- If you miss a dose of warfarin do not take an extra tablet to "catch up".

**Talk to your  
doctor:**

- Always ask if any new medicine is safe to take with warfarin. This includes prescribed medicines, especially antibiotics and over-the-counter medicines. It also includes vitamins, herbal supplements and nutritional supplements such as Ensure, Boost, and Slim-Fast.
- Tell all your healthcare providers that you take warfarin. This includes your physician, nurse, dentist, chiropractor, naturopath and pharmacist. They all need to know.
- Stopping or changing the amount of other medicines you take can affect your warfarin levels.

**Avoid alcohol  
and street  
drugs:**

- Alcohol can make you bleed more easily while taking warfarin.
- If you do drink alcohol, limit your intake. Drink no more than one 12-ounce beer or one 6-ounce glass of wine, or one mixed-drink, or one shot of hard liquor in 24 hours. Binge drinking is not good for you.
- Cocaine, heroin and other street drugs can increase your risk of bleeding.

**Cuts, Bruises  
and  
Nosebleeds:**

- Warfarin makes you bruise easily. If you bump into something, apply pressure to the spot, or hold ice on it for 2 to 5 minutes. If the bruise is bigger than 3 inches across, or keeps getting bigger, go right to the nearest Emergency Department. Tell them you take warfarin. The bleeding needs to be controlled.
- For a cut, put pressure on the area for 2 to 5 minutes. If you're still bleeding in 20 to 30 minutes, or it's a large cut, go right to the nearest Emergency Department. Tell them you take warfarin.
- If you get a nosebleed, do not hold your head back. Instead, hold your head in a normal upright position. Pinch your nose together just below the bony part and squeeze tightly for 2 to 5 minutes. Try a nasal decongestant spray like Afrin or Neo-Synephrine (if OK with your doctor) to help stop the bleeding. If you're still bleeding in 20 to 30 minutes, go to the nearest Emergency Department. Tell them you take warfarin.
- If you get nosebleeds easily, try using a humidifier, and a saline nasal spray or gel. This can help keep your nose moist and prevent nosebleeds.



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Go straight to  
the Emergency  
Department if  
you:

- Are in a vehicle accident, or have a major fall.
- Notice bright red blood in the toilet after you go to the bathroom, or if your urine turns smoky pink or red color.
- Notice that your stools are black and sticky, like tar. They may also smell unusually bad.
- Are throwing up dark or bloody colored stomach contents.
- Get a sudden and extremely painful headache. It might feel worse than any other headache in your life.
- Have problems similar to the last time a blood clot formed in your body.
- Briefly black out, can't move, have trouble talking or become very weak – especially if you're weak on only one side of your face or body. This could be a stroke.

Diet and  
Exercise:

- Some foods you eat contain vitamin K which can work against the warfarin. The highest amount of vitamin K (which helps the blood to clot) is found in foods such as dark green leafy vegetables. Foods with high amounts of vitamin K include spinach, broccoli, cabbage, kale, brussel sprouts and collards. Some meats such as beef and pork liver also contain high amounts of vitamin K. It is important not to change your vitamin K intake. Please see the vitamin K food chart on page 4 for more information.
- Continue your normal pattern of eating. Avoid large increases or decreases in the amount of foods high or moderate in Vitamin K. Please see the vitamin K food chart on page 4.
- Talk with your healthcare provider before eating or drinking foods with grapefruit or cranberry in them.
- Call your doctor if you are unable to eat for several days, have vomiting or diarrhea that last more than one day.
- Keep your exercise level regular.
- Maintaining regular daily activities including consistent eating and exercise habits will make it less likely to need to change your dose of warfarin.

For more about  
how to prevent  
and treat blood  
clots:

- Visit [www.clotcare.com](http://www.clotcare.com) and [www.nattinfo.org](http://www.nattinfo.org)
- If needed, visit the Patient/Staff Library at The Johns Hopkins Hospital or your local library for Internet access.

## Vitamin K Content of Foods

\*Eating more than the serving size for a moderate or low Vitamin K food can make it a high Vitamin K food.

\*Unless otherwise noted, all foods are cooked; meat is roasted, fish is cooked with dry heat, vegetables are cooked from fresh, and fruit is raw.

\*This is a guide. Actual values may vary depending on product processing. Vegetables that are frozen then cooked may have higher Vitamin K values.

\*Values are rounded to the nearest whole number and may be averaged with similar foods in group.

High Vitamin K (more than 100 mcg)		
Food	Serving	mcg
Broccoli	½ cup	110
Brussels sprouts	½ cup	109
Endive, raw	1 cup	116
Greens, beet	½ cup	349
Greens, collard	½ cup	418
Greens, collard, frozen	½ cup	530
Greens, dandelion	½ cup	290
Greens, mustard	½ cup	210
Greens, turnip	½ cup	265
Greens, turnip, frozen	½ cup	425
Kale	½ cup	531
Kale, frozen	½ cup	573
Onions, spring or scallion, raw	½ cup	104
Parsley, raw	10 sprigs	164
Spinach	½ cup	444
Spinach, raw	1 cup	145

Moderate Vitamin K (25–100 mcg)		
Food	Serving	mcg
Asparagus	4 spears	30
Asparagus, frozen	½ cup	72
Blackeye peas, frozen	½ cup	31
Broccoli, raw	½ cup	45
Cabbage, chinese	½ cup	29
Cabbage, green	½ cup	82
Cabbage, raw	½ cup	27
Kiwi fruit	1 medium	31
Lettuce, green leaf	1 cup	97

Lettuce, romaine	1 cup	57
Noodles, spinach	½ cup	81
Okra, frozen	½ cup	44
Prunes, dried	5 each	25
Pickles, cucumber, dill or kosher dill	1 pickle	25

Low Vitamin K (less than 25 mcg)		
Food	Serving	mcg
Artichoke	1 medium	18
Avocado, raw	1 oz.	6
Beans, green or yellow	½ cup	10
Blackberries or blueberries	½ cup	14
Carrots	½ cup	11
Cauliflower, raw	½ cup	8
Celery, raw	½ cup	18
Cucumber, with peel	½ cup	9
Dried beans and peas, most types	½ cup	5-9
Grapes	½ cup	12
Lettuce, iceberg	1 cup	13
Mango	1 medium	9
Margarine-blend, tub, or stick	1 tbsp.	13-15
Mayonnaise	1 tbsp.	6
Nuts, cashews	1 oz.	10
Nuts, pine	1 oz.	15
Oil, olive	1 tbsp.	8
Oil, canola	1 tbsp.	10
Papaya	1 medium	8

Parsley, dried	1 tbsp.	18
Pear	1 medium	8
Peas, green	½ cup	19
Salad dressings	1 tbsp.	8-19
Sauerkraut	½ cup	15
Seeds, pumpkin	1 oz.	13
Soy milk	1 cup	7
Soybeans	½ cup	16
Sauce, pasta, spaghetti/marinara, ready-to-serve	½ cup	17
Tomato, raw	1 medium	10

Vitamin K Free (less than 5 mcg)	
Food	Serving
Bread and cereal products	1 oz. or ½ cup
Cheese, all types	1 oz.
Eggs	1 large
Fish and shellfish	3 oz.
Fruit: whole, canned, or juice, not previously listed	1 each or ½ cup
Meat and poultry, all types	1 oz.
Milk and dairy products, all types	1 cup
Nuts, not previously listed	1 oz.
Seeds, sunflower	2 tbsp.
Vegetables and vegetable juice not previously listed	½ cup

Source: U.S. Department of Agriculture, Agricultural Research Service. 2008. USDA National Nutrient Database for Standard Reference, Release 21. Nutrient Data Laboratory Home Page. <http://www.ars.usda.gov/ba/bhnrc/ndl>; accessed September 2, 2009.

Source: Nutrition Data.com: Nutrition Facts and Information, <http://www.nutritiondata.com>; accessed September 2, 2009.

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# Recovering from Minimally Invasive Mitral Valve Surgery

## What to report to the Surgical Team:

- Temperature of 101° F or greater.
  - Observe ALL of your incisions for increased redness, tenderness, or swelling.
  - New or increased drainage from any incision site.
  - Weight gain of 2-3 pounds in one day or 3-5 pounds in one week.
  - Increased or new shortness of breath not relieved by rest. Inability to sleep flat.
  - New or increased cough.
  - New onset or increased dizziness.
  - Chest pain or symptoms that you had before your operation.
  - Increased leg swelling or inability to bear weight or walk.
- 

## Treatments and Personal Care:

- Check your **temperature** every morning and evening, or anytime you feel flushed or warm. Record it **on the “Daily Weight & Temperature Chart”**.
- **Weigh** yourself every morning after urination and prior to eating and dressing. Record your weight **on the “Daily Weight & Temperature Chart”**.
- You may **shower daily**. Keep your back to the shower stream. Do not soak in the bath tub or swim until cleared by your surgeon.
- Proper care of your incision(s) will help promote healing. Gently wash your incision **daily** using only mild soap and **water**. Do not rub or scrub. Rinse and pat dry.

- Do not apply peroxide, Neosporin, or creams, lotions, or powders to your incision(s).
- If you have steri-strips remove them one week after they are applied.
- Sometimes a small suture at the old chest tube site(s) will remain. This will be removed by the home health nurse.
- Take only the medications prescribed at discharge.
- For constipation, you may take an over the counter laxative other than the one prescribed or use a suppository if needed. (See **Constipation Fact Sheet**).
- Keep your feet up when you are sitting for an extended period of time.

## **Activity/Restrictions:**

- Follow the exercises shown to you by the physical therapist. Consistent daily activity is a very important to your recovery.
- Walk at a comfortable pace minimum of 3 times a day, at your tolerance.
- Prioritize your tasks and space your activities. Allow for short rest periods throughout the day. Rest in a sitting position.
- You have **NO specific lifting** restrictions or chest precautions. Remember, you should not engage in any activity that causes you pain.
- **Do Not Drive** until you can safely operate the automobile without the use of narcotic pain medication (usually about 2 weeks).
- You may be a passenger in the front seat of a vehicle, but place the seat back as far as possible from the dash if the car is equipped with air bags. Ride in the backseat, if you are able.
- Take your incentive spirometer home with you. The breathing exercises shown to you by the nursing staff are important to continue during your recovery at home.
- **Remember: PLEASE Do Not Smoke!** Smoking is harmful to your health. Avoid ALL tobacco products.

## When Can I Return to Work?

---

- The decision to return to work is based on the emotional and physical demands of your job and the progress of your recovery. If returning to your occupation does not interfere with any restrictions it is a good idea to work on a limited schedule for the first week back at work.
- You and your surgeon will discuss when you can return to work during your follow-up visit.

### Diet:

- A heart-healthy diet helps with healing, limits fluid build-up, and prevents further damage to your heart's blood vessels refer to the “**Heart Healthy Eating**” section of this book for more specific information.
- Eat foods high in protein and fiber as well as fresh fruits and vegetables to help with healing.
- **Limit** foods that are high in saturated fat and cholesterol.
- **Do not add salt** to your food when cooking.
- Drink water with meals and **limit** sodas and caffeine.
- If you have diabetes, managing your blood sugar is an important part of the healing process after surgery. **Limit** concentrated sugars and sweets. See the “**Diabetes Information**” section for more information.

## Home Care Appointments:

- Home care nursing will schedule a visit within 24-72 hours after you are discharged from the hospital. Our in-patient coordinator will arrange for this you through your insurance.
- Your home care agency will contact you by phone before the visit.
- Questions/concerns regarding home care should be directed to your specific home care agency following you.

## Post-operative Appointments:

- Call your Cardiac Surgeon's administrative assistant **48-72 hours after** discharge to schedule your follow up appointment. (see "**Important Contact Information**" section for the office number) The surgeon will see you in about **2 weeks**.
- **The Cardiac Surgeon's appointment will also be mailed to your home about 1 week after discharge.**
- Call your Cardiologist **48-72 hours after** discharge to schedule a follow up appointment. **Usually** you will see the cardiologist **after** your follow up with the surgeon, unless your cardiologist wants to see you earlier.
- Call your primary care doctor as needed for any general medical questions or concerns.

Client Name \_\_\_\_\_ Date \_\_\_\_\_

RD/DTR \_\_\_\_\_

Email \_\_\_\_\_ Phone \_\_\_\_\_



# Heart Healthy Eating Nutrition Therapy

A plan called Therapeutic Lifestyle Changes (TLC) can help people who have high amounts of cholesterol in their blood.

- Following the TLC plan can help reduce the low-density lipoprotein (LDL) cholesterol (also called “bad” cholesterol) in your blood.
- High-density lipoprotein cholesterol (sometimes called “good” cholesterol) helps rid your body of LDL cholesterol.

## Keys to TLC

### • **Limit saturated fats and trans fats:**

- Foods high in saturated fats include fatty meat, poultry skin, bacon, sausage, whole milk, cream, and butter.
- Trans fats are found in stick margarine, shortening, some fried foods, and packaged foods made with hydrogenated oils.
- Instead of butter or stick margarine, try reduced-fat, whipped, or liquid spreads.

### • **Limit the amount of cholesterol that you eat to less than 200 milligrams (mg) per day.**

- Foods high in cholesterol include egg yolks (one egg yolk has about 212 mg of cholesterol), fatty meat, whole milk, cheese, shrimp, lobster, and crab.
- **Eat more omega-3 fats (heart-healthy fats):**
  - Good choices include salmon, tuna, mackerel, and sardines. Aim to eat fish twice a week.
  - Other foods with omega-3 fats include walnuts and canola and soybean oils.

- Flaxseed is another source of omega-3 fats. Have it as flaxseed oil or ground flaxseed.

### • **Limit the total amount of fat that you eat (including heart-healthy fats) to 25% to 35% of the calories that you eat.** If you should eat 2,000 calories per day, your fat intake can be between 50 grams (g) and 75 g per day.

### • **Get 20 g to 30 g of dietary fiber per day:**

- Fruits, vegetables, whole grains, and dried beans are good sources of fiber:
  - Aim for 5 cups of fruits and vegetables per day.
  - Have 3 ounces (oz) of whole grain foods every day.

### • **Plan to eat more plant-based meals, using beans and soy foods for protein.**

### • **Talk with your dietitian or doctor about what a healthy weight is for you.** Set goals to reach and maintain that weight.

### • **Talk with your health care team to find out what types of physical activity are best for you.** Set a plan to get about 30 minutes of exercise on most days.

## Recommended Foods

<b>Food Group</b>	<b>Recommended Foods</b>
<b>Grains</b>	Whole grain breads and cereals, including oats and barley Pasta, especially whole wheat or other whole grain types Brown rice Low-fat crackers and pretzels
<b>Vegetables</b>	Fresh, frozen, or canned vegetables without added fat or salt
<b>Fruits</b>	Fresh, frozen, canned, or dried fruit
<b>Milk</b>	Nonfat (skim), low-fat, or 1%-fat milk or buttermilk Nonfat or low-fat yogurt or cottage cheese Fat-free and low-fat cheese
<b>Meat and Other Protein Foods</b>	Lean cuts of beef and pork (loin, leg, round, extra lean hamburger) Skinless poultry Fish Venison and other wild game Dried beans and peas Nuts and nut butters Meat alternatives made with soy or textured vegetable protein Egg whites or egg substitute Cold cuts made with lean meat or soy protein
<b>Fats and Oils</b>	Unsaturated oils (olive, peanut, soy, sunflower, canola) Soft or liquid margarines and vegetable oil spreads Salad dressings Seeds and nuts Avocado

**Notes:**

## **Foods Not Recommended**

<b>Food Group</b>	<b>Foods Not Recommended</b>
<b>Grains</b>	High-fat bakery products, such as doughnuts, biscuits, croissants, danish pastries, pies, cookies Snacks made with partially hydrogenated oils, including chips, cheese puffs, snack mixes, regular crackers, butter-flavored popcorn
<b>Vegetables</b>	Fried vegetables Vegetables prepared with butter, cheese, or cream sauce
<b>Fruits</b>	Fried fruits Fruits served with butter or cream
<b>Milk</b>	Whole milk 2% fat milk Whole milk yogurt or ice cream Cream Half-&-half Cream cheese Sour cream Cheese
<b>Meat and Other Protein Foods</b>	Higher-fat cuts of meats (ribs, t-bone steak, regular hamburger) Bacon Sausage Cold cuts, such as salami or bologna Corned beef Hot dogs Organ meats (liver, brains, sweetbreads) Poultry with skin Fried meat, poultry, and fish Whole eggs and egg yolks
<b>Fats and Oils</b>	Butter Stick margarine Shortening Partially hydrogenated oils Tropical oils (coconut, palm, palm kernel oils)

## Sample 1-Day Menu

Meal	Food Choices
<b>Breakfast</b>	½ cup apple juice ¾ cup oatmeal with 1 small banana and 1 cup skim milk 1 cup brewed coffee
<b>Lunch</b>	Turkey and cheese sandwich: 2 slices whole wheat bread, 2 oz lean deli turkey breast, 1 oz low-fat Swiss cheese, mustard, 1 medium sliced tomato, shredded lettuce 1 pear 1 cup skim milk
<b>Evening Meal</b>	3 oz broiled fish 1 cup brown rice with 1 teaspoon soft margarine 1 medium stalk broccoli and 1 medium carrot Tossed salad with mixed greens, tomatoes, chickpeas, and olive oil and vinegar dressing 1 small whole grain roll with 1 teaspoon soft margarine 1 cup tea ½ cup nonfat frozen yogurt with fruit
<b>Snacks</b>	1 oz trail mix made with nuts, seeds, raisins, and other dried fruit 1 cup blueberries 1 cup skim milk

### Approximate Nutrition Analysis:

Calories: 1,968; Protein: 105g (21% of Calories); Carbohydrate: 311g (61% of calories); Fat: 42g (18% of calories), Saturated Fat: 9g; Cholesterol: 110mg; Sodium: 1,762mg; Fiber: 37g

### Additional Resource

More in-depth information on TLC is available at:

[http://www.nhlbi.nih.gov/health/public/heart/chol/chol\\_tlc.htm](http://www.nhlbi.nih.gov/health/public/heart/chol/chol_tlc.htm)

### Notes:

Client Name \_\_\_\_\_ Date \_\_\_\_\_

RD/DTR \_\_\_\_\_

Email \_\_\_\_\_ Phone \_\_\_\_\_



## Heart-Healthy Eating: Label Reading Tips

Look for the following on the food label:

Nutrition Facts	
Serving Size 1/2 cup (57g)	
Servings Per Container 15	
Amount Per Serving	
<b>Calories</b> 240	Calories from Fat 70
% Daily Value*	
<b>Total Fat</b> 8g	<b>12%</b>
Saturated Fat 0.5g	<b>3%</b>
Trans Fat 0g	
<b>Cholesterol</b> 0mg	<b>0%</b>
<b>Sodium</b> 90mg	<b>4%</b>
<b>Potassium</b> 250mg	<b>7%</b>
<b>Total Carbohydrate</b> 37g	<b>12%</b>
Dietary Fiber 4g	<b>16%</b>
Sugars 18g	
<b>Protein</b> 5g	
Vitamin A 0%	• Vitamin C 0%
Calcium 4%	• Iron 10%
*Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs:	
	Calories 2,000 2,500
Total Fat	Less Than 65g 80g
Saturated Fat	Less Than 20g 25g
Cholesterol	Less Than 300mg 300 mg
Sodium	Less Than 2,400mg 2,400mg
Potassium	3,500 mg 3,500 mg
Total Carbohydrate	300g 375g
Dietary Fiber	25g 30g
Calories per gram:	
Fat 9 • Carbohydrate 4 • Protein 4	

- **Serving size:** All the information on the label about calories and nutrients is for one serving. If you eat more than one serving, you get more calories and nutrients.
- **Calories:** Choose foods that help you get the nutrients you need without going over your daily calorie goal. (Too many calories leads to weight gain.)
- **Total fat, saturated fat, and trans fat:**
  - Choose foods with less than 5 grams (g) of total fat per serving. For someone who needs to eat 2,000 calories per day, 50 g to 75 g per day is a good range. Try to pick foods with heart-healthy fats (monounsaturated and polyunsaturated fats).
  - Choose foods with less than 3 g per serving of saturated fat and trans fat. (These are not heart-healthy.) A person who needs to eat 2,000 calories per day should eat no more than 15 g of saturated fat and trans fat (combined) in one day.
  - Read ingredients. If a food contains partially hydrogenated oils, then it has trans fat. (If it has less than half a gram per serving, the label may still say trans fat-free.)
- **Sodium:** Look for foods that are low in sodium. Each day, eat less than 2,400 milligrams sodium (or the limit set for you by your health care team).

- **Total carbohydrate and sugars:** If you have high triglycerides, choose foods with less than 30 g total carbohydrate and less than 15 g sugars per serving.
- **Dietary fiber:**
  - Aim to get 25 g to 30 g dietary fiber each day.
  - To meet this goal, include foods with at least 5 g fiber per serving.

Client Name \_\_\_\_\_ Date \_\_\_\_\_

RD/DTR \_\_\_\_\_

Email \_\_\_\_\_ Phone \_\_\_\_\_

## Heart-Healthy Cooking Tips



### Making Healthier Carbohydrate Choices

- When baking, choose recipes that use whole grains and flours made from whole grains.
- Reduce the amount of sugar in recipes. It can often be cut in half.
- Instead of sugar, use noncaloric sweeteners in drinks and sucralose (Splenda) when baking.
- When stir-frying, include fiber-rich vegetables, such as peppers, cabbage, broccoli, and carrots.
- When making soups, add dried beans or lentils.

### Cutting Back on Fat

- Select lean cuts of beef and pork, such as those labeled “loin” or “round.”
- Take the skin off poultry (such as chicken or turkey) before serving it.
- Bake, broil, roast, stew, or stir-fry lean meats, fish, or poultry.
- Cook ground meat and then drain off the fat.
- When making stews or soups, refrigerate the broth and skim off the fat with a spoon before reheating and serving.
- Eat fish regularly. Try different ways to cook it so that you’ll enjoy it more:
  - Grill salmon on skewers with eggplant, okra, and onions.
  - Dip tilapia in milk and egg white. Next dip it in bread crumbs, and sauté for a short time (about 5 minutes) in a pan sprayed with oil.
  - Bake white fish and vegetables in foil.
  - Poach white fish in milk, tomato juice, or water with lemon juice added.
  - Broil tuna and then squeeze lemon juice on it.
  - Marinate orange roughy for 15 minutes in Italian salad dressing, then bake.
  - Make a tuna salad with red and green peppers.
- When cooking foods on a griddle or in a frying pan, brush the pan with cooking oil just to coat it. Or, use a nonstick spray of vegetable oil or a nonstick pan that requires no greasing.
- To limit saturated fat from milk products:
  - Thicken sauces with evaporated nonfat (skim) milk instead of whole milk.
  - Use a low-fat cheese or feta cheese in pasta dishes, such as lasagna.

## Cutting Back on Fat (continued)

- Get protein from plant foods (such as soy or dried beans and legumes) or egg whites instead of meat:
  - Add soy protein crumbles to chili and spaghetti sauce.
  - Use tofu or tempeh in a stir-fry with lots of vegetables.
  - Make soups with edamame (fresh or frozen soybeans), lentils, split peas, or dried beans.
  - Make an egg white omelet with green peppers, tomatoes, and onions.
- When you do cook with fat, choose healthy, unsaturated fats:
- Use healthier oils, such as canola, olive, or soybean oil, in recipes and for sautéing.
- Make salad dressings with olive, walnut, or pecan oil.
- Cook with lemon juice or herbs. These add flavor to foods, like vegetables, without adding fat or salt.

## Cutting Back on Sodium

- Prepare foods at home so you can control the amount of salt and the sodium content.
- Use as little salt in cooking as possible. You can cut at least half of the salt from most recipes.
- Do not salt food at the table.
- Cook without mixes and “instant” products that already contain salt or additives with sodium.
- Select no-sodium or low-sodium canned foods, such as vegetables or tuna.
- Season foods with herbs, spices, garlic, onions, peppers, and lemon or lime juice to add flavor.

## Additional Resources

Visit the National Heart, Lung, and Blood Institute Web site

(<http://www.nhlbi.nih.gov/health/public/heart>) for more information and recipes, including:

- **Keep the Beat** heart-healthy recipes  
([http://www.nhlbi.nih.gov/health/public/heart/other/ktb\\_recipebk/ktb\\_recipebk.pdf](http://www.nhlbi.nih.gov/health/public/heart/other/ktb_recipebk/ktb_recipebk.pdf))
- **Stay Young at Heart**  
(<http://www.nhlbi.nih.gov/health/public/heart/other/syah/index.htm>)
- **Heart-Healthy Home Cooking African-American Style**  
(<http://www.nhlbi.nih.gov/health/public/heart/other/chdblack/cooking.pdf>)
- **Delicious Heart Healthy Latino Recipes**  
([http://www.nhlbi.nih.gov/health/public/heart/other/sp\\_recip.pdf](http://www.nhlbi.nih.gov/health/public/heart/other/sp_recip.pdf))
- **DASH Recipes** ([http://hin.nhlbi.nih.gov/nhbpep\\_kit/recipes.htm](http://hin.nhlbi.nih.gov/nhbpep_kit/recipes.htm))



## Phase II Cardiac Rehabilitation

### What is Cardiac Rehabilitation: Phase II

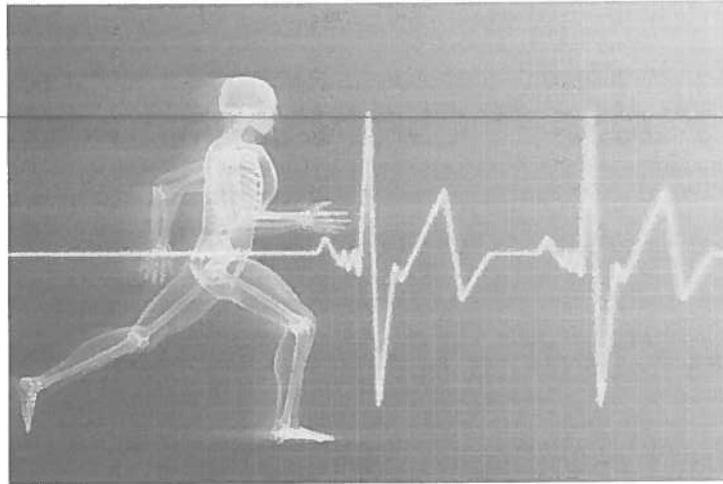
The Cardiac Rehabilitation program that you are performing as an inpatient is referred to as Cardiac Rehabilitation: Phase I. Some patients may need further inpatient rehab before going home. Physical Therapy will work with you in the hospital and make recommendations. If they recommend inpatient rehab, a social worker will assist you and your family in finding placement.

**Cardiac Rehabilitation: Phase II** is done as an **outpatient** at numerous hospitals or medical centers. Phase II Cardiac Rehabilitation provides a monitored setting which is a continuation and progression of exercise and education about healthy lifestyle practices.

If you are a candidate for Phase II Cardiac Rehab, contact your **cardiologist** after discharge to be released and get a prescription to start the Phase II program.

Depending on your specific diagnosis, your insurance **may or may not** cover the cost of exercise in a formal cardiac rehabilitation program.

- **You are responsible** for contacting your insurance provider, to see if your insurance company will pay for Phase II Cardiac Rehab.
- **You, the patient,** are responsible for calling the facility listed on your prescription. They can assist you in finding a center close to your home.



## **What are the Benefits of Phase II Cardiac Rehabilitation?**

Phase II is designed to condition and strengthen your heart while monitoring your heart rate, blood pressure, and occasionally your EKG.

- Increases strength and endurance of your heart
- Decreases congestion in your lungs
- Gives you more energy
- Tones and stretches, and relaxes the muscles of the chest
- Increases your confidence
- Provides education about diet and lifestyle modifications for the patient and family

Most Phase II programs run for one hour sessions, two to three times a week for a total of 8-12 weeks. Many facilities offer Phase II programs at different times of the day (morning, afternoon, evening) and occasionally on weekends for your convenience.

Facilities vary greatly; activities may include: circuit weight training, running, stationary biking, swimming and or walking. Programs are tailored to meet individual patient needs.

## Exercise and Cardiac Rehabilitation Resources

---

- Johns Hopkins Clinical Exercise Center at Greenspring Station  
[http://www.hopkinsmedicine.org/heart\\_vascular\\_institute/clinical\\_services/clinical\\_specialty\\_areas/cardiac\\_rehabilitation.html](http://www.hopkinsmedicine.org/heart_vascular_institute/clinical_services/clinical_specialty_areas/cardiac_rehabilitation.html)  
410-616-7220
- Johns Hopkins Bayview Cardiac Rehabilitation Program  
Monday/Wednesday/Thursday 410-550-1796
- St. Joseph Medical Center Cardiovascular Fitness  
<http://www.sjmcmd.org/HeartInstitute.aspx?SubPage=55>  
410-337-1366
- Franklin Square Hospital Center Cardiopulmonary Rehab and Medical Fitness  
<http://www.petcases.com/body.cfm?id=832>  
443-777-8430
- Union Memorial Hospital Cardiac Rehabilitation Center  
<http://www.unionmemorial.org/npt.cfm?id=53>  
410-554-2167
- Anne Arundel Medical Center Cardiopulmonary Rehabilitation  
<http://www.aahs.org/services/pulmrehab.php>  
443-481-1925
- Howard County General Hospital Cardiac Rehabilitation Center  
<http://www.hcgh.org/content/OutpatientCardiacRehab.htm>  
443-718-3000
- For additional Cardiac Rehabilitation sites in the State of Maryland, go to [www.macvpr.com](http://www.macvpr.com) and click on “Programs”.



## Diabetes

When you have been sick or have had surgery your blood glucose level can go up very high or become very low.

- A normal blood glucose is between **70-110** before eating and **less than 140** after eating.
- Once you are home set up a follow up appointment to see the doctor that manages your diabetes **within 2 weeks of discharge**.

**It will be important for you to check your blood glucose levels at home before meals and at bedtime.** *It won't necessarily remain this frequent.*

- If you do not have a glucometer at home or do not know how to check your blood glucose, please notify your nurse as soon as possible.
- We can provide you with a glucometer and teaching. See page with instructions on **“Checking Your Blood Glucose”**.



**Record your results** in the log provided, until your follow-up appointment. Take the log with you for the doctor to review.

Refer to pictures describing symptoms of **low blood glucose (hypoglycemia)** and **high blood glucose (hyperglycemia)**. It is important to pay attention to these symptoms and treat it promptly.

## **When to call your endocrinologist or primary care physician who monitors your blood glucose:**

- Frequent vomiting
- Multiple episodes of diarrhea
- Blood glucose level greater than 300
- Multiple low blood glucose readings less than 60



## **Do High Blood Glucose Levels Increase My Risk for Future Heart Problems?**

- People who have difficulty controlling their blood glucose levels are at **higher risk** for a heart attack, stroke, or blood vessel disease.
- This **includes** people **with diabetes** as well as people who are at **risk for developing diabetes**.

Not many people can get their blood glucose levels completely normal.  
**However, you can control your blood glucose level by choosing healthy lifestyle habits.**

---

- Eat a diet **low in concentrated sweets**, saturated fats, and cholesterol. If you want further diet education, notify your nurse that you would like to see a nutritionist.
- Some people may need to take medication or insulin shots to help control their blood glucose.
- If you are overweight, lose weight. Talk to your doctor about when and how to lose weight safely.
- Make exercise a regular part of your life.
- Drink alcohol in moderation only when your blood sugar is in control and your doctor approves.

**Ask your doctor for a referral to a diabetes education program.** Learn more about diabetes at the **Johns Hopkins Diabetes Center, 410-955-7139.**

Some insurance companies will pay for the cost of a diabetes education program.  
**Contact your insurance company.**

- **Johns Hopkins Comprehensive Diabetes Center**  
<http://www.hopkinsmedicine.org/diabetes>  
410-955-7139
- **American Diabetes Association**  
<http://www.diabetes.org>



The Johns Hopkins Hospital Patient Information

Original Date 6/08  
Department of Surgery  
Date 6/08  
Revised/ Reviewed

**Appendix B:**  
**Checking Your Blood Glucose:**

Steps to a  
fingerstick!

- ❖ *Wash hands with warm soap and water.*
- ❖ *Clean finger with alcohol.*
- ❖ *Prick finger with lancet or lancet device (the sides of the finger can be less painful, rotate sides and always use fresh lancet).*



- ❖ *Wipe off the first drop of blood with tissue.*
- ❖ *Do not press hard on finger for second drop of blood.*
- ❖ *Touch and hold drop of blood to the edge of the test strip.*
- ❖ *Place the test strip in the monitor for a glucose reading (follow meter directions).*
- ❖ *Record reading on daily log.*



*Wash hands again with warm soap and water.*





The Johns Hopkins Hospital Patient  
Information

Original Date 6/08  
Your Department:  
Surgery  
Date-6/08  
Revised/ Reviewed

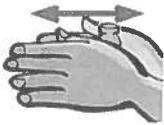
## Appendix C: Insulin Injections



1. Wash your hands with soap and warm water.

2. Check the insulin vial for correct medication, appearance, and expiration date.

3. If you are taking cloudy insulin, roll the bottle between your hands until it is uniformly cloudy. **Never** shake a bottle of insulin.



4. Wipe the top of the insulin bottle with an alcohol swab.

5. Pull the plunger of the syringe down to get an equal amount of air to match the insulin you will take.

6. Push the needle through the center of the rubber top of the insulin bottle.



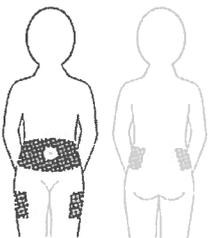
7. Push the air into the insulin bottle. Leave the needle in the insulin bottle. This makes it easier for you to draw the insulin out of the bottle.

8. Turn the insulin bottle and syringe upside down.

9. Pull the plunger down slowly to get insulin into the syringe. Be sure to get the right number of units.



10. Look for air bubbles in your syringe. Air in the syringe means that you will get less insulin. If you have air bubbles, push the insulin back into the bottle and start step 9 again. You can tap the sides of the syringe to help remove these air bubbles.



11. Clean a small area of skin with an alcohol swab. Let the alcohol dry completely before you inject.

12. It is important to not inject into the same site each time. Rotate injection sites. The example at the left shows some of the sites to choose.

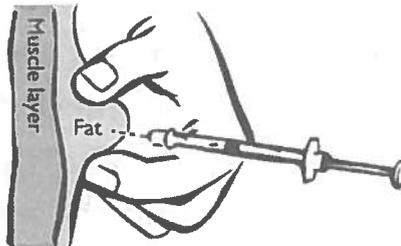


The Johns Hopkins Hospital Patient  
Information

Original Date 6/08  
Your Department:  
Surgery  
Date 6/08  
Revised/ Reviewed

## Appendix C: Insulin Injections

13. Pick up the syringe and hold it like a pencil. Do not let the needle touch anything. Pinch up your skin. Push the needle through the skin. Push the insulin in with the plunger. Pull the needle out of your skin. Press your finger or an alcohol swab over the spot you gave your injection.

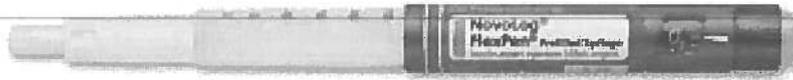


Pinching the skin to give an insulin injection. A small pinch with the finger and thumb is enough.



14. Place the used syringe in the sharps container.  
15. Wash your hands with soap and warm water.  
16. Record the dose and site in your daily log.

Novofine Autocover Order Number PMM# 83491

Expiration Date Labels Order #  
from Standard Register MI-155

## NovoLog® FlexPen®

Insulin aspart (rDNA origin) injection  
in a prefilled syringe

**novofine®** Autocover™ 30G  
Disposable Safety Needle

## 4 Simple Steps for Use



Fig. 1

### STEP 1. Getting Started

- ▶▶ Wash your hands.
- ▶▶ Pull off the cap and wipe the rubber stopper with an alcohol swab.
- ▶▶ Remove the protective tab from a NovoFine Autocover disposable safety needle. With the needle pointing away from you, screw it tightly on to the Levemir or NovoLog FlexPen. Place a new needle on the FlexPen for each injection (Fig. 1) and remove needle cap.



Fig. 2

### STEP 2. Performing the Airshot Before Injection

- ▶▶ Turn the dose dial to 2 units.
- ▶▶ Holding the Levemir or NovoLog FlexPen with the needle pointing up, tap the reservoir gently with your finger a few times.
- ▶▶ With the needle still pointing up, press the push button as far as it will go until a drop of insulin appears at the needle tip. This is called an airshot. (Fig. 2)
- ▶▶ If the drop does not appear, repeat this procedure.
- ▶▶ If no drop appears after 6 airshots, do not use the Levemir or NovoLog FlexPen and contact the Novo Nordisk Customer Care Center at 1-800-727-6500.



Fig. 3

### STEP 3. Setting the Dose

- ▶▶ Make sure that the dose selector is set at zero.
- ▶▶ Dial the number of units you need to inject. (Fig. 3) Do not set the dose by counting the number of clicks you hear. You can correct the dose by turning the dose dial either up or down. When dialing back, be careful not to push the button as insulin will come out.
- ▶▶ You cannot set a dose greater than the number of units left in the pen.



Fig. 4

### STEP 4. Giving the Injection

- ▶▶ Choose the injection site.
- ▶▶ Use the injection technique recommended by your doctor or health care professional. Push the NovoFine Autocover needle shield against the skin. The needle shield will retract and allow the needle to penetrate the skin. (Fig. 4) If the red indicator on the NovoFine Autocover shows before injection, you may have accidentally activated the safety mechanism, and you will need to use a new needle.
- ▶▶ Press the push button all the way in and keep the needle in the skin for **at least 6 seconds** to make sure the full dose has been delivered. Keep the push button fully depressed until the needle is withdrawn from the skin. (Fig. 5)
- ▶▶ If the red indicator shows that the safety lock has been activated (Fig. 6), unscrew the needle. Place the NovoFine needle in a "sharps" container (such as a red biohazard container) or in a hard plastic or metal container such as a detergent bottle or empty coffee can. Seal and dispose of the container properly. Be sure to hold the outer rim and avoid touching the open back end.
- ▶▶ If the red indicator does not appear, the safety lock has not been engaged, and a needlestick injury may still occur. If this is the case, remove the needle without replacing the needle cap. Do not reinject. Call 1-800-727-6500.
- ▶▶ The dose scale will reset to zero, and the pen will be ready for the next dose.



Fig. 6



Fig. 5

**Correct handling:** When depressing the push button, be sure to press in the center, as shown in step 5. Keep your finger away from the window.

**Later injections:** Follow steps 1 to 4. The numbers on the insulin reservoir estimate the amount of insulin left in the Levemir or NovoLog FlexPen. Do not use these numbers to measure the insulin dose. The Levemir FlexPen can be used for 42 days, while the NovoLog FlexPen can be used for 28 days without refrigeration. In-use FlexPens must NOT be stored in a refrigerator and must NOT be stored with needle in place. Keep below 86°F.

### Use a new NovoFine Autocover Needle for Each Injection

Please visit [www.insulindevice.com/novofine\\_autocover/demo](http://www.insulindevice.com/novofine_autocover/demo) for a short instructional demonstration on the appropriate use of NovoFine Autocover 30G.

Please see Prescribing Information for Levemir and NovoLog.

FlexPen, Levemir, NovoLog, and NovoFine are registered trademarks and Autocover is a trademark of Novo Nordisk A/S.

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The Johns Hopkins Hospital Patient  
Information

Original Date 2/09  
Department of  
Surgery  
Date 2/09  
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## Appendix E: Diabetes Patient Discharge Checklist

Here's a checklist to help make sure you are prepared to leave the hospital. Remember to:

- Have a copy of your discharge instructions
- Have all required prescriptions and fill them as soon as possible.
  - Diabetic Medications
  - Blood glucose monitor strips
  - Blood glucose monitor (If not provided)
  - Fingertick Lancets
  - Syringes/pen needles (If on Insulin)
  - Alcohol pads

Handouts:

- Overview of Diabetes (Diabetes & You)
- Guide to Nutrition
- Carbohydrate Counting
- Medications (oral or injectable)
- Journal or daily log for recording glucose readings

Remember to make Appointments with:

- JHH Diabetes Management Clinic
- Primary Care physician
- Dietitian

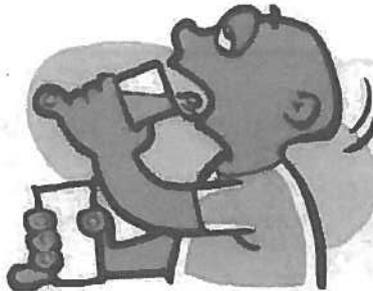
Other  
Resources?

# Hyperglycemia (High Blood Glucose)

**Causes:** Too much food, too little insulin or diabetes pills, illness, or stress.

**Onset:** Often starts slowly.

Some  
Symptoms:



EXTREME THIRST



NEED TO  
URINATE OFTEN



DRY SKIN



HUNGRY



BLURRY  
VISION



DROWSY



SLOW HEALING WOUNDS

HIGH BLOOD GLUCOSE MAY LEAD TO A MEDICAL EMERGENCY IF NOT TREATED.

What Can You Do?



CHECK BLOOD GLUCOSE

If your blood glucose levels are higher than your goal for three days and you don't know why,

CALL YOUR  
HEALTHCARE PROVIDER



For more information, call the Novo Nordisk Tip Line at 1-800-260-3730 or visit us online at [ChangingDiabetes-us.com](http://ChangingDiabetes-us.com).

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Concept developed by Rhonda Rogers, RN, BSN, CDE

# Hypoglycemia (Low Blood Glucose)

## Some Symptoms:

**Causes:** Too little food or skipping a meal; too much insulin or diabetes pills; more active than usual.

**Onset:** Often sudden.



SHAKY



FAST  
HEARTBEAT



SWEATING



DIZZY



ANXIOUS



HUNGRY



BLURRY VISION



WEAKNESS OR FATIGUE



HEADACHE



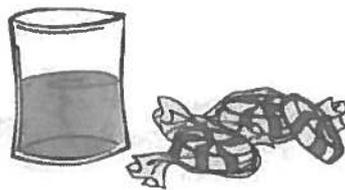
IRRITABLE

IF LOW BLOOD GLUCOSE IS LEFT UNTREATED, YOU MAY PASS OUT AND NEED MEDICAL HELP.

## What Can You



**CHECK** your blood glucose, right away. If you can't check, treat anyway.



**TREAT** by eating 3 to 4 glucose tablets or 3 to 5 hard candies you can chew quickly (such as peppermints), or by drinking 4-ounces of fruit juice, or 1/2 can of regular soda pop.



**CHECK** your blood glucose again after 15 minutes. If it is still low, treat again. If symptoms don't stop, call your healthcare provider.

For more information, call the Novo Nordisk Tip Line at 1-800-260-3730 or visit us online at [ChangingDiabetes-us.com](http://ChangingDiabetes-us.com).

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Concept developed by Rhonda Rogers, RN, BSN, CDE



