Your Appointment Schedule

Name _____ Phone _____

Surgeon Name _____

Procedure _____

This page will help you organize all the appointments you will have and need to go to before, during and after your surgery. Please note that these schedules may change due to emergencies or other unforeseen circumstances.

Preparation for Surgery

Consultation With Your Surgeon ____/____/____ at ___:___ AM/PM

Pre-operative Appointments

Pre-Admission ____/____/____ at ___:___ AM/PM

Diagnostic Tests

_____ ____/____/____ at ___:___ AM/PM

_____ ____/____/____ at ___:___ AM/PM

_____ ____/____/____ at ___:___ AM/PM

Other Consultations

_____ ____/____/____ at ___:___ AM/PM

_____ ____/____/____ at ___:___ AM/PM

Day of Surgery

Surgery Date ____/____/_____ **Time** ___:___ AM/PM **Check-in Time** ___:___ AM/PM

Please check in at the reception desk on the 1st floor in the lobby at the Cardiovascular Center (CVC), located in the East Tower of St. Joseph Medical Center.

After Hospital Appointments

Cardiac Rehabilitation (360) 788-6719 ____/____/____ at ___:___ AM/PM

Post-op Visit with PCP _____ ____/____/____ at ___:___ AM/PM

Post-op Visit with Cardiologist _____ ____/____/____ at ___:___ AM/PM

Post-op Visit with Surgeon _____ ____/____/____ at ___:___ AM/PM

Other Consultations _____ ____/____/____ at ___:___ AM/PM

Diagnostic Tests

_____ ____/____/____ at ___:___ AM/PM

_____ ____/____/____ at ___:___ AM/PM

_____ ____/____/____ at ___:___ AM/PM

Table of Contents

CARDIOVASCULAR CENTER

Open Heart Surgery Patient Guide

Quick Overview

This is a condensed version of the contents of the *Cardiovascular Center's Open Heart Surgery Patient Handbook*. If you do not want to or are unable to read the entire book, at least read this. (More detailed information is found on the pages indicated.)

Preparing for the Hospital

Before you have your Open Heart Surgery there are a few important steps for you to do.

1. Keep this book with you for all appointments and bring it to the hospital.
2. Complete the questionnaire *Preparing for the Hospital* that begins on page 21 and make a list of questions that you have.
3. Come to the Pre-Admission testing appointment. Allow 3 to 5 hours for this testing and pre-op education.
   - Bring all prescriptions in the original bottles and a list of all vitamins and supplements to this appointment. (Page 23)
   - Bring a family member or friend.
4. Make a plan for who will help you at home after surgery. You need someone with you 24 hours a day for at least 7 to 14 days. (Page 25)

Night Before Surgery *(page 29)*

1. Eat a regular dinner.
2. Complete the antiseptic prep and shower—instructions and supplies provided in bag you received at your pre-admission appointment.
3. Do not eat or drink after midnight.
4. Take your medications as directed by the anesthesiologist or surgeon.
5. Get a good nights sleep.

Morning of Surgery *(page 34)*

1. Arrive at the scheduled time at the reception desk on the first floor of the Cardiovascular Center.
2. You will have visible body hair clipped, a possible shower, and antiseptic preparation there.
3. Your family may stay with you until you go to the Operating Room.
4. The Operating Room is described on page 34.
5. Your family can wait in the Intensive Care Unit (ICU) waiting room on the 3rd floor during surgery. The surgeon will speak to them after the operation. (Page 35)

After Surgery *(page 35)*

1. You will go to the Intensive Care Unit (ICU) directly from surgery and you will wake up there.
2. Your family can visit you there. If you feel a need to limit your visitors, please let us know and we will help you with this.
3. You will have several tubes. One is a tube in your throat that supports your breathing. You won't be able to talk while it is in place. When you are stable this tube will be removed, usually after a few hours.
4. When you are stable, you will transfer to the Cardiovascular Unit on the 4th floor.
5. Temporary increase in blood sugar is common. High blood sugar can increase risk of infection. You will have blood sugar checked often and may receive insulin.

Recovery on the Cardiovascular Unit

1. It is important that you are comfortable enough to cough, deep breathe, move and walk. Be sure to tell your nurse when you are in pain to help you achieve this comfort level. (Page 38)
2. The daily events that you can expect are on page 36–37.
3. Do not worry if you have moments of mild confusion or mood swings. This is not uncommon. (Page 55)
4. Do the best you can to eat. You need calories to heal. Request to see one of our registered dietitians to talk about food preferences and how to improve your nutrition.
5. The Cardiac Rehabilitation and nursing staff will help get you walking. Early moving and walking is important for recovery. (Page 46)
6. Videos about going home are available and recommended for you and your family.

7 You will have a chest incision and possible arm and/or leg incisions. The nurses will teach you how to care for these.

8 You are an important member of the team. Getting well is hard work. The sooner you get up, the sooner you get out!

9 **Tell your nurse if you have any questions or concerns.**

COUMADIN

Coumadin is a blood thinner that needs close monitoring in order to be safe. If you are on Coumadin—be sure to follow up as described on pages 75–78.

After the Hospital *(page 45)*

1 Be sure you have someone to help you at home for the first week or two.

2 Keep your follow-up appointments with Cardiac Rehabilitation as well as your primary care provider, cardiologist, and cardiac surgeon.

3 You need to eat enough to heal your incisions, get a good night's sleep and rest when you get tired. Elevate your legs above your heart when you rest.

4 Get up, shower, get dressed and walk every day according to your schedule on page 54.

- Avoid hot tubs and baths for 6 weeks.
- Do not use lotions, powders and ointments on your incisions.

5 Inspect your incisions daily. Call if redness, swelling or pain increases.

6 Follow your medication list as instructed. Take pain medication to help you stay active.

7 Weigh yourself daily and write it down on page 58.

8 Do not lift, push, pull or carry more than 7 pounds for 6 weeks.

9 No driving any motorized vehicle for 4 weeks after day of surgery or as directed.

10 Mood swings may persist. If they are troublesome, then speak with your primary care provider.

11 Intimacy and sexual activity are an important part of life and can be resumed safely. (Page 53)

When to Call for Help

- Increasing cough
- Worsening shortness of breath
- Unexplained weight gain of 2 pounds each day for two days
- Temperature over 101° F
- Incisions that are increasingly red, hot to touch, or draining pus
- Sudden rapid or irregular heart rate
- Fainting
- Sudden severe headache
- Sudden numbness, weakness in arm or leg
- Sudden loss of speech or facial drooping
- Temporary or partial loss of vision

Call your Primary Care Provider's or Cardiac Surgeon's office. If you are unable to reach them and you are still concerned, go to the Emergency Room.

A Heartfelt Commitment

The Cardiovascular Center is committed to administering not only to your physical needs, but also to the emotional and spiritual aspects of your life. We'll help you regain control of your health, because we know that your life is the single best reason you have to take heart.

Introduction

This handbook is for patients and families who are having open heart surgery. The information is intended to help you know what to expect with this major surgery. It is not intended to replace your asking questions. As you review this information you will think of more questions to ask your healthcare providers and we encourage you to do so.

Please bring this book with you to all of your appointments.

Working wonders in you.

Dear Patient,

Thank you for choosing the Cardiovascular Center at St. Joseph Medical Center to assist you with your health care needs. We are committed to providing state-of-the-art care in a healing and compassionate environment.

This book was prepared to help you and your family learn more about open-heart surgery, from preparing yourself for surgery to your stay in the hospital to your recovery. Our goal is to assist you in making positive choices for your long-term health.

If you have questions or concerns about the information in this book or about your care, we strongly encourage you to call us at (360) 788-6800. It is OK to ask us anything. We will be happy to help you.

Wishing you a speedy recovery,

The staff of the Cardiovascular Center

Dear Family Members,

You play an important role in helping your family member through this process of preparation, hospitalization, and recovery.

Before surgery, you can help your loved one prepare for surgery by helping him or her follow a hearty-healthy diet, encouraging him or her to remain active, and being generally supportive. Going through heart surgery produces a fair amount of anxiety for both of you. It's normal to feel a little frightened, sad, and a loss of control of your life. These feelings are temporary.

If you smoke, please do not smoke around your loved one. And please consider quitting yourself. If your loved one smokes, encourage him or her to stop.

While your family member is in the hospital, you can help promote a speedy recovery by encouraging him or her to follow the guidelines in the "Path to Recovery" section of this booklet. And be sure to attend the Home Care class provided for you.

A lot of planning needs to be done before coming home from the hospital. There will need to be someone present with your family member 24 hours a day for a week or two after coming home. It might be helpful for you to begin to think about such issues as transportation, grocery shopping, meal preparation, and housecleaning, and if this care is not possible for your family to provide, the need for a skilled nursing facility or rehabilitation setting.

Remember, it's not unusual for someone to be somewhat different after open-heart surgery. Your loved one may experience some depression and confusion, and may appear "flat" or dull. These conditions are mostly related to medications and are usually temporary.

Please feel free to ask us any questions. The more informed and prepared you and your loved one are about this process, the easier it will be to manage.

You can find more information about the Cardiovascular Center on our web site:

www.peacehealth.org

Notes to Myself

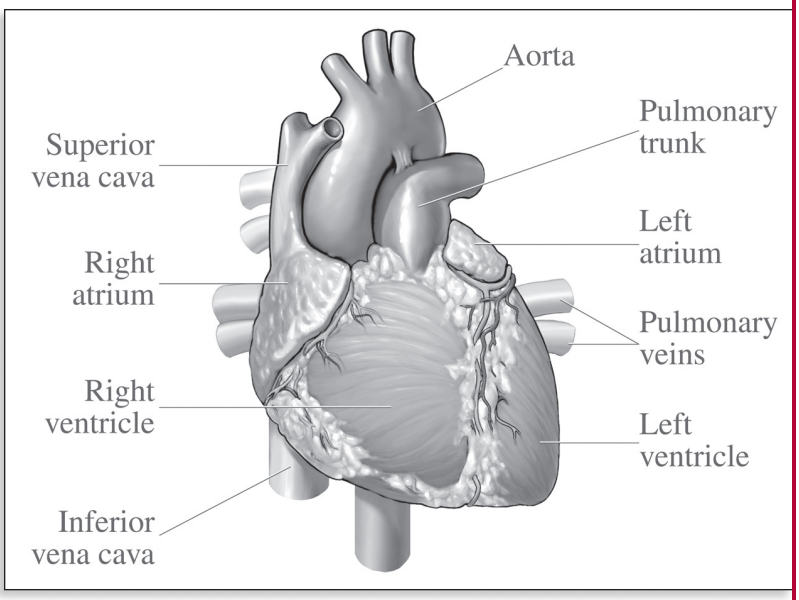
Questions to Ask My Health Care Provider

SECTION 1

Heart Disease and You

The Heart

The heart is a powerful muscle located in the middle of the chest under the breastbone, mostly on the left side. Generally, your heart is about the size of your fist. The main function of the heart is to pump blood containing oxygen and nutrients to the body. The heart has both a pumping action and an electrical rhythmic component.



The Pumping Action

There are four muscular chambers in the heart. The top two chambers are called *atria (AY-tree-ah)* and the bottom two chambers are called *ventricles (VEN-tri-kulz)*. The right side of the heart receives unoxygenated blood from the body and pumps this blood to the lungs where it picks up more oxygen. The left side of the heart receives this oxygenated blood from the lungs and pumps it out to the body. There are four valves in the heart that open and close like doors that direct the blood flow from the right side of the heart through the lungs to the body. The heart muscle and valves provide oxygen-rich blood to the body. The coronary arteries (blood vessels) provide oxygen-rich blood to the heart muscle.

The Heart Rhythm

The heart's pacemaker center is responsible for the electrical stimulus that coordinates the contraction of the heart muscle and regulates a steady rhythm of heartbeats. In some situations, other pacemaker centers in the heart take over the stimulation of electrical impulses.

What Affects the Normal Functioning of the Heart?

The following problems interfere with the normal functioning of the heart:

- Blockage of the coronary arteries (*coronary heart* or *coronary artery disease*)
- Damaged heart muscle
- Valves that do not open or close properly
- Changes in the heart rhythm
- Natural or inherited (known as *congenital*) abnormalities

What Is Coronary Heart Disease?

In coronary heart disease, the *coronary arteries*—blood vessels that supply blood and oxygen to the heart—become too narrow to supply enough oxygen-rich blood to the heart muscle. The narrowness may occur because of the buildup of *plaque* in the artery walls. The plaque forms from the buildup of fats in the bloodstream. As the narrowness increases, it becomes more difficult for the arteries to supply enough blood to the heart muscle. The muscle is now starving for oxygen and nutrients. When the blood supply to the heart muscle is inadequate, this may cause chest pain, shortness of breath, profound fatigue, and heart muscle damage.

Sometimes a piece of plaque will rupture or break and cause a blood clot to form and completely block blood flow to a portion of the heart muscle. This is a heart attack, or myocardial infarction.

How Does Heart Muscle Get Damaged?

When the blood supply is inadequate, heart muscle cells die. These damaged cells develop a scar that does not conduct electricity or contract like normal muscle tissue. The amount of damage depends on the size of the area supplied by the blocked coronary artery.

Other conditions besides a blocked coronary artery can damage heart muscle. These include, but are not limited to:

- Infection
- Excessive alcohol intake
- Uncontrolled high blood pressure

Sometimes it is impossible to tell why the muscle has become damaged.

How Do Valves Get Damaged?

Heart valves act like one-way doors to direct blood flow in your heart. When they are damaged, blood begins to back up resulting in congestion in the lungs and other parts of the body. This can cause you to have a low energy level and feel weak, fatigued, and short of breath.

Valves can be damaged for a number of reasons, such as:

- **Normal aging.** Valves can wear out just like the rest of your body. Valve replacement is more common after the age of 65.
- **Infection.** Infection of the valve is known as *endocarditis (en-do-kar-DY-tis)*.
- **Rheumatic heart disease.** This occurs when an untreated streptococcal infection somewhere else in your body travels to a valve and causes damage.
- **Congenital defect.** Someone may be born with an abnormal valve.

Whatever the reason, the result is that the valves can no longer keep the blood moving in one direction.

How Does a Rhythm Disturbance Occur?

An irregular heartbeat, heart rate, or rhythm is a rhythm disturbance. It is also called an arrhythmia (ah-RITH-mee-ah). This may result from normal aging, heart attack, or open-heart surgery.

The most common arrhythmia associated with open-heart surgery is *atrial fibrillation (AY-tree-il fib-re-LAY-shun)*. It is an irregular heart rhythm that interferes with the heart's ability to pump blood. Usually the heartbeats are too irregular and too fast for the heart to pump enough blood to your body. This may cause lightheadedness and shortness of breath. It also increases the risk for formation of blood clots.

There are other rhythm disturbances that cause the heart to beat too fast or too slow and compromise the blood flow to your brain and the rest of your body.

How Do Congenital Abnormalities Affect the Heart?

Sometimes there are structural differences in the shape of the heart at birth. This may result in problems with heart function. These problems generally hinder the blood flow, valve function, and the strength of the heart muscle. In addition, the electrical system that controls the regularity of the heart rhythm may be affected.

One of the more common congenital abnormalities is a hole in the wall between the two atria, known as an *atrial septal defect*. This hole allows blood to flow between the chambers instead of flowing in one direction. This may cause fatigue, fainting, and cold feet and fingers.

Risk Factors for Coronary Heart Disease

Heart disease affects one out of four people in the United States and is the leading cause of death. One out of two people have artery disease that can result in heart attacks, strokes, or *peripheral vascular disease* (decreased blood supply to limbs). Artery disease affects women as well as men.

Several risk factors have been identified to contribute to the development and progression of artery disease. These risk factors can be divided into two groups. One group contains lifestyle factors that contribute to the development of artery disease that you can treat, control, or change. The other group is made up of factors you cannot change. Though a single risk factor increases your risk, combinations of risk factors greatly increase the risk.

Major Risk Factors You Can Control

Tobacco use. According to the American Heart Association, "Cigarette smoking is the most important preventable cause of premature death in the United States." This is the most important risk factor you can control. Smoking increases blood pressure, the tendency for blood to clot, and the risk of coronary heart disease returning after bypass surgery. Smoking also decreases your body's ability to benefit from exercise.

Smokers' risk of developing coronary heart disease is 2 to 4 times that of nonsmokers. Cigarette smoking is a powerful independent risk factor for *sudden cardiac death*, or *sudden arrest* (death that comes abruptly, often without symptoms) in patients with coronary heart disease. Smokers have about twice the risk of nonsmokers. Cigarette smoking also acts with other risk factors to greatly increase the risk for coronary heart disease.

People who smoke cigars or pipes seem to have a high risk of death from coronary heart disease (and possibly stroke), but their risk isn't as great as cigarette smokers. Exposure to other people's smoke increases the risk of heart disease, even for nonsmokers. Nicotine in any form constricts the blood vessels and causes high blood pressure.

High blood cholesterol and lipids. There are a number of types of cholesterol in your blood. Not all cholesterol is bad for your heart. It is important to know all of your numbers. The different types of lipids are high-density lipids (HDL), *low-density lipids (LDL)*, and *triglycerides*. HDL is the so-called "good" cholesterol. High levels of LDL and triglycerides can contribute to artery disease. Your cholesterol level is affected by age, gender, heredity, activity, tobacco use, and diet.

High blood pressure, "the silent killer." High blood pressure (*hypertension*) increases the heart's workload, causing the heart muscle to thicken and become stiffer over time. It increases your risk of stroke, heart attack, kidney failure, and congestive heart failure, when the heart loses its ability to pump blood efficiently.

Physical inactivity. An inactive lifestyle is a risk factor for coronary heart disease. Regular (most days of the week) moderate physical activity helps prevent heart and blood vessel disease. Moderate activities such as walking, bike riding, and gardening are physically and emotionally beneficial. Exercise helps control cholesterol, blood pressure, diabetes, and obesity. Regular physical activity also helps lower stress and makes it easier to stop smoking.

Obesity and overweight. People who have excess body fat—especially if a lot of it is at the waist—are more likely to develop heart disease and stroke, even if they have no other risk factors. Excess weight increases the heart's work. It also raises blood pressure and cholesterol and triglyceride levels and lowers HDL ("good") cholesterol levels. It can also make diabetes more likely to develop. Many obese and overweight people may have difficulty losing weight, but by losing even as few as 10 pounds, you can lower your heart disease risk.

Diabetes. Diabetes seriously increases your risk of developing vascular (blood vessel) disease. Even when glucose levels are under control, diabetes increases the risk of heart disease and stroke, but the risks are even greater if blood sugar is not well controlled. If you have diabetes, it's extremely important to work with your health care provider to manage it and control any other risk factors you can.

Stress. Individual response to stress may be a contributing factor. Some scientists have noted a relationship between coronary heart disease risk and stress in a person's life, health behaviors, and socioeconomic status. These factors may further affect established risk factors.

Alcohol. Drinking too much alcohol can raise blood pressure, cause heart failure, and lead to stroke. It can produce irregular heartbeats and contribute to high triglycerides, cancer, and other diseases. It contributes to obesity, alcoholism, suicide, and accidents. The risk of heart disease in people who drink moderate amounts of alcohol (an average of one drink for women or two drinks for men per day) is lower than in nondrinkers. One drink is defined as 1.5 fluid ounces of 80-proof spirits (such as bourbon, Scotch, vodka, and gin), 1 fluid ounce of 100-proof spirits, 4 fluid ounces of wine, or 12 fluid ounces of beer. If you don't drink alcohol, don't start.

Major Risk Factors You Can't Control

Age. More than 83 percent of people who die of coronary heart disease are 65 or older.

Gender. Men have a greater risk of heart attack than women do, and they have attacks earlier in life. After menopause, women's death rate from heart disease increases, but it's still not as great as men's. However, elderly women are more likely to die from a heart attack then men of the same age.

Heredity. Children of parents with heart disease are more likely to develop it themselves. Most people with a strong family history of heart disease have one or more other risk factors. Just as you can't control your age, gender, or race, you can't control your family history. Therefore, it's even more important to treat and control any other risk factors you have.

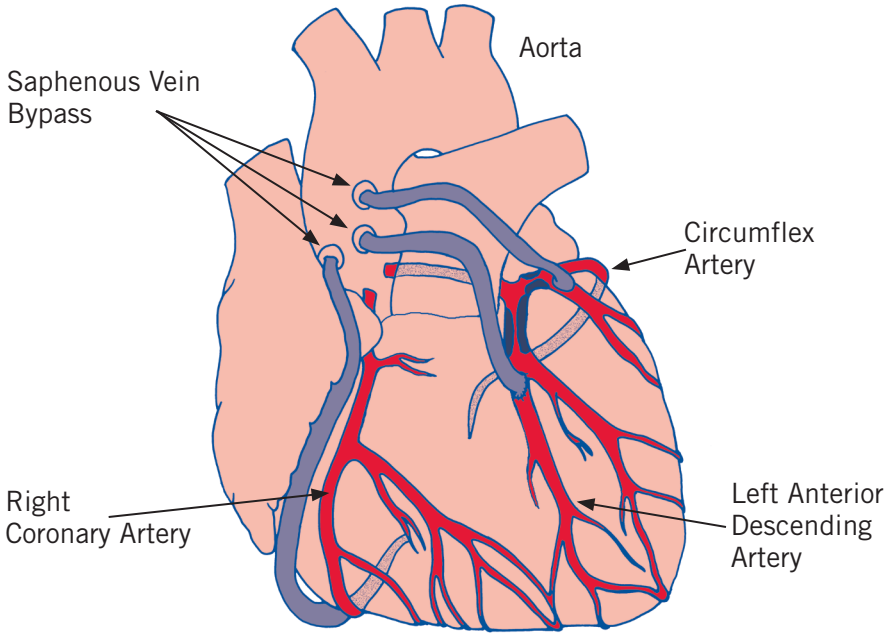
Ethnicity. African Americans have more severe high blood pressure and a higher risk of heart disease than whites. Heart disease risk is also higher among Mexican Americans, native Americans, native Hawaiians, and some Asian Americans.

Heart Surgery

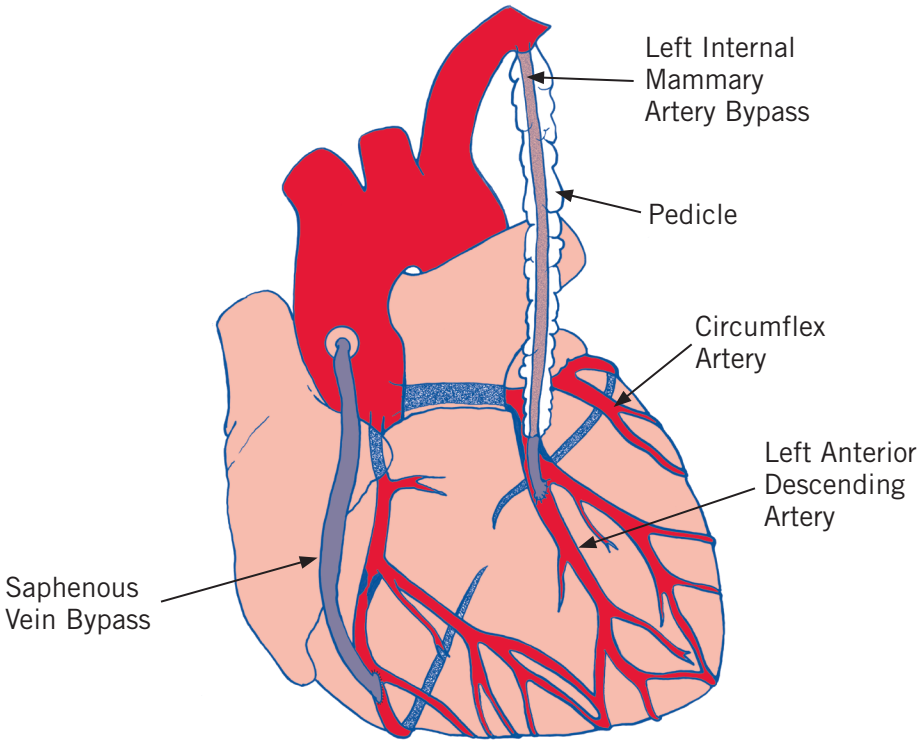
Heart surgery—also called *cardiac surgery* or *open-heart surgery*—is any surgery used to treat the heart muscle, heart valves, or arteries leading from the heart. "Open" refers to the chest being opened, not the heart itself.

Heart surgery includes a number of major operations such as *heart bypass surgery* and *cardiac surgery*; the implanting of electronic devices such as a pacemaker and an *implanted cardioverter defibrillator*; and minimally invasive surgical procedures such as *minimaze*.

SAPHENOUS VEIN BYPASS



INTERNAL MAMMARY ARTERY BYPASS



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Heart Bypass Surgery

Heart bypass surgery, also called *coronary bypass surgery*, *coronary artery bypass graft*, and *CABG* is a procedure for treating clogged coronary arteries by creating new pathways from grafts for blood and oxygen to flow to your heart muscle.

Grafts are healthier arteries or veins taken from other parts of your body. Surgeons use them to detour blood around the clogged artery. Grafts may be taken from your forearm, leg, or chest. In the forearm, the *radial artery* is one of two arteries that carry blood to your hand. It can be removed without hurting the blood supply to the hand.

The *saphenous (sa-FEE-nus)* vein runs from the ankle to the groin on the inside of your leg. It can be removed without harming the leg and is done with several small incisions. The *internal mammary artery* is located inside the rib cage. It starts near your collarbone. The surgeon can attach the lower end to a coronary artery below the blockage.

The surgeon first makes an incision in the middle of the chest and separates the breastbone to reach the heart. You are placed on the heart-lung machine during surgery in order to keep oxygenated blood flowing to the rest of your body. The surgeon then places the graft and mammary artery, if it is being used, to the area of your coronary arteries in order to provide blood flow and bypass the blockages. When the grafting is completed, the surgeon takes you off the heart-lung machine, rejoins the breastbone with wire, and closes the incision. The entire operation takes 4 to 6 hours.

Another surgical technique is called *off-pump coronary artery bypass*. This procedure is the same as the standard procedure, except you are not connected to the heart-lung machine. The heart continues to beat. The surgeon uses stabilizers to keep only part of the heart motionless while working on a specific artery. This is used in limited situations.

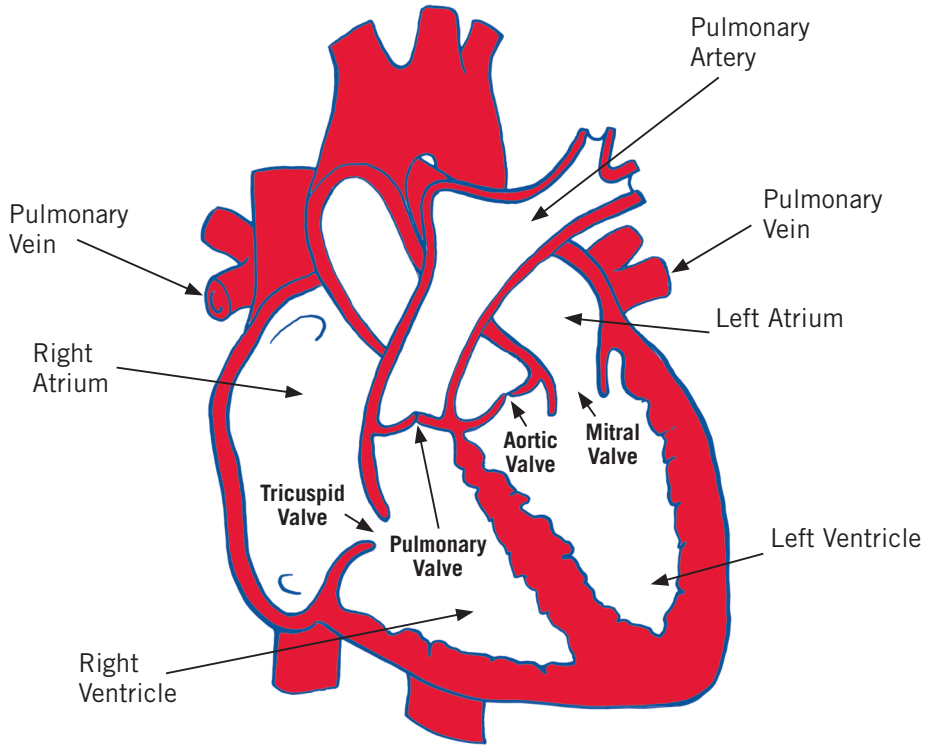
Heart Valve Surgery

Heart valve surgery—also called *valve repair* or *valve replacement*—is surgery to repair or replace damaged or malfunctioning heart valves. The valves control the direction and flow of blood through the heart.

There are two types of replacement heart valves: biological (natural) and mechanical (artificial). Biological valves come from human, cow, or pig donors. Mechanical valves are made of durable metal, carbon, ceramics and plastics. Mechanical valves last longer than biological valves. Your surgeon will decide which type of valve is best for you.

The surgeon first makes an incision in the middle of the chest and separates the breastbone to reach the heart. You are placed on the heart-lung machine during surgery in order to keep oxygenated blood flowing to the rest of your body. The surgeon then makes an incision in the heart or *aorta* (the main artery that carries blood from the heart to the body) to reach the valve. Once the valve is exposed, the surgeon decides to repair or replace it.

VALVULAR SURGERY



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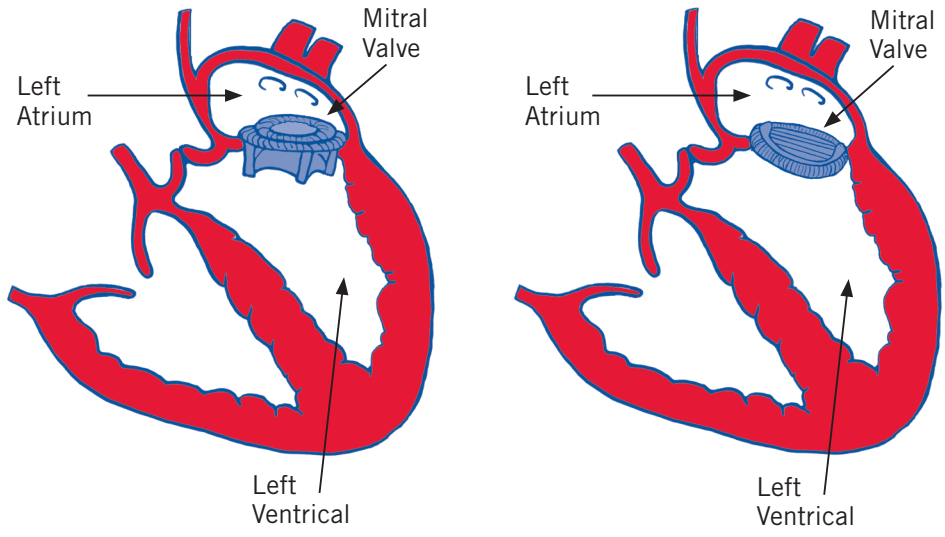
DIFFERENT TYPES OF ARTIFICIAL VALVES

Tissue Valve

Tissue valves made from pig heart tissue

Mechanical Disc Valve

Man-made artificial valve



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If the damaged valve can be fixed, the surgeon completes the repairs. If the valve must be replaced, the surgeon first removes part or the entire damaged valve. The surgeon then chooses the type and size of the replacement valve, inserts it into the valve opening, and sews it firmly into place.

The surgeon then closes the incision in the heart or aorta, takes you off the heart-lung machine, rejoins the breastbone with wire, and closes the incision. The entire operation takes 4 to 6 hours.

Atrial Septal Defect Repair

Atrial septal defect (ASD) repair is a surgical treatment to repair, or close, an opening in the *atrial septum* (the wall separating the two upper chambers of the heart). The surgery is performed on both adults and children.

The surgeon first makes an incision in the middle of the chest and separates the breastbone to reach the heart. You are placed on the heart-lung machine during surgery in order to keep oxygenated blood flowing to the rest of your body.

The surgeon then makes an incision in the heart to reach the septum. Once the septum is exposed, the surgeon decides which of two types of repair to make. The surgeon may sew the opening shut, which is known as *primary closure*. Or the surgeon may sew a patch made of tissue or a synthetic material over the opening. This is known as *secondary closure*.

Ablation

Generally, ablation is accomplished by applying radiofrequency (RF) energy, electrical energy, or freezing the offending area (usually through a catheter or by external means) thus creating a small scar that is electrically inactive and cannot generate a heart arrhythmia. Many forms of cardiac arrhythmias have been stopped by ablation over the past 15 years, but atrial fibrillation (a-fib) has remained a challenge.

It appears that atrial fibrillation may originate in the pulmonary veins in many patients, and that electrically isolating this area with catheter-based ablation with radiofrequency and cold therapy, can keep atrial fibrillation from occurring. This is done by applying heat or cold to the veins, and creating a barrier that cannot support the movement of impulses that cause a-fib. The longer a person has a-fib; however, the longer it will take the heart to correct the electrical pathway. So, a person in a-fib who has this procedure may stay in a-fib for several months until the heart is healed and the rhythm is normal. The success rate is based on the length of time that person is in a-fib.

SECTION 2

Preparing for the Hospital

Before You Go to the Hospital

Once your doctor determines that you need surgery, we will need to have information about you. It is very helpful to complete the following information in this book in the comfort of your own home. **Please bring this book with you to all your appointments**. With this information we can make this experience more comfortable and successful for you and your family. Also, make a list of any questions you may have for your doctor.

It will be helpful for you and your family to begin preparing for this surgery as soon as you can. The answers to these questions are important. We may ask these questions several times, just to be sure the answers haven't changed.

Name: _____ Date of birth: _____

What name would you like us to call you? _____

Do you use any of the following? ☐ Walker ☐ Cane ☐ Wheelchair

Have you fallen in the last 3 months? ☐ Yes ☐ No

Your normal physical activity every day is best described as:

- ☐ going from chair to the bed
- ☐ walking around the house
- ☐ walking around the house and to the mailbox
- ☐ taking daily walks
- ☐ no limitations

Do you do your own grocery shopping? ☐ Yes ☐ No

Do you need help at home with: ☐ Bathing ☐ Hygiene ☐ Dressing?

Do you drive your car to do errands or go to your MD appointments? ☐ Yes ☐ No

Do you have vision or hearing problems that interfere with daily activities? ☐ Yes ☐ No

Do you use any medical equipment at home?

- ☐ Bedside commode ☐ Raised toilet seat ☐ Shower chair
- ☐ Bath transfer bench ☐ Other

Are you forgetful? ☐ Yes ☐ No

If yes please explain: _____

When leaving hospital, where will you discharge to?

☐ Home ☐ Rehab/Nursing facility ☐ Other

Preferred Rehab/Nursing facility for transitional care after discharge: _____

_____

Is your home on multiple levels or does it have multiple steps? ☐ Yes ☐ No

If so, where and/or how many steps? _____

Does your home have indoor utilities (plumbing, water, electricity)? ☐ Yes ☐ No

Do you live alone or with someone?_____

Who will help you after surgery? Are they staying with you? Please list their names and phone numbers. _____

_____

What do you want the team of doctors, nurses, and therapists to do for you during this whole process? _____

_____

What do you want everyone to know about you? _____

_____

_____

What concerns or worries do you have?_____

_____

_____

Please list home medication, including prescription, over the counter and dietary supplements:

BRAND/GENERIC NAME	PURPOSE	STRENGTH	HOW MANY/ WHEN
Example: *Aspirin*	*Keep my blood from clotting*	*81 mg*	*1 tab at lunch*

ADVANCE DIRECTIVES

Open-heart surgery is a serious event and is a major operation. Though most everyone recovers and returns home, sometimes complications that your surgeon will describe for you do occur. Complications from stroke, respiratory failure, or heart failure may leave you unable to make decisions regarding your health care. It is important that you have all your affairs in order. This includes having a current will and appointing a Durable Power of Attorney for Health and Financial matters.

You can acquire the official forms for Durable Power of Attorney through the hospital or your doctor's office.

Preparing for Your Surgery

Several steps need to happen to get ready for open-heart surgery. You meet with various people in a variety of places over the next several days. This process requires your patience and may not be in the exact order as listed here.

Meet with Your Cardiovascular Surgeon

During this visit, your doctor reviews your medical history, orders tests, and discusses with you the type of surgery you will need. Your individual surgical plan is started at this time.

Meet with the Nurse Coordinator

The nurse coordinator continues to develop your surgical plan by going over the following information with you:

- How to use this book. **Bring this book with you to all your appointments, hospital stay, and follow-up appointments.**
- Consent for surgery
- Surgery date and time
- Scheduling tests needed before surgery
- Scheduling consultations with other physicians, if needed
- Medicines you are taking and which you should continue or stop before surgery
- Expected length of hospital stay (approximately 3–5 days)
- Average time for surgery (approximately 3 to 6 hours)

- Where your family can wait during surgery
- A discharge plan: You need help from family, friends, or a caregiver when you return home. For the first week or two you will need 24 hour assistance, depending on your recovery. For approximately 4 to 6 weeks, you need help lifting, housecleaning, and driving. There is no lifting more than 7 pounds for 6 to 8 weeks, no driving for 1 month, and no vacuuming or heavy pushing or pulling for 6 to 8 weeks. If this discharge plan poses a hardship for you, you might want to consider being cared for in a skilled nursing facility or other rehabilitation setting for a while upon immediately leaving the hospital.

Some things you can do at home before surgery

- Fill out the questionnaire in this book. This helps us know you better.
- Read this book so you know what to expect before, during, and after your surgery.
- Make a list of any questions you may have. This is important. It is OK to ask us anything.
- Meet with your family/support system to begin a plan for recovery after your surgery.
- Stay positive, stay active, stay connected to friends.
- Build yourself up for surgery by eating right, getting enough sleep, and staying as active as you are able.

Frequently Ordered Tests

In preparing for your surgery, the surgeon will want to have all the relevant information in order to evaluate your condition. This information will be obtained from various tests such as:

Electrocardiogram (EKG, ECG). A standard test to show the pattern of electrical activity in your heart or heart rhythm. Sticky patches are attached to your chest, arms, and legs. The test takes about 10 minutes.

Chest X-ray. It shows the size of your heart and if there is fluid buildup in the lungs.

Echocardiogram (Echo). In this noninvasive test, ultrasound waves are captured by a small probe, which is shaped like your thumb, with cool gel on it, to take a picture of your heart and the circulating blood. The technician places the ultrasound probe on your chest and moves it to scan for pictures of your heart.

Stress Test. This test increases your pulse either by having you walk on a treadmill or by giving you medicine. The test checks the blood flow to your heart.

Cardiac Cath (angiogram). A dye is injected in order to X-ray possible blockages in the arteries of the heart. It gives information about the heart valves and heart function. This is done in a specialized room that looks like an operating room. The room will be dark and cool. The doctors and nurses wear gowns and masks.

Carotid Duplex. This test examines the arteries that supply blood to the head to find blockages that may cause a stroke or stroke-like symptoms. The test is noninvasive. A plastic probe shaped like your thumb is rubbed over your neck after cool, clear gel is applied. This test can show if your carotid arteries are narrowed by fatty deposits, a condition known as *arteriosclerosis (ar-tir-ee-o-skla-RO-sis).*

Myocardial Perfusion Image (MPI). Demonstrates the adequacy of blood flow to the heart muscle.

Venous Duplex. This test examines the veins of the legs and arms to see if they are suitable for use as a donor graft.

Transesophageal Echo. This is an ultrasound exam that uses sound waves to evaluate the size, pumping strength, and valves of your heart. Sound waves are captured through a probe placed in your throat. You are lightly sedated for this procedure so someone will need to drive you home from this test.

Preoperative Blood Tests

Blood test results are another important component of patient assessment that the physician uses to evaluate your readiness for surgery. The test results give the physician valuable information about how well certain processes are performing in your body.

Complete Blood Count (CBC). This test gives an overview of how the blood system and other body systems are functioning. The test looks at red blood cells (which have *hemoglobin* inside them, which is necessary to carry oxygen throughout the body); *white blood cells* (which are important in fighting infection); and *platelets* (which are important for making clots). The right amount of each type of blood cell is essential in the healing process after surgery.

Tests for Electrolytes. These tests measure chemicals and minerals such as sodium and potassium in the body that are important in maintaining the water in your body, kidney function, muscle action, and other processes.

Lipid Panel Test. This test measures three types of fat (HDL, LDL and triglycerides) in the blood. It is done to determine the need for medication and diet modification after surgery to lower the risk of artery disease progression.

Liver Enzymes. This test measures how well your liver is functioning.

Hemoglobin A1c. This test measures how balanced your blood sugar is over 2–3 months.

Blood Transfusions

Open-heart surgery may require you to need blood transfusions. The option to donate blood to yourself may not be available because you must give blood well before your surgery in order to have time to recover.

Blood type and crossmatch are needed so that the blood that is given is compatible with your blood. If you do not wish to have a blood transfusion, please discuss this with your surgeon.

Pre-Admission Testing (PAT)

This appointment is made approximately 1 to 7 days before your surgery. This process takes approximately 3 hours to complete. Be sure to eat breakfast, bring a snack, wear comfortable clothing, and bring this book with you.

The following is the sequence of events for this process.

1. Prior to your Pre-admission appointment, you will have a CXR at Mt. Baker Imaging and Labs drawn at PeaceHealth Lab. Then you will check in at Cardiothoracic Surgery Clinic reception desk.
2. A Registered Nurse will review your completed information and complete a health history. Your current medications will be reviewed.
3. Your blood is drawn for testing. An electrocardiogram will be done as well as a chest X-ray, lung function studies, and non-invasive vein tests.
4. You meet with a Registered Nurse and Cardiac Rehab Specialist, who helps prepare you and answers your questions and concerns.
5. We strongly encourage you to ask any questions you may have. The better informed you and your family are, the better it will be for your overall experience.
6. You are given special soap and wipes to use the night before surgery. The nurse will review the instructions with you.
7. You will receive instructions for what to do before surgery. We will discuss your care plan and activities after surgery that promote recovery. You will also discuss going home after surgery.

Preparing Yourself for Surgery

There are some things that you can do to prepare yourself for surgery and help speed your recovery. We suggest that you start following these recommendations **now**.

- Stop smoking.
- If you have diabetes, keep your blood sugar in your target range.
- Follow your dietary recommendations.
- Maintain your activity level, and get adequate rest.
- Take your prescribed medications as scheduled.
- Seek support from your family members and significant others.
- Develop a plan for recovery.
  - › Who will help you when you first come home?
  - › Who will help with transportation needs, food preparation, shopping, and housecleaning?
- Practice taking deep breaths.
- Call your doctor if you experience increasing chest pain or shortness of breath or if you have other concerns or questions.

Remember, your doctors and staff have successfully helped hundreds of patients and families through this experience every year. The doctors and staff are here for both you and your family. **Feel free to call anytime before your surgery if you have questions or concerns.**

Pre-Admission Nutrition Suggestions

We have found that people who eat healthful foods and are physically fit recover faster from surgery. Here are some suggestions.

- Use the food guide in Section 6 of this book for planning a healthful diet.
- Be sure to eat protein, fruits, and vegetables to supply the vitamins, minerals, and antioxidants needed for healing. If you don't eat fresh fruits and vegetables, try them in a different form such as frozen, cooked, or low-salt V-8 juice.
- Take one general multivitamin with minerals daily (if recommended by your doctor).
- Eat foods low in salt such as fresh fruits, fresh vegetables, fresh meats, dairy, breads, and cereals.

- Continue to follow a low-sodium diet if instructed to do so.
- If you have diabetes, continue to check you blood sugars on the schedule advised by your diabetes educator, and take your diabetes medications. Work to achieve fasting blood sugars at 90 to130. Be aware that stress and illness may make it more difficult to control you blood sugars.
- If your primary care provider has advised you to lose weight before your surgery, limit your weight loss to 1 to 2 pounds per week. Rapid weight loss of more than 5 pounds per week can slow your healing.
- Sometimes with heart disease, you may have a poor appetite and find it difficult to eat the right foods for good nutrition. Continue to eat, even you don't feel like it. If your energy is low, consider eating healthful frozen meals such as those made by Healthy Choice. You might take a nutrition supplement such as Carnation Instant Breakfast, Boost, or Ensure. If you have diabetes, you may want to try sugar-free Carnation Instant Breakfast, Diabetic Boost, or Glucerna.

The Night Before Surgery

1. **Do not eat or drink anything after midnight.** (You may take your cardiac medications, as ordered by your provider, with small sips of water.)
2. Carefully follow antibacterial skin prep and shower instructions given to you at the pre-admission appointment.
3. Remember:
   - Do not allow soap or skin prep to come in contact with your face, eyes, ears, or mouth.
   - Do not rinse or apply lotion, cream, powder, deodorant or makeup after using soap and skin prep.

What to Bring and Not Bring to the Hospital

Bring your glasses, dentures, and hearing aides. Be sure to label these items. When you leave for surgery, give them to your family to take to the Intensive Care Unit. The Medical Center cannot be responsible if they get lost. Leave all jewelry at home, including your wedding ring. Your fingers swell during surgery and rings may cut off the circulation. We will provide you with robe and slippers.

Some Typical Questions Patients Ask

Q Is it going to hurt?

A Our goal is to have you be comfortable enough so that you can walk and move in relative comfort. You have a number pain medicines prescribed throughout your stay. The nurses help you find which medicine and which dose provides the most relief. They frequently ask you to rate your pain on a scale from 0 to 10, with zero being no pain and 10 being the worst pain imaginable.

Q How long will I be in the hospital?

A After valve surgery the typical stay is 5 to 7 days after surgery. With bypass surgery it is 3 to 5 days.

Q Do I need to quit smoking?

A YES! This is a very hard thing to do. We can help you with this, and there are many resources available to help quit smoking.

Q Will I have scars?

A The incision starts out being red and fades over time to where it is a very light color and barely perceptible.

Q What should I bring to the hospital?

A Anything you need such as hearing aids, glasses, toothbrush. We will provide everything else. Please leave valuables and rings at home.

Q Who can receive information over the phone?

A We cannot provide information about your condition to anyone over the phone unless you sign a specific release form.

Q Can I reverse heart disease?

A Some reversal of coronary artery disease has been seen in people who have adopted a stringent lifestyle change. You should discuss this with your health care provider.

Q Will I get addicted to pain medication?

A It takes many days of frequent use of narcotics to get addicted. It is exceedingly rare in health care.

Q Why will I have swelling in my legs and arms?

A This comes from being on the heart-bypass machine and is temporary. Elevation and movement will help relieve this.

Q How active can I be while in the hospital?

A We encourage you to be active during your stay. The cardiac rehabilitation staff gives you activity guidelines and a walking plan. Before you go home, you are walking in the halls at least four times a day.

Q **Can my family members visit?**

A Yes. And you are in control of who visits and when. The only time that the staff may override your wishes are for concern for your rest and concern for other patients because our space is quite limited.

Q **What should I bring to wear home from the hospital?**

A Loose, comfortable clothing such as sweat pants and a sweat shirt. Women are encouraged to wear a comfortable supportive bra.

Q **Will I get prescriptions, and where will I get them filled?**

A You get prescriptions for any new medications that you are to take when you leave the hospital. You should get them filled at the pharmacy of your choice. Review your medications carefully for changes in strength or instructions from your doctor.

Some Typical Questions Families Ask

Q **How can I best help my family member through this?**

A Being supportive and being there is a big help for your family member. It is important that you take care of yourself as well. We understand that this is a stress on you, too! Letting the nurses know the unique needs and desires for your family member is helpful too.

Q **Will my family member be safe at home before surgery?**

A If the doctors didn't think it was safe, your family member would be admitted to the hospital.

Q **How long will it take for my family member to return to normal?**

A It will take several months. This is a major surgery and the timetable is different depending on many factors.

Personal Notes and Questions

Notes to Myself

Questions to Ask My Health Care Provider

SECTION 3

Your Surgery and Hospital Stay

Your Care Team

Many staff members are involved with your care. Staff members are here to help. It is important to ask questions and talk about your concerns with them.

Cardiac Rehabilitation Staff. Dietitians, and clinical exercise physiologists help you regain both physical and emotional strength. Will provide you with an activity plan.

CM. Case Manager, a nurse or a medical social worker who assists in the coordination of your care in the hospital and helps you prepare for discharge.

CNA. Certified nursing assistant helps you with activities such as bathing and getting in and out of bed.

Diabetes Educator. Certified specialist who provides you with a plan of care to manage your diabetes.

Environmental Services. People who maintain the cleanliness of the unit and your room.

Lab Tech. Technicians who draw blood needed for lab tests.

MD. Surgeons who direct your care and the care team. Other physicians may be involved with your care as your unique needs dictate.

MSW. Medical social worker, who assists with arranging resources needed for your discharge.

Nurse Manager. Manages the Inpatient Unit and ensures the unit runs smoothly.

NTL. Nurse Team Lead in the hospital coordinates and supervises the nursing care delivered to you. The nurse team lead can address any specialized problems or concerns you may have.

PA. Physician Assistant works closely with the surgeons and cardiologists and provides care under their direction.

PCP. Primary Care Provider. May be a physician or nurse practitioner who will monitor your progress after the hospital.

PT. Physical Therapist specializes in helping patients improve their strength, balance, and movement after illness, injury or surgery.

RD. Registered dietitian creates a nutrition plan for you.

RN. Registered Nurses provide your direct care (such as medication administration and wound management), teach you and your family about your care, help plan your care, set goals, and supervise the CNAs.

RRT. Registered Respiratory Therapist assesses and treats any specialized lung care you may need.

Morning of Surgery

Take only those medications as directed by both your anesthesia doctor and your surgeon, with only small sips of water. Do not eat or drink anything else. Remember to leave your jewelry at home, including all rings.

Come to the Cardiovascular Center in the East Tower on the designated day and time (on page 1 of this book). Your family can come with you and remain with you until you leave for surgery. A nurse will admit you to the hospital and will verify that the information that we have is still the same.

You receive a hair clip to remove your body hair as necessary. Depending on your surgery, this may include hair on your chest, arms, and legs. Skin prep using antiseptic wipes will be reapplied. You may take another shower before changing into a patient gown and surgical cap. The nurse starts an IV. If you have increased blood sugar, an insulin drip is administered to control your blood sugar.

Time for Surgery

When it is time to go to surgery, a nurse from surgery takes you in your bed to the Operating Room. Your family should go to the ICU waiting area. There, your chart is reviewed and you are interviewed by the anesthesiologist and RN who will care for you during your surgery. A final verification of the information is done with you.

When you enter the operating room, the room is cool and bright. Nurses and anesthesiologists will be there wearing hats and masks. There is a lot of equipment. This may feel intimidating, but everyone in the room is there just for you. The nurse assists you to scoot over from the stretcher to the narrow, hard surgical bed and asks you to feel the sides of the bed. A safety strap is applied across your lap.

The anesthesiologist at the head of the bed talks to you while getting the equipment ready. The anesthesiologist puts sticky patches on your arms and fingers in order to

continuously monitor your temperature and the amount of oxygen in your blood during surgery. The anesthesiologist describes what you experience as you fall off to sleep. The nurse is at your bedside to provide you with emotional support and to assist the anesthesiologist. When you wake up, you will be in the ICU.

Family Information

We know that waiting while your family member is in surgery is an especially anxious period for you. The volunteer staff in the CVC waiting area is there to help you. If at any time you need anything, please ask them for assistance.

When surgery is over, you will meet the surgeon in the ICU Waiting Room. The surgeon will tell you what happened during the operation and will answer any questions or concerns. It takes the ICU nurses about 30 to 60 minutes to get everything settled after surgery. The ICU nurse or a volunteer will come to meet you and show you to your family member's room.

After Surgery

In the ICU

You are still asleep when you arrive in the ICU. A nurse is with you at all times until it is clear that you are stable. The nurse continually monitors your heart rhythm, blood pressure, pulse, temperature, breathing, and IV fluids. After the nurse gets you settled and performs an initial assessment, your family can visit you. This is usually about an hour after your arrival.

When You Wake Up

When you wake up from surgery, you are aware of the tube in your throat. This is the breathing tube that is attached to the ventilator. Your natural reaction is to reach up and pull this tube out. That's when you realize that your hands are restrained by soft cloths to prevent you from inadvertently doing this. The tube prevents you from talking. While you have the breathing tube in, the nurse asks you "yes" and "no" questions to determine your need for pain medication. Your nurse asks you to take deep breaths. The tube is removed when you are awake enough to breathe safely on your own. That is also when the restraints come off. You may hear beeping and various alarms from the machines. These sound to notify the nurse to check something. It does not necessarily mean that something is wrong.

DAILY EVENTS YOU CAN EXPECT

Day of Surgery

- Check in at CVC in the East Tower at the identified time. Your family may remain with you until you leave for surgery.
- You are admitted to CVC by a nurse who makes certain that you are ready for surgery.
- Your blood sugars are monitored and an IV insulin drip is started.
- Your body hair is clipped and another chlorhexidine skin prep is applied.
- An IV is started.

After Surgery

- You return to ICU on the 3rd floor generally for 1 day.
- A breathing tube is in your mouth or nose for 2 to 6 hours. A ventilator breathes for you through this tube while you are asleep. When you are able to breathe well by yourself, the tube is removed.
- You hear various beeps that are alarms for the nurse to check. You may hear water bubbling, which is the seal for your chest tube. All these sounds are normal.
- You receive pain medication regularly. Your nurse will ask if you are getting adequate pain relief.
- After the breathing tube is removed, you are asked to cough, breathe deeply, and do breathing exercises frequently.
- You have various tubes in your arms and chest, and a Foley catheter, a thin sterile tube inserted into your bladder to drain urine.
- You are helped to sit up 2 to 4 hours after the breathing tube is removed.

1st Day After Surgery

- You start liquid meals and are weighed.
- Some of your tubes are removed.
- You need to continue coughing and breathing exercises frequently.
- You are helped to sit in a chair for meals and walk at least once.
- You receive pain medication regularly (intravenous and oral). Tell your nurse if you are uncomfortable.
- Your blood sugar is monitored and the insulin drip remains on.
- You transfer to the Cardiovascular Unit on the 4th floor.
- You begin physical therapy or cardiac rehab therapy.

DAILY EVENTS YOU CAN EXPECT *(continued)*

2nd Day After Surgery

- You are weighed.
- You are given pain medications orally (longer lasting).
- Your dressings are removed from your chest incision. You will have a chest incision and possibly an arm or leg incisions.
- Two small wires have been placed on either side of your chest incisions. If your heart is beating slowly, the wires can be attached to a small machine that can speed up your heart.
- Your Foley catheter is removed.
- You bathe with assistance.
- You are up in the chair for meals and are eating regular food.
- Your diet progresses to regular food as you get better.
- Cardiac rehabilitation helps you with walking in the room and hall.
- You are awakened during the night every 4 hours for deep breathing and coughing exercises, assessment, vital signs, and medication.
- Bowel care is started if you have not had a bowel movement.

3rd Day After Surgery

- You are weighed.
- Blood is drawn in the morning; a chest X-ray and EKG are done.
- Insulin injections as needed if blood sugar increased.
- Your discharge teaching is started with the cardiac educator, dietitian, and diabetic educator, if indicated.
- Oral pain medications continue. Ask for pain medication as needed, and remember to use the Pain Scale.
- You continue to do deep breathing and coughing exercises.
- You walk in the hallway with assistance at least three times.
- Your family/caregiver should watch the discharge video.

4th Day After Surgery

- You are weighed.
- You will be taught how to check your blood sugar and give insulin injections **if** blood sugars are increased.
- You walk in the hallway at least four times daily on your own or with assistance as directed.
- You may be able to shower.
- You receive oral pain medication as needed.
- You may be discharged on this day if you are progressing well.
- Your family/caregiver should watch the discharge home video if they haven't yet.

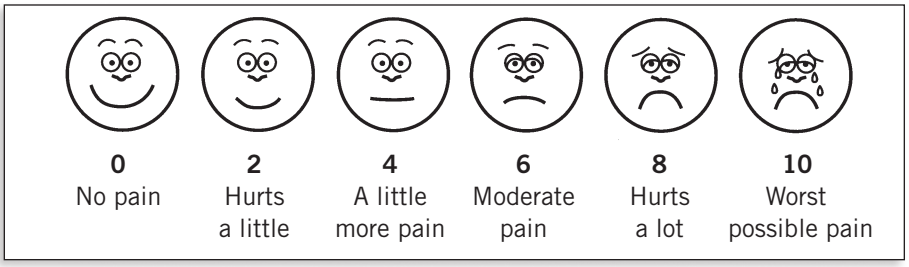
Going Home

- You are weighed.
- You take a shower.
- You receive your final discharge instructions: prescriptions, medication list, return appointments, activity guidelines, and red flags.

HEAD ON HOME!
CONGRATULATIONS!

Pain Control

An important part of recovery is controlling your pain after surgery. When pain is under control, it's easier for you to sit up, walk, breathe deeply, and cough. Nurses ask you regularly if you are in pain. They ask you to tell them how much pain you are in by using a scale. The scale uses numbers beginning with zero and goes to 10, with zero meaning you have no pain and 10 being the worst possible pain. This scale tells us what type of pain medication you may need and how often. The most important part of controlling your pain is keeping your pain at a level where you are comfortable. Remember, only you know your pain level. Pain medications can alter your perception and make you drowsy, so please ask us to help you when you get up.



In addition to medicine, relaxation, music, prayer, and distraction also help keep you comfortable. Speak with your nurse or chaplain about how to manage your discomfort.

Equipment You Might See

There is a great variety of equipment used in your care. The most common equipment used and you will hear us talk about are:

ET tube. A breathing tube that extends from your mouth to your windpipe and is connected to the ventilator

Ventilator. A machine that breathes for you until you are able to breathe deeply on your own

Restraints. Soft cloth straps on your hands used to keep you from accidentally pulling out any tubes

IV pump. A machine that controls the volume of fluid or medication you receive

Central line. A IV tubing placed in the neck region or upper chest to provide fluids or medications

Saline lock. Smaller tubing placed in your arm or hand to provide IV medication

Heart monitor. Vital signs, heart rhythm, and blood pressure are displayed and monitored by nurses and physicians.

Incentive spirometer. A device to measure your breathing and remind you to breath deeply

Pulse oximetry. A machine that measures the amount of oxygen in your bloodstream using a small clip on your finger

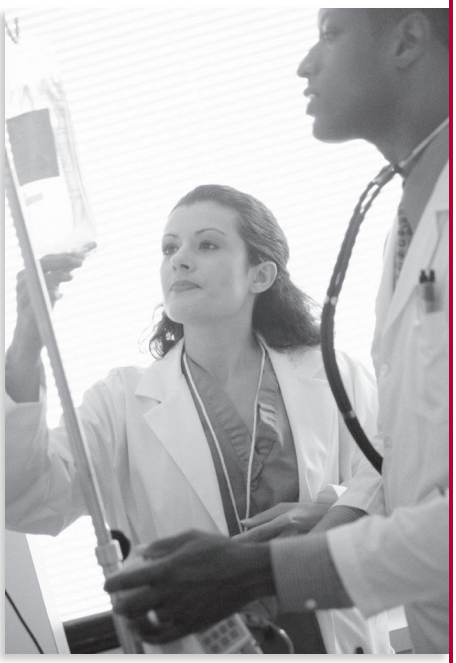
Nasal cannula. Plastic tubing and nosepiece that delivers oxygen

Foley catheter. Flexible tubing placed in your bladder to drain your urine

Chest tube. A flexible tube inserted into the chest cavity during surgery to drain fluid

Blake drains. Smaller flexible tubes inserted during surgery into the chest cavity to drain fluid

Pacer wires. Small wires on either side of chest incision, inserted during surgery. If your heart rate gets too slow, these will be attached to a temporary pacer to help regulate heart rate.



Temporary pacer. A small portable device that regulates your heart rate

Alarms. Most all of the equipment has alarms that sound by beeping. They notify the nurse to check. It does not necessarily mean that something is wrong.

Conditions That May Delay Discharge

Going home means that your pain is controlled with pills, all of your tubes are removed, and you are eating well enough. It also means that you and your care giver know what your care needs are and are able to handle them at home.

During recovery, several different types of conditions may develop that require treatment and may add a few days to your hospital stay. Here are some conditions that may delay your discharge.

Irregular heart beats. You may feel your heart pounding, racing, or doing flip-flops. Irregular heartbeats, known as *arrhythmias (a-RITH-mee-ahz)*, are common. Your awareness of them and their frequency may increase after surgery. If they continue and make you uncomfortable, tell your nurse. Your heart rhythm is continuously monitored and evaluated. You may experience *atrial fibrillation* or *atrial flutter,* a common irregular heartbeat. This rhythm occurs during recovery in about 17 percent of patients who have CABG and in 22 percent of patients who have had valve surgery. This rhythm can be fast

and cause you to feel tired and short of breath. The goal is to control the heart rate. This can usually be done with medication.

Confusion. You may experience coditions such as mental confusion, poor memory, or hallucinations. Contributing factors might be advanced age, response to anesthesia and pain medications, surgery, loss of sleep, noise in the hospital, and being in unfamiliar surroundings. These conditions generally don't last for long. If you experience any of these conditions, tell your nurse. You are monitored for your safety.

Decreased mobility. Immobility or inactivity can delay discharge. Activity is an important part of recovery after surgery. Your recovery can be delayed if you are unable to be active. Following the directions of the cardiac rehabilitation and nursing staff will aid in your recovery.

Incisions and Wound Care

You will have an incision over your breastbone. You may also have incisions on one or both arms and one or both legs if you had bypass surgery. For the first 2 days after surgery, the incisions will have bandages over them. Then the bandages are removed if there is no drainage on your chest and legs. Dressings are changed as necessary.

Bruising is normal and can be quite extensive. The bruising fades over time. A small amount of blood-tinged drainage from incisions in the arms and legs is normal and lessens in time. It is common for leg incisions to ooze and need frequent bandage changes. You may notice a lump or swelling above your chest incision which will gradually decrease.

The nurse inspects your incisions two times a day and cleans them with an antiseptic. As you incisions start to heal, you may experience itching or numbness at the sites. Please remember: **Do not touch or scratch your incisions.**

Nutrition Tips During Your Hospital Stay

You may be surprised to see that the foods offered to you while in the hospital may not fit into what you may think of as a diet for heart disease. **After surgery, the nutrition goal is to eat for healing**, which may allow some of the foods that are not part of a heart-healthy diet.

After surgery, you are allowed clear fluids such as broth, juice, and Jell-O. As you improve, you are allowed to eat regular food. Speak with your nurse and Registered Dietitian about your meals, food choices, and food preferences.

If you get hungry between meals, talk with your nurse about choices that are available.

The smell of food affects appetite. Cold foods are sometimes easier to eat because there is less aroma. Your taste buds are also altered as a result of the medications and surgery, so food generally does not taste as good to you. This is a temporary condition. It is important to keep eating in spite of this.

Sometimes the stress of surgery may contribute to elevated blood sugars. You are evaluated for diabetes during your hospital stay. You may receive a diabetic diet and medications during this time to manage your blood sugar even if you do not have diabetes. A dietitian is available to explain this information.

If you have high blood sugars, you heal faster if your blood sugars are well controlled. Work to achieve fasting blood sugars of 90 to 130. Be aware that stress and illness may make it more difficult to control your blood sugar, so try to eat about the same amount of carbohydrate at each meal as your medical team works to adjust your medications to cover your variable blood sugars.

Here are a few reasons why you will see foods not usually found on a heart-healthy diet.

- Healing is very much affected by the food you eat. Eating too little protein and too few calories can slow recovery.
- After surgery, the foods you choose to eat can help you recover faster. Try choosing something from the protein food group at each meal, along with fruits, vegetables, grains, and dairy (if you tolerate them). A representative from the kitchen is available to help you with your selections if you are having difficulty choosing foods to eat.
- You will need about the same amount of calories and protein after surgery that you needed before surgery. Too few calories and too little protein slow recovery.
- It may be easier for you to get all your nutrition needs for recovery by adding one or two snacks to the standard three meals per day.
- If foods taste bland or "off," try choosing cold foods such as cottage cheese and fruit or sandwiches.
- Because of fluid issues, drink fluids if you are thirsty, but you do not need to drink extra fluids.
- If your family would like to bring in foods from home for you to eat, please let the nurse know in order to adjust your meal request to the kitchen.

- The American Diabetes Association recommends that there are no "bad" foods. It is more important to balance carbohydrates and eat at regular meal times, similar to having a schedule in the hospital.
- Remember, after major surgery is NOT the time to lose weight. Wait until after your 6-week checkup before starting a weight loss program.

Reviewing Your Discharge Plan

The process of discharge planning begins before you are admitted to the hospital. If you or your spouse and support person need additional assistance in planning for your discharge, the Cardiovascular Unit has a case manager or a medical social worker available to help you. If you would like to speak to them, let your nurse know.

Day of Discharge

Be sure to have loose, comfortable clothing such as a sweat pants, sweatshirts, and T-shirts to wear home. Because ankle swelling is common after surgery, your shoes may not fit. We recommend bringing a loose fitting shoe or slipper to wear home. Women are encouraged to wear a comfortable, supportive bra.

Because we want to be sure that you have enough information that you need for going home, we review information with you before you go home. We encourage you and your family to view the discharge video prior to discharge. This will help you hear the information several times by the time you go home so it is easier to remember and will make the discharge process more understandable.

You and your family meet with a cardiac nurse to review the skills and information learned. Your medication list is reviewed with you and any questions you may have are answered. You receive a walking plan from the cardiac rehabilitation therapist and a visit from the Registered Dietitian if it is needed. You may be referred to a Diabetic Educator.

Transportation Home

You do not need special transportation to get home from the hospital. You will need someone to drive you because driving is not allowed for about 4 weeks. You will be given a wheelchair ride to your car.

If have a pickup truck, SUV, or van, you may need a step stool to get up to it. Pulling yourself up with your arms puts too much stress on your incision.

Some Typical Questions Families Ask

Q What time should I arrive on the day of discharge to pick up my family member?

A Be sure to talk with your nurse the day before discharge to find out a time.

Q Where can I park on the day of discharge?

A You can park in the St. Joseph's or CVC parking lot.

Q Will my family member be able to ride in the car?

A Yes. This should not be a problem.

Q My family member is getting insulin. Does he/she have diabetes?

A Not necessarily. Blood sugars will normally increase after heart surgery and then gradually return to normal levels in a couple of weeks. Some people have diabetes that has not been diagnosed before surgery so check with your doctor about a blood test for diabetes.

Personal Notes and Questions

Notes to Myself

Questions to Ask My Health Care Provider

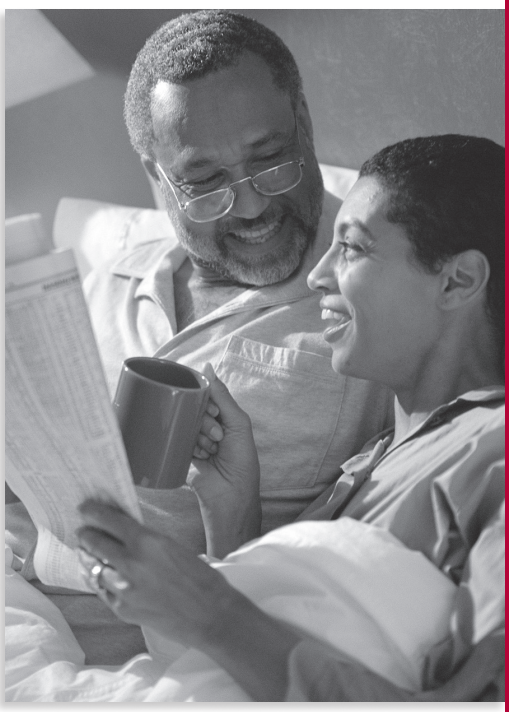
SECTION 4

After the Hospital

Planning for Discharge

It is always good to plan who will help you after you come home from the hospital. Having a discharge plan before you enter the hospital ensures a smoother transition after surgery. The first 2 to 3 weeks after your surgery are challenging. You need help performing many of your daily activities.

You need assistance 24 hours a day for the first week or two. If you have someone to help you during this time, you should be able to go home after surgery. Home health care is available in some cases to assist you and your spouse or caregiver with activities of daily living. Your case manager or medical social worker may assist you with this before discharge. Outpatient cardiac rehabilitation is usually recommended.



If you live alone, have a disabled partner, or have complications from the surgery requiring additional skilled nursing care, you may need to spend about 7 to 10 days in a skilled care facility after being discharged from the hospital. These centers are specifically designed to help you transition to your home. They provide nursing care 24 hours a day and have therapists to help you recover from your surgery. A doctor will coordinate your care while you are there. Your therapist, the extended care facility team, and you decide when you leave the care facility. After you leave the skilled nursing facility, your primary care provider will again coordinate your care.

If you believe you will need a skilled care facility, it's a good idea to call ahead of time to reserve a space. If you don't need a skilled care facility when you are discharged, you can cancel without penalty. Some local care facilities are listed on the following page. You may want to take a tour. Occasionally your first choice is not available when you are discharged from the hospital. It is wise to have a second choice. Medical social workers are available to help you with this during your hospital stay.

SKILLED CARE FACILITIES IN WHATCOM COUNTY
(Medicare Certified)

Alderwood Park Convalescent (AP)
2726 Alderwood Ave,
Bellingham, WA 98225
(360) 733-2322

Bellingham Health Care & Rehab (BHCR)
1200 Birchwood Ave,
Bellingham, WA 98225
(360) 734-9295

Christian Health Care Center (CHCC)
855 Aaron Dr,
Lynden, WA 98264
(360) 354-4434

Evergreen North Cascades (NCHR)
4680 Cordata Pkwy,
Bellingham, WA 98226
(360) 398-1966

Highland Convalescent Center
2400 Samish Way,
Bellingham, WA 98226
(360) 734-4800

Mt. Baker Care Center (MBCC)
2905 Connelly Ave,
Bellingham, WA 98225
(360) 734-4181

St. Francis Care Center (SFCC)
3121 Squalicum Pkwy,
Bellingham, WA 98225
(360) 734-6760

Shuksan Healthcare Center
1530 James St,
Bellingham, WA 98225
(360) 733-9161

Stafholt Good Samaritan
456 C St, Blaine, WA 98230
(360) 332-8733

Cardiac Rehabilitation

Your cardiac rehabilitation team includes your physicians, exercise specialists, dietitians, nurses, counselors, pharmacists, and your own family. We all work toward one common goal: your return to an enjoyable and productive life.

The program is carried out in three phases. The first begins while you are in the hospital. It consists of daily monitored activity sessions and preparation for discharge. You are given walking guidelines for home.

The second phase of cardiac rehabilitation begins about 1 to 2 weeks after you come home from the hospital. Your first appointment should be made before you leave the hospital. If you don't have one, call your cardiac rehabilitation program. In this phase, the rehabilitation team helps you regain strength and confidence through a program of education, physical activity, and emotional support.

An exercise specialist carefully monitors your progress during exercise. A dietitian counsels both you and your family about diet and other lifestyle changes. You attend educational sessions that cover heart function, risk factors, stress reduction, medications, and nutrition. These sessions may be individual meetings or small group meetings.

The third phase is an on-going exercise and education program for all "graduates" of the first two phases of the program.

Follow Up with Your Physicians

You need to see your primary care provider, cardiologist, and cardiac surgeon after you leave the hospital. Usually, you see your heart surgeon 2 weeks after surgery to be sure that you are progressing on schedule and that your medications are correct. You will see your cardiologist in 2–4 weeks to check your heart's function and rhythm, and your medications.

In 6 weeks, it is time to visit your PCP (primary care provider) to see how you are progressing and healing.

Caring for Yourself at Home

Recovering from open-heart surgery is a process that can be longer, harder, and more challenging than you think. This does not mean that the eventual outcome will be any less successful. You will continue to gain strength and energy over the next weeks and months. It is important to remember that you are taking control of the way you live your life, and reducing your risk factors will improve your quality of life.

This surgery only lessens the effects of your coronary artery disease or repairs a poorly functioning valve. It is not a cure. Your surgery has given you a new opportunity to make the most of the rest of your life. The eventual success of this is up to you. Only you can determine how you will care for yourself and achieve an enjoyable and productive life.

SELF-CARE AGREEMENT

To take care of myself I will:

- Wash my hands more frequently to reduce infection risk
- Walk daily, as directed by my walking plan
- Weigh myself daily and call my heart surgeon or cardiologist if I gain 3 pounds over 1–2 days
- Look at my incisions daily
- Shower daily
- Elevate my legs to reduce swelling
- Use my breathing exerciser four times daily
- Take pain medication as needed to maintain comfort and support activity
- Take my medicine as directed and know its side effects
- Not lift, push, or pull. Not lift anything heavier than 7 to 10 pounds
- Use my pillow to support my chest when coughing and deep breathing
- Eat a healthful diet for healing
- Not use tobacco
- See my health care provider and keep follow-up appointments
- Call my surgeon if I notice:
  - increased shortness of breath
  - pus draining or an incision that is not healing
  - increased cough
  - nausea, vomiting, diarrhea, or fever that lasts longer than 24 hours
  - rapid irregular heartbeat that causes lightheadedness or sweating
  - sudden weight gain

Signed: _____

Date: _____

Home Pathway

	DAY OF DISCHARGE	DAY 1	DAY 2	DAY 3	DAY 4
ACTIVITY/ INCISIONS	**Take it easy today.**	☐ Daily shower ☐ Check incisions ☐ Get dressed ☐ Balance rest and activity ☐ Elevate legs ☐ Use pillow for coughing	☐ Daily shower ☐ Check incisions ☐ Get dressed ☐ Balance rest and activity ☐ Elevate legs ☐ Use pillow for coughing	☐ Daily shower ☐ Check incisions ☐ Get dressed ☐ Balance rest and activity ☐ Elevate legs ☐ Use pillow for coughing	☐ Daily shower ☐ Check incisions ☐ Get dressed ☐ Balance rest and activity ☐ Elevate legs ☐ Use pillow for coughing
CARDIAC REHABILITATION		Walk 4 times today ☐ ☐ ☐ ☐ Check walking schedule	Walk 4 times today ☐ ☐ ☐ ☐	Walk 4 times today ☐ ☐ ☐ ☐	Walk 4 times today ☐ ☐ ☐ ☐
WEIGHT BLOOD PRESSURE PULSE/TEMPERATURE		Wt. _____ BP _____ Pulse _____ Temp _____	Wt. _____ BP _____ Pulse _____ Temp _____	Wt. _____ BP _____ Pulse _____ Temp _____	Wt. _____ BP _____ Pulse _____ Temp _____
RESPIRATORY EXERCISER	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐
MEDICATIONS	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐
DIET	Avoid foods with a high sodium content. Eat a well-balanced protein diet with fruits, vegetables, and fiber. Drink several glasses of water each day.				

Home Pathway *(continued)*

	DAY 5	DAY 6	DAY 7	DAY 8	DAY 9
ACTIVITY/ INCISIONS	☐ Daily shower ☐ Check incisions ☐ Get dressed ☐ Balance rest and activity ☐ Elevate legs ☐ Use pillow for coughing	☐ Daily shower ☐ Check incisions ☐ Get dressed ☐ Balance rest and activity ☐ Elevate legs ☐ Use pillow for coughing	☐ Daily shower ☐ Check incisions ☐ Get dressed ☐ Balance rest and activity ☐ Elevate legs ☐ Use pillow for coughing	☐ Daily shower ☐ Check incisions ☐ Get dressed ☐ Balance rest and activity ☐ Elevate legs ☐ Use pillow for coughing	☐ Daily shower ☐ Check incisions ☐ Get dressed ☐ Balance rest and activity ☐ Elevate legs ☐ Use pillow for coughing
CARDIAC REHABILITATION	Walk 4 times today ☐ ☐ ☐ ☐ Check walking schedule	Walk 4 times today ☐ ☐ ☐ ☐	Walk 4 times today ☐ ☐ ☐ ☐	Walk 4 times today ☐ ☐ ☐ ☐	Walk 4 times today ☐ ☐ ☐ ☐
WEIGHT BLOOD PRESSURE PULSE/TEMPERATURE	Wt. ________ BP ________ Pulse ______ Temp ______	Wt. ________ BP ________ Pulse ______ Temp ______	Wt. ________ BP ________ Pulse ______ Temp ______	Wt. ________ BP ________ BS ________	Wt. ________ BP ________ Pulse ______ Temp ______
RESPIRATORY EXERCISER	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐
MEDICATIONS	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐
DIET	Avoid foods with a high sodium content. Eat a well-balanced protein diet with fruits, vegetables, and fiber. Drink several glasses of water each day.				

Home Pathway *(continued)*

	DAY 10	DAY 11	DAY 12	DAY 13	DAY 14
ACTIVITY/ INCISIONS	☐ Daily shower ☐ Check incisions ☐ Get dressed ☐ Balance rest and activity ☐ Elevate legs ☐ Use pillow for coughing	☐ Daily shower ☐ Check incisions ☐ Get dressed ☐ Balance rest and activity ☐ Elevate legs ☐ Use pillow for coughing	☐ Daily shower ☐ Check incisions ☐ Get dressed ☐ Balance rest and activity ☐ Elevate legs ☐ Use pillow for coughing	☐ Daily shower ☐ Check incisions ☐ Get dressed ☐ Balance rest and activity ☐ Elevate legs ☐ Use pillow for coughing	☐ Daily shower ☐ Check incisions ☐ Get dressed ☐ Balance rest and activity ☐ Elevate legs ☐ Use pillow for coughing
CARDIAC REHABILITATION	Walk 4 times today ☐ ☐ ☐ ☐ Check walking schedule	Walk 4 times today ☐ ☐ ☐ ☐	Walk 4 times today ☐ ☐ ☐ ☐	Walk 4 times today ☐ ☐ ☐ ☐	Walk 4 times today ☐ ☐ ☐ ☐
WEIGHT BLOOD PRESSURE PULSE/TEMPERATURE	Wt. ________ BP ________ Pulse ______ Temp ______	Wt. ________ BP ________ Pulse ______ Temp ______	Wt. ________ BP ________ Pulse ______ Temp ______	Wt. ________ BP ________ Pulse ______ Temp ______	Wt. ________ BP ________ Pulse ______ Temp ______
RESPIRATORY EXERCISER	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐
MEDICATIONS	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐	☐ ☐ ☐ ☐
DIET	Avoid foods with a high sodium content. Eat a well-balanced protein diet with fruits, vegetables, and fiber. Drink several glasses of water each day.				

Home Incision Care

After surgery, your incisions may be sore, tight, or numb. It is normal to have a lump or swollen area at the top of your chest incision. Some redness and bruising is also common. You may have a small amount of clear, pink, or light yellow drainage for 1 to 2 weeks. The drainage will gradually stop as the incisions heal.

Your incisions are closed with stitches inside your body and will dissolve in 2 to 3 months. Your *sternum* (breastbone) is held together with stainless steel wires, which are not removed. The sternum takes 2 to 3 months to completely heal.

Until the incisions are completely healed, you are at risk for infection. Proper incision care is an important way to reduce this risk.

Wash your hands with soap and water frequently. Wash your hands immediately before touching your incisions or changing a dressing. This is the most important thing you can do to reduce the risk of infection.

Look at all of your incisions daily. The following symptoms can be signs of an early infection and having it diagnosed and treated early is important. Call your surgeon if you have:

- Increased tenderness, redness, or swelling
- Pus-like drainage
- An incision that is hot to touch
- Fever or chills

Shower daily with your usual bath soap. Rinse well and pat dry.

- Use comfortably warm water, not hot.
- Do not take a tub bath, hot tub, or Jacuzzi for 6 weeks.
- Do not use lotion, powder, or ointments on the incisions for 6 weeks.

Leg Incisions

- Bruising and swelling of your leg is common. The incisions may look uneven or bumpy.
- During waking hours, elevate your legs on pillows to be as high as your heart. Do this for 2 weeks.
- Apply a clean gauze dressing to any draining leg incision. Change it daily or when wet.
- Remove the dressing to shower and allow the scabs to fall off.

IV Site in Neck

- Leave the dressing on your neck for 48 hours from the date on the dressing. A scab will form to seal the site. The date will be written on the dressing.
- Leave this dressing on when you shower.
- If the dressing becomes loose or wet, or comes off, apply a small amount of antibiotic ointment to the puncture site and cover with a Band-Aid. Remember, you need the dressing for only 48 hours.

Chest Tube, Blake Tube Sites on Chest

- Leave the dressing on your chest for 48 hours. It can be removed after 48 hours.
- Shower daily once the dressing is removed unless otherwise instructed by your physician.

Arm Incisions

- If there is drainage from the arm incision, place a nonstick Telfa dressing over the incision. The net dressing will hold it in place. Change Telfa dressing when wet or daily.
- For 1 month, do not have a blood pressure, blood draw, or intravenous line in the affected arm.

Safety Tips

- Have your caregiver help the first couple of times you shower.
- Use a shower chair if available.
- Do not soak or immerse any incision in a bath or hot tub. If you must take a tub bath, keep the water level at 3 inches or below your chest and leg incisions. Use your leg strength to help you get up. Do not lift your body weight with your arms.

Your incision pain should gradually decrease. Use a pillow to support your chest incision when you cough. Remember to use your respiratory exerciser four times a day for 2 weeks. Call your surgeon if you have increasing shortness of breath or more coughing.

- **Remember to take pain medication.**
- **No lifting over 7–10 pounds for 6 to 8 weeks.**
- **No pushing, pulling or straining for 6 to 8 weeks.**

Activity Guidelines

Low energy and feeling tired are common after heart surgery. For the first 4 to 6 weeks, you will need to balance rest and activity.

- Walk according to your walking schedule given to you by cardiac rehabilitation.
- Weigh yourself every morning in the same clothing for 2 weeks. If you gain 2 to 3 pounds for 2 consecutive days, call your primary care provider.
- You may climb stairs slowly.
- **Do not lift, push, pull, or carry anything weighing more than 7–10 pounds** for 6 to 8 weeks. A gallon of milk weighs about 8 pounds.
- For the first 4 to 6 weeks, avoid household activities that require arm or upper body work, such as vacuuming, laundry, dusting, bed making, and mopping floors.
- **Do not drive** any motorized vehicle for 4 weeks from the date of surgery. Your breastbone is unstable, and any small accident may lead to significant injury.
- When traveling for long periods, get out and walk for a few minutes for every hour of travel. If this is impractical, then be sure to roll your ankles and pump your feet up and down to make your calves move. This is to prevent blood clots from forming. Use your heart pillow to protect your incision from the shoulder seat belt.

- You can resume sexual activity when you can comfortably walk 4 blocks at a moderate pace or climb 2 flights of stairs without chest pain, shortness of breath, or fatigue. Choose a position that will not put undo stress on your breastbone. Do not take drugs for erectile dysfunction, such as Viagra, until cleared by your primary care provider.
- Talk to your surgeon about when you may return to work.

Cardiac rehabilitation is a program of progressive, monitored exercise and risk factor education. The goal of cardiac rehabilitation is to help you recover fully and safely and minimize the chance of future cardiac problems. With a physician referral, you can begin outpatient cardiac rehabilitation 2 to 4 weeks after you are discharged.

Please call (360) 788-6719 for information or to schedule an appointment.

Walking Guidelines

Walking is a gentle and effective way to recondition your body as you recover from surgery. Even if you prefer other types of exercise, walking is the **best** exercise during the first few weeks of recovery.

The following guidelines will help you get started. These are only guidelines. Your progress may be different.

- Walk at a comfortable pace. If you can't walk and talk comfortably, slow down. Don't worry about checking your heart rate. When you walk, choose a flat stable surface.
- If you have symptoms of dizziness, lightheadedness, nausea, chest pain, shortness of breath, or irregular heartbeats, **stop and rest**. If these symptoms persist, call your primary care provider.
- Do not exercise outdoors for the first 12 weeks when the temperature falls below 35 degrees or rises above 80 degrees. Continue walking in a climate controlled area.
- Do not exercise when your stomach is full or when you are fatigued from another activity.
- Do not use a treadmill or any stationary exercise equipment for 1 to 2 weeks. Ask your cardiac rehabilitation therapist or primary care provider for guidelines.
- For more information about your physical activity, call the cardiac rehabilitation staff at (360) 788-6719 .

WALKING SCHEDULE

First Week

Walk for _____ Minutes _____ Times Daily

Second Week

Walk for_____ Minutes _____ Times Daily

Third Week

Walk for _____ Minutes _____ Times Daily

After the 3rd week, continue adding 5 minutes a week to your walk until you have reached 30 to 45 minutes total time each day. Continue to walk daily for the rest of your life.

Nutrition at Home

After surgery, the nutrition goal is to eat for healing. In general, a few key foods help your body heal. Be sure to eat plenty of these.

- Protein foods such as chicken and fish, tofu, beans, protein supplements
- Fruits and vegetables, which provide vitamins and minerals used in healing
- Whole grain cereals and breads for the B vitamins and fiber

The first 6 weeks after a major surgery is **not** the time for weight loss diets. Keep weight loss to 1 to 2 pounds per week to provide enough nutrients to promote healing. When you start at the Cardiac Rehabilitation Center, the staff will help you work toward your ideal body weight.

To help you minimize weight loss in those first weeks after surgery, here are a few tips.

- Increase the number of meals each day by adding a favorite snack. It is OK to have a milkshake or custard if that is what is appealing.
- Add a nutrition supplement such as Boost, Ensure, Carnation Instant Breakfast, or Slim Fast. You can also make your own milkshakes or fruit smoothies. Small amounts (2 to 4 ounces) every 2 hours may be easier to consume than trying to drink a full 8-ounce serving at one time.
- If smells turn your appetite off, try cold foods.
- Constipation can ruin appetites, so be aware that many medications, including iron supplements, can cause constipation.
- Surgery and medications can cause foods to taste different. This is temporary just as when someone has a cold or the flu and food doesn't taste right. This should go away in time. If not, call the dietitian for more ideas.
- A way to know if you are not eating enough is if you are losing 5 pounds or more each week.

Sodium

After open-heart surgery, it is important to limit the sodium you eat to help your body get rid of the extra fluid you retain after surgery and to help with blood pressure. Following are some suggestion to decrease your sodium intake. In addition to the following guidelines given by your care providers, you should develop the following habits as part of your low-sodium diet:

- Limit sodium to 2,300 milligrams per day.
- Take the saltshaker off the table. If it's not there, you can't use it.

- Substitute other spices for salt in your cooking. Try these flavor enhancers: allspice, dill, lemon, onion, curry, pepper, and garlic powder (not garlic salt). A little dash of vinegar or a squeeze of lemon adds brightness to foods. Before using a salt substitute, ask your health care providers which are safest for you.
- Substitute fresh or frozen vegetables for canned foods which often contain salt.
- Rinse canned foods for 30 seconds. If you can't substitute fresh or frozen vegetables, you can still reduce sodium content by 30 percent by first rinsing canned foods with water.
- Avoid processed meats and cheese. Foods such as hot dogs, salami, deli meats (even turkey), and cheeses contain a lot of salt.
- Stay away from salty snacks such as potato chips, salted nuts, and pretzels.
- Choose foods labeled "unsalted," "no salt added," or "low sodium." You'll be pleasantly surprised at how many of your favorite foods also come in low-salt versions.
- Ask that your food be prepared without salt when eating out.
- Take time to read and compare food labels. When buying prepared or processed foods, you'll need to read the label to make sure you can stay within your daily "budget" of 2,300 mg of sodium per day. For example, look at this soup label.

Nutrition Facts

Serving size 1 cup (239 g)

Servings per container: about 2

Amount per Serving	
Calories 100	Calories from Fat 15
	% Daily Value*
Total Fat 1.5g	2%
Saturated Fat 0g	0%
Trans Fat 0g	0%
Cholesterol 15mg	.5%
Sodium 850mg	35%
Total Carbohydrate 15g	5%
Dietary Fiber 1g	4%
Sugars 91g	
Protein 37g	

Vitamin A 15%	•	Vitamin C 0%
Calcium 6%	•	Iron 10%

*Percent Daily Values are based on a 2,000 calorie diet

Milligrams of Sodium per Serving

Because this can contains two servings at 850 milligrams of sodium each, eating this soup by yourself would use up almost your entire sodium budget for the day (one can = 1,700 mg sodium). Your choices are

skip this soup in favor of a lower sodium alternative or limit your portion to a single serving, or even half a serving.

- Cut out headache or heartburn medicines that contain salt in the form of sodium bicarbonate or sodium carbonate. The labels will tell you whether sodium is an ingredient.

Nutrition Goals After Your Recovery

If you attend the cardiac rehabilitation program, you will get more detailed information about eating foods to help with your heart disease.

You have recovered from surgery and are beginning to feel and eat better. Your appetite is returning, and you are starting to include a greater variety of foods.

Weight Monitoring

Sudden weight gain can be an early sign of fluid buildup. A weight gain of 2 pounds each day for 2 days in a row, or 5 pounds in 7 days, may be a sign of fluid retention. It is probably due to fluid, not fat. Other signs of fluid buildup are increased cough, shortness of breath, more frequent urination at night, and swelling. Call your surgeon or cardiologist if you notice these warning signs.

Weigh yourself daily. Record, compare, and keep track of your weight. Empty your bladder first. Weight yourself at the same time before breakfast wearing the same amount of clothes on the same scale on a hard surface.

Checking Your Pulse

Taking your pulse is a way to measure your heart rate. When taking your pulse you are feeling the force of blood as it is pumped through the blood vessel.

Find Your Pulse

1. With your first 2 fingers press lightly on the inside of your wrist, just below the base of the thumb. Do not press on the bone.

Take Your Pulse

2. Count the beats you feel in your wrist as you watch the second hand on a clock or watch. You can count for 6 seconds and multiply by 10 or count for a full minute. This is your pulse.
3. Note if the pulse or rythm is steady and regular, or if it is irregular and erratic.

Write Down Your Pulse

4. Use your own record or grid provided by the hospital or doctor's office.

Keeping Track of Your Weight

Take this record with you to your follow up appointments.

	SUN	MON	TUES	WED	THURS	FRI	SAT
WEEK 1							
WEEK 2							
WEEK 3							
WEEK 4							
WEEK 5							
WEEK 6							
WEEK 7							
WEEK 8							

Constipation

You may have trouble with constipation after surgery. Pain medication, decreased activity, and reduced fiber intake contribute to constipation. Increase your intake of water and high-fiber food (examples: prunes, fruit, and vegetables). Be sure to take a stool softener until your bowel function has returned to normal. If you have not had a bowel movement in 3 days, you may take a laxative of your choice, such as milk of magnesia, bisacodyl suppository or pill, or an enema. If this does not work, call your primary care provider for help.

Emotional Healing

Your emotional well-being is every bit as important as your physical health. Do not be surprised if you are "not yourself" after this surgery.

It is common for people to cry more easily and to be angry, anxious, or more emotional after heart surgery. It is also common not to remember most of the intensive care and early recovery period. Having difficulty concentrating and being forgetful are common and usually temporary. Sleep patterns are interrupted, and you may have bad dreams. These things are all related to anesthesia, the heart-lung machine, medications, and loss of sleep. Sleep patterns gradually return over the next 2 to 3 weeks. It is normal to be restless at night.

- You may take pain medication to help you sleep.
- Limit caffeine. Consider no caffeine after 4 P.M.
- Don't drink alcohol at bedtime.
- Limit the number of naps you have during the day, but rest is important.
- Practice relaxation exercises before bedtime.
- Walk every day.

FAMILY SUPPORT

It is important to have someone in your home 24 hours a day for the first week or two.

You will continue to need assistance with cleaning, grocery shopping, meal preparation, laundry, and driving for about 4 weeks. Your support system is a vital part of healing. As you become stronger and your breastbone heals, you can resume more activities.

RETURNING TO WORK

More than likely, you can return to work after surgery. How soon you return to work depends on your healing and the type of work you do. Your surgeon can tell you when you may return to work. Make sure your surgeon knows how much physical work your job requires.

You will gradually feel better over the next 6 weeks. Some memory changes may continue for 3 months. To help your emotions consider:

- Talking with friends, family, or spiritual advisor
- Joining a support group
- Going outside daily and taking walks
- Treating yourself to something special
- Practicing relaxation
- Using positive self-talk

Persistent feelings of hopelessness or worthlessness may be signs of clinical depression. Call your primary care provider for assistance.

Diabetes

What is Diabetes?

It is not like other health problems you may have had in the past. For one thing, it doesn't go away like a cold or the flu. For another, you are more responsible than you doctor for treating your diabetes. Because much of your day-to-day treatment is in your hands, you must learn as much about diabetes as you can.

Basic Facts

Diabetes is:

Common. At least one in every sixteen people has diabetes.

Controllable. Diabetes can be managed with proper meal planning, exercise, and possibly medicines.

Life-long. Your blood sugar levels should improve with treatment. However, there is no cure for diabetes.

Self-managed. Control depends on YOU. What you do every day determines what your blood sugar level will be.

Constantly changing. Your doctor may change you medicine or treatment plan over time because your diabetes changes over time.

A temporary rise in blood sugar or glucose after heart surgery is normal. As your recovery progresses your blood sugar will return to normal.

The Two Main Types of Diabetes: Type 1 and Type 2.

When you have diabetes, your body can't properly use the energy from the food you eat. This problem is closely tied to how your body makes and uses insulin. Insulin is substance made in your pancreas that helps keep your blood sugar in normal range.

In type 1 diabetes, your body makes little or no insulin. This is called insulin deficiency. Less that one out of ten people with diabetes have type 1.

In type 2 diabetes, your body makes insulin but your cells cannot use it well. This is called *insulin resistance*. Also, your ability to make insulin gradually decreases as time goes by (*insulin deficiency*). Over nine out of ten people with diabetes have type 2.

What Happens When You Have Diabetes?

1. Some of the food you eat breaks down into sugars — one of these sugars is glucose, the body's main fuel.
2. Sugar enters the bloodstream, and the level of sugar in your blood begins to rise.
3. When your body senses an increase in sugar, it sends a signal to your pancreas.
4. The pancreas makes insulin and sends it into the bloodstream. For type 1 diabetics, the pancreas doesn't respond; at this time an insulin injection is required.
5. Insulin should lower the level of blood sugar by acting as a key to unlock the body's cells, allowing sugar to pass from the bloodstream into the cells.
6. When you have type 2 diabetes, your cells cannot use the insulin your body makes.
7. Sugar stays in your blood elevating your blood sugar levels, which can damage your blood vessels, and over time can result in serious long-term problems.

Your Goals

With diabetes, you have to work to do what your body once did by itself. But it's worth the effort. You feel best when your blood sugar is normal or close to normal. Keep your blood sugar as close to normal as possible.

- Test your blood sugar and track your results. Your doctor will recommend a testing regimen. The recommended goal for adults is less than 110 mg/dL.
- Have a glycosylated hemoglobin test; this test is also known as an A1C. This is a lab draw that will show your average blood sugar level over the previous 2 to 3 months. To reduce the risks associated with diabetes, this number should be less than 6.5%.

DIABETES RESOURCES

For more information, local programs or to find a diabetes educator in your community call:

The American Diabetes Association
1-800-DIABETES
(800) 342-2383
www.Diabetes.org

In Bellingham:

St. Joseph Medical Center Nutrition/Diabetes Education Clinic
809, East Chestnut
(360) 788-6558

Long Term Plan

Many long term problems with diabetes such as eye problems, kidney disease, nerve damage, frequent infections, heart attack or stroke are strongly related to high blood sugar levels. To avoid these complications:

- Follow your plan for meals, exercise and medication.
- Test and record your blood sugar level regularly.
- Check you blood pressure regularly.
- Have a complete annual eye exam.
- Have your A1C checked at least 2 to 4 times a year.
- Have your urine tested for protein every year.
- Have your cholesterol and blood fat levels check.
- Check your feet and skin daily.
- If you smoke, stop!

Working with your healthcare team

Although day-to-day management of your diabetes is very much up to you, controlling your diabetes is always a team effort.

- Your primary care physician and staff,
- Endocrinologist, podiatrist, eye doctor, and dentist,
- Diabetes educators and dietitians
- Pharmacist
- Exercise specialists
- Family and friends and other supporters

Managing Your Diabetes Checklist

Things to do every day

- ☐ Test your blood sugar and write it down in your logbook.
- ☐ Check your feet.
- ☐ Follow your meal plan.
- ☐ Take care of teeth and skin.
- ☐ Take your medicines as directed.

Things to do at each doctor's visit

- ☐ Take your blood sugar logbook with you. Your logbook will help your doctor help you.
- ☐ Ask about your A1C level and determine your goal for your next visit.
- ☐ Have your doctor check your feet. Taking off your shoes and socks will help you remember.
- ☐ Have your blood pressure checked.

Things to do once a year

- ☐ Visit an eye doctor for a complete dilated eye exam.
- ☐ Have your cholesterol and blood fats check (called a lipid screen).
- ☐ Have your urine checked for protein (called a microalbumin screen).
- ☐ Visit your foot doctor (podiatrist) for a complete foot exam.

Sick Days: Special Information

Sick Day rules

- Always take your insulin or diabetes pills.
- Test your blood sugar before each meal and at bedtime or as directed by your physician.
- If you have type 1 diabetes, test your urine for ketones if blood sugars are greater than 250 mg/dL.
- Follow your meal plan if you can eat. If you can't eat, you should try to take in at least 4 oz. of sugar-containing beverage every hour to keep your blood sugar from falling too low.

Call your doctor when:

- You are vomiting and unable to keep down foods, liquids or diabetes pills.
- Your illness lasts longer than 24 hours.
- Ketones are present in your urine.
- All blood sugars are higher than 250 mg/dL for more than 1 day.

Resources

American College of Endocrinology Consensus Conference on Guidelines for Glycemic Control, Endocrine Practice, Vol 8 (suppl 1) January/February 2002

Lilly, Partnership in Diabetes, Managing your Diabetes, Basic Facts about type 2 diabetes. 2002.

Valve Surgery

The heart valves, when healthy, keep blood flowing through the heart and lungs in the proper direction. Diseased valves may slow the flow of blood through the heart or allow blood to leak backwards. Either problem places a great stress on the heart.

When replacing a diseased valve, surgeons use two basic types of valves.

Tissue Valves

- Also called *biological valves*
- Are made from human or animal heart valves (pig or bovine)
- May require that you take warfarin (Coumadin) for 2 to 3 months followed by daily aspirin

Mechanical Valves

- Artificial devices made of durable metals, carbon, ceramics or plastics
- Requires that you take warfarin (Coumadin) indefinitely after surgery to reduce the risk of blood clots forming around the valve
- May make a clicking sound with each heartbeat

If you have had valve surgery, you must take precautions for the rest of your life to prevent infection of the heart's inner lining or valves (known as bacterial endocarditis).

Inform your dentist that you have had valve surgery.

- Gentle flossing is OK.
- Use a soft bristle toothbrush.
- Use care when brushing your teeth to prevent gum bleeding

You may need antibiotics before and after the following:

- Dental procedures
- Diagnostic tests such as colonoscopy, spinal taps, endoscopy (Check with your primary care provider if you have any questions.)
- Infections
- Any surgical procedure

Call your primary care provider or heart surgeon if you have:

- Numbness of the face, arm, or leg on one side of your body, even if temporary
- Loss of consciousness
- Temporary blindness in one eye

Your Bills

After you are home you will receive bills in addition to your bill from St. Joseph Medical Center. Many of the health care providers who worked with you at the medical center, such as the anesthesiologist (who gave you anesthesia), lab technicians, radiologists (read your x-rays), cardiologists, and perhaps a pathologist (who would analyze tissue samples sent to the lab), are not employed by the medical center and they will send you bills under separate cover for their services.

If you have questions about any of your bills, there is usually a phone number printed on them for you to call. We encourage you to review your bills.

If you have any questions understanding your bill from the hospital or heart surgeons feel free to call Patient Financial Services at 541-686-7191 or 800-873-8253.

Typical Questions Patients and Family Members Ask

Q What kind of food should I have at home?

A Having heart-healthy food as described in this book will be a good start. It is also helpful to have nutritional supplements at home because your energy may be slow to return, and you need protein for wound healing.

Q Will I have to buy any special equipment?

A You should not need to get any additional equipment for home. The Cardiac Rehabilitation staff will let you know if you do.

Q If I need help, where can I get it?

A Call the Cardiac Surgery Clinic. Someone there will help you with questions or getting you in touch with the right resources. The number is (360) 788-6800.

Q How should I prepare the house for my family member during recovery?

A You do not need to change anything. Speak with the Cardiac Rehabilitation staff if you have concerns about stairs, bathing or potential obsticles around the house.

Q Will I be able to care for my family member, or will I need outside help?

A Someone who can help your family member needs to be there 24 hours a day for the first week or two. Your family member will be weaker than usual for the first couple of weeks after surgery. Cleaning, cooking, and bathing are difficult for one person to do after just having major surgery. Speak with your nurse, doctor, and social worker about your care needs.

SECTION 5

Medications

Medications

Your medications may change after heart surgery. Some medications you use for a short time; others will be lifelong. It is important to take a multivitamin with iron for 6 weeks after surgery.

When you leave the hospital, the heart surgeon will be sure that you have a prescription for all of your necessary medicines. The hospital does not fill prescriptions. Your primary care provider (PCP) will continue to manage your medications.

Helpful Hints for Taking Your Medications

- Your heart medications balance your heart's workload and your symptoms. Take them even when you are feeling well.
- Take your medication the same time every day. If you miss a dose, do not double your dose to catch up. Choose a method to help you remember to take your medications.
- Use a pillbox or make a checklist.
- Keep a chart telling you when to take your medications.
- Ask for assistance. Ask a friend or family member to help you.
- Store your medications in their original bottles.
- Carry a current medications list with you at all times. It should include the name, dose, and how often they are taken. Your list should include prescription and nonprescription medications.
- You can create a list by going to www.mypillbox.org.

Personal Medication List—Post Surgery

Your Name: _____

- Carry a card that lists the names of your medications. Learn why you are taking them and their side effects.
- Call your primary care provider if you think you are having a reaction to a medication.
- If you miss a dose of a medication, take it as soon as possible. Then take any remaining doses for that day at regularly spaced intervals. Do not take double doses. Resume your regular schedule the next day. Do not stop taking any medication without instructions from your primary care provider, cardiologist or surgeon.

MEDICATION NAME	PURPOSE	BREAK-FAST	LUNCH	2 P.M.	DINNER	BED
Colace 100 mgm.	*Stool Softener*	*X*				*X*
Multivitamin w/ iron	*Daily for 6 weeks*	*X*				

Personal Medication List—Post Surgery *(continued)*

MEDICATION NAME	PURPOSE	BREAK-FAST	LUNCH	2 P.M.	DINNER	BED

Over-the-Counter Medications

Do not take over-the-counter medications without your PCP's knowledge. This includes vitamins, herbs, or remedies from a health food store. Some examples are ephedra (ma huang), ephedrine metabolites, Chinese herbs, and Hawthorne products (Crataegus).

If you have heart failure, some over-the-counter medicine may make your heart failure worse. Some examples are anti-inflammatory drugs such as ibuprofen (Advil, Motrin, Nuprin), and decongestants, cough syrups, and cold remedies such as Nyquil, Alka-Seltzer, and Sudafed.

Common Medications

The following are some common medications that may be prescribed for you. You can get more information about these drugs from your pharmacist or primary care provider (PCP).

Aspirin

Purpose

- Decreases platelet clumping and clot formation
- Can reduce the risk of heart attack and clot formation in coronary artery bypass grafting

Side Effects

- Bleeding
- Bruising
- Stomach irritation

General Information

Take your aspirin daily after eating. Enteric-coated aspirin may reduce stomach distress. Generic aspirin is acceptable. Your PCP will choose an aspirin dose specific to you.

Antiplatelet

Plavix (clopidogrel)

Purpose

- Decrease platelet clumping (clot)

Side Effects

- New or increase bleeding, bruising
- Rash
- Diarrhea or stomach irritation

General information

Recommend that medication is taken with food but avoid taking with medications like protonix. Inform your dentist and medical providers that you are taking this medication.

Amiodarone

pacerone, nexterone, cardarone

Purpose

- Antidysrhythmic (keeps your heart beating regularly)

Side Effects

- Nausea, vomiting or diarrhea
- Muscle weakness
- Photosensativity (sunlight)

General Information

Call your doctor if you have visual problems, yellow skin, or persistent nausea, vomiting or diarrhea. Avoid sun exposure. Protect your skin by using sunscreen and wearing protective clothing.

Beta-blockers

atenolol (Tenormin), carvedilol (Coreg), metoprolol (Toprol XL, Lopressor)

Purpose

- Lowers blood pressure
- Blocks the effects of hormones that make heart failure worse
- Slows heart rate
- Regulates heart rhythm

Side Effects

Call your PCP if you experience:

- Dizziness or lightheadedness
- Wheezing or increased shortness of breath
- Weight gain of 2 pounds 2 days in a row

General Information

Take this medication with food. As your dose is increased, you may experience an increase in tiredness, shortness of breath, or weight gain. Your PCP may increase your water pill. If you have diabetes, your blood sugar may go up or down. This medication may cover up symptoms of a low blood sugar.

ACE Inhibitors

captopril (Capoten), enalapril (Vasotec), lisinopril (Prinivil, Zestril), fosinopril (Monopril), ramipril (Altace), trandolapril (Mavik), benazepril (Lotensin)

Purpose

- Used for high blood pressure and after a heart attack
- Blocks the effects of hormones that make heart failure worse
- Makes it easier for your heart to pump by relaxing blood vessels

Side Effects

Call your PCP if you experience:

- Stomach pain, diarrhea, constipation
- Persistent dry cough
- Lightheadedness or dizziness
- Swelling of the tongue, mouth, or face ***Call right away or go to the emergency room!**
- Skin rash with or without itching

General Information

Do not take potassium without checking with your PCP. This medicine may change kidney function. Your PCP may do a blood test as needed.

Angiotensin II Receptor Blockers (ARBs)

valsartan (Diovan), losartan (Cozaar), irbesartan (Avapro)

Purpose

- Helps control blood pressure
- Blocks the effects of hormones that make heart failure worse
- Makes it easier for your heart to pump by relaxing blood vessels
- This drug may be given if you can't tolerate an ACE Inhibitor or beta-blocker.

Side Effects

Call your PCP if you experience:

- Stomach pain, diarrhea, constipation
- Persistent dry cough
- Lightheadedness or dizziness
- Swelling of the tongue, mouth, or face ***Call right away or go to the emergency room!**
- Skin rash with or without itching

General Information

Do not take potassium without checking with your PCP. This medicine may change kidney function. Your PCP may do a blood test as needed.

Digitalis

digoxin (Lanoxin, Digitek)

Purpose

- Strengthens the heartbeat
- Helps control the heart rate

Side Effects

Call your PCP if you experience:

- Persistent nausea or vomiting
- Persistent loss of appetite
- Blurred or colored vision, "halos" around lights
- Confusion, dizziness, or fainting
- Palpitations or rapid heart beat

General Information

Your PCP uses a blood test to check your dosage.

Diuretics (Water Pills)

furosemide (Lasix), bumetanide (Bumex), hydrochlorothiazide (HCTZ), metolazone (Zaroxolyn), torsemide (Demedex)

Purpose

- Reduce amount of salt and water in body by increasing the flow of urine

Side Effects

Call your PCP if you experience:

- Dizziness or lightheadedness
- Increasing weakness
- Confusion
- Severe leg cramps

General Information

Some diuretics cause you to lose potassium. Your PCP will direct you if you need supplemental potassium.

Aldactone

spironolactone

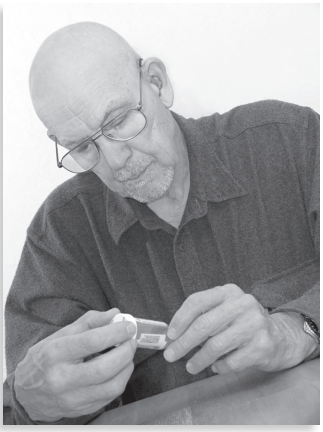
Purpose

- Helps block stress hormones that can damage the heart
- Water pill (diuretic)

Side Effects

Call your PCP if you experience:

- Breast enlargement or tenderness, especially in men
- Increased potassium levels (Your PCP will direct you.)
- Dizziness or lightheadedness



Vasodilators

Long-acting nitroglycerin, isosorbide mononitrate, (Imdur)

Purpose

- Relax blood vessels
- Used after surgery to relax grafted arteries

Side Effects

Call your PCP if you experience:

- Lightheadedness or dizziness
- Blurred vision
- Severe or prolonged headache with nitroglycerin
- Confusion or fainting

Pain Medicine

Hydrocodone/APAP (Vicodin); Oxycodone/APAP (Percocet); Acetaminophen with Codeine (Tylenol #3): Acetaminophen (Tylenol)

Purpose

To improve comfort level so that you are able to walk, deep breathe and cough.

Side Effects

Drowsiness, constipation, nausea

General Information

- It is recommended that you take Tylenol three times a day for one week to maintain your comfort level. If your pain is not adequately controlled by this, then supplement with prescribed pain medication.
- Take prescribed with food
- APAP (in Vicodin) and Acetaminophen (Tylenol) are the same. They need to be limited to 4,000 mg/day due to liver toxicity.

Cholesterol-Lowering Drugs

Statins: Simvastatin (Zocor), Lovastatin (Mevacor), Pravastatin (Pravachol), Atorvastatin (Lipitor)

Cholesterol absorption inhibitor: Ezetemibe (Zetia)

Purpose

- To lower low-density lipoprotein (LDL) cholesterol level

Side Effects

- Nausea, stomach upset, or discomfort
- Constipation, diarrhea, or gas
- Headache

Call your PCP if you experience:

- Unexplained muscle pain, weakness, tenderness, or cramping
- Unusual fatigue
- Skin rash
- Unexplained fever

General information

You should have a liver function test before starting these drugs, along with followups to make sure you tolerate them.

Cholesterol Results

Your Name: _____

Cholesterol is a fat-like natural substance made by the body and found in animal foods. It is needed to make cell membranes, certain hormones, and bile acids. However, high levels of cholesterol are linked to heart disease. Lowering your cholesterol is an important part of managing heart disease.

	RECOMMENDED LEVELS	YOUR LEVELS	
		Date:	Date:
HDL ("Good")	GREATER than 40 mg/dl		
LDL ("Bad")* **	LESS than 100 mg/dl		
Total Cholesterol	LESS than 200 mg/dl		
Triglycerides	LESS than 150 mg/dl		

To Decrease Total Cholesterol:

- Decrease total fat and cholesterol intake.
- Decrease saturated and trans fat intake.
- Lose weight.

To Decrease LDL:

- Decrease total fat and cholesterol intake.
- Decrease saturated and trans fat intake.
- Lose weight.
- Eat more fruits, vegetables and whole grains.

To Increase HDL:

- Stop smoking.
- Exercise.
- Lose weight.
- Include omega-3 fatty acids.

To Decrease Triglycerides:

- Exercise.
- Lose weight.
- Decrease fat intake.
- Decrease sugar intake.
- Decrease alcohol intake.
- Eat more fatty fish.

*** *Your physician may recommend a goal level of 70 mg/dl or less depending on your individual risk profile.*

Warfarin

Common Name: Coumadin

Purpose: Prevents blood clots from forming in the bloodstream

Side Effects: Easy bruising

General Information: This medication begins to reduce blood clotting within 24 hours of your taking it. The effects last 72 to 96 hours. You will need blood tests to measure your blood's clotting ability in order to safely and properly provide the right dosage for you. The test will be done frequently until the dosage is established. Then the test will be conducted monthly as long as you are on Coumadin.

Why Coumadin?

Coumadin is used to prevent harmful blood clots from forming. Harmful blood clots can cause a stroke, among other things.

How Important Is Coumadin Therapy?

Coumadin is one of the most important therapies available for your condition. For example: For people with the heart condition atrial fibrillation, chances of having a stroke are reduced by 84 percent for women and 60 percent for men if they take Coumadin.

COUMADIN AND VITAMIN K

Keep your intake of vitamin K consistent from day to day. This will help Coumadin work effectively in your body.

Limit intake of these foods that are **HIGH** in vitamin K to no more than 1 serving each day:

FOOD	SERVING SIZE
Kale, fresh, boiled	1/2 cup
Spinach, fresh, boiled	1/2 cup
Turnip Greens, frozen, boiled	1/2 cup
Collards, fresh, boiled	1/2 cup
Swiss chard, fresh, boiled	1/2 cup
Parsley, raw	1/4 cup
Mustard greens, fresh, boiled	1/4 cup

Limit intake of foods that have **MODERATE** amounts of vitamin K to no more than 3 servings each day:

FOOD	SERVING SIZE
Brussel sprouts, frozen, boiled	1/2 cup
Spinach, raw	1 cup
Turnip greens, raw, chopped	1 cup
Green leaf lettuce, shredded	1 cup
Broccoli, raw, chopped	1 cup
Endive lettuce, raw	1 cup
Romaine lettuce, raw	1 cup

What Do I Need To Do?

- Obtain tests as scheduled by your PCP.
- Discuss all medicines and herbal supplements you are taking with your PCP and pharmacist. Many drugs interact with Coumadin.
- Keep your diet consistent, especially with the amount of green vegetables you eat.
- Avoid alcohol.
- Always tell your PCP, dentist, pharmacist, or nurse that you are taking Coumadin.

If you forget to take a pill, tell your PCP. Take the missed dose as soon as possible on the same day. DO NOT take a double dose of Coumadin the next day to make up for the missed dose.

What Should I Watch Out For?

The most common side effect associated with Coumadin therapy is bleeding. Watch for the following warning signs or events and call your doctor immediately if you experience:

- Serious fall or trauma
- Fever or developing illness, including vomiting, diarrhea, infection, pain, swelling, discomfort, or other unusual symptoms
- Prolonged bleeding from cuts or nosebleeds, unusual bleeding from gums when brushing teeth, increased menstrual flow or vaginal bleeding
- Red or dark brown urine; red or tarry black stools
- Unusual bruising for unknown reasons
- Pregnancy or planned pregnancy
- If you are thinking about breast-feeding while taking Coumadin, you must consult your health-care provider.

Coumadin belongs to a very specific category of drugs that requires frequent blood tests, careful monitoring, and dosage adjustments. Pay close attention to the strength of your Coumadin tablet.

If you have and questions, contact your pharmacist or primary care provider.

Coumadin Dietary Precautions

Coumadin interacts with foods and supplements that can affect its ability to thin your blood. To help your Coumadin medication work best, follow these guidelines:

- Avoid drastic changes in dietary habits.
- Consult your PCP or dietitian before going on a weight-loss diet, drinking alcohol or adding vitamins or supplements. If you are trying to lose weight by going on a low-fat diet, remember the overall goal is to maintain consistent, well-balanced meals. A dietitian can assist you with specific guidelines.

Coumadin and Nutritional Supplements

Coumadin interacts with many types of food and nutritional supplements. These interactions affect the blood thinning ability of the medicine. Therefore, it is important to consult with your PCP before starting to take any new supplements such as: herbs, megadoses of vitamins, and nutritional supplements.

Supplements Allowed with Coumadin

Multivitamin containing no more than 100 percent of the recommended daily allowance (If your PCP recommends extra vitamin E, remind him or her that you are taking Coumadin.)

Coumadin and Alcohol Use

An occasional drink if approved by your PCP

Monitoring Your INR

The INR is a blood test that indicates how well the Coumadin is working and whether the blood thinning is in a therapeutic range. An INR that is too low indicates that you are at risk for forming blood clots. Conversely, one that is too high puts you at risk for bleeding, even internally.

YOUR TARGET INR			
Biological Valve or Valve Repair		**Mechanical Valve**	
Mitral Valve	INR 2 to 3	Mitral Valve	INR 2.5 to 3.5
Aortic Valve	INR 2 to 3	Aortic Valve	INR 2 to 3
Atrial Fibrillation	INR 2 to 3		

Every time you have a blood test (INR), ask your doctor: What is my INR? What is my dose of Comudin? When is my next lab test?

Patient Dosing Calendar

Month: _____

DATE/DAY	DAILY DOSE OF COUMADIN	TIME DOSE TAKEN	PT/INR	NEXT APT.

SECTION 6

Heart-Healthy Food

A Heart-Healthy Diet

Include heart-healthy foods in your daily eating style. Heart-healthy foods include fruits, vegetables, nuts, seeds, lean meats, poultry and fish, beans, olive and canola oil, and low-fat dairy products. Saturated fats are limited in a heart-healthy diet. Dairy foods—especially whole milk, cheese, butter, and cream—are the greatest source of saturated fat in the diet. Saturated fat is one that is usually solid at room temperature.

Avoid trans fats. Trans fats lead to too much cholesterol. Trans fats are found in "partially hydrogenated oils" found in stick margarines, deep fried food (French fries, donuts), some snack foods (cookies, chips), and convenience foods (regular microwave popcorn). Look for the amount of trans fat listed on the nutrition facts label. Trans fat is listed under "Total Fat." If you find "partially hydrogenated oil" listed in the ingredient list on food labels, find a more healthful substitute. Many spreads available on the market today are free from trans fats.

Eat plenty of soluble fiber. Soluble fiber has a powerful cholesterol-lowering effect. The best sources of soluble fiber are beans and lentils, apples, citrus fruits, oats, barley, peas, carrots—especially do not forget ground flax seed.

In general, a heart-healthy eating style includes the following:

- 5 cups of fruits and vegetables every day
- 6 or more servings (1 ounce each) of whole grains such as oatmeal, cereals with 3 or more grams of fiber per serving, brown rice, and whole wheat bread each day (Make half your grains whole grain. Occasional white bread or white rice is acceptable.)
- 2 to 3 ounces of nuts or seeds each week (1 ounce of nuts is about 2 tablespoons.)
- 2 to 3 servings of fish each week
- Olive oil or canola oil in cooking; tub margarine (soft)
- 2 to 3 servings low-fat or nonfat dairy products
- Soy or other vegetable protein

Fiber

Fiber comes from plant sources only, so choose whole grains, fruits, vegetables, and beans and legumes.

Fiber has many health benefits:

- Lowers cholesterol
- Promotes bowel regularity
- Helps with weight loss
- Stabilizes blood glucose

A combination of both insoluble and soluble fiber is ideal. You can count on one serving (½ cup) of fruit or vegetables to have at least 2 grams of fiber, so it is important to eat several servings each day in order to get enough fiber in a day (20 to 35 grams). Increase your fiber gradually and drink 4 to 6 cups of water each day to help with digestion.

Insoluble fiber, more commonly known as *roughage*, maintains bowel health and helps to keep you regular. Foods that contain insoluble fiber include whole grains, wheat bran, and vegetables.

Soluble fiber, more commonly known as *heart-healthy*, can help to lower high blood cholesterol and stabilize blood glucose for those with diabetes. Foods that contain soluble fiber include oat bran, oatmeal, bean, legumes, barley, and fruit.

	FIBER AMOUNTS IN FOODS (IN GRAMS)			
FRUITS	• 1 medium apple	**2.5**	• 1 cup berries	**2.0**
	• 1 medium banana	**2.0**	• 3 dried prunes	**2.0**
	• 1 pear with skin	**4.5**		
GRAINS	• 1 slice whole grain bread	**2.0**	• ½ cup Bran Buds	**10.5**
	• ½ cup brown rice	**2.0**	• ½ cup All-Bran	**10.5**
	• 1 medium bran muffin	**3.0**		
VEGETABLES	• 1 medium potato with skin	**3.5**	• ½ cup green beans	**2.0**
	• ½ cup corn, cooked	**3.5**	• ½ cup zucchini	**2.0**
	• ½ cup broccoli, cooked	**2.5**	• 1 cup romaine lettuce	**1.0**
LEGUMES	• ½ cup kidney beans	**6.0**	• ½ cup refried beans	**6.0**
	• ½ cup baked beans	**7.0**	• ½ cup green peas	**3.5**
	• ½ cup black beans	**8.0**	• ½ soybeans, cooked	**3.0**

The bottom line is that you will meet your daily requirement of fiber by including whole grains, high fiber cereals, the recommended 5 cups of fruit and vegetables each day, and 3 servings of beans each week.

- Include whole grains and high fiber cereal every day.
- Have at least a serving of fruit or vegetable at each meal.
- Include fruit or vegetables as snacks.
- Each week plan two or three meals based on beans, such as red beans and rice, bean burritos, bean soup, or chili.

Saturated Fat Content of Foods

Limit saturated fat and trans fats to less than 7 percent of total calories. That means that the average person would limit saturated fat to 10 to 20 grams per day. Saturated fat is found mostly in cheese, fatty meats, butter, and packaged/prepared foods.

FOOD	SERVING SIZE	SATURATED FAT (Grams)
Prime rib	8 oz. slice	25
Coconut milk	½ cup	21
Dried coconut	½ cup	10
Coconut oil	1 Tbsp.	12
Palm kernel oil	1 Tbsp.	11
Cake donut	1 donut	5
Ricotta cheese, part skim	½ cup	6
Ground beef less than 7% fat	3 oz. cooked	3
Butter	1 Tbsp.	7.5
Cream	2 Tbsp.	7
Ice cream	½ cup	7
Regular cheese	1 oz.	6
Cream Cheese	2 Tbsp.	6
Croissant	1 medium	7
Biscuit	1 each	6
Whole milk	1 cup	5
Chicken wings, floured and fried	1 wing	2

LOWER FAT FOOD OPTIONS

LIMIT USE OF THESE	OPTIONS TO USE INSTEAD
Butter, shortening, stick margarine	• Any trans-fat free and low saturated fat spread or margarine such as Canoleo Soft margarines, Brummel & Brown, Benecol Light, Take Control Light, Spectrum Naturals • Oils: Canola oil, olive oil, flaxseed oil, and walnut oil
Cream, whole, or 2% fat dairy products, ice cream	• Fat-free (skim milk) or 1% milk fat products, fat-free Half & Half, soy milk • Nonfat frozen yogurt, sherbet, sorbet, fruit juice bars
Regular cheeses	• Part-skim mozzarella or any other cheese labeled “low-fat”, “fat-free”, or soy
High-fat beef, lamb, or pork	• Fish at least twice a week. Avoid breaded or battered fish. • Use water-packed tuna. • Poultry, fish, or tofu more often than red meat • Vegetarian meals weekly • Lean cuts of red meat (round, chuck, sirloin, loin, flank) • Lean or extra lean (less than 7% fat) ground beef and turkey • Trim away visible fat from meat and remove skin from poultry before cooking. • Low-fat or 99% fat-free sandwich meats
Eggs	• Egg whites (2 egg whites = 1 egg in recipes) or egg substitutes such as Egg Beaters (¼ cup = 1 egg in recipes) • Keep egg yolk intake to fewer than 4 per week.
Fried foods and high-fat snacks and desserts	• Baked crackers, chips • Low-fat cookies such as cinnamon or ginger snaps • Pretzels, air-popped popcorn, Melba toast, or Wasa crackers. • Instead of pie on a special occasion, try a fruit crisp with oatmeal topping or cobblers with biscuit topping. • Avoid foods made with partially hydrogenated oils.
Mayonnaise, sour cream, ranch or blue cheese salad dressing, and fatty dressings	• Fat-free or lite mayonnaise • Mustard, ketchup, and other fat-free condiments • Hummus or fat-free refried beans or low-fat yogurt/blended cottage cheese instead of dips made with mayonnaise, sour cream, or cream cheese • Choose low-fat or fat-free salad dressings, or make your own.

Healthy Food Choices

	FOOD	SERVINGS	FOOD CHOICES
GRAINS	Grains, pasta, cereals, breads	6 to 11 servings per day Serving size: ½ cup rice, pasta or hot cereal, 1 slice bread, ¼ bagel or muffin, ¾-1 cup dry cereal, ¼ cup granola	Whole grain bread, brown rice, whole wheat pasta, whole grain cereal such as oatmeal and bran flakes
FRUIT AND VEGETABLES	Fruits and vegetables	5 to 10 servings per day Serving size: 1 fist-sized piece of fruit, ½ cup canned or chopped fruit, 1 cup berries, ¼ cup dried fruit, ¾ cup fruit juice, 1 cup raw leafy vegetable salad, ½ cup chopped raw or cooked vegetable	Choose a variety of fresh or frozen fruits and vegetables.
DAIRY	Dairy products	2 to 4 servings per day Serving size: 1 cup milk, 1 cup yogurt, 1 ounce cheese	Choose low-fat or nonfat dairy products.
PROTEIN	Meat, poultry, fish, eggs, dried peas or beans, peanut butter, tofu	2 to 3 servings per day Serving size: 3 ounces cooked (4 ounces raw) meat, poultry, fish, 2 eggs, 2 tablespoons peanut butter, ½ cup cooked peas or beans, ¼ cup canned tuna, ½ cup cottage cheese	Eat no more than 6 ounces cooked lean meat, poultry, or fish per day. Eat no more than 4 egg yolks per week. Tip: Eat fish at least 2 to 3 times per week.

Tips for Dining Out

Keep in mind that all restaurant foods will have more sodium than foods prepared at home. One way to cut down on sodium is to order the most basic food on the menu, foods that are baked, grilled, or roasted with no added sauces or gravies. This will also help limit excess calories from fat.

Choose a restaurant that offers a variety of foods and that accommodates your dietary needs. If unsure about how a specific food item is prepared, ask. Be assertive and polite.

Avoid foods described with terms such as “crispy,” “extra crispy,” “deluxe,” “supreme,” “super size,” or “double.” These will all have more sodium and fat than you would want in a day.

Select your menu according to your diet plan, keeping in mind the following:

- Have an appetizer of fresh fruit, fruit juice, or raw vegetables.
- Ask for salad dressings, gravies, or sauces on the side, and use very sparingly. Try lemon juice, vinegar, or spices instead.
- Ask for baked, broiled, grilled, or boiled chicken, turkey, fish, lean beef, lean pork, lamb, or veal. Tofu is also a good low fat protein source.
- Vegetables should be simply prepared. Avoid butter and cream sauces.
- Select baked or boiled potatoes instead of mashed, fried, or creamed. Ask for butter, margarine, or sour cream on the side, and use sparingly.
- For dessert, choose fresh fruit, plain or fruited gelatin, or sherbet.

When eating at a fast-food restaurant, select the basic foods served, such as a plain, small grilled chicken sandwich. Avoid fried or breaded items, and, if possible, select a salad with low-calorie salad dressings.

For breakfast dining, select a fresh fruit or juice, egg substitutes, cereal (like oatmeal), or dry toast (you can add a smear of jam). Have pancakes with fresh fruit. Skipping the butter and syrup will save you fat and calories. Use skim, soy or 1% milk instead of cream on your cereal or in your coffee.

Generally avoid the following foods while eating out:

- Creamed or scalloped foods
- Foods in sauces and gravies
- Deep-fried or breaded foods
- Cream soups or soups topped with cheese
- Cheeses and cheese spreads, mayonnaise, cream-based or marinated salad, cold cuts, olives, bacon bits, and croutons



LOWER FAT CHOICES IN RESTAURANTS

CHOOSE

Chinese

- Meals with no added salt or MSG and with as little oil as possible
- Steamed dumplings
- Stir-fried or steamed dishes with vegetables, chicken, seafood, and tofu
- Steamed or braised whole fish or scallops
- Steamed rice

Mexican

- Grilled chicken, seafood, and lean cuts of beef or pork
- Fajitas (Request that less oil be used.)
- Chicken enchiladas with very little sauce or cheese
- Carne asada (grilled beef, thinly sliced)
- Whole beans (pinto, black)

American

- Salad with dressing on the side
- Broiled, grilled, or baked chicken, fish, or seafood
- Small hamburger with lettuce and tomato
- Baked potato
- Steamed vegetables

Italian

- Vegetable antipasto
- Cioppino
- Pasta with meatless tomato-based sauces
- Pasta e fagioli (shells and beans)
- Grilled chicken, veal, and fish
- Scampi, grilled or sautéed in very little olive oil
- Chicken cacciatore
- Fish dishes topped with tomato sauce
- Pizza with ½ the cheese and lots of veggies
- Italian ice for dessert

AVOID

Chinese

- Deep-fried items such as eggrolls, fried shrimp, potstickers, fried shrimp, fried wontons, fried rice
- Sweet-and-sour dishes made with deep-fried meats
- Dishes made with beef, duck, and pork

Mexican

- Tortilla chips, nachos, crispy tacos
- Deep-fried and fried dishes such as chimichangas, flautas, taquitos
- Cheese dishes such chili con queso, cheese enchiladas, quesadillas
- Extras such as cheese, sour cream, guacamole
- Refried beans made with lard

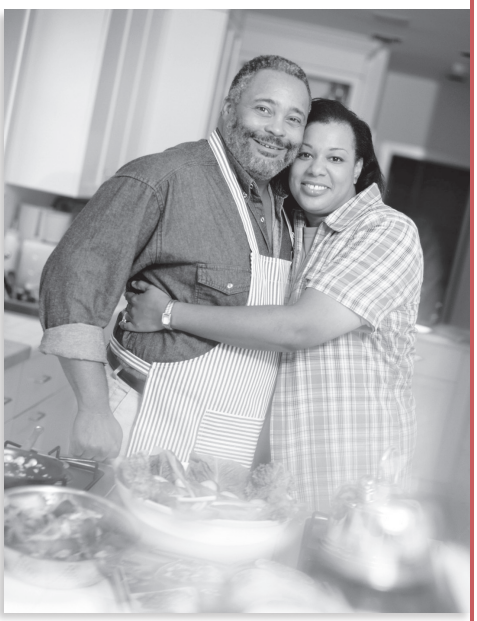
American

- Salads made with mayonnaise
- Anything breaded or deep-fried
- Cold cuts, cheese sandwiches
- Reuben sandwiches
- French fries or rice pilaf
- Any item with cream or cheese sauce

Italian

- Meat and cheese antipasto
- Fried calamari
- Bread drenched in olive oil, garlic bread
- Pasta in butter, cheese, oil, cream, or bacon fat, such as Alfredo, pesto, or carbonara sauces
- Cheese and meat-stuffed pasta dishes (tortellini, ravioli, manicotti, lasagna)
- Risotto (heavy with butter and cheese)
- Cheesy eggplant or veal parmigiana
- Rich desserts such as tiramisu or cannoli

Tips to Help You Lose Weight



Losing weight, and keeping it off, is no easy task. When you take in more calories than your body can use, the extra is stored as fat and you gain weight. Losing weight at a rate of 1 to 2 pounds per week is most commonly associated with long-term weight loss and maintenance.

- Eat less food (calories) and become more physically active.
- A small change in calorie intake every day can add up to significant weight loss over time and is easier to maintain.
- Regular exercise will not only burn calories but increase your stamina.
- Keeping track of the calories you eat over several days can help you evaluate foods to decrease in your meal plan.
- Contact your dietician to develop a weight-loss eating plan appropriate for you.

Tips to Help You Gain Weight

For some people, trying to gain weight can be as difficult as it is for those trying to lose weight. Just as the best weight loss is slow weight loss, the best weight gain is slow weight gain of about 1 to 2 pounds per week. Rapid weight gain can more often be fluid retention, which can put more stress on your heart.

- Be sure to look at your eating frequency. Eating small portions of food every 2 to 3 hours provides extra calories without making you feel full.
- Consider taking your medications using a high calorie beverage in place of water.
- Think about foods that can be "calorie carriers" such as a slice of bread with peanut butter and jelly, which has more calories than plain bread.

RECIPES

Find delicious, heart-healthy recipes to prepare at home:

- **www.ohvi.org/recipes**
- **www.americanheart.org** under Healthy Lifestyle

SECTION 7

Resources for Healthier Living

There are things you can do to help you recover faster and stay as healthy as you can be after heart surgery. Here are a few of the resources available for you. **For a more current and complete list of patient resources, visit www.ohvi.org/resources.**

Smoking

Stopping smoking is one of the most valuable changes you can make. Within 8 hours of your last cigarette, your body starts to heal. Your heart and lung function begin improving and the level of carbon monoxide and nicotine in your system decreases quickly. Ask your discharge planner for assistance if you are having breakthrough cravings.

For Help with Quitting Smoking

American Cancer Society
(800) 227-2345
www.cancer.org

American Lung Association of Oregon
800-LUNG USA (800) 586-4872
www.lungusa.org

National Cancer Institute
(800) 784-8669
www.smokefree.gov

Nicotine Anonymous
Self-help support group; no fee
(415) 750-0328

Tobacco Quit Line
1-800-QUIT NOW
www.smokingstopshere.com

Alcohol

Too much alcohol can make your heart condition worse. It can also change how some of your medications work. The heart can tolerate limited amounts of alcohol. Ask your doctor how much you may safely have. Talk to your doctor if you need help limiting alcohol use. It is never too late to stop excessive alcohol use. There are programs available to help you.

For Help with Quitting Drinking

Alcoholics Anonymous
(360) 734-1688

Useful Phone Numbers and Locations

Cardiac Rehabilitation
St. Joseph Medical Center
(360) 788-6719

Cardiothoracic Surgery Clinic
NW Medical Center (Fountain Building)
(360) 788-6800

North Cascades Cardiology
NW Medical Center (Fountain Building)
(360) 734-2700

Cardiovascular Center
PeaceHealth St. Joseph Medical Center
2901 Squalicum Parkway
Bellingham, WA 98225
(360) 788-7718
(800) 675-1544

Nutrition & Diabetes Education Clinic
St. Joseph Medical Center (South Campus)
809 E Chestnut St.
(360) 788-6558

Senior Information and Assistance

Senior Resources
www.nwseniors.com

Northwest Regional Council
www.nwrcwa.org

Whatcom Co
(360) 738-2500

Benefits Check Up/National Council on Aging
www.benefitscheckup.org

Insurance and Financial Assistance

St. Joseph Medical Center Financial Services
(360) 715-6500

The Whatcom Alliance for Healthcare Access (WAHA)
www.WhatcomAlliance.org
(360)715-6594

Medication Assistance

Washington Prescription Drug Program (WPDP)
www.rx.wa.gov
(800) 913-4146

NeedyMeds ORG
www.prescriptionassistance360.org
(888) 331-1002

Partnership for Prescription Assistance
www.PPARX.org
(888) 477-2669