YOUR GUIDE TO CONTINUING HEART and VASCULAR CARE

The Heart and Vascular Center at
ROGUE VALLEY MEDICAL CENTER
www.rvmc.org
YOUR GUIDE TO CONTINUING
Heart and Vascular Care

PATH TO RECOVERY
FOR CARDIAC SURGERY PATIENTS AND THEIR FAMILIES

Patient Name ________________________________ (541) 789-5710

Surgeon Name ________________________________ Phone Number

Cardiologist Name ________________________________ Phone Number

The Heart and Vascular Center at
www.rvmc.org
**Your Cardiac Surgery Team**

- Asante Cardiovascular and Thoracic Surgeons
- Anesthesiologist—the doctor who provides your anesthesia and monitors your vital signs during your surgery
- Physician assistants—assist the surgeons in the operating room and perform patient rounds on the unit
- Cardiac Clinical Case Managers—assist with pre- and post-operative education and family support
- Pre-Anesthesia Clinic and Short Stay Unit (SSU) registered nurses and staff
- Surgical registered nurses, technicians, and staff
- Coronary Care Unit (CCU) registered nurses, certified nurse assistants (CNAs), monitor techs, and unit secretaries
- Heart Center registered nurses, CNAs, monitor techs, and unit secretaries
- Social workers, discharger planners, and chaplains—assist with information and community services and provide emotional and spiritual support
- Respiratory, physical, and occupational therapists
- Auxiliary volunteers—provide support and surgery updates in the Critical Care waiting room
- Mended Hearts volunteer (optional)—a layperson who has had heart surgery and subsequently visits patients and families to offer encouragement and support

**Day Before Surgery**

Some patients may already be admitted to Rogue Valley Medical Center (RVMC) for this phase; some will be a same-day admit (SDA) and will come to the Pre-Anesthesia Clinic at the hospital one to five days before surgery. Regardless of when you’re admitted, you will undergo the following preoperatively:

- You will have laboratory tests, including a urinalysis, chest X-rays, an electrocardiogram (EKG), and a lung assessment.
- You will receive instructions from a respiratory therapist on the use of the incentive spirometer to help prevent post-op lung problems.
- You will receive a copy of RVMC’s *Your Guide to Continuing Heart and Vascular Care* and view a preoperative video, followed by either a group or individual teaching session with a registered nurse. We encourage family members to attend. For hospitalized patients scheduled late in the day or emergently, a Cardiac Clinical Case Manager will connect with you and your family following surgery.
- You will have a private meeting with the surgeon and the anesthesiologist.
- Your body hair will be clipped from the top of the neck to the ankles for bypass surgery or to midthigh for valve surgery. If surgery is in the afternoon or you are an SDA patient, this may be done the morning of surgery.
• You will receive a Fleet enema, take a shower or bath with antibacterial soap or use special antibacterial wipes, and shampoo your hair with a regular product. At the preoperative clinic, SDA patients will be given the soap or wipes and the enema to take home. The enema is optional but is recommended.

• *Do not eat or drink anything after midnight the night before surgery.*

**For Patients Admitted to the Hospital Before Surgery**

• Notify a nurse if you are experiencing any pain, discomfort, or anxiety.

• Take only medications ordered by your surgeon; do not bring medicine from home, but do bring a complete list of your current medications.

• Feel free to walk in your room or in the hallway unless otherwise ordered by your doctor.

• Keep necessary personal items such as dentures, glasses, and hearing aids. Also keep the pink basin, toiletries, and the incentive spirometer. Your family should take home all other valuables, medications, and personal belongings. A plastic bag is available for this purpose.

**If at any time you have concerns about your care or safety, ask to speak with the charge nurse,** who will work with you to address and resolve your concerns. If at any time you feel you have special needs or will have them at discharge, tell the nurse or Cardiac Clinical Case Manager. He or she will arrange a time for you to talk with a discharge planner or a social worker. To support your spiritual needs during your hospitalization, the hospital has a chaplaincy service or you may have your own spiritual leader visit with you. Let your nurse know if you want spiritual support.

**Day of Surgery**

• Either you will be awakened early to take a second shower or you will take one after your body hair has been clipped, when you come to the hospital the morning of surgery.

• In general, family members should arrive by 6 a.m. (if the surgery is scheduled for 8 or 8:30 a.m.). Arrive at least four hours before the scheduled time of your surgery for those scheduled after 8 a.m.

• You will usually receive your preop medication either in your hospital room or shortly after you are admitted to the Short Stay Unit (SSU).

• Once you are taken to the surgical holding area or are admitted to the SSU, your family will say good-bye. They will wait in the third-floor Critical Care waiting area by the north elevator.

• Dentures, glasses, and hearing aids should be given to your family when you say good-bye. After surgery your family should give these items to the nurse in the Coronary Care Unit.

• In the Critical Care waiting area, if an Auxiliary volunteer is available, he or she will inform your family when the surgery actually starts as well as when you are “off pump” (which means the surgery is almost finished). The doctor will come out to talk to your family in the waiting area when your surgery is finished.

• After surgery you will be taken to the Coronary Care Unit for the acute recovery phase of your hospitalization. You will be in the CCU for at least the first night after your surgery.
Path to Recovery

- In the CCU visitation is flexible and individualized. Due to unpredictable events that may occur in a critical care setting, be aware that there may be times when you are unable to receive visitors or your visits may be cut short.

- For updates on your condition, the family spokesperson can call the CCU at (541) 789-4228 or (541) 789-4229. Outside the area code, call (800) 944-7073.

- Families are asked to refrain from calling or visiting between 6:30 and 8 a.m. and 6:30 and 8 p.m.

**Recovery in the CCU Immediately After Surgery**

*Notice to family members:* The patient will look different. His or her face may be puffy and pale, his or her body may feel cool to the touch, and he or she may be sleeping so deeply as to look lifeless. There are also a lot of tubes and equipment remaining after surgery.

- One tube goes through the patient’s mouth to the lungs. It is connected to a breathing machine, called a ventilator. The patient cannot talk while this tube is in, but he or she can nod yes and no to questions. Many patients will be awake and have this tube removed by evening; for others it will usually be the next morning.

- There will be several intravenous (IV) lines in the patient’s arm and neck to give fluids and medications. An arterial line in a wrist reads the patient’s blood pressure, a bladder tube called a Foley catheter allows urine to drain into a bag, and a small tube in the nose leading to the stomach is used for medications.

- One or two chest tubes allow the blood that normally collects in the chest after surgery to drain into a canister. It may then be filtered and given back to the patient through an IV line. This is called autotransfusion.

- Temporary pacemaker wires are attached to the patient. These are then placed in a small glass tube and taped to the abdomen, or, if the heart rhythm becomes too slow, the wires will be hooked up to a pacemaker until the patient’s heart rhythm improves.

- There are dressings over the chest and leg incisions. Both of these incisions are closed with dissolvable sutures or staples. Dressings are removed the day after surgery, and staples are removed on the day of discharge or later at the doctor’s office.

- Once the family has talked to the doctor and seen the patient, they may choose to go home, rest, and come back when the patient is awake and can appreciate the visit. Be assured that a nurse will call you if you are needed sooner. The family spokesperson can always call for updates.

- Remember that heart and blood pressure monitors, IV pumps, and the ventilator are sensitive machines that have alarms and make noises. The nursing staff will check on you and help answer your questions.
Your Progress in the CCU

Once the ventilator and the nasal tubes are removed, you will be able to take a more active part in your recovery. You will be ready to:

• Talk, brush your teeth, and rinse your mouth.
• Suck on ice chips and drink water.
• Start using the incentive spirometer, followed by deep breathing and coughing every hour while awake. (You will be given a heart pillow to hold to your chest to help decrease the discomfort of coughing; some patients receive breathing treatments of an inhaled medicated fine mist.)
• Have blood tests, chest X-rays, and EKGs.
• Have your heart, blood pressure, oxygen saturation, and IVs closely monitored.
• See your doctor or his partner daily to assess and guide your progress.
• With help from the nursing staff, sit at the edge of the bed and get out of bed and sit in a chair.
• Feel sleepy—this is normal.

Patient Goals

• Keep the blood flowing in your legs; do leg exercises by flexing and making circles with your feet and bending both knees.
• Help your lungs recover; use the incentive spirometer, take deep breaths, and cough every hour while awake.
• Gain strength; get out of bed.

Move to the Heart Center

Before you leave the CCU, you may have all but one or two IV lines removed. Your chest tube(s) and bladder tube may be removed in the CCU or after your move to the Heart Center.

You will retain:

• Capped-off IV (saline lock)
• Pacemaker wire(s)
• Oxygen given to you nasally, if required
• TED hose

Your CCU nurse will accompany you while you are moved to the Heart Center.

In the Heart Center:

• Your heart will continuously be monitored using a small telemetry unit.
• Pain medication will be offered to you routinely every four hours around-the-clock to keep your pain controlled; this will progress to when you will request pain medication.
• Misted breathing treatments may be continued and, if necessary, your back gently clapped (percussed) to loosen secretions.
• Your blood pressure and the oxygen level in your blood will be routinely checked.
• All your urine will be measured, and you will be weighed every day.
• Your incision(s) will be painted with a painless antiseptic for three days, and your pacemaker wires will be removed.
• When appropriate, your normal routine medications will be reordered.
• You will get assistance with walking around your room and in the hallway.
Path to Recovery

Patient Goals
• Get adequate nourishment. Drink liquids such as juice and water until your appetite has returned. The nursing staff will measure all the liquids you drink. Start eating a heart-healthy diet as your appetite improves.
• Return of bowel function.
• Regain strength by getting out of bed and progressing to walking in the hallway three to four times a day.
• Staying informed. Ask questions about anything you don’t understand. Ask to speak to the charge nurse if you or your family have any concerns about your care or safety.
• Except when eating, elevate your legs when sitting or lying in bed.

Tell the Nurse
We want to support your recovery by helping keep you safe and comfortable. Tell the nurse if you:
• Need pain medication
• Feel nauseated or anxious
• Have difficulty breathing
• Have bad dreams and/or strange thoughts

Being Discharged and Preparing for Rehab
The discharge process takes several hours to complete. We want you to be well prepared for a safe recovery. You will now:
• See the educational discharge video about activity and diet
• Attend a class with a Cardiac Clinical Case Manager, to answer your questions and to go over diet and activity guidelines
• Meet a Cardiac Rehab nurse
• Receive instructions about all the medications your doctor wants you to take now that you have had surgery

Patient Goals
• Complete discharge education, including a review of all current medications and prescriptions.
• Finalize any plans for home health or extended-care needs as necessary.
• Complete discharge process, including follow-up appointments for doctors or physician assistant; Coumadin clinic for valve surgery patients; and Cardiac Rehab.

Fill your prescriptions at your own pharmacy. Your prescriptions cannot be filled by the RVMC pharmacy.

If you have any further questions, please contact your surgeon’s office at (541) 789-5710.
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How to Reach Your Heart and Vascular Team

If calling from outside the area, the number for Rogue Valley Medical Center is (800) 944-7073. To receive medical information about your loved one, you will be asked for a privacy code number. The privacy code number will be given to you when you register at the hospital. Please see the Patient Handbook for more information.

Cardiac Rehabilitation ................................................................. (541) 789-4466
Coronary Care Unit (CCU) rooms 1-8 ...................................... (541) 789-4228
CCU rooms 9-16 ................................................................. (541) 789-4229
Critical Care waiting room ......................................................... (541) 789-4957
Education—Cardiac Clinical Case Managers................................. (541) 789-4150
Heart Center ........................................................................... (541) 789-7300

Physician Contact Information
Asante Cardiovascular and Thoracic Surgeons .................. (541) 789-5710
Cardiology Consultants, PC, Grants Pass .................................. (541) 472-7800
Cardiology Consultants, PC, Medford, CVI .......................... (541) 789-5600
Heart Clinic of Southern Oregon and Northern California, PC, CVI .. (541) 282-6600
Oregon Surgical Specialists, PC, CVI ........................................ (541) 282-6680

Directions to the Surgeon’s Office
Asante Cardiovascular and Thoracic Surgeons
2954 Siskiyou Blvd.
Medford, OR 97504
(541) 789-5710

Directions: Go east on Barnett Road (past Rogue Valley Medical Center) and turn left off of Barnett Road onto Murphy Road (side of RVMC). The second street to the right is Siskiyou Blvd. Turn right onto Siskiyou Blvd. to the third office on the right side of the street: 2954 Siskiyou Blvd.

Important: At discharge you will be given a complete list of your current medications. Bring this list with you to your first visit with the surgeon.
Welcome

**INTRODUCTION**

Heart and vascular illness can be a very frightening experience. This book is designed to help you understand the process of cardiovascular disease and its causes, treatment, and prevention. It also explains what to expect during your hospitalization, and it answers questions you may have about going home. This is only the beginning of your education. We hope you will use this book, along with the other educational sources listed at the back, as an inspiration to find out more about how your lifestyle affects your health and how making positive improvements to your lifestyle will help reduce your risk of cardiovascular disease.

The ultimate goal of the heart and vascular care team is to support you and your family through the recovery period following an illness, to enable you to regain your pre-illness capabilities, and to make adjustments necessary for an active, productive life. This is done through a program of education, treatment, and gradually increased physical activity. Successful recovery requires your commitment to learning positive habits and continuing them throughout your life.

This book is yours to take home; however, please keep it with you in the hospital so your nurses and Cardiac Clinical Case Manager can review the information with you before you leave. Take it with you when visiting your physician or going to the hospital so you have it available as a reference. Please feel free to ask questions of any of the staff caring for you. Write down your questions as they occur to you and ask your Cardiac Clinical Case Manager, nurse, or physicians later.

Yours in good health,
The Heart and Vascular Center at Rogue Valley Medical Center
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**How the Heart Works**

The normal heart is a strong, hollow muscular organ about the size of a closed fist. It is located in the center of the chest behind the breastbone (*sternum*), between the lungs, and tilted slightly to the left. The heart acts as a pump. It provides a constant flow of blood throughout the body. It is part of your circulatory system, along with the lungs, arteries, and veins.

The inside of the heart is divided into four hollow chambers. There are two on the top and two on the bottom. Each upper chamber is called an *atrium*, and the lower chambers are called *ventricles*. A thin muscular wall called the *septum* divides the chambers into the right and left sides. On each side of the heart, blood flows from the upper chambers into the lower chambers. Little one-way valves act as doorways between the chambers and keep blood flowing in the correct direction and not flowing backward into the upper chambers.

*Arteries* are a network of elastic tubes that carry blood away from the heart and deliver oxygen and nutrients to all parts of the body. *Oxygen* is the life-sustaining fuel needed by every cell in the body. Without oxygen, cells and tissues start to deteriorate and die. When there is a blockage in an artery, tissue beyond that point becomes starved for oxygen and nutrients and can become damaged. The veins return blood that is low in oxygen and high in carbon dioxide (a waste product) back to the heart to be re-oxygenated in the lungs.

**Left Side of the Heart**

The oxygen-rich blood enters the left atrium and passes to the left ventricle. From there the oxygen-rich blood is pumped out of the heart to all parts of the body through the *aorta* (main blood vessel), then through a network of arteries. Blood flowing through arteries provides the heart muscle and the rest of the body with oxygen and nutrients. This process is repeated thousands of times a day.
**Coronary Arteries**

Just as the body has a system of blood vessels, so does the heart itself. The heart’s system is called *coronary circulation* and is composed of arteries and veins. This system has two major coronary artery systems—the right and the left—and their smaller branches. They are about the size of a pencil lead.

The right coronary system has a right coronary artery that brings blood to the right side and the back of the heart. The left coronary system starts out as the left main, then branches into the circumflex and left anterior descending. These carry blood to the septum and the left side of the heart.

**Coronary Artery Disease**

*Coronary artery disease (CAD)* is often referred to as “hardening of the arteries” and is a complex disease process. It starts when the innermost layer of a coronary artery becomes damaged and scarred. The lining of the artery then becomes thick and rough from fatty deposits (*plaque*) made up mostly of cholesterol. Over time the plaque continues to build up along the damaged site. This process is called coronary artery disease, or *atherosclerosis*. It is much like lime or rust deposits building up along the inside of an old water pipe.
Risk Factors of Coronary Artery Disease

Because coronary artery disease is a process, the risk factors thought to cause damage to arteries should always be watched and managed. Some of these risk factors you are born with (inherited) and some are learned habits (behavior). Managing your coronary risk factors can slow CAD and reduce the chance of death or disability from a heart attack.

Risk Factors You Can’t Control

Heredity
If your family has a history of CAD, you are at a greater risk of developing it yourself. This means that if your mother, father, or close blood family member had heart disease, or especially a heart attack before the age of 60, your risk of having heart disease increases.

Age
As you grow older, your risk of heart disease increases.

Gender
For some unknown reason, men under 50 are more likely to develop heart disease than women of the same age. Women quickly catch up after menopause.

Risk Factors You Can Control (On Your Own or with Your Doctor’s Help)

Smoking
Tobacco smoking is one of the worst things you can do if you have CAD. A smoker’s risk of heart attack is more than twice that of a nonsmoker. Each year more than 430,000 deaths (mostly from heart attacks) are caused by smoking. When people stop smoking, no matter how long or how much they had smoked, their risk of CAD declines. Ten years after quitting, the risk of death from heart disease is almost the same as if they had never smoked.

- Smoking causes atherosclerosis because the carbon monoxide in tobacco smoke damages the lining of artery walls. Damage in the arteries catches cholesterol floating by in the bloodstream, speeding up the process of CAD. Carbon monoxide also replaces oxygen in the blood.

- Smoking makes the heart work harder and raises blood pressure. The nicotine in cigarette, cigar, and chewing tobacco can cause an artery to clamp down (spasm) or constrict. Chewing tobacco contains high levels of nicotine, which may cause spasms in an artery. Spasms decrease the blood flow in the artery and can lead to angina.

- Smoking increases the chance of a blood clot forming in a narrowed artery by causing the platelets (cells that help the blood to clot) in the blood to become more active and cluster together. Arteries already narrowed could become totally blocked or occluded where they stick to damaged areas in the arteries.
What You Can Do
• If you don’t smoke, don’t start.
• If you do smoke, quit. A good time to quit is while you are in the hospital.
• The first step is to decide to quit. Choose a method, but probably the best method is to quit “cold turkey,” or all at once. (See “Community Resources” for programs.)
• Smoking is a psychological and social habit. Try to avoid social situations where you have always smoked, such as sitting around drinking coffee after meals. They can increase your urge to smoke. Change your routine.
• Get support from family, friends, or an ex-smokers support group. Say no to the first cigarette. This is your best line of defense.
• Talk to your doctor about using nicotine skin patches, gum, or medication to help you quit. But remember that these aids will not replace your own commitment.
• Secondhand or passive smoking is almost as harmful as firsthand or active smoking. Switching to a pipe or cigar or being around smoke is still getting smoke into your lungs and bloodstream—you are smoking.
• Do not use chewing tobacco instead of cigarettes. Try hard candy or gum.
• It is very important to get enough rest, drink six to eight glasses of water per day between meals, exercise, practice relaxation, and avoid alcohol.
• Be aware of your senses. Food will taste better. It is common to gain a few pounds at first, but this is healthier than smoking. Having low-calorie snacks on hand will help, as will limiting the amount of fat you eat.

High Blood Cholesterol
Cholesterol is a soft, fatlike substance made by the body that is found in foods from animals. It is a vital part of every body cell, as it is necessary for building cell membranes and hormones. The body produces all the cholesterol it needs. When we eat cholesterol, it builds up in the bloodstream. This is called high blood cholesterol, or hypercholesterolemia. High blood cholesterol can damage the lining of artery walls, causing CAD.

In the blood, cholesterol travels around in a package wrapped or coated with a protein called lipoprotein. There are two different types of lipoprotein packages: high-density lipoprotein (HDL) is called the “good” cholesterol; low-density lipoprotein (LDL) is called the “bad” cholesterol. LDL has a thinner protein coating than does HDL. HDL is good because it removes cholesterol from the blood before it can build up in the arteries. LDL is bad because it increases plaque buildup along the artery walls.

Triglycerides are fats carried in the blood, made from the foods you eat. At a high level, artery damage can occur, speeding up CAD. It also usually accompanies a high blood level of LDL cholesterol.

| Cholesterol Guidelines |
|------------------------|----------------|----------------|
| **Average Risk**       | **Borderline** | **High Risk**  |
| Less than 200          | 200 to 239     | 240 or greater |
The more risk factors a person has for CAD, the more important it is to lower blood cholesterol levels.

Blood cholesterol levels can be raised in two ways:

- Overproduction in the body, primarily in the liver
- Consuming an excess amount of cholesterol and/or foods rich in saturated fat

Cholesterol is found in animal products such as meat and dairy products. Foods that contain cholesterol also contain saturated fat. There is no cholesterol in plant foods, but a few plants do contain saturated fat or oil. Palm oil, palm kernel oil, and coconut oil, along with hydrogenated vegetable oil, are saturated fats. Eating saturated fats causes the liver to produce more cholesterol, raising the blood cholesterol level. You should limit foods high in cholesterol and saturated fats because they raise blood cholesterol levels. (See “Heart-healthy Diet” for further information.)

**What You Can Do**

- Follow a diet low in saturated fat and high in omega-3 fatty acids. (See “Cooking Tips to Lower Fat” in the “Heart-healthy Diet” section.)
- Have your cholesterol checked every year.

- Goal: **Total cholesterol**
  130 to 160 (non-cardiac less than 200)

  **HDL**
  Men greater than 40
  Women greater than 50

  **LDL**
  Less than 70 (non-cardiac less than 130)

- Triglyceride level
  Less than 150

- Maintain your ideal weight.
- Stop smoking and avoid passive smoke.
- Get regular aerobic exercise, which can lower total cholesterol and increase HDLs.

Generally speaking, a person who switches to a low-fat diet and whose LDL cholesterol level remains high may also need medication. Your doctor will advise you if this becomes an issue for you.

**High Blood Pressure**

*Blood pressure* is the force put on an artery wall as blood moves through it and is measured in millimeters of mercury (abbreviated mm Hg). When the pressure against the artery wall exceeds the upper limit of 139 mm Hg (systolic) or the lower limit of 89 mm Hg (diastolic) for long periods of time, high blood pressure, or hypertension (HTN), exists.

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<tr>
<th>Stage</th>
<th>Systolic</th>
<th>Diastolic</th>
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<tbody>
<tr>
<td>Normal</td>
<td>120 or less</td>
<td>80 or less</td>
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<tr>
<td>Pre-HTN</td>
<td>120 to 139</td>
<td>80 to 89</td>
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<td>HTN</td>
<td>140/90 or greater</td>
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<td>Stage 1 HTN</td>
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<tr>
<td>Stage 2 HTN</td>
<td>160 or greater</td>
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*Note:* A good blood pressure for patients with diabetes or renal failure is less than 130/80 mm Hg.
As one gets older, the arteries can get stiff or hardened from fatty deposits that can also increase blood pressure readings. Because it can go up slowly over time, many people can have HTN for years without knowing it. HTN often has no specific symptoms and no early-warning signs. It acts as a “silent killer” for multiple reasons:

• HTN makes the heart work harder.

• Over time HTN can cause the heart to enlarge.

• HTN puts arteries under greater strain, causing them to become less elastic and damaged. Hardening and scarring of the smooth lining in artery walls leads to atherosclerosis and CAD.

• HTN can damage many arteries in the body and may lead to heart attacks and strokes as well as kidney and heart failure, poor eyesight, and erectile dysfunction.

What You Can Do

• Have your blood pressure checked regularly. Free blood pressure checks are available in the main lobby of Rogue Valley Medical Center (RVMC), Monday through Friday, from 9 a.m. to 3 p.m.

• Stop smoking.

• Exercise, to relax and to control weight, for 30 minutes three to five times per week.

• Reduce the amount of salt \((\text{sodium})\) in your diet. (See “Salt and Sodium” and “Guidelines for a Low-sodium Diet” in the “Heart-healthy Diet” section.)

• Include foods rich in calcium, magnesium, and potassium in your diet.

• Talk to your doctor or pharmacist before using certain medications for arthritis, colds, or birth control, which may raise blood pressure.

• Maintain your ideal weight.

• Avoid heavy use of alcohol.

Obesity

You are at greater risk of CAD if you are more than 30 percent overweight, have a body mass index (BMI) of 30 or more, or have a large waistline. Obesity will cause many ill health effects:

• Raise blood cholesterol and triglyceride levels

• Raise blood pressure and make the heart work harder

• Lower the HDL (“good” cholesterol) level

• Potentially induce diabetes and other diseases

• Promote an inactive lifestyle

The body mass index is used to judge if an adult is overweight or obese, which increases one’s risk of disease and death. For instance, the risk of heart disease goes up as a person’s BMI goes up.

Waist measurement This is often a better predictor of heart attack risk than total weight. It measures the fat around the stomach, which is most closely linked with heart attacks.
**What You Can Do**

Find your ideal weight on the BMI chart below. Replace foods high in calories and saturated fat with healthy fresh fruits and vegetables and follow a heart-healthy or Mediterranean-style diet (see “Heart-healthy Diet”).

- If you are overweight or obese, losing just 10 percent of your body weight can improve your health.

- If you need to lose weight, do it slowly—just 0.5 pound to 2 pounds per week.

- Healthy weight loss requires selective caloric intake (eating less), improved food choices (fruits and vegetables), and aerobic activity to increase metabolism.

- **3 S Diet:** No Seconds, No Sweets, No Snacks (or at least minimize them)

- Be physically active. Adults should aim for at least 30 minutes three to five times per week.

You might also consider getting involved with a support group such as Weight Watchers or Overeaters Anonymous, where you can share concerns and experiences with others.

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**Body Mass Index for Men and Women**

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**BMI Chart**

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*Source: National Institutes of Health, National Heart, Lung, and Blood Institute*
Diabetes
When the pancreas is unable to produce enough insulin, or the cells in the body don’t allow the insulin and sugar inside where they do their work, the body will not use glucose (sugar) properly. This results in high blood sugar and insulin levels, which have these negative effects on the body:

• Raise cholesterol and triglyceride blood levels
• Damage the lining of artery walls, speeding up the artery-narrowing process of atherosclerosis

What You Can Do
• Follow a heart-healthy diabetic diet. If you need advice and help, ask to see the dietitian.
• Get regular exercise, take your diabetic medications, maintain your ideal weight, have regular checkups, and test your blood sugar often.
• Attend a diabetic class at least once to help you better understand and deal with diabetes. (See “Community Resources” for available classes.)

Stress
There is a link between CAD and a person’s negative emotional stress and tension. When you feel you are not in control of your life and always feel geared up and cannot relax, the body produces adrenaline. Ongoing stress produces high levels of adrenaline in the blood, which causes multiple effects: the heart pumps faster and harder; the blood vessels narrow or clamp down (spasm); atherosclerosis, which damages the lining of the artery walls; and a rise in blood cholesterol level.

What You Can Do
• Learn to listen to your body and discover what produces a stressful response in you.
• Choose to avoid a stressful situation if you can, or walk away and come back to it when you are calmer and more controlled.
• Learn techniques to help you relax and keep you calm so that you may better handle stressful situations.
• Don’t overload yourself—learn to say no without guilt.
• Finish one task before starting a new one.
• Set priorities so that you don’t overwhelm yourself.
• Set realistic goals for yourself and others in your life.
• Begin an exercise program geared to your level of fitness and stick with it. Anger and frustration can be worked off.
• Make time to relax and have fun.

Lack of Exercise
Physical inactivity can lead to changes that increase the risk of heart disease because it promotes weight gain, raises blood cholesterol levels, raises triglyceride blood levels, and subsequently reduces the heart’s efficiency.

Regular exercise will have multiple positive effects on the body:
• It helps decrease or maintain weight.
• It decreases cholesterol and triglyceride blood levels and increases HDL levels.
• It promotes cardiac fitness.
• It lowers high blood pressure.
• It creates a sense of well-being by reducing stress.
• It often helps diabetics require less insulin.
The American way of life, with its conveniences and leisure time, has led to an inactive lifestyle. You may feel that you work hard enough at your job or in your home and yard, but that type of exercise does not produce the benefits of regular exercise. Vigorous or aerobic exercise is best because it helps your body use oxygen more efficiently. You should exercise at least three to five times weekly for at least 30 minutes.

**Getting Started with an Exercise Program**

- If you are a cardiac patient, you will usually be referred to Cardiac Rehabilitation. If you do not get a call within two weeks of discharge from the hospital, call RVMC Cardiac Rehab at (541) 789-4466. (See “Cardiac Rehabilitation” in the “Community Resources” section.)

- Whether you are enrolled in Cardiac Rehab, once your doctor has released you to start an exercise program, choose one or two activities that you enjoy or feel you could learn to enjoy. Be aware of any limitations you may have. Types of exercise may include walking, jogging, swimming, yoga or aerobics classes, bicycling, stationary biking, or walking on a treadmill.

- Always start with a warm-up and end with a cool-down period. Stretching is ideal for this.

- Make fitness a fun habit. Commit yourself. Find a friend to do it with. Start a walking club in your neighborhood or join others.

- Listen to your body. If you feel chest discomfort or fatigue or are overly tired for the rest of the day, you may be working too hard and experiencing exercise distress. If you experience any of the following signs and symptoms, inform your doctor:
  - Dizziness or nausea
  - Prolonged or extreme shortness of breath
  - Angina
  - Extreme fatigue
  - Leg pain
  - Blurred vision
  - Racing heart, irregular beats, or pounding (palpitations)

**How to Count Your Pulse**

Counting your pulse is simple and can be learned quickly with a little practice. If you learn how to count your pulse while you are in the hospital, your nurses can double-check the accuracy of your count. You need only a watch or clock with a second hand to get started.

When your heart beats (contracts) and pushes the blood through your body (circulation), the arteries expand and you feel a pulse.

It’s easy to feel and count your pulse at your wrist (radial artery) and at the side of your neck (carotid artery).

**Radial Pulse**

Place the pads of the first two fingers of one hand at the base of the thumb on the wrist of the other hand. Be careful not to press too hard. If you do, the artery cannot expand and you cannot feel the pulse. Use light but firm pressure. The movement you feel against your fingers is your pulse—each movement counts as one beat.
Carotid Pulse

Find your Adam’s apple (windpipe) in the center of your neck. Using the pads of the first two fingers of one hand, slide them toward your ear about one inch. Press very gently and count. Don’t press on both carotids at the same time. The movement you feel against your fingers is your pulse—each movement counts as one beat.

Tips for Counting Your Pulse

Start counting your pulse when the second hand of your watch or clock is at 12:00. Do not watch the second hand constantly. Concentrate on what you feel and only glance at the watch. When it returns to 12:00, stop counting. This number is how fast your heart is beating per minute.

If your pulse is regular, you can count for 30 seconds and multiply by 2, or you can count for 6 seconds and multiply by 10. If your pulse is irregular, it’s best to count for a full minute.

Angina

As fatty deposits or plaque builds up and the coronary artery narrows, chest discomfort may occur. This is called angina pectoris, or angina. Angina is not a disease itself but rather a symptom of the heart muscle’s need for oxygen-rich blood. This lack of blood supply to the heart muscle is called ischemia. Angina starts to occur when the normal blood supply to the heart is decreased by 70 percent or more. Until then the blood supply is usually enough for normal heart muscle activity. When the heart is made to work harder, its oxygen needs increase and there is not enough oxygen to support the need. Such things as exercise, exertion (work), emotional stress, excitement, a large meal, or exposure to cold weather can cause the heart to beat faster and work harder, requiring more oxygen for fuel. When the heart slows down and is working less, the heart muscle is getting enough oxygen and the anginal symptoms subside.

Coronary arteries can also spasm or contract, which narrows an artery, causing angina.
The symptoms of angina vary from person to person. The amount of discomfort you feel may range from mild to severe. It may be in one area or in a number of areas and will usually last two minutes or longer.

If you think you are having angina, stop whatever you are doing and rest. This will reduce your heart’s need for oxygen. If you take nitroglycerin, follow your doctor’s instructions. Angina does not have to be severe to warrant taking nitroglycerin. Angina often (but not always) occurs as a warning sign, days or even years before a heart attack. Because it is a warning that the heart needs more blood and oxygen, treat it when you first feel it. You need to listen to the warning signals angina is giving you. You may feel one or more of the following symptoms:

- A tightening, pressure, squeezing, or aching feeling in the center of the chest or down the arms
- Indigestion, fullness, or heartburn in the upper abdomen
- Burning, aching, or a cramping discomfort that starts in or spreads to the neck, jaw, throat, shoulder, back, or arms
- Numbness or tingling in the arms
- Discomfort in the neck or upper back between the shoulder blades
- Shortness of breath, weakness, or becoming sweaty

It is very common for patients to become anxious about having angina and worry about brief twinges, twitches, and pains—some may even imagine symptoms. But angina usually has clear and obvious symptoms; they are not brief or fleeting. No matter what symptoms you have, angina usually lasts less than 15 minutes. Rest and medication such as nitroglycerin often relieve it (see “Medications”).

The effects of ischemia (lack of blood supply) on the heart muscle are usually reversible. There is no cell or tissue death. It is not a heart attack; it is a warning that something is wrong and there is risk of a heart attack.

- If your angina is not completely relieved within 15 minutes after taking your nitroglycerin and resting, have someone drive you to the nearest hospital emergency room.
If you also experience any of the following symptoms, you should get medical help immediately. Do not wait to see if three doses of nitroglycerin relieve your angina. These additional symptoms are usually warning signals that you are having a heart attack, not just angina:
- Dizziness
- Shortness of breath
- Very sweaty
- Cold and clammy
- Nauseated and/or vomiting
- Very weak

Call 9-1-1. Never drive yourself. You should see a doctor.

Chew an uncoated adult aspirin (unless you are allergic to it).

If there is a change in pattern of anginal symptoms, or if they get worse, report it to your doctor. These changes may include:
- Increased frequency during the day or over a week’s period
- Increased amounts of nitroglycerin to relieve it
- Occurrence while at rest or waking you up at night, not just with activity or exercise
- Spreading to new parts of your body, such as arms and hands

These changes may indicate a need for further tests, or your doctor may need to change your medications.

When you need to call your doctor because of problems with angina, you will be asked to clearly describe your symptoms.

You should take the time now, while the symptoms that brought you to the hospital are still fresh in your mind, to fill out the Chest Discomfort Questionnaire (see “Additional Materials”). Later this information will be a good basis against which to compare any new symptoms. It will also help you to explain these new symptoms more clearly to the doctor or nurse.
## Tests

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Sometimes one or more tests are needed to diagnose or decide on the best treatment for heart disease. You may be shown a video or given printed information. Before any test, the doctor will discuss the risks and the benefits of the test with you. The doctor or nurse may ask you to sign a consent form before the test can begin. Take this time to ask any questions that you may have.

**Chest X-ray**

A *chest X-ray* is a simple, painless picture of your airway, heart, and lungs. You may have a portable X-ray done in your room, or you may be taken to the imaging department in a wheelchair. A chest X-ray can help the doctor find out information about lung conditions or heart problems that you may be experiencing. The doctor may order a daily chest X-ray to monitor the treatments you are receiving.

**Electrocardiogram**

**Resting EKG**

A resting *electrocardiogram (EKG or ECG)* records the electrical activity of your heart while you lie quietly. These electrical patterns help doctors diagnose heart problems. Your doctor may order a daily EKG to see how your heart is healing with the medications and the treatment you have been receiving. You may also have an EKG done anytime you have angina (chest discomfort) to see if you are having any EKG pattern changes.

**Exercising EKG**

An *exercising EKG*, also known as a *stress test* or *exercise tolerance test*, is used to provide information about how your heart responds to increased activity. Your heart rate, heart rhythm, and blood pressure will be watched closely at all times. You will not be allowed to eat or drink for several hours before this test. You will start exercising slowly on a treadmill or an exercise bike, then increase the effort to higher levels while your EKG pattern is recorded. If you have chest discomfort, light-headedness, or dizziness or you become nauseated, tell the nurse or doctor doing the test.

Changes in the EKG pattern during a stress test will help the doctor determine if you have heart disease and need further testing. The type and the degree of heart disease you have limits the kind of exercise or physical work you can do safely.

**Sestamibi (Cardiolite) Isotope Treadmill Test**

This two-part test shows if there is a part of your heart that is not getting enough blood. *Sestamibi*, which is a radioactive substance also called *cardiolite*, is used. It is often called a “tracer” because it can be traced as it moves through your body. It should have no side effects after injection.

Some medications may be withheld prior to this test. You will not be allowed to eat or drink for several hours before the test. You will also be asked to avoid anything that contains caffeine for 24 hours before the test. This includes coffee, tea, chocolate, and soft drinks; even if the label says they are decaffeinated, do not ingest them.
During the first part of the test, you will have an intravenous (IV) line started; then you will be given an injection of sestamibi. An hour after you have been given this tracer, you will do the resting part of the test. You will lie on your back with your arms over your head. A large camera will then rotate around you and take many images of your heart.

After the pictures are taken, you will go to the treadmill room for the second part of the test, the exercise stress test (see “Exercising EKG”). During this stress phase, your heart rate, EKG, and blood pressure will be watched closely. If you have chest pain or pressure or you feel light-headed, dizzy, nauseated, or too tired to go on, tell the nurse or doctor doing the test. Close to your peak exercise effort, you will receive another injection of sestamibi; you will then finish the exercise portion of the test.

Once the exercise part of the test is over, you may feel tired and hungry; you will be allowed to rest and eat. You should recover quickly. An hour later you will have a second set of images taken. These are the “stress” images. The test takes about four hours to complete.

Dipyridamole/Adenosine/Lexiscan Stress Test
This test uses the drug dipyridamole, adenosine, or Lexiscan (regadenoson) to dilate your heart arteries. Your doctor has ordered this test because you may not be able to exercise hard enough to dilate the arteries and obtain the proper test results. This method will be done in place of the treadmill test.

The medication will be given to you through an IV. Your heart rate, EKG, and blood pressure will be watched closely during the test. If you have chest pain, pressure, or nausea, tell the nurse or doctor doing the test. Most people have no problems, but some become flushed or get a headache with this drug. Once the test is finished, you will be allowed to eat.

A computer will analyze all the images. The results show the doctor whether you have severe blockage in your heart arteries (atherosclerosis or coronary artery disease) and if your medications are working. The test will also show how your heart is doing after a percutaneous coronary intervention (PCI) or coronary artery bypass graft (CABG) surgery.

Echocardiogram
Resting Echo
The resting echocardiogram is a painless test in which sound waves are bounced off the heart through the rib cage. The sound waves form a picture of the heart on a computer monitor, which is then digitally recorded for your cardiologist to review. It is a good way to look at your heart muscle and the flow of blood through the valves. This test takes about 45 minutes. Gel will be applied to your chest, and a small device called a transducer will glide across your skin on the gel to get the images of your heart. You will be monitored by an EKG.

Transesophageal Echo
A transesophageal echocardiogram (TEE) uses sound waves to make a picture of the heart, but instead of being done from the outside of the chest through the rib cage, it is done from inside the body. This gives the doctor a clearer and more precise picture of your heart muscle, its valves, and other structures. The doctor can see your heart from all sides, not just from the front through your chest wall.
You will not be allowed to eat or drink for several hours before the test. For this test you swallow a tube with a tiny (about the size of a peanut) transducer on the end of it. This test is safe, but sometimes the tube can be a little uncomfortable and can make you produce a lot of saliva. If you are in the Heart Center, you may be moved into the Coronary Care Unit for the test. You will be given medication to help you relax, to make your mouth dry, and to reduce your urge to gag. If you still have trouble with gagging, a few slow deep breaths will usually help it pass.

Once the tube is in place in your esophagus (leading to your stomach), the doctor will start taking pictures. This will last for about 15 to 30 minutes. The images of your heart and its parts are shown on a monitor and digitally recorded. Your heart rate and blood pressure will be watched closely during the test. Because the medication may leave the back of your throat numb for an hour or two afterward, you will not be allowed to eat or drink right away. The test takes about 90 minutes to complete.

**Exercise (Stress) Echo**

This is an echocardiogram performed first while your heart is resting, then during and right after exercise, when your heart is working hard. You will not be allowed to eat or drink for three hours before the test. For this test you will either lie flat on a table that has bicycle pedals, or you will walk on a treadmill.

First a resting echocardiogram will be taken. Then to increase your heart rate, you will be asked to walk or pedal fast. More pictures will be taken while you are walking or pedaling hard and again right after you stop. These images will appear on a monitor and be digitally recorded.

Your heart rate and blood pressure will be watched closely during the test. If you have angina, chest discomfort, light-headedness or dizziness, or you become nauseated, tell the nurse or doctor doing the test.

The cardiologist can then compare how your heart muscle contracts and your valves function at rest and with exercise. The test takes about one hour. You will be allowed to eat when it’s done.

**Dobutamine (Stress) Echo**

This test is designed to increase your heart rate with the medication dobutamine instead of exercise. Your doctor has ordered this test because you may not be able to exercise hard enough to obtain proper test results. You will not be allowed to eat for three hours before the test, but you may drink fluids until you arrive for the test.

First a resting echocardiogram will be taken. Then you will be given a dose of dobutamine through an IV. It will increase your heart rate as if you were exercising. More echocardiogram pictures will be taken. These images will appear on a monitor and be digitally recorded. Your heart and blood pressure will be watched closely. If you have angina, chest discomfort, light-headedness, or dizziness or you become nauseated, tell the nurse or doctor doing the test.

The doctor is able to compare how your heart muscle contracts and your valves function at rest and with exercise. The pictures will also show whether you have severe blockages in your heart arteries. The test takes about 90 minutes. You will be allowed to eat when it’s done.
MULTIGATED BLOOD POOL ACQUISITION

Resting MUGA

For a multigated blood pool acquisition (MUGA) test, you will have an IV because you will receive two injections. The first is a non-radioactive substance that will bind the second injection of a radioactive tracer. Most of the time, the second injection will be given 20 minutes after the first. The medication can be traced as it moves through your heart. Right after the second injection, you will lie flat on a table while a large camera above your chest takes several pictures of your heart. A computer analyzes the images, and the results show the doctor how well your heart muscle contracts. This test takes about 45 minutes. It should have no side effects.

ELECTROPHYSIOLOGICAL STUDY

Your doctor may want you to have an electrophysiological study (EPS) to see if a heart arrhythmia, or abnormal rhythm, is causing your symptoms. During this test the doctor will try to reproduce your abnormal rhythm in a controlled setting. This study allows the doctor to map and record the electrical activity and the pathways in your heart. An EPS study is done in the cardiac catheterization (cath) lab. You will not be allowed to eat or drink for several hours before the study. Before going to the cath lab, you will receive medication to help you relax. Your right groin, and sometimes both, will be cleaned and shaved. A local anesthetic will be used to numb the area. You may feel some stinging around the site as it becomes numb.

In the cath lab, a thin hollow tube (catheter) will be gently threaded up the vein in your leg into your heart. Your heart rate and blood pressure will be watched closely. Once the catheter is in place, the doctor will use it to send a tiny electrical current to parts of your heart. If this current can cause abnormal heartbeats, the doctor will use this information to plan the most appropriate treatment for you.

EPS Radio Frequency Ablation

The doctor may want to perform an ablation based on the symptoms you have and the results of your tests. An ablation can be done in the cardiac catheterization lab or in the operating room during bypass surgery or valve replacement surgery (see “Heart Surgery”). The doctor will discuss your options with you.

An ablation is used to treat abnormal heart rhythm. A catheter is positioned over the area of the heart that causes the abnormal rhythm. This catheter uses an electric current to disconnect the pathway and cause scarring over the pathway so that the electrical activity of the heart cannot pass through, preventing the abnormal rhythm from occurring. The doctor will explain this procedure in detail and discuss the risks and the benefits with you.

After your EPS procedure, your doctor may recommend that you have a pacemaker inserted. You will receive additional specific education if your condition requires a pacemaker.

If you continue to have symptoms, this test may need to be repeated. Your medication may be changed if you still have abnormal heartbeats.

When the test is complete, the catheter will be removed from your leg and pressure will be applied over the site. You will be watched closely for bleeding. You may eat at this time. This test may take a few hours.
Myocardial Infarction (MI): Heart Attack

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**MYOCARDIAL INFARCTION (MI): HEART ATTACK**

When the blood flow through an artery to a part of the heart muscle is greatly reduced or stopped for 15 to 30 minutes or longer, muscle cells suffer permanent injury and die. This is called a heart attack or myocardial infarction (MI). There are three ways blood flow through a heart artery can be stopped, causing a heart attack:

- **Atherosclerosis**—a buildup of fatty deposits in an artery
- **Thrombus**—a blood clot lodged in an artery or in the plaque
- **Spasm**—a severe contraction of a heart artery

The symptoms of a heart attack are like those of angina but are often more intense. You may have one or more of the following symptoms:

- A tightening, pressure, squeezing, or aching feeling in the center of the chest or down the arms
- Severe indigestion, fullness, or heartburn
- Burning, aching, or cramping that starts in or spreads to the neck, jaw, throat, shoulder, back, or arms
- Numbness or tingling in the arms
- Discomfort in the neck or upper back, mostly between the shoulder blades

Unlike angina, a heart attack is more extreme and intense, it lasts longer, and it is not relieved by medication or rest. Often a heart attack has other warning symptoms:

- Nausea and/or vomiting
- Weakness
- Dizziness
- Sweating
- Cold, clammy feeling
- Shortness of breath
- Severe indigestion

It is common for a person having a heart attack to deny it. If you or someone close to you shows signs of a heart attack, get to a hospital right away. There are new treatments that can reduce damage and save lives if treatment is begun within the first few hours after the symptoms of a heart attack start. Get medical help immediately. Do not waste precious time trying to reach your personal physician; call 9-1-1. Never drive yourself.
If you think you may be having a heart attack:

- Stop whatever you are doing; sit or lie down.
- Loosen tight clothing.
- If you have nitroglycerin, take it as your doctor prescribed. Either one pill one time or three pills five minutes apart.
- If nitroglycerin does not stop the angina or you have other warning symptoms, chew one uncoated adult aspirin (unless you are allergic to it).
- Take action: call 9-1-1.

The thought that you may be having a heart attack is scary and hard to accept. Do not be afraid of a “false alarm.” You could delay getting the help you need to reduce heart muscle damage. Before you shrug off the symptoms, you should know that thousands of heart attack victims die each year before reaching the hospital. This is because many refuse to accept their symptoms. Get help—and find out what’s wrong. By acting quickly, you improve your chances to survive and fully recover.

**How the Heart Heals**

The magnitude of a heart attack is measured by the amount of damage to the heart muscle. Every heart attack, no matter how big, results in a portion of the heart muscle dying. Around the dead tissue, there is always traumatized or stunned tissue that relied on the blood supplied through the blocked heart artery.

Though this blocked artery supplied most of the blood to the heart’s tissue, nearby arteries also supplied some blood flow, which may reduce the amount of damage to the heart muscle. Instead it is just weak and not able to function at its full capacity. With proper care and the increased blood supply and healing, this stunned tissue will become healthier and work more efficiently over time.

Within the first two to three hours of a heart attack, the heart muscle begins to heal and continues to heal over the next four to eight weeks. It heals in two main ways:

- Scar tissue forms over the damaged area.
- Smaller arteries near the damaged area begin to expand and enlarge to nourish the surrounding stunned muscle. These arteries are called collateral blood vessels or collateral circulation.

**While You Are in the Hospital**

Most heart attack victims initially enter the hospital’s Coronary Care Unit (CCU) for specialized treatment. You are then transferred to the Heart Center, where you can walk around while your heart rhythm is monitored. A small telemetry transmitter is carried in a pocket in the front of your hospital gown, until your doctor decides it is no longer needed or you are ready to
go home. While in the CCU, as well as in the Heart Center, your heart rhythm will be monitored and your vital signs will be checked frequently. You will have an intravenous (IV) catheter, may be given oxygen, and will begin taking medications. Some of the medications you will receive are aimed at improving the blood flow to your heart muscle; others may lower your blood pressure so the heart doesn’t have to work so hard. There are medications that improve the pumping and the strength of a weakened heart muscle.

A blood test will be drawn two to three times during your first days in the hospital to measure the amount of cardiac enzymes (creatine kinase) and protein (troponin) in your blood. These cardiac enzymes and proteins are released into the blood when heart muscle cells are damaged. The amount of enzymes found in the blood, along with electrocardiogram (EKG) tracings and other tests, are used to diagnose a heart attack and evaluate how much damage was done to the heart muscle (see “Tests”).

For your heart to heal, you must get plenty of rest and guard against overworking your heart with extra stress and strain, which would delay healing. The more damage your heart has had, the harder it will be to do the normal amount of work it usually does. Remember that your heart never stops working, and now it has the added burden of healing.

Because you cannot feel, taste, smell, or see the damage to your heart, it is often difficult for a patient to believe that the heart can be damaged further. The fact is, if you don’t treat your heart with care now and let the scar tissue and the collateral circulation develop, you run the risk of increasing the amount of damaged heart tissue; in other words, you can extend the damage into the stunned area.

Your activity level will gradually increase as your heart tolerates it. The nursing staff will monitor your heart for any signs of stress and help you increase your activity appropriately in preparation for going home. The doctor may order a low-level stress test (treadmill test) to evaluate your heart’s response to activity and better plan your discharge activities (see “Tests”). Most patients will have taken a shower by the time they leave the hospital.

An important part of your cardiac rehabilitation starts while you are in the Heart Center. Reading this book, talking with the nursing staff, watching the cardiac video (which is to prepare you for discharge), and your sessions with the Cardiac Clinical Case Manager are your first steps to recovery and making heart-healthy lifestyle choices.

**Emotions**

After things settle down and you start processing the significance of having had a heart attack, you will probably be upset and likely experience many different emotions, ranging from anger and fear to sadness and depression: anger that this has happened to you, anxiety about whether you will be healthy again, fear that you may die, and sadness and depression because you feel your life is out of your control and your future is uncertain. These feelings are normal and are usually brought on by the process of adjusting to a change in your health.

For the most part, these feelings are transient, and by the time you have fully recovered they will have subsided. Take one day at a time. Being open and sharing your feelings with your family and the nursing staff will help you cope. If you are still bothered with these feelings for more than four weeks after being discharged from the hospital, tell your doctor.
Myocardial Infarction (Heart Attack)

Your family may experience similar emotions, as this is a difficult time for them too. They love you and may be worried that they could lose you. At times they may be overprotective and afraid to leave you alone, or they may be angry that this has happened to the family. Simple decisions may seem overwhelming to them. It will also take time for them to adjust. If you have had surgery, talking to a Mended Hearts volunteer (see “Mended Hearts Support Group” in the “Community Resources” section) or a Cardiac Clinical Case Manager may also help hasten their adjustment. It is also an opportunity for your family to ask questions and vent feelings. It is important that you and your family share your feelings and communicate your concerns to help support one another through this period of adjustment.

Recovering at Home

Occasionally, a patient must change occupations or alter his or her lifestyle after a heart attack, but most people can and do return to work. Most will be able to resume the activities that define “quality of life” for them. Keep in mind that the initial activity restrictions you receive are usually temporary and vary in duration, depending on the magnitude of your heart attack and the associated complications.

Recovery is different for everyone. Some patients are afraid that anything they do will bring on angina or another heart attack and thus do very little. Gradually increasing your activity level along with resting are important steps toward recovery. Try not to think of yourself as “sick” but rather as recovering or healing.

The following guidelines outline a way for you to safely increase your activity at home, until your follow-up appointment with your doctor (usually in two to three weeks). At that time your doctor will evaluate your progress and remove restrictions as appropriate.

Acceptable Activities

- **Routine** Try to keep your daily activities as normal as possible. Get up and get dressed, eat at the normal times, and go to bed as usual.

- **Bathing** Shower, shave, and wash your hair with warm (not hot) water. Avoid hot tubs, saunas, whirlpool baths, steam rooms, and sunbathing for now, as these activities could stress the healing heart muscle.

- **Recreation** Resume those activities that help you ease back into an active lifestyle:
  - Reading, watching TV, playing cards, arts and crafts
  - Riding in the car for 20 to 30 minutes (for longer trips, consult your doctor)
  - Golf putting practice at home
  - Cooking simple meals for two and washing the dishes
  - Light housework, such as putting clothes in the washing machine (someone else should remove heavy, bulky items)
  - Playing piano, working at a desk, using a computer
  - Enjoying yourself—doing activities that give you pleasure

- **Rest** Try to get eight hours of sleep at night and a 20- to 30-minute rest period midmorning and midafternoon.

Unacceptable Activities

- **Driving** Ask your doctor about any restrictions on driving.

- **Lifting** Do not lift, push, or pull more than 10 pounds.
• **Isometric activity**  Do not attempt such tasks as unscrewing a tight jar lid, opening stuck windows, or doing push-ups or sit-ups. Do not strain to have a bowel movement (the doctor can prescribe a stool softener or laxative if needed). This puts added pressure in your chest cavity and stresses your heart.

• **Exhaustion**  Do not push yourself during this healing time. Pace yourself and alternate activities with rest. Allow plenty of time to accomplish your activities. If you get tired, no matter what you are doing, stop and rest. Remember: if your body is tired, your heart is tired. Avoid climbing stairs. For special situations you may have at home, talk to your doctor.

• **Strenuous arm activities**  Using your arms creates more work for your heart than using your legs. So as you recover, avoid heavy work that uses your arms and shoulders or that requires you to lift your arms above your shoulders, such as the following:
  - Vacuuming, mopping, and sweeping
  - Yard work
  - Washing windows, hanging drapes, and painting walls
  - Chopping or sawing wood
  - Golfing, swimming, and bowling
  - Exercise equipment and lifting weights

Lying down with your arms over your head is okay; it is not using your arms for work.

• **Smoking**  If you were a smoker before your heart attack, take advantage of the tobacco-free days you have enjoyed while in the hospital and remain a nonsmoker. Discourage family and friends from smoking in your presence.

• **Weather**  Avoid going outdoors in extremely hot or cold weather.

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**Sexual Activity**

Following a heart attack, patients often feel apprehensive about resuming sexual activity, wondering whether it will strain the heart, cause pain, or change their performance level. Intercourse requires energy comparable to walking a half-mile or climbing several flights of stairs. If these activities leave you winded and feeling tired, you should allow more time to recover. Remember that there are both physical and emotional aspects to a sexual relationship. Talk openly with your partner about both your wants and your worries, and do not rush to resume intercourse.

Once you feel ready for sexual relations, be comfortable and well rested and keep your expectations realistic. Avoid sex for one hour before or after a shower or eating a meal. Avoid any weight-bearing movements similar to a push-up that put too much pressure on the arms; opt instead for positions that minimize weight bearing on the arms and that limit pressure to the chest. Remember that it will take time to return to your previous level of sexual activity.

Note that stress or anxiety (in either yourself or your partner) may interfere with sexual performance, as may some medications. If you have concerns, discuss them with your doctor.

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**Things to Remember**

• **Meals**  Follow the heart-healthy dietary guidelines (see “Heart-healthy Diet”). Do not overeat; space out your food throughout the day in three or four small meals. Eat slowly.

• **Nitroglycerin**  Always carry your nitroglycerin with you. If you start having symptoms of angina or the discomfort you experienced before or during your heart attack, take your nitroglycerin (see “Medications”).
Myocardial Infarction (Heart Attack)

• At home  Use common sense. Listen to your body, let healing take place, and don’t overdo!

• Returning to work  Most patients do not return to work until they have been back to see their doctor. At the time of your follow-up appointment, your doctor will be better able to evaluate what is appropriate for you.

Exercise Guidelines

• The day after you leave the hospital, begin by walking around the house and yard the same number of minutes you were walking in the hospital. Slowly increase your time until you can comfortably walk at a steady pace for 10 minutes. Then use the following guidelines for your walking program.

• Patients who had an elective angioplasty or stent can probably change these guidelines. Instead of increasing the length of time you walk each week, you can increase that time each day. Check with your doctor to be sure. In either case, older patients or those who had a large heart attack should progress more slowly, using the weeks as their guideline.

• Take your pulse before and after your exercise session. If your pulse increases more than 20 beats above your resting pulse, or it stays up for 10 minutes after you stop, you are overexercising and should slow down.

• Your doctor may refer you to one of Asante’s Cardiac Rehab programs. In the program your heart will be monitored while you increase your exercise effort. You will also attend classes to help you reduce your risk of heart disease and heart attack.

• It is important to continue with a regular exercise program even after the recovery period is ended.

Exercise Do’s

• Warm up and cool down. These periods are essential. Begin and end each walk with slow, gentle stretching exercises. This allows your heart to slowly adapt to increasing and decreasing work and helps your muscles and joints stretch and relax properly.

• Wear comfortable shoes and walk on level ground, avoiding hills or rough terrain. Try to change the locations and the routes you walk. This will add more variety and interest to your walking program.

• Avoid bursts of speed. Maintain a rhythmic, steady pace.

• Consult your doctor before using any exercise equipment such as a stationary bicycle.

• Always report to your doctor any unusual symptoms you experience before, during, or after exercise. These may include marked shortness of breath, excessive fatigue, dizziness, unusual palpitations (rapid, pounding heart), or an increased heart rate.

Exercise Don’ts

• Do not exercise for at least one hour after eating, if you are tired from another activity, or during the acute stages of a cold or other illness.

• Do not exercise outdoors in extreme temperatures. If weather is hot, cold, or wet, exercise inside—an indoor shopping mall is a good choice.
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Heart and Vascular Care

Cardiac Catheterization and Percutaneous Coronary Intervention

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The Heart and Vascular Center at
ROGUE VALLEY MEDICAL CENTER
www.rvmc.org

Rev. 10.09
You may have had one or more heart tests done before for your symptoms of angina. (See “Angina” in the “Coronary Artery Disease” section.) At this point your doctor wants you to have a cardiac catheterization (heart cath) test. Other terms used to describe a heart cath include coronary arteriogram, coronary angiogram, and dye study of the heart.

A heart cath is the most complete heart test you can have. It gives the doctor a “road map” of the blood flow through your heart and its arteries, which helps to accurately detect and treat heart disease. Heart caths will show partial or complete blockage in a heart artery (coronary artery disease), how the heart valves work, and any problems in the chambers of the heart or the main blood vessels (aorta or pulmonary artery).

**How a Heart Cath Is Done**

A heart cath is an X-ray test done by a cardiologist in the cardiac catheterization laboratory (cath lab). It involves threading a long, slim, hollow tube (catheter) into an artery or vein in your upper thigh (groin) or arm. It is then gently moved through the vessel up to the heart. Once the catheter is in the correct place in the heart, it can measure the blood flow pressures within the chambers and the blood vessels. When an X-ray dye is injected through the catheter, an outline of the heart, its arteries, and any blockage in an artery can be seen.

Depending on what the doctor needs to know, you may have one of three types of cardiac caths: a left cardiac cath, a right and left cardiac cath, or, less often, a right cardiac cath. Most cardiac caths are painless and are low risk. Frequently, the test is completed within an hour. The staff members assisting the cardiologist have special training and are skilled in caring for you.

**Before the Cath**

You and your family may be shown a video, which explains the test in detail. The doctor will go over the risks and the benefits with you. Take this time to ask any questions you may have. You will also be asked to sign a consent form.

- Do not eat or drink for several hours before the test.
- You will be awake for this test. Before you are taken to the cath lab, you may be given a sedative to help you relax.
- Your groin or arm will be cleaned and the hair will be removed with a surgical clipper.
- You will be taken to the cath lab in your bed. Your family may go with you to the imaging department, where the cath lab is located, and may stay in the waiting room nearby.

**During the Cath**

- In the cath lab, you will be placed on a table under an X-ray camera. The doctor and the staff wear surgical masks and gowns.
- During the test the doctor will explain each step as he or she does it. All X-ray images of your heart are digitally recorded so they can be reviewed again later. You may choose to watch the cath on a video monitor.
- Your heartbeat and blood pressure will be watched closely.
- At times the doctor may ask you to take deep breaths.
- The doctor will start by numbing your groin or your arm at the crease of the elbow. You will feel a minor sting.
- A catheter is then threaded through the numbed area into the artery or vein, then gently passed up to the heart.
For a left cardiac cath, the doctor will place the catheter into the left ventricle of the heart and inject X-ray dye. As the heart pumps the dye around, it will outline the left heart muscle and the aorta. The doctor can see how well the heart muscle is contracting and how the valves between the left chambers are working. When the dye is put into the left ventricle, you may feel a warm but not painful sensation that sweeps from your chin to your groin. It may feel like you have to urinate but you won’t. This usually lasts for 15 seconds or less. Patients may also feel a few extra heartbeats. These pass quickly and for the most part do not recur.

Next the catheter will be placed at each of the cardiac artery openings. A small amount of dye is injected into the catheter, and pictures are taken to record how it flows down each artery. You’ll be asked to take slow, deep breaths when the dye is injected. This may be done a few times so that the doctor can study any blockage that may be present.

If a right cardiac cath is also done, a catheter will be placed in the right ventricle. A series of pressures will be measured within the right heart chambers. These measurements tell the doctor how strong the right side of the heart muscle is and how well the valves between the chambers are working.

**Immediately After the Cath**

- You will be taken to recovery, where a specialized nursing staff will monitor your blood pressure, pulse, and the cath puncture site.

- In recovery the nurse will remove the catheter and either apply direct pressure to the puncture site (or use a clamp) to prevent bleeding; the clamp may be left in place for approximately 30 minutes, then a thick pressure dressing will be placed over the site. Sometimes a closure device is used to close the groin artery; if the doctor uses one, it will be explained to you, and you will be taught how to care for the puncture site before you go home.

- If you are an outpatient, one of your family members may stay with you during recovery. Inpatients may be accompanied by one family member, who may stay in the cath lab waiting room. After the procedure, the doctor will talk with your family member, who may then return to your room to wait for you. Once your recovery is complete, you will return to your room or be discharged home.

- The doctor usually discusses the heart cath with you and your family right away. Later, after studying the videos more closely, the doctor will explain the results and your treatment in more detail.

- After you return to your room, you will be allowed to eat.

- You must remain fairly flat in bed for three to six hours, keeping your leg straight. This is to ensure that a seal forms over the puncture site to prevent bleeding.

- The nursing staff will ask you to drink plenty of fluids to help your kidneys flush the dye out of your body.

- Your pulse, blood pressure, puncture site, and the pulse in your foot will be watched closely.

- It is normal to have some minor discomfort at the puncture site. You may ask the nurse for pain medication. Do not get out of bed the first time without a nurse present. Be sure to tell the nurse if you experience any of these symptoms:
  
  · You have any angina—even if it’s mild.
  · You feel wet or warm, or you have a sharp pain at the puncture site.
  · You have abdominal or back pain.

- Most patients go home the same day or the next morning after having a heart cath.
GENERAL GUIDELINES FOR GOING HOME

You may experience any of the following symptoms after your cardiac catheterization. These are common, minor side effects of the test and should not be a cause for alarm or concern on your part.

- You may have a small pea-sized lump at the puncture site. This will slowly go away in a few weeks.
- The puncture site may be a little sore for a day or two. Heat or an over-the-counter acetaminophen pain reliever will help.
- A bruise may appear around the puncture site within a week. This is blood, which collects under the skin, and will be healed by the body. Though unsightly, it is not a serious problem and should go away within a few weeks.
- You may shower the day after the test.
- You may cover the puncture site with an adhesive bandage for the first day or two if you like. A dressing is not needed.
- Take your nitroglycerin (NTG) as directed.

PRECAUTIONS FOR THE FIRST 48 HOURS

- Do not exert yourself, such as straining to lift heavy objects.
- Avoid sitting for a long time without putting your feet up.
- If you cough or sneeze, cover the puncture site and hold it firmly.

VERY IMPORTANT: CONTACT YOUR DOCTOR

The following side effects can be more serious. You should contact your doctor immediately if you experience any of them:

- The small, pea-sized lump at the puncture site gets larger or becomes more swollen and sore.
- You have severe pain at the puncture site or in the groin.
- You have weakness, numbness, coolness, or significant pain or swelling in the leg below the puncture site.
- If there is bleeding at the puncture site, first apply continuous, firm pressure 2 inches above the puncture, then get to the nearest hospital. If you are alone, call 9-1-1.
- Carry your nitroglycerin at all times. If you have angina, take your NTG as directed and call your doctor (see “Medications”). If the angina is not completely relieved within 15 minutes after taking three doses of NTG and resting, call 9-1-1.
- If you become short of breath, very sweaty, cold and clammy, nauseated (and/or vomit), very weak, or dizzy, get medical help immediately. Do not wait to see if three doses of NTG relieve your angina before calling. These additional symptoms may be warning signs that you are having a heart attack, not just angina. You should see a doctor.
- Call 9-1-1. Never drive yourself. Chew an uncoated adult aspirin (unless you are allergic to it) while waiting for the paramedics to arrive.
Percutaneous Coronary Intervention

Introduction

You have had a cardiac catheterization, and based on its results your doctor now suggests that you have an “interventional procedure” to open the blockage(s) in your artery(ies). The doctor may recommend an angioplasty with or without a stent—or percutaneous coronary intervention (PCI). PCI is used to open a blocked artery. It is an alternative to bypass surgery and is performed by a cardiologist in the cardiac catheterization laboratory (cath lab). You may have a single PCI or, depending on the type of blockage, two or three. The doctor will discuss with you which PCI is best suited for your circumstances.

Angioplasty Procedure

Percutaneous transluminal coronary angioplasty (PTCA) uses a catheter with a small balloon on its end. A catheter is a thin, hollow, flexible tube. The doctor threads the ballooned end of the catheter down the artery to the middle of the blockage. Once the balloon is in position, the doctor inflates and deflates it several times. This stretches the artery and flattens the plaque against the artery wall, which opens the blockage. It can take up to two hours to complete this type of procedure.

Stent Procedure

The majority of the PCIs performed at Rogue Valley Medical Center involve the placement of stents. The catheter used has an angioplasty balloon on its end, with a slotted metal tube compressed around it. The doctor threads this catheter down the artery to the middle of the blockage. Once the balloon and the stent are in position, the doctor inflates the balloon, which also expands the metal stent. They both act to press and flatten the plaque against the wall of the artery to keep it open. After the balloon is deflated and removed, the metal stent portion is left in the artery as a permanent implant. If your doctor recommends a stent for you, it is because either one or all of the following are true in your case:

- The plaque will be difficult to flatten against the artery wall.
- The plaque is likely to close back or recur at the site, blocking the artery again.
- There is a risk that the artery wall will relax and close without having the stent in place to keep the artery open.

Tissue inside the artery will start to grow through the lining of the stent in two to three days, but it can take two to three weeks for the site to completely heal. While the tissue around the stent is healing, you will be asked to take both aspirin and an antiplatelet drug (see “Medications”). Both must be taken every day to prevent the formation of clots. When a clot forms in a stented area, it can block off the blood flow in that artery. This would lead to sudden and intense angina and possibly a heart attack.

Some stents are coated with medicine. They are called drug-eluding stents. The medicine helps prevent scarring and an overgrowth of tissue, which could cause the stent to
narrow, closing off the blood supply. This is called an *in-stent restenosis*. You will usually stay on the antiplatelet drug a long time to help prevent a restenosis.

When you are discharged, you will receive a card for your wallet about your stent. Show this card to cardiac personnel caring for you. It’s a good idea to keep a copy of this card in your records at home. If you lose your wallet, you will still have a record of the information.

**Before the PCI**

You and your family will be shown a video, which explains the procedure in detail. The doctor will go over the risks and the benefits with you. Take this time to ask any questions you may have. You will also be asked to sign a consent form.

- Do not eat or drink for several hours before the procedure.
- You will be awake during the PCI. If you are nervous, you may be given a sedative to help you relax.

- Your groin or arm will be cleaned, and the hair will be removed with a surgical clipper.
- You will be taken to the cath lab by stretcher. Your family may go with you; then they will go to a waiting room nearby.

**During the PCI**

Your experience will be similar whichever PCI you have. A different type of catheter is used for each PCI. Catheters are thin, hollow, flexible tubes specifically made for each type of procedure. The doctor may use several catheters for your procedure. The staff members assisting the doctor have special training and are skilled in caring for you.

- In the cath lab, the doctor and the staff wear surgical gowns. You will be placed on a table under an X-ray camera.
- During the procedure, the doctor will explain each step as he does it. All X-ray images of your heart are digitally recorded and saved so they can be studied later. You may watch them on a video monitor to your left.
- Your heartbeat and blood pressure will be watched closely.
- The doctor will start by numbing an area of your groin or (rarely) your arm at the crease of the elbow. You will feel a stinging as this is done.
- Next, a small hole is made in the numbed area, and the doctor gently threads an introducer sheath into the artery. A series of catheters is placed into the introducer sheath.
- Dye is injected through the catheter to help the doctor see the outline of the blockage and to get the catheter to the correct site. A warm, flushed sensation is common.
- At times the doctor may ask you to take deep breaths or cough.
• You will be given IV medication to prevent clots from forming inside the artery during the procedure. The medicine may continue for several hours after the PCI.

• During the procedure you may have some brief angina. This does not mean something is wrong. The procedure may temporarily and very briefly block the blood flow in the artery. The angina is your heart muscle telling you it needs more blood and oxygen. Tell the doctor if you have angina.

• After the procedure is finished, the catheters are removed, but a sheath may be left in the groin. The bedside nurse will discuss with you how long this sheath will remain in place.

Immediately After the PCI

• You will be taken to either the Coronary Care Unit or the Cardiovascular Recovery Unit. After your recovery, you and your belongings may be moved to the Heart Center or the Outpatient Observation Unit.

• You will be allowed to drink at this time. The bedside nurse will discuss with you when you can eat.

• The doctor will discuss the preliminary results of your PCI with you and your family right away. Sometimes the doctor will give you a picture of your artery before and after the procedure.

• Initially, the introducer sheath will be left in your groin because of the medication you received in the cath lab to prevent blood clots. You must remain fairly flat in bed, keeping your leg straight.

• The nursing staff will ask you to drink plenty of fluids to help your kidneys flush the dye out of your body.

• Your pulse, blood pressure, puncture site, and the pulse in your foot will be watched closely.

• After the sheath is removed, a clamp or belt will be used to apply pressure to the puncture site. It will be left in place for about one hour, then a thick pressure dressing will be placed over the site to ensure that you do not bleed. The pressure dressing will remain on for six hours. You must keep your leg straight for those six hours so that a seal forms over the site.

• Expect to stay in the hospital for 12 to 24 hours after the PCI.

• It is normal to have some minor soreness at the puncture site. Ask the nurse for pain medication if you need it. Do not get out of bed the first time without a nurse present. Be sure to tell the nurse if you experience any of these symptoms:
  · You have any angina—even if it’s mild.
  · You feel wet or warm at the puncture site.
  · You have sharp or burning pain at the puncture site.

General Guidelines for Going Home

Most patients go home to resume their normal activities within a day or two after a PCI. If the doctor used a groin-closure device to seal your puncture site, the nurse will give you written instructions to follow for the specific device the doctor used.

Your doctor, nurse, or Cardiac Clinical Case Manager will review with you how and when to take your drugs before you are discharged from the hospital. You will be asked to take an antiplatelet medication for up to 12 months (see “Medications”). It is very important that you take these drugs as directed, get blood tests on schedule,
and keep your doctors’ appointments. The PCI procedure was not a cure for coronary artery disease (CAD). You still have the disease; PCI is a way to manage a blockage that could cause a heart attack.

Read this book and other books to help you understand the causes of CAD and how to control it. Adopting a healthy lifestyle is a major step in its control.

The following guidelines should also be followed to ensure your safe recovery.

**Precautions for the First 48 Hours**

- For the first few days, avoid lifting heavy objects that cause you to strain. Avoid sitting for long periods of time. After a few days, your puncture site will heal, and these activities will not be a problem.

- Slowly resume your daily activities. The doctor will tell you when you can go back to work.

- Start walking daily for exercise. You may be referred to Cardiac Rehab, where your exercise level will be increased while your heart is monitored. If you do not go to rehab, at the follow-up doctor visit you may have a stress test to see what level of exercise you can safely do. If neither is done, you should ask the doctor what exercise target heart rate is safe for you.

- For the first few days, if you cough, sneeze, or strain to have a bowel movement, place your fingers 2 inches above the puncture site and hold it firmly.

- You may shower only (no baths) for the first few days after the procedure.

- There may be a dressing on the puncture site. Ask the nurse about removal instructions.

- You may cover the puncture site with an adhesive bandage for the first day or two if you like. A dressing is not necessary.

- You may have any of the following symptoms. These are common, minor side effects and should not be cause for alarm or concern on your part:
  - A small, pea-sized lump at the puncture site may develop. This will slowly go away in a few weeks.
  - The puncture site may be a little sore for a few days. Heat or an over-the-counter acetaminophen pain reliever will help.

- If you ever start to have angina, even if it is mild and/or relieved with nitroglycerin, tell your doctor.

- Continue to take your NTG as directed.

**Very Important: Contact Your Doctor**

The following side effects can be more serious. You should contact your doctor immediately if you experience any of them:

- The small, pea-sized lump at the puncture site gets larger or becomes more swollen and sore.

- Any bruise at the puncture site doubles in size.

- You have severe pain at the puncture site or in the groin.

- You have weakness, numbness, coolness, or significant pain or swelling in the leg anywhere at or below the puncture site.
• If there is bleeding at the site, first apply continuous, firm pressure 2 inches above the puncture, then call your doctor or go to the nearest hospital. If you are alone, call 9-1-1.

• Carry your NTG at all times. If you have angina, take your NTG as directed (see “Medications”). Three doses (pills or spray) of NTG taken three to five minutes apart should completely relieve your angina within 15 minutes. If there is no relief or if you also become dizzy, weak, short of breath, very sweaty, cold or clammy, or you become nauseated and/or vomit, you should get medical help immediately. These additional symptoms are usually warning signs that you may be having a heart attack, not just angina. You need to be seen by a doctor.

  Call 9-1-1. Never drive yourself. Chew an uncoated adult aspirin (unless you are allergic to it) while waiting for the paramedics to arrive.
Introduction
Several types of heart surgery are performed at Rogue Valley Medical Center (RVMC):
- Coronary artery bypass graft surgery
- Minimally invasive direct coronary artery bypass surgery
- Valve repair/replacement surgery
- Tissue repair of the heart or aorta

Heart Surgery DVD
The RVMC heart surgery DVD is included to help further explain what to expect when you have heart surgery.

Cardiac Surgery Team
At RVMC a team of professionals cares for patients who have heart surgery. The primary staff members on the cardiac surgery team include:
- Heart surgeon(s)
- Anesthesiologist
- Physician assistants
- Registered nurses
- Certified nurse assistants
- Surgical technicians
- Respiratory therapists
- Cardiac Clinical Case Managers
- Pre-Anesthesia Clinic and Short Stay Unit staff
- Electrocardiogram (EKG) technician/laboratory/X-ray personnel
- RVMC Auxiliary volunteer

Other staff members who may be involved in your care include:
- Social worker, discharge planner, and chaplain
- Mended Hearts volunteers
- Physical therapists
- Occupational therapists
- Intensivists

Coronary Artery Bypass Graft Surgery
During coronary artery bypass graft (CABG) surgery, the flow of blood is rerouted around the blockage in the artery by using another artery or vein from your body. In some cases, the physician may use an artery and a vein from multiple places in your body for the bypass grafts.

Saphenous Vein Bypass
A large vein, called the saphenous vein, is removed from the leg. One end of the vein is attached to the aorta, and the other end is attached to the coronary artery below the blockage to bypass it. Sometimes one long segment of vein is used to bypass more than one blockage in a certain area. This is called a sequential graft. One end of the vein is attached to the aorta and then attached in turn below each blockage. In most cases, the vein is removed through two small incisions, one near the groin and one near the knee. Some people may have a long incision on the thigh instead. The leg that the vein was removed from may feel sore as the patient becomes mobile after surgery.
Internal Mammary Artery Bypass

The internal mammary arteries are behind the breastbone. They are used to bypass blocked coronary arteries. Because of their size and the fact that they are nearby, they are suitable for grafting the left anterior descending artery or right coronary artery.

Radial Artery Bypass

The radial artery may be taken from the forearm for bypassing blocked coronary arteries. If this artery is removed, you will have an incision on your forearm. For a short time after surgery, there may be staples or sutures holding the incision closed.

Major Arteries of the Heart
**Valve Surgery**

Your doctor may want you to have surgery to repair or replace one of your heart valves because it is diseased and not working the way it should. A valve that has become narrowed and small, called *stenosis*, prevents the flow of blood between the chambers of the heart. If a valve does not close the way it should and blood leaks backward, this backward flow is called *regurgitation*.

If your own valve cannot be repaired, your doctor will replace it either with a biological valve (a valve made of tissue) or a mechanical valve. The type of valve used depends on the extent of your valve disease, your body structure, your age, your lifestyle, and any other medical problems you may have.

Biological valves may be made from pig or cow tissue; and mechanical valves are usually made of metal, plastic, or Dacron. If you have a mechanical valve, it should last longer than a tissue valve, but you will need to take a blood thinner (*anticoagulant*) for the rest of your life. With a tissue valve, you may need to take a blood thinner for only two or three months. Before your surgery the doctor will discuss with you which type of valve is right for you.

**Atrial or Ventricular Septal Defect Surgery**

Atrial and ventricular septal defects are two of the most common forms of congenital heart disease in adults. These defects occur before birth, when the heart is forming and the septal wall fails to close. It is not known why this happens.

An *atrial septal defect* occurs when the septal wall that divides the left and right atriums fails to close. This allows blood to shunt (flow) between the two sides.

A *ventricular septal defect* occurs when the wall that divides the left and right ventricles fails to close. This allows blood to shunt between the two sides.

The most common symptoms for either defect are respiratory infections, shortness of breath, fatigue, and irregular heartbeat. *Clubbing* (rounded and swollen fingertips) and *cyanosis* (a blue coloring of the skin) may also be noted.

The surgeon can correct such a defect by closing it with stitches or a patch graft. The patch can be made from a manmade material or from the *pericardium*—the sac that surrounds the heart.
Being Prepared

You have met with your surgeon and now know that you are going to have heart surgery. Your physician has already or will shortly explain the procedure and answer your questions.

Managing Your Pain Following Surgery

Having heart surgery can be scary, and you may have anxiety about the pain. There will be some post-op pain, but taking pain medicine will help make the process easier. Our goal is to provide you with good pain control. We take a team approach, and you are the key team member.

Your nurses and certified nurse assistants (CNAs) will ask you often about your level of pain. Because you are the key team member in managing your pain, tell the doctor and nurses about the amount and the type of pain you are having. Use the pain scale below as a tool to help communicate your level of pain. Remember that the pain level you have lying in bed may differ from what you feel when you are up and about. Take into consideration what your activity level is going to be, not just what it is at that moment. This will allow the nurses to treat your pain and give you the best pain relief possible with the least side effects.

Each person perceives and tolerates pain differently. There is no right or wrong patient response to pain. Though all patients who have heart surgery experience pain, the type and the amount vary among individuals. For instance, when the doctor uses the internal mammary artery (see “Internal Mammary Artery Bypass”), a patient may have more shoulder pain than a patient who did not have this type of bypass. You are unique and so is your experience.

Working closely with your nurses to control your pain is important. Having excessive pain may delay your recovery, as it prevents you from moving around and walking, using your incentive spirometer, and taking an active role in your recovery. Pain medication may help prevent constipation, pneumonia, and other lung problems because you are more active. Good pain control will hasten your recovery and gets you home sooner. Taking your medicine as your surgeon has prescribed will not be addictive. Please discuss any concerns regarding pain medication with the doctor or nurse. If you become nauseated, tell the nurse, who will work with you to relieve your nausea.

Numerical Pain Rating Scale

This type of verbally or visually administered 0-to-10 scale features both words and numbers along a vertical or horizontal line. You will be asked to rate your pain from 0 to 10, with 0 equaling “no pain” and 10 equaling the “worst possible pain.”

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<th>0</th>
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<tr>
<td>No Pain</td>
<td>Mild</td>
<td>Moderate</td>
<td>Severe</td>
<td>Very Severe</td>
<td>Worst Possible Pain</td>
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If there are certain pain medications that you cannot take or you are worried about side effects, please discuss them with the surgeon before your surgery.

Other issues to discuss with your surgeon include:

- What medicine you are or may be allergic to
- What pain medicine the surgeon will order for you
- What side effects to expect
- What pain medicine has worked for you in the past
- What pain medicine you are taking at present
- What pain control means to you
- How you cope with pain

**Presurgery Information**

Most patients will be seen at RVMC in the Pre-Anesthesia Clinic a day or two before surgery as a same-day admit (SDA) patient. All their presurgery admission work will be done, and they can then go home. Others will have been admitted to the hospital as an inpatient a day or more before surgery. In either case, the same presurgery workup will be conducted.

If you smoke, you should stop now. Smokers find it harder to deep-breathe and cough after surgery. Smoking inflames the lining of the throat and the lungs, causing more mucus, and could slow your recovery. Smoking can cause atherosclerosis, and if you still smoke after surgery, there is a greater chance your new bypass grafts may fail to stay open.

**Before Surgery**

Blood and urine samples will be taken and tested for baseline values. An X-ray of your chest and an EKG will be taken. The anesthesiologist and the respiratory therapist will talk with you. After you view a video that explains your surgery, you will meet with the Cardiac Clinical Case Manager, who will review what to expect and answer any questions you have. A Mended Hearts volunteer may also meet with you; he or she has been through this and can be a good resource. Feel free to ask questions.

If you are in the hospital, your body hair will be clipped by a CNA or nurse the evening before or the morning of surgery. If you are an SDA surgery patient, your body hair will be clipped shortly after you are admitted to the hospital. You will be asked to shower the evening before surgery, using an antibacterial soap, which may be a liquid or a package of wipes. You will receive instructions on the correct way to apply the soap. You will also take an enema the evening before surgery, which will increase your comfort the first few days afterward. SDA patients will be given the enema kit and the soap to use at home.

Do not or eat or drink anything after midnight the night before surgery. If your surgery is in the afternoon, the doctor may allow you to drink clear liquids early that morning. If you take regular medication at home, the doctor may want you to take your medication the morning of surgery with a small sip of water. Your doctor may change the dose of your medication before surgery. Review all medications with your doctor prior to your surgery to find out how to take your medication.
Do not bring any money or items of value to the hospital. Send valuables and clothing home with a friend or family member the night before or day of surgery. Your rings can be taped to your fingers. Just before surgery, you should give dentures, hearing aids, eyeglasses, and/or contact lenses to a friend or family member. After surgery your friend or family member can give them to your nurse in the Coronary Care Unit (CCU).

Real flowers, plants, and balloons are not allowed in CCU. Latex balloons are not allowed in the hospital.

**Day of Surgery**

The morning of surgery, you will take a second shower, without shampoo, at home or in the hospital. You will again use the antibacterial soap or wipes. Two or three hours before surgery, SDA patients will be admitted to the Short Stay Unit. Inpatients will be taken by gurney to the surgery holding area. Your family can escort you to these areas and then wait for you in the Critical Care waiting area on the third floor. Family members should notify the Auxiliary volunteer at the waiting-room desk that they are waiting for a patient having cardiac surgery. The Auxiliary volunteer or CCU staff will keep your family informed of your progress in surgery. A Cardiac Clinical Case Manager or CCU RN can be reached if your family has questions. The doctor will talk to your family in the Critical Care waiting area soon after surgery.

In the surgery holding area, you will be given medication to help you relax; this will make you drowsy. The anesthesiologist will prepare you for surgery by inserting an arterial line in your wrist. This catheter is used to monitor your blood pressure at all times during surgery and in the CCU post-operatively. You will also have a catheter inserted in a vein near your neck. This catheter helps the doctors and the nurses monitor your condition during and after surgery. While you are in the CCU, it typically stays in for one to two days, but may stay in longer if needed. After your monitoring lines are placed, you will be taken to the operating room (OR). You will be asked to state your name, date of birth, and type of surgery. You will be transferred off the gurney to a table in the middle of the room. The room may feel very cold. The anesthesiologist and the OR nurses will prepare you for surgery. Just prior to surgery, you will receive an antibiotic to prevent infection.

As your surgery nears completion, one to three tubes will be inserted into your chest to allow blood to drain. These tubes stay in for an average of two days post-operatively. Bleeding can occur, so chest tube drainage is watched closely for any signs of excess blood. Sometimes a patient is returned to surgery to control bleeding. This could take about an hour and should not slow recovery.

**Post-op Recovery in the CCU**

After surgery is completed, you will be taken directly to the Coronary Care Unit, where specially trained nurses will care for you. Close family members will be allowed to see you an hour or two after surgery. In general, the visiting times are flexible and aimed at meeting your family’s needs. Once in awhile the length of the visit or number of visitors may be limited.

Your family may call the CCU at (541) 789-4228 (rooms 1–8) or (541) 789-4229 (rooms 9–16) day or night to find out how you are doing. Only one family member acting as the family spokesperson can call the CCU. The spokesperson can then let other family members and friends know how you are doing. The family spokesperson should
provide his or her phone number to the nurses in the CCU. If someone needs to contact a family member in the Critical Care waiting area, the number is (541) 789-4957; if calling from outside the region, the number is (800) 944-7073. The CCU is closed from 6:30 to 8 both morning and night for change of shift. The unit is also closed Tuesday through Friday from 9:30 to 10:30 a.m. If there are special circumstances, please discuss them with your bedside nurse.

**Immediately After Surgery**

Most patients lose track of time or do not recall the first few days after surgery. You may recall only the breathing tube, the beeps and the buzzes of the monitors, and soreness in your chest.

Most of the time the breathing tube is taken out the day of surgery. A sore throat may persist for a couple of days. You will likely feel pain after your surgery. When you are awake, the nurses will ask you to rate your pain on a scale of 0 to 10 and give you pain medication to make you more comfortable. It is important to take pain medication if you need it so that you can cough, deep-breathe, and begin to move soon after surgery. The nurses and the respiratory therapists will help you with coughing, deep breathing, and using the incentive spirometer (the small plastic lung exerciser that you learned to use before surgery).

When your chest tubes are still in place and you are up walking, the nurses may attach a small portable suction machine to the chest tube collection system. You will have support from the nurses and the CNAs to manage walking. A nurse will remind you to move your feet and legs while you are awake. This will keep the blood flowing to the areas farthest from your heart. You will also wear compression cuffs on your legs or feet that help keep the blood moving. A few hours after the breathing tube is removed, you will sit on the edge of the bed, then, later, a chair and even walk a short distance with a nurse’s help. You may have ice chips after the breathing tube is removed. You will then be given clear liquids to drink and then regular food.

**Transitioning to the Heart Center**

Once you no longer require CCU nursing care, you will be moved to the Heart Center. Some patients are ready to transition to the Heart Center the day after surgery; others will move two or more days later. Your family will be able to visit you for longer periods of time, and a family member may spend the night.

The Heart Center staff will continue to monitor you closely while they assist you in preparing to go home. When you are transferred, you will have a capped-off intravenous line (IV), oxygen will be given by nasal prongs, and your chest tubes may still be in place. A small telemetry unit attached to EKG patches on your chest will send a picture of your heart pattern back to a monitor at the nurses’ station. Most patients also have temporary pacemaker wires remaining from surgery; these are taped to your chest in small glass tubes and will be taken out a few days after surgery.
With a nurse’s help, you can walk in your room and sit in a chair. The next day most patients will walk a short distance in the hallway. At first you will walk with a nurse or CNA until you are steady on your feet. For the rest of your hospital stay, you should walk more and more each day, with the goal of walking the length of the hallway three to four times a day until you are discharged.

The nurses, CNAs, and respiratory therapists will continue to help you with coughing, deep breathing, and using the incentive spirometer. Coughing will not break the dissolvable stitches or staples used to close your incision; they are very strong and will support your cough. For the first few days, the nurses may gently percuss (clap) your back to loosen phlegm in your lungs so that you can cough it up. It may hurt when you cough and deep-breathe, but this will improve. Holding the heart-shaped “coughing pillow” against your chest when you cough will help. Coughing and deep breathing will help you recover more quickly and prevent pneumonia after surgery.

Do not push or pull with your arms after surgery. Some of your upper-arm muscles are attached in such a way that extra stress is placed on your chest incision when you push or pull.

Patients report that the incisions are tender and sore after surgery. The doctor will prescribe pain medication, which should be taken before pain is severe. The nurse or CNA will ask you if you are having pain in your chest or leg incision; ask the nurse for pain medication if you need it. Do not worry about taking too much pain medication if you take it as ordered. You will take less and less as your body heals. Ask for pain medication 15 to 20 minutes before you start walking, coughing, or deep breathing so that you can do them well and feel better faster.

The first few days after surgery, you may feel sick to your stomach and not want to eat. Be sure you tell the nurse. You should not become dehydrated, so try to drink adequate amounts of fluids such as juices. In time you will feel more like eating.

Constipation can also be a problem. If you have not had a bowel movement by the third or fourth day after surgery, tell the nurse so that it can be treated.

There may be times you feel your heart racing, pounding, or doing flip-flops. Do not panic. This irregular heart rhythm is common after surgery because the heart has been upset. Most often this is atrial fibrillation, and it occurs when the upper chambers (atria) of the heart contract faster and do not beat smoothly with the lower chambers (ventricles). It is treatable with medications, which you will probably take for a few weeks.

As you recover you may have strange dreams or disturbing thoughts. If this happens, please tell the nurse. It helps to talk about them so they do not worry you. It is also common to forget things or feel depressed. This may persist for a short while even after you leave the hospital. It will go away with time.

**Discharge Process**

The goal for your hospitalization is to reach the point in your recovery when you are well enough to be discharged. Your healthcare team wants you and your family to be well prepared for discharge, whether you are returning home or going to a nursing facility for strengthening rehabilitation.
The discharge process is time-consuming and will take several hours. The nursing staff will provide you with your personal discharge instructions. Your medications will be reviewed and matched up with your pre-hospitalization medications, so you will have one “master” medication list. The nurse will then review this list with you. Take only the medications on this list, and no others, unless you have cleared it with the physician. You will take this list with you to physician visits.

Our goal is to prepare you to safely go home and to heal both quickly and well.

**Guidelines for Recovering at Home**

- **Pain management at home** Continue to take your pain medicine every four to six hours for the first day or two. Do not wait until you feel miserable. Untreated pain takes more medicine to control. Treat it early, and you will feel better and recover more quickly. Most patients can wean down from two to one pill in a week or two; then wean to using extra strength acetaminophen or regular acetaminophen. Do not drink alcohol while you are taking your prescription pain medication or over-the-counter acetaminophen, as doing so can harm your liver.

- **Symptoms** In the first six to eight weeks after surgery, call the surgeon if you have any of these symptoms:
  - Fever over 100 degrees F
  - Signs of infection in your incisions
  - Swollen leg(s) and feet
  - Incisional pain despite pain medication
  - Nausea and vomiting
  - Shortness of breath

- **Incision care** Watch for signs of infection such as fever or an increase in redness, swelling, drainage, or soreness. If your incisions are healing as they should and you have Steri-Strip adhesive skin closures, do not worry if they start to come off. If you think you are getting an infection or if your incisions are not healing as they should, call the surgeon. Do not use ointments or medications on the incisions unless directed to by the doctor. It is also common for the incisions and the surrounding areas to feel numb for many weeks.

- **Bathing** Shower every day—any soap is okay. If you have Steri-Strips over your incisions, gently pat to wash and dry them. Avoid baths at this time.

- **Ted hose** Wear the antiembolic stockings until you see the doctor at your follow-up appointment, at about two weeks. Have someone put them on you in the morning before you stand up and remove them at bedtime. Raise your legs above your heart, using several pillows on a flat surface, at least three or four times a day for 30 to 40 minutes.

- **Stairs** Climb steps slowly and rest as needed.

- **Constipation** If this is a problem, do not strain. Use an over-the-counter laxative or stool softener. Enemas are okay. You may buy them over the counter at a drug store.

- **Diet** Follow the dietary guidelines in this book (see “Heart-healthy Diet”). “A Heart-healthy Menu for the First Week Home” is particularly useful at this time. If you have no appetite, drink plenty of liquids that contain no caffeine. Once you are no longer taking pain medication, you may have alcohol in moderation.
• **Incentive spirometer** Use the deep-breathing device three or four times a day for two weeks, along with coughing and deep breathing. Don’t forget to use the coughing pillow.

• **Driving** Do not drive for four weeks.

• **Lifting** No lifting over 10 pounds for five weeks. Avoid muscle-building (isometric) activities that tense the body; these increase blood pressure and heart rate and put strain on the healing breastbone and wires. Such activities include heavy lifting, pushing, pulling, push-ups, straining to have a bowel movement, and opening a window or a jar lid.

• **Returning to work** You may return to work only with the cardiologist’s consent.

• **Sexual Activity** Following a heart attack, patients often feel apprehensive about resuming sexual activity, wondering whether it will strain the heart, cause pain, or change their performance level. Intercourse requires energy comparable to walking a half-mile or climbing several flights of stairs. If these activities leave you winded and feeling tired, you should allow more time to recover. Remember that there are both physical and emotional aspects to a sexual relationship. Talk openly with your partner about both your wants and your worries, and do not rush to resume intercourse.

Once you feel ready for sexual relations (usually six to eight weeks after surgery), be comfortable and well rested and keep your expectations realistic. Avoid sex for one hour before or after a shower or eating a meal. Avoid any weight-bearing movements similar to a push-up that put too much pressure on the arms; opt instead for positions that minimize weight bearing on the arms and that limit pressure to the chest. Remember that it will take time to return to your previous level of sexual activity.

Note that stress or anxiety (in either yourself or your partner) may interfere with sexual performance, as may some medications. If you have concerns, discuss them with your doctor.

• **Emotions** Mood swings and depression may occur after surgery. They will not last long, and it helps to talk to someone about them. If they persist for several weeks, contact your doctor.

• **Smoking** Even if you were a smoker before surgery, you have enjoyed tobacco-free days in the hospital. Take advantage of this and remain a nonsmoker! Avoid being around family and friends while they are smoking.

• **Daily routine** When you get up in the morning each day, get dressed. Try to get six to eight hours of sleep each night, and take naps.

• Space your activities, and include rest periods. If you get tired, no matter what you are doing, stop and rest. Use common sense, listen to your body, let healing take place, and don’t do too much!
• **Follow-up appointments** Unless you are also being seen by your cardiologist while you are in the hospital, your surgeon is your primary doctor. Call the surgeon if you are sick or hurt, have problems or concerns, or have questions about your medications. You scheduled a follow-up office visit with the surgeon or physician assistant when you were discharged from the hospital. Be sure to keep that appointment and to bring your medication list with you. The surgeon’s office is not in the hospital. (See “Directions to the Surgeon’s Office” at the beginning of this book.)

• Your first appointment with your cardiologist may be scheduled as early as a week or several weeks after your surgery. It will depend on your own clinical condition and is determined by your doctors. In most cases, this includes a heart test.

**Exercise Guidelines**

• **Walking program** Start the day after you leave the hospital. Older patients usually progress more slowly, as they are able.

  - By the end of the first week, walk 5 to 10 minutes per day.
  - By the end of the second week, walk 10 to 20 minutes per day.
  - By the end of the third week, walk 15 to 30 minutes per day.
  - By the end of the fourth week, walk 20 to 40 minutes per day.

  Try to do your walking all in one stretch. Keep up your walking program even after you have recovered. Thirty minutes of steady walking three to five times each week is a good goal.

**Exercise Don’ts**

• Do not exercise for at least one hour after eating, if you are tired from another activity, or during the acute stages of a cold or other illness.

• Do not exercise outdoors in extreme temperatures. If weather is hot, cold, or wet, exercise inside—an indoor shopping mall is a good choice.

• Using your arms creates more work for your heart than using your legs, so as you recover avoid heavy work where you use your arms and shoulders. Also avoid working with your arms above your shoulders. Lying down with your arms over your head is okay—it is not using your arms for work.

• The doctor may refer you to a Cardiac Rehabilitation program. In Cardiac Rehab your heart will be monitored while you increase your exercise effort. You will also attend classes to help you reduce your risk of heart disease and heart attack.

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**Acceptable Activities While Recovering**

- Playing cards
- Board games
- Needlework
- Golf (putting only)
- Attending theater
- Playing piano
- Reading
- Painting
- Croquet
- Taking pictures
- Watching sports
- Easy walking
- Computers
- Desk work
- Video games
- and television

**Unacceptable Activities for the First Six to Eight Weeks**

- Golf (full game)
- Tennis
- Fishing
- Hunting
- Swimming
- Horseback riding
- Jogging
- Dancing
- Bowling
- Yard work
- Bicycling
- Washing windows
- Hanging laundry
- Painting walls
- Vacuuming
**Bacterial Endocarditis**

Patients who have artificial heart valves or an artificial tissue graft to repair a heart defect are at risk of developing *bacterial endocarditis* (B.E.). This is a rare and dangerous disease in which bacteria attack artificial or tissue valves and other parts of the heart. It occurs when germs enter the bloodstream and become lodged in an artificial or damaged structure of the heart and then scar or destroy it. It is best to try to prevent B.E. before it occurs. The American Heart Association and most experts agree that the risk of getting B.E. can be reduced by taking an antibiotic before and/or after anything that might release germs into your bloodstream.

**Conditions That Call for Antibiotics**

Some of the following conditions require taking an antibiotic. The doctor will discuss with you how long the antibiotic needs to be taken for your condition.

- Artificial heart valve replacement or repair (tissue or mechanical)
- Artificial tissue graft to repair heart defects (aneurysm repair or ventricular or atrial septal defect repair)
- History of rheumatic heart disease with scarring of a heart valve
- Certain birth defects, such as an abnormal opening between the chambers of the heart
- History of bacterial endocarditis
- Hypertrophic cardiomyopathy (very thick and enlarged heart muscle)
- Mitral valve prolapse with regurgitation or thickened valve leaflets

**Symptoms of Bacterial Endocarditis**

If you develop any of these symptoms, call the doctor right away:

- Fever or chills
- Unexplained night sweats or profuse sweating anytime
- Joint pain or muscle aches
- Sudden lack of appetite
- Generalized fatigue and weakness
- Weight loss
Bacterial Endocarditis Prevention

- Each time you see a doctor or dentist, remind him or her that you are at risk for bacterial endocarditis.
- Your doctor or dentist should prescribe antibiotics for you before and/or after the following procedures:
  - Most dental work: cleaning, extractions, fillings, root canals, implants, braces, or surgery
  - Most types of surgery or surgical procedures (even minor ones)
  - Most treatments, examinations, and diagnostic procedures that involve a tube or an object inserted into the body (such as a colonoscopy); this does not include shots or blood (lab) work
  - Infections of incisions, cuts, or sores; skin ulcers; a persistent sore throat or pneumonia (minor cuts may be treated with antibacterial ointment)
  - Childbirth
- You may chose to wear a medic-alert bracelet or necklace to inform medical personnel caring for you that you are at risk of developing bacterial endocarditis. The Cardiac Clinical Case Manager will discuss this with you and give you the application when you are discharged from the hospital. You will also receive an American Heart Association Bacterial Endocarditis card, which you should carry with you.

Dental Work

Good dental/oral care is very important. Germs and bacteria normally live in the spaces between gums and teeth and cause no harm. Dental work causes them to enter the bloodstream. To prevent the possibility of infection, you should receive antibiotics prior to having dental work. When teeth and gums are in poor condition, bacteria are more likely to enter the bloodstream even without dental work, so it is important that you take good care of your mouth.

- Give the dentist your American Heart Association Bacterial Endocarditis card to photocopy and enter into your medical record.
- Visit the dentist every six to 12 months. If you have dentures, visit at least once a year or anytime your dentures cause your gums to be sore. Wait six months before seeing the dentist after heart surgery. If you need to see a dentist sooner, talk to the doctor first.
- Brush your teeth at least twice a day, using firm, gentle motions and a soft-bristled toothbrush. Avoid making your gums bleed.
- Ask the dentist to show you the proper way to use dental floss, and use it daily.
- Do not use toothpicks or plaque removers because they can force germs into your bloodstream.
**Introduction**

There is a strong link between the foods we eat and heart disease, blood vessel disease, and certain cancers. It has been proven that people who have a high blood cholesterol level or consume a lot of salt are at greater risk of heart disease and high blood pressure. Current medical practice now recommends that we all eat “heart-healthy” foods low in saturated fat, cholesterol, and sodium and high in omega-3 fatty acids. Such foods help healthy people stay healthy, but heart-healthy foods become even more important for those with heart disease.

If you have just had heart surgery, see “A Heart-healthy Menu for the First Week Home” later in this section.

This section provides guidelines for changing your diet to focus on heart-healthy foods. This does not mean you can eat only bland and boring food. Unlike most special diets, heart-healthy dishes are appealing and tasty, and it is often easy to adapt your favorite recipes so that you still enjoy them. You should enhance and broaden your knowledge of heart-healthy foods through further reading. There are many good cookbooks and online sources available.

**Why Heart-healthy Foods Are Important**

The buildup of plaque along the inside of an artery wall (atherosclerosis) narrows an artery and reduces the amount of blood flow and oxygen it can provide to the heart muscle. This is coronary artery disease and can lead to a heart attack. The main building block of plaque is the fat and the cholesterol in the blood passing through the artery. Often when fat and cholesterol are reduced, this buildup slows down and in some cases stops. Most often our bodies produce enough cholesterol to stay healthy. We tend to eat a lot more fat than our body needs, so we can safely reduce our dietary fat and cholesterol. Some people can reduce their blood fat and cholesterol levels through healthy food choices alone, whereas others need the help of medications. The doctor will discuss the need for medication with you.

**Understanding Cholesterol, Fats, and Fiber**

**Cholesterol**

Cholesterol is a fatlike substance produced by the liver. It is found only in foods of animal origin, not in vegetables. It is present in meat, fish, poultry, egg yolk, and dairy products.

Organ meats and egg yolks contain a high level of cholesterol. The cholesterol content of the foods you buy is shown in milligrams (mg). You should try to limit the amount of cholesterol in your diet to 200 mg per day.

**Fats**

Fats are one of the basic food groups, along with protein, carbohydrates, and plant-based foods. Oils are fats. There are three types of fat that come from food. All three are found in foods that come from animals or plants, but the amount varies. More saturated fat is found in animal foods, while more polyunsaturated and monounsaturated fats are found in vegetables.

The fat content of food is always reported in grams (g). Fat is the densest form of food we eat. Each gram of fat—whether it is saturated, polyunsaturated, or monounsaturated—contains 9 calories, whereas carbohydrates and proteins contain only 4 calories per gram. If you limit and balance the type and the amount of fat in your diet, you would most likely lose weight.
Heart-healthy Diet

Fatty Acids
All fats are made from a basic molecule called a fatty acid. Fatty acids are the building blocks. It takes many types of fatty acids to build any oil, but there is always one fatty acid that is more dominant in each type of oil. For instance, monounsaturated oil has more omega-3 fatty acids, and polyunsaturated oil has more omega-6. The type and the amount of fat you eat influences your health. Omega-3 fatty acids reduce inflammation. Eating a diet with lots of omega-3 fatty acids can help protect your heart and vascular system.

Some fatty acids are called “essential.” This means that your body cannot make that fatty acid from other food you eat, so it is “essential” that you eat it to be healthy. Both omega-3 and omega-6 fatty acids are essential. When eaten in the correct ratio or balance, they nourish our bodies. Unfortunately, most diets are out of balance, resulting in disease.

Saturated Fats
Saturated fats are found mainly in foods of animal origin, along with cholesterol. Some vegetables also have large amounts. These are called saturated vegetable fats and are often found in processed bakery goods and nondairy milk or cream substitutes. These include coconut oil, cocoa butter (chocolate), palm kernel oil, and palm oil.

Saturated fats are solid at room temperature. When you consume a lot of saturated fat, your liver responds by making more cholesterol. This raises your blood cholesterol level. Saturated fat is the most harmful type of fat you can eat.

Polyunsaturated Fats
Polyunsaturated fats come mainly from plants. They are liquid at room temperature. Eating more polyunsaturated fats than saturated fats can reduce blood cholesterol levels.

Monounsaturated Fats
Monounsaturated fats are found mainly in foods that come from plants. They are liquid at room temperature and can reduce blood cholesterol levels—but less than polyunsaturated fats do. Monounsaturated fats can, however, raise HDL cholesterol levels (the “good” cholesterol).

Examples of Foods in Each Fat Group

<table>
<thead>
<tr>
<th>Saturated</th>
<th>Monounsaturated</th>
<th>Polyunsaturated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beef</td>
<td>Avocado</td>
<td>Almonds</td>
</tr>
<tr>
<td>Brazil nuts</td>
<td>Canola oil</td>
<td>Corn oil</td>
</tr>
<tr>
<td>Butter</td>
<td>Cashews</td>
<td>Cottonseed oil</td>
</tr>
<tr>
<td>Cheese</td>
<td>Olives</td>
<td>Filberts/pecans</td>
</tr>
<tr>
<td>Chocolate</td>
<td>Olive oil</td>
<td>Fish</td>
</tr>
<tr>
<td>Coconut</td>
<td>Peanuts</td>
<td>Mayonnaise</td>
</tr>
<tr>
<td>Coconut oil</td>
<td>Peanut butter</td>
<td>Pumpkin seeds</td>
</tr>
<tr>
<td>Lard</td>
<td>Peanut oil</td>
<td>Safflower oil</td>
</tr>
<tr>
<td>Macadamia nuts</td>
<td>Pistachio nuts</td>
<td>Sesame oil</td>
</tr>
<tr>
<td>Palm oil</td>
<td>Flaxseed oil</td>
<td>Sesame seeds</td>
</tr>
<tr>
<td>Pistachios</td>
<td>Cod liver oil</td>
<td>Soybean oil</td>
</tr>
<tr>
<td>Poultry skin</td>
<td>Sunflower oil</td>
<td></td>
</tr>
<tr>
<td>Whole milk</td>
<td>Sunflower seeds</td>
<td>Walnuts</td>
</tr>
</tbody>
</table>
Hydrogenation/Trans Fats
When hydrogen is bubbled through polyunsaturated and monounsaturated fats and oils, they are changed from their natural liquid form to a more solid form. These oils are partly hydrogenated and thus are more solid at room temperature and more saturated. This process causes the oil to transform into trans fats, also called trans fatty acids.

Trans fats make vegetable margarines have a butterlike texture, and they prolong the shelf life of packaged foods. The total effects of trans fats are still not known, but like saturated fats they cause blood cholesterol and LDL (the “bad” cholesterol) levels to increase and may decrease HDL.

Try to limit your use of “partially hydrogenated” products and trans fats. Manufacturers are not required to list how much trans fats are in a product if it is less than 0.5 g (such as 0.49 gram) per serving. If “trans fat” is not on the label, it does not always mean trans fats are not present in the product.

Always read the list of ingredients carefully. You will reduce your intake of trans fats in products using oil if liquid vegetable oil is ranked high on the list of ingredients and partially hydrogenated oil is listed toward the middle or end. For example, soft tub spreads list water and liquid vegetable oil first, whereas solid margarines or spreads list it later. When liquid oil has been “fully” hydrogenated, almost no trans fats remain. It becomes hard, is usually inedible, and almost completely changes into stearic acid. This form does not raise LDL cholesterol. Stearic acid or “fully” hydrogenated oil is thought to be less harmful than “partially” hydrogenated oils that have trans fats. Avoid products that have “hydrogenated” or “partially hydrogenated” listed in their ingredients.

Interesterified Fats
Interesterified fats (IFs) are made in an attempt to replace the trans fats in products. This is done first by blending a fully-hydrogenated fat, which is a completely solid and hard fat, with liquid oil. Then, by adding chemicals or enzymes to the mixture, it is processed further. The end product is softer, has a long shelf life, and maintains its taste, texture, and flavor without any trans fats. The products are semisolid at room temperature.

But these IF products may not be safer. They have been found to depress the good HDL cholesterol, increase fasting blood sugars, and suppress insulin levels. These all add to a person’s risk of cardiovascular disease and could increase the risk of diabetes or exacerbate a diabetic’s existing condition.

You know for sure that a product contains IF when the term appears on the product’s list of ingredients—but listing it is not required by law. When either “fully hydrogenated vegetable oil” or the naturally saturated “palm and/or palm kernel oil” is listed, the product may contain IFs. Be extra careful of products labeled “No trans fats” if hydrogenated oils were used. They may be “fully” hydrogenated and used to make IFs.

Cooking Tips to Lower Fat
- Limit lean meat, fish, and poultry to 6 cooked ounces per day.
- Choose lean cuts of meat and skinless poultry—and trim the fat.
- Even lean meat has fat in it, so use a rack to drain the fat when broiling, roasting, or baking. Avoid fried foods. Baste with wine, fruit juice, or a low-fat marinade instead of meat drippings.
• Fish, poultry, and veal are lower in saturated fat than beef, lamb, and pork, so choose them more often.
• Exchange vegetable proteins for animal proteins when you can. For example, 1 cup of vegetable protein such as cooked beans, peas, or other legumes has about as much protein as 2 to 3 ounces of cooked meat but contains only a trace of fat.
• Limit “luncheon” and “variety” meats like sausage and salami, which tend to be high in fat (and salt).
• When a recipe calls for browning the meat first, use the broiler instead of a skillet.
• Make gravies after the fat has been removed from the liquid.
• Cook stews, boiled meat, and soup a day ahead, then refrigerate so that fat can be skimmed from the top before reheating.
• Use low-fat or skim milk instead of whole milk.
• Choose cheeses made from partially skim milk instead of whole milk or cream.
• Use egg whites instead of whole eggs in recipes. Two egg whites equal one whole egg.
• Use liquid vegetable oils and “tub” margarines instead of butter or other solid cooking fats that are partially or totally hydrogenated. Because they are less solid also means they are less saturated.
• Read labels. Avoid products that contain saturated fats such as coconut oil and palm or palm kernel oil.
• Use herbs and spices to season vegetables. For example, sprinkle chopped parsley and chives on vegetables just before serving to enhance their flavor.

**Fiber**

A diet that is high in fiber, especially soluble fiber, has been found to lower blood cholesterol levels. This is because fiber slows the absorption of cholesterol from the bowels. Fiber is found only in foods of plant origin, not in foods of animal origin, and has no nutritional value or calories. It is what gives strength and support to plants. Fiber is divided into two types: soluble (dissolves in water) and insoluble (does not dissolve in water). Most plants contain both, but the amount varies. The fiber content of foods is shown in grams, and you should try to eat 30 to 35 g per day.

Soluble fiber is found in these foods:
- Oat bran
- Legumes (beans and peas)
- Psyllium
- Some fruits and vegetables

Insoluble fiber is found in these foods:
- Husks of whole grains
- Wheat bran
- Stalks and peels of fruit and vegetables

There are many benefits to adding fiber to your diet. Soluble fiber can lower blood cholesterol levels and reduce the risk of heart disease and diabetes. Insoluble fiber can promote weight loss and improve elimination, which may also reduce the risk of colorectal cancer and other intestinal problems.

**Mediterranean Diet: A Step Beyond Heart-healthy**

Recent research has established that a Mediterranean-style diet can reduce heart disease and possibly other diseases, including cancer. It was noted that people who lived in areas where more fish, fresh
fruit and vegetables, whole grains, legumes, and olive oil were eaten had far less heart disease. They ate very little red meat and dairy products compared with the amount of fish consumed. This is a diet high in omega-3 fatty acids. Unfortunately, the American fast-food, high-fat diet is loaded with fatty acids that promote heart disease. The following are some simple heart-healthy Mediterranean dietary guidelines you should follow.

**Diet Recommendations**

The American Heart Association, the National Cholesterol Education Program, and cardiologists recommend the following heart-healthy food guidelines.

- **Dietary cholesterol**  Reduce consumption to 200 mg or less per day. Resources are available on the Internet regarding cholesterol content in food. (See “Other Sources for Nutritional Information and Recipes” in the “References” section.)

- **Dietary fat**  Reduce consumption to less than 35 percent of the total calories needed to maintain your ideal weight.
  - No more than 7 to 8 percent of the total fat calories should be from saturated fats (for most it should be 15 to 18 g).
  - Try to balance the fat calories from monounsaturated fats and omega-3 fatty acids when possible.

- Increase fiber by eating more vegetables, beans, and whole grains (complex carbohydrates) and fruits (simple carbohydrates). A high-fiber diet can help lower blood cholesterol levels. Most experts say you should increase fiber to at least 30 to 35 g per day.

- Build your daily menu around vegetables, nuts, and grains as the entrée. Try to have seven or more servings of food from these plant sources each day.

- Limit red meat to 3- or 4-ounce cooked portions, or 12 ounces per month. Use chicken, turkey, and venison instead. Avoid organ meats such as kidney and liver. Duck is high in saturated fat.

- Have meatless meals several times a week and use vegetable proteins instead.

- Limit egg yolks to four or fewer per week. The amount will depend on your cholesterol level. Egg whites have no limit.

- Choose products made with monounsaturated oil, such as canola and olive oil, over those made with other oils.

- Avoid using saturated oil and buying products containing trans fats.

- Increase the total amount of omega-3 food you eat to 1 g per day.

- Eat fish three to four times per week. If you do not eat fish and have coronary artery disease, ask the doctor about using fish-oil or flaxseed-oil supplements.

- Watch portion sizes of fats, oils, nuts, and seeds because they have concentrated calories, so large portions could lead to weight gain.

- Limit desserts, snacks, and refined foods that are rich in fat and sugar. Choose fresh fruit and juices instead.

- Drink plenty of water and exercise every day.

- Sodium (salt) should be reduced to 2,000 to 3,000 mg per day if recommended by the doctor. (See “Guidelines for a Low-sodium Diet” later in this section.)
Heart-healthy Diet

Other Recommendations

Alcohol
Research has shown that frequent and heavy alcohol intake can increase blood pressure. Alcohol may also react with medications. Ask the doctor if you should avoid alcohol. There has been recent evidence that red wine contains certain antioxidant compounds that help protect the heart. The key to reaping the benefits of red wine is moderation. Drinking one glass of red wine per day for women and up to two glasses per day for men may decrease the risk of heart disease.

Caffeine
Research suggests that caffeine increases blood pressure. It is wise to limit those products high in caffeine by choosing decaffeinated products instead. It may be best to avoid these products altogether. Ask the doctor how much caffeine you may have.

Salt and Sodium
You may be asked to cut down on the amount of salt or sodium you eat because salt acts like a sponge and can cause you to retain extra fluid (water) in the bloodstream. This extra fluid adds pressure on artery walls and puts an added burden on the heart, requiring it work harder. This can lead to an increase in blood pressure or hypertension.

The desire for salt is a learned behavior that can be changed. Be patient; give yourself a few weeks to “unlearn” it. To stay healthy the average adult needs between 2,000 and 3,000 mg (2 to 3 g) of salt per day. The average American eats far more than that. There is some evidence that eating foods high in calcium, potassium, and magnesium may also help control hypertension.

You may not need to buy special cookbooks or recipes to follow a low-salt diet. Most of your favorite recipes can be modified by simply leaving out or cutting in half the amount of salt called for. (See “Guidelines for a Low-sodium Diet” later in this section.)

General Guidelines for a Mild Salt-restricted Diet

- Don’t add salt to your food when cooking or at the table.
- Buy fresh meats, vegetables, and fruits, which don’t have added sodium from flavorings or preservatives like packaged and processed items do.
- Don’t buy convenience foods such as prepared or “skillet” dinners, TV dinners, boxed casseroles and side dishes, and canned soups and vegetables.
- Don’t buy cured hams, deli foods, cold cuts, hot dogs, bacon, sausage, and canned meat or fish (tuna, sardines, and anchovies). These contain large amounts of salt for flavor and preserving.
- Avoid high-sodium snack foods such as olives, pickles, pretzels, chips, and salted nuts.
- Read labels and limit products that have salt, sodium, sodium chloride, MSG (monosodium glutamate), or NaCl. Ingredients are listed in the order of amounts used—highest listed first. Choose reduced-sodium products.
- If you must use canned fish or vegetables, rinse them under running water for about a minute. This will decrease the amount of sodium by two-thirds. Always wash uncooked poultry.
- Season food with fresh or dried herbs, salt-free seasoning mixtures, and fresh garlic and onions; also try seasoning with vinegar and lemon or other juices. Lemon juice works great to “fool” the taste buds.

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• Avoid salts or powders such as garlic or onion salt and seasoned salts.

• When dining out, be sure to request that food be cooked without salt or MSG. Avoid Mexican and Asian dishes. Request sauces and dressings “on the side” so that you can control the amount. If you do have a high-sodium entrée, choose low-sodium side dishes to balance the meal; if you have a high-sodium meal, balance it with a low-sodium subsequent meal.

• Always check with the doctor or pharmacist before using medications that contain sodium. Never use baking soda to treat heartburn or an upset stomach.

• If you want to use a salt substitute—a potassium chloride product—check with the doctor first.

---

**Reading Labels**

To know how much fat, cholesterol, fiber, sodium, and other ingredients are in processed packaged foods, turn to the panel on the box where the “nutrition facts” are listed. This panel often includes the “Percentage of the U.S. Recommended Daily Allowance” of some vitamins and minerals. Where it is found and the format of the list varies from product to product.

All the nutrition information listed is based on a serving size of the product. Always note how big that serving size is (e.g., 1 cup) so you know the accurate amount of nutrients and calories you are eating. If a nutrient such as fiber is not present in a product, it will not be listed.

It is important to understand how to read product labels so you are informed and can better watch your heart-healthy diet.

This is an example of food labeling. Polyunsaturated and monounsaturated fats are not required by law to be listed on food labels.

---

**Nutrition Facts**

<table>
<thead>
<tr>
<th>Serving Size</th>
<th>1 cup (30 g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Servings per Container</td>
<td>12</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Amount per Serving</th>
<th>Calories 90</th>
<th>Calories from Fat 10</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>% Daily Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Fat 1 g</td>
</tr>
<tr>
<td>Saturated Fat 0 g</td>
</tr>
<tr>
<td>Cholesterol 0 mg</td>
</tr>
<tr>
<td>Sodium 190 mg</td>
</tr>
<tr>
<td>Total Carbohydrate 22 g</td>
</tr>
<tr>
<td>Dietary Fiber 3 g</td>
</tr>
<tr>
<td>Sugars 9 g</td>
</tr>
<tr>
<td>Protein 3 g</td>
</tr>
</tbody>
</table>

---

Rogue Valley Medical Center
## Guidelines for a Low-sodium Diet

<table>
<thead>
<tr>
<th>Food Group</th>
<th>Low in Sodium (less than 140 mg per serving)</th>
<th>Moderate in Sodium (140 to 400 mg per serving)</th>
<th>High in Sodium (more than 400 mg per serving)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Spices, Sauces, and Condiments</strong></td>
<td>• Herbs and spices</td>
<td>• Salted seasonings (limit 2 tablespoons per day)</td>
<td>• High-sodium seasonings</td>
</tr>
<tr>
<td></td>
<td>• Low-sodium seasoning mixes (Mrs. Dash, Parsley Patch)</td>
<td>• Barbecue sauces</td>
<td>• Bouillon and meat tenderizers</td>
</tr>
<tr>
<td></td>
<td>• The following seasonings contain sodium; suggested servings are 1 teaspoon per day: mustard, Tabasco/red pepper sauce</td>
<td>• Catsup</td>
<td>• Salt and salt substitute mixtures</td>
</tr>
<tr>
<td></td>
<td>• Salted seasonings (limit 2 tablespoons per day)</td>
<td>• Chili sauce</td>
<td>• Salted seasonings (garlic salt, onion salt, seasoning salt)</td>
</tr>
<tr>
<td></td>
<td>• Mayonnaise and salad dressings</td>
<td>• gravy</td>
<td>• Soy sauce and teriyaki sauce</td>
</tr>
<tr>
<td></td>
<td>• Steak sauce</td>
<td>• Tomato purée or sauce</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Worcestershire sauce</td>
<td>• Unsalted popcorn and whole grains</td>
<td></td>
</tr>
<tr>
<td><strong>Grains and Cereals</strong></td>
<td>• Bread</td>
<td>• Bread and rolls</td>
<td>• Frozen or canned spaghetti and pasta dishes</td>
</tr>
<tr>
<td></td>
<td>• Low-sodium crackers</td>
<td>• Doughnuts</td>
<td>• Salted crackers and chips</td>
</tr>
<tr>
<td></td>
<td>• Hot cereals (except instant)</td>
<td>• Dry cereals</td>
<td>• Salted popcorn</td>
</tr>
<tr>
<td></td>
<td>• Low-sodium cereals (shredded wheat, puffed rice, wheat granola)</td>
<td>• Biscuits and muffins</td>
<td>• Salted pretzels</td>
</tr>
<tr>
<td></td>
<td>• Matzo and noodles</td>
<td>• Cakes and cookies</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Rice and tortillas</td>
<td>• Instant hot cereals</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Unsalted popcorn and whole grains</td>
<td>• Pancakes and waffles</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Pastries and pies</td>
<td></td>
</tr>
<tr>
<td><strong>Vegetables and Fruits</strong></td>
<td>• Fruits</td>
<td>• Canned vegetables</td>
<td>• Olives and pickles</td>
</tr>
<tr>
<td></td>
<td>• Fruit juices</td>
<td></td>
<td>• Pickled vegetables</td>
</tr>
<tr>
<td></td>
<td>• Unsalted vegetables (fresh, frozen, canned—read the label)</td>
<td></td>
<td>• Sauerkraut</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Vegetable juices</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Vegetables with seasoned sauces</td>
</tr>
</tbody>
</table>
## Guidelines for a Low-Sodium Diet (continued)

<table>
<thead>
<tr>
<th>Food Group</th>
<th>Low in Sodium (less than 140 mg per serving)</th>
<th>Moderate in Sodium (140 to 400 mg per serving)</th>
<th>High in Sodium (more than 400 mg per serving)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Meat, Fish, Poultry, and Other Main Dishes</strong></td>
<td>• Beef and veal&lt;br&gt;• Dried beans (cooked without salt or ham hocks)&lt;br&gt;• Eggs and fish&lt;br&gt;• Lamb&lt;br&gt;• Poultry&lt;br&gt;• Pork&lt;br&gt;• Tuna (canned, low-sodium)&lt;br&gt;• Peanut butter&lt;br&gt;• Unsalted nuts</td>
<td>• Canned beans (rinsed and drained)&lt;br&gt;• Frozen dinners (500 mg or less per serving)&lt;br&gt;• Garden burgers&lt;br&gt;• Shellfish and fresh fish</td>
<td>• Smoked, cured, or pickled products&lt;br&gt;• Bacon and ham&lt;br&gt;• Corned beef&lt;br&gt;• Fried meat or fish&lt;br&gt;• Lunch meats, sausages, and frankfurters&lt;br&gt;• Canned or dried soups&lt;br&gt;• Ramen noodles&lt;br&gt;• Canned refried beans&lt;br&gt;• Canned crab, salmon, shrimp, and tuna&lt;br&gt;• Frozen dinners and entrées&lt;br&gt;• Imitation crab or shrimp</td>
</tr>
<tr>
<td><strong>Dairy Products</strong></td>
<td>• Cream cheese&lt;br&gt;• Milk&lt;br&gt;• Ricotta cheese&lt;br&gt;• Sherbet and sorbet</td>
<td>• Buttermilk&lt;br&gt;• Aged, brick-type cheeses&lt;br&gt;• Feta and Parmesan cheeses (limit to 1 tablespoon)&lt;br&gt;• Cottage cheese (limit to ½ cup)&lt;br&gt;• Frozen desserts (ice cream, frozen yogurt, ice-cream bars)&lt;br&gt;• Pudding&lt;br&gt;• Yogurt</td>
<td>• Cheeses, processed (such as American cheese slices)&lt;br&gt;• Blue cheese&lt;br&gt;• Roquefort cheese</td>
</tr>
<tr>
<td><strong>Beverages</strong></td>
<td>• Carbonated beverages (pop and soda)&lt;br&gt;• Milk&lt;br&gt;• Coffee and tea&lt;br&gt;• Most mineral waters—read the label</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
# Sodium Content of Common Foods

Use this chart as a guide in planning meals. It is not meant to be a substitute for reading labels, however, as the sodium content of products may change.

1 teaspoon of salt has 2,325 mg of sodium.

Your sodium limit is ________________ milligrams.

<table>
<thead>
<tr>
<th>Beans, Grains, and Nuts</th>
<th>Sodium (mg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bagel, plain, 3½-inch diameter</td>
<td>359</td>
</tr>
<tr>
<td>Banana bread, half slice</td>
<td>180</td>
</tr>
<tr>
<td>Biscuit, from recipe 2½-inch diameter</td>
<td>350</td>
</tr>
<tr>
<td>Biscuit, from refrigerated can, 2½-inch</td>
<td>292</td>
</tr>
<tr>
<td>Bread, 1 slice (read the label)</td>
<td>100–185</td>
</tr>
<tr>
<td>Bread crumbs, seasoned, ¼ cup</td>
<td>530</td>
</tr>
<tr>
<td>Bun, hamburger or hot dog, 1 plain</td>
<td>206</td>
</tr>
<tr>
<td>Cereal, 1 ounce (read the label)</td>
<td>0–350</td>
</tr>
<tr>
<td>Cornbread, from mix, 3½ x 2½-inch</td>
<td>465</td>
</tr>
<tr>
<td>Crackers: Saltines, 4</td>
<td>134</td>
</tr>
<tr>
<td>Wheat Thins, 4</td>
<td>70</td>
</tr>
<tr>
<td>Croissant, plain, 4½ x 4-inch, 2 ounces</td>
<td>425</td>
</tr>
<tr>
<td>Danish pastry, fruit, 4½-inch</td>
<td>250</td>
</tr>
<tr>
<td>Dinner roll, 1 ounce</td>
<td>150</td>
</tr>
<tr>
<td>Doughnut: Cake-type, 3-inch</td>
<td>255</td>
</tr>
<tr>
<td>Raised, glazed, 3¼-inch</td>
<td>210</td>
</tr>
<tr>
<td>English muffin, plain, 2 ounces</td>
<td>265</td>
</tr>
<tr>
<td>French toast, 1 slice</td>
<td>310</td>
</tr>
<tr>
<td>Muffin, bran, 2½-inch</td>
<td>235</td>
</tr>
<tr>
<td>Pancake: From mix, 4-inch</td>
<td>240</td>
</tr>
<tr>
<td>Frozen, 4-inch</td>
<td>185</td>
</tr>
<tr>
<td>Stuffing, bread mix, dry, 6 ounces</td>
<td>170</td>
</tr>
<tr>
<td>Tortilla, 1 medium: Corn</td>
<td>12</td>
</tr>
<tr>
<td>Flour</td>
<td>204</td>
</tr>
<tr>
<td>Waffle: From mix, 7-inch</td>
<td>383</td>
</tr>
<tr>
<td>Frozen, 4-inch</td>
<td>260</td>
</tr>
<tr>
<td>Beans, plain, 1 cup cooked, no salt</td>
<td>15</td>
</tr>
<tr>
<td>Kidney beans, canned, 1 cup</td>
<td>660</td>
</tr>
<tr>
<td>Pork and beans, canned, 1 cup</td>
<td>1,106</td>
</tr>
<tr>
<td>Refried beans, canned, 1 cup</td>
<td>1,131</td>
</tr>
<tr>
<td>Tofu, ½ cup</td>
<td>126</td>
</tr>
<tr>
<td>Chow mein noodles, 1 cup</td>
<td>45</td>
</tr>
<tr>
<td>Egg noodles, 1 cup, cooked, no salt</td>
<td>10</td>
</tr>
<tr>
<td>Pasta, plain, 1 cup, cooked, no salt</td>
<td>0</td>
</tr>
<tr>
<td>Rice, plain, 1 cup, cooked, no salt</td>
<td>0–15</td>
</tr>
<tr>
<td>Rice and pasta, seasoned mix, 1 cup</td>
<td>500–1,500</td>
</tr>
<tr>
<td>Flour: All-purpose, wheat, 1 cup</td>
<td>2</td>
</tr>
<tr>
<td>Self-rising, 1 cup</td>
<td>1,588</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Desserts and Snacks</th>
<th>Sodium (mg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cake, ½ of 9- to 10-inch cake:</td>
<td></td>
</tr>
<tr>
<td>Angel food, without frosting</td>
<td>210</td>
</tr>
<tr>
<td>Chocolate, without frosting</td>
<td>299</td>
</tr>
<tr>
<td>White, without frosting</td>
<td>242</td>
</tr>
<tr>
<td>Frosting, ready-to-eat, ½ package</td>
<td>35–70</td>
</tr>
<tr>
<td>Cheesecake, ⅔ of 9-inch cake</td>
<td>166</td>
</tr>
<tr>
<td>Chips: Potato, 1 ounce</td>
<td>149</td>
</tr>
<tr>
<td>Tortilla, plain, 1 ounce</td>
<td>119</td>
</tr>
<tr>
<td>Chocolate bar, 1 ounce</td>
<td>22</td>
</tr>
<tr>
<td>Cookies: Brownie, from mix, 2-inch square</td>
<td>85</td>
</tr>
<tr>
<td>Chocolate chip, 2¼-inch diameter, 1</td>
<td>60</td>
</tr>
<tr>
<td>Graham cracker, 2½-inch square, 1</td>
<td>40</td>
</tr>
<tr>
<td>Peanut butter, 2¼-inch diameter, 1</td>
<td>105</td>
</tr>
<tr>
<td>Frozen desserts: Fruit or juice bar, 1</td>
<td>5</td>
</tr>
<tr>
<td>Ice cream, vanilla, 1 cup</td>
<td>105</td>
</tr>
</tbody>
</table>
### Sodium Content of Common Foods (continued)

<table>
<thead>
<tr>
<th>Orange sherbet, 1 cup</th>
<th>60</th>
</tr>
</thead>
<tbody>
<tr>
<td>Popsicle, 1</td>
<td>10</td>
</tr>
<tr>
<td>Yogurt, vanilla, 1 cup</td>
<td>125</td>
</tr>
<tr>
<td>Gelatin, 1 cup</td>
<td>202</td>
</tr>
<tr>
<td>Granola bar, plain, 1 ounce</td>
<td>80</td>
</tr>
<tr>
<td>Nuts:</td>
<td></td>
</tr>
<tr>
<td>Salted, 1 ounce</td>
<td>190</td>
</tr>
<tr>
<td>Unsalted, 1 ounce</td>
<td>5</td>
</tr>
<tr>
<td>Pie, ⅛ of 8-inch pie, from recipe:</td>
<td></td>
</tr>
<tr>
<td>Chocolate cream</td>
<td>144</td>
</tr>
<tr>
<td>Custard</td>
<td>252</td>
</tr>
<tr>
<td>Apple</td>
<td>327</td>
</tr>
<tr>
<td>Lemon meringue</td>
<td>307</td>
</tr>
<tr>
<td>Pecan</td>
<td>320</td>
</tr>
<tr>
<td>Pumpkin</td>
<td>349</td>
</tr>
<tr>
<td>Popcorn, 2 cups popped:</td>
<td></td>
</tr>
<tr>
<td>Air-popped, no salt added</td>
<td>0</td>
</tr>
<tr>
<td>Microwave, low fat</td>
<td>65–105</td>
</tr>
<tr>
<td>Popcorn cake, 1</td>
<td>30</td>
</tr>
<tr>
<td>Pudding, from mix, ½ cup:</td>
<td></td>
</tr>
<tr>
<td>Chocolate, cooked</td>
<td>155</td>
</tr>
<tr>
<td>Chocolate, instant</td>
<td>420</td>
</tr>
<tr>
<td>Sunflower seeds, 1 ounce:</td>
<td></td>
</tr>
<tr>
<td>Salted</td>
<td>116</td>
</tr>
<tr>
<td>Unsalted</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Fast Foods</strong></th>
<th><strong>Sodium (mg)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Arby’s:</strong></td>
<td></td>
</tr>
<tr>
<td>Roast beef sandwich:</td>
<td></td>
</tr>
<tr>
<td>Junior</td>
<td>740</td>
</tr>
<tr>
<td>Regular</td>
<td>1,379</td>
</tr>
<tr>
<td>Large</td>
<td>1,869</td>
</tr>
<tr>
<td>Beef N’ Cheddar</td>
<td>1,274</td>
</tr>
<tr>
<td>French Dip</td>
<td>1,282</td>
</tr>
<tr>
<td>French Dip N’ Swiss</td>
<td>1,679</td>
</tr>
<tr>
<td>Chicken Fillet</td>
<td>913</td>
</tr>
<tr>
<td>Turkey Sub</td>
<td>2,029</td>
</tr>
<tr>
<td>Baked potato:</td>
<td></td>
</tr>
<tr>
<td>Plain</td>
<td>20</td>
</tr>
<tr>
<td>Deluxe</td>
<td>346</td>
</tr>
<tr>
<td>Burger King:</td>
<td></td>
</tr>
<tr>
<td>Hamburger</td>
<td>551</td>
</tr>
<tr>
<td>With cheese</td>
<td>800</td>
</tr>
<tr>
<td>Whopper</td>
<td>1,000</td>
</tr>
<tr>
<td>With cheese</td>
<td>1,431</td>
</tr>
<tr>
<td>BK Griller</td>
<td>760</td>
</tr>
<tr>
<td>BK Big Fish</td>
<td>1,160</td>
</tr>
<tr>
<td>Chicken Tenders, 6</td>
<td>663</td>
</tr>
<tr>
<td>Fries, medium</td>
<td>532</td>
</tr>
<tr>
<td>Chicken salad, Caesar, no dressing</td>
<td>730</td>
</tr>
<tr>
<td>Croissan’wich: egg and cheese:</td>
<td></td>
</tr>
<tr>
<td>With bacon</td>
<td>900</td>
</tr>
<tr>
<td>With sausage</td>
<td>1,090</td>
</tr>
<tr>
<td>Domino’s Pizza:</td>
<td></td>
</tr>
<tr>
<td>Pizza, ¼ of 14-inch pizza, 1 slice:</td>
<td></td>
</tr>
<tr>
<td>Cheese</td>
<td>507</td>
</tr>
<tr>
<td>Pepperoni</td>
<td>608</td>
</tr>
<tr>
<td>KFC:</td>
<td></td>
</tr>
<tr>
<td>Original recipe chicken pieces:</td>
<td></td>
</tr>
<tr>
<td>Wing</td>
<td>370</td>
</tr>
<tr>
<td>Breast</td>
<td>1,150</td>
</tr>
<tr>
<td>Drumstick</td>
<td>440</td>
</tr>
<tr>
<td>Thigh</td>
<td>1,060</td>
</tr>
<tr>
<td>Extra Crispy chicken pieces:</td>
<td></td>
</tr>
<tr>
<td>Wing</td>
<td>390</td>
</tr>
<tr>
<td>Breast</td>
<td>1,230</td>
</tr>
<tr>
<td>Drumstick</td>
<td>420</td>
</tr>
<tr>
<td>Thigh</td>
<td>710</td>
</tr>
<tr>
<td>Potatoes and gravy</td>
<td>480</td>
</tr>
<tr>
<td>Cole slaw</td>
<td>300</td>
</tr>
<tr>
<td>Biscuit</td>
<td>580</td>
</tr>
<tr>
<td>McDonald’s:</td>
<td></td>
</tr>
<tr>
<td>Hamburger, small</td>
<td>530</td>
</tr>
<tr>
<td>With cheese</td>
<td>740</td>
</tr>
<tr>
<td>Quarter Pounder</td>
<td>730</td>
</tr>
<tr>
<td>With cheese</td>
<td>1,330</td>
</tr>
<tr>
<td>Big Mac</td>
<td>1,010</td>
</tr>
<tr>
<td>Filet-O-Fish</td>
<td>640</td>
</tr>
<tr>
<td>McChicken</td>
<td>810</td>
</tr>
</tbody>
</table>

*continued on page 7.12*
### Sodium Content of Common Foods (continued)

| McNuggets, 6 | 675 |
| Chicken salad, Caesar | 890 |
| Fries: | |
| Small | 140 |
| Large | 330 |
| Egg McMuffin | 860 |
| Sausage biscuit | 990 |
| **Taco Bell:** | |
| Taco, regular | 350 |
| Bean Burrito, regular | 1,200 |
| Chicken Quesadilla | 1,380 |

#### Condiments and Seasonings

| Sodium (mg) | Salt, 1 teaspoon | 2,325 |
| Garlic and onion salt, 1 teaspoon | 960 |
| Garlic and onion powder, 1 teaspoon | 0 |
| Pepper, 1 teaspoon | 0 |
| Most herbs and spices, 1 teaspoon | trace |
| Meat tenderizer, 1 teaspoon | 1,480 |
| Taco seasoning, 2 tablespoons | 428 |
| Baking powder, 1 teaspoon | 490 |
| Baking soda, 1 teaspoon | 1,260 |
| Barbecue sauce, 1 tablespoon | 196 |
| Broth, beef or chicken, canned, 1 cup | 780 |
| Butter: | |
| Salted, 1 tablespoon | 82 |
| Unsalted, 1 tablespoon | 0 |
| Catsup, 1 tablespoon | 155 |
| Cheese or hollandaise sauce, ¼ cup | 522 |
| Gravy, chicken, ¼ cup: | |
| Beef | 326 |
| Chicken | 355 |
| Margarine, 1 tablespoon | 135–155 |
| Mayonnaise, 1 tablespoon | 105 |
| Mustard, 1 teaspoon | 65 |
| Oil or shortening, 1 tablespoon | 0 |
| Olives, ripe, 5 large | 192 |
| Peanut butter, 1 tablespoon: | |
| Salted | 78 |
| Unsalted | 5 |
| Pickle: | |
| Dill, 4-inch | 1,181 |
| Sweet, 2½-inch | 69 |
| Sweet relish, 1 tablespoon | 122 |
| Salad dressing, 1 tablespoon | 100–200 |
| Soup, canned or dry, diluted per directions, 1 cup | 800–1,405 |
| Onion soup, dry mix, 1 packet | 3,132 |
| Spaghetti sauce, from jar, 1 cup | 1,000–1,600 |
| Soy sauce, 1 tablespoon | 900–1,300 |
| Tartar sauce, 1 tablespoon | 125–360 |
| Teriyaki sauce, 1 tablespoon | 690 |
| Vinegar, 1 tablespoon | 0 |
| White sauce, ¼ cup | 220 |

#### Vegetables and Fruits

| Sodium (mg) | Fruits and fruit juices, 1 cup | 1–15 |
| Fresh or plain frozen vegetables except as listed below, 1 cup | 10–50 |
| Artichoke, 1 medium | 80 |
| Asparagus, canned, 4 spears | 280 |
| Beets, fresh, cooked, 1 cup | 85 |
| Beets, canned, 1 cup | 330 |
| Beet greens, cooked, no salt, 1 cup | 347 |
| Carrots, fresh, cooked, no salt, 1 cup | 90 |
| Carrots, canned, 1 cup | 350 |
| Celery, raw, 1 cup | 105 |
| Corn, canned, 1 cup: | |
| Whole | 546 |
| Cream-style | 730 |
| Green beans, canned, 1 cup | 354 |
| Mixed vegetables, 1 cup: | |
| Frozen | 65 |
| Canned | 245 |
| Mushrooms, canned, 1 cup | 665 |
| Peas, 1 cup | |
| Frozen | 115 |
| Canned | 495 |
| Potato: | |
| Plain, 1 medium | 15 |
### Sodium Content of Common Foods (continued)

<table>
<thead>
<tr>
<th>Food</th>
<th>Sodium (mg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Au gratin, from mix, 1 cup</td>
<td>1,075</td>
</tr>
<tr>
<td>Mashed, 1 cup</td>
<td>620</td>
</tr>
<tr>
<td>Chips, 1 ounce</td>
<td>149</td>
</tr>
<tr>
<td>Salad, 1 cup</td>
<td>1,320</td>
</tr>
<tr>
<td>Scalloped, 1 cup</td>
<td>820</td>
</tr>
<tr>
<td>Sauerkraut, 1 cup</td>
<td>1,560</td>
</tr>
<tr>
<td>Spinach, 1 cup:</td>
<td></td>
</tr>
<tr>
<td>Fresh, cooked</td>
<td>120</td>
</tr>
<tr>
<td>Frozen</td>
<td>184</td>
</tr>
<tr>
<td>Canned</td>
<td>746</td>
</tr>
<tr>
<td>Sweet potato:</td>
<td></td>
</tr>
<tr>
<td>Canned, 1 cup</td>
<td>135</td>
</tr>
<tr>
<td>Fresh, baked</td>
<td>53</td>
</tr>
<tr>
<td>Tomatoes, canned, 1 cup</td>
<td>564</td>
</tr>
<tr>
<td>Tomato or vegetable juice,</td>
<td>654</td>
</tr>
<tr>
<td>canned, 1 cup</td>
<td></td>
</tr>
<tr>
<td>Tomato sauce, 1 cup</td>
<td>1,284</td>
</tr>
</tbody>
</table>

| Fish and Poultry             |             |
| Chicken, medium piece        |             |
| Half breast:                 |             |
| Fried, batter-dipped         | 385         |
| Fried, flour-dipped, no salt | 75          |
| Roasted, no salt             | 70          |
| Thigh:                       |             |
| Fried, batter-dipped         | 250         |
| Fried, flour-dipped, no salt | 65          |
| Roasted, no salt             | 50          |
| Chicken liver, cooked, no salt, 1 | 25    |
| Chicken frankfurter, 1.5 ounce | 447   |
| Duck, roasted, half duck     | 144         |

**Turkey, roasted, no salt, 3 ounces:**

| Light meat                   | 50          |
| Dark meat                    | 70          |
| Ground, cooked, 3 ounces     | 88          |
| Turkey ham or pastrami,      |             |
| 2 slices, 2 ounces           | 560         |
| Frozen entrées and meals,    | 750–1,500   |
| 8–12 ounces                  |             |

**Fish, 3-ounce cooked portion, no salt added except as noted:**

<table>
<thead>
<tr>
<th>Food</th>
<th>Sodium (mg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cod, fresh or plain frozen</td>
<td>65</td>
</tr>
<tr>
<td>Catfish, breaded and fried</td>
<td>240</td>
</tr>
<tr>
<td>Fish sticks, frozen, 3</td>
<td>354</td>
</tr>
<tr>
<td>Lox, 1 ounce</td>
<td>570</td>
</tr>
<tr>
<td>Salmon, fresh</td>
<td>50</td>
</tr>
<tr>
<td>Canned, 3 ounces</td>
<td>471</td>
</tr>
<tr>
<td>Smoked, 1 ounce</td>
<td>220</td>
</tr>
<tr>
<td>Sardines, Atlantic in oil, 2</td>
<td>143</td>
</tr>
<tr>
<td>Snapper or pike, fresh or plain frozen</td>
<td>45</td>
</tr>
<tr>
<td>Sole or ocean perch</td>
<td>85</td>
</tr>
<tr>
<td>Tuna, fresh</td>
<td>40</td>
</tr>
<tr>
<td>Tuna, canned, 3 ounces</td>
<td>300</td>
</tr>
</tbody>
</table>

**Shellfish:**

<table>
<thead>
<tr>
<th>Clams, breaded and fried, ¾ cup</th>
<th>834</th>
</tr>
</thead>
</table>

**Crab, 3 ounces cooked:**

| Alaska King                     | 915 |
| Dungeness                       | 320 |
| Blue Crab                       | 235 |
| Lobster, 3 ounces cooked        | 325 |
| Shrimp, 4 large:                |     |
| Breaded and fried               | 103 |
| Boiled or steamed               | 50  |

**Beef, Pork, Lamb, and Veal**

<table>
<thead>
<tr>
<th>Beef:</th>
<th>Sodium (mg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fresh, all cuts,</td>
<td>55–75</td>
</tr>
<tr>
<td>3 ounces cooked, no salt</td>
<td></td>
</tr>
<tr>
<td>Cured or processed:</td>
<td></td>
</tr>
<tr>
<td>Bologna, 2 slices, 2 ounces</td>
<td>784</td>
</tr>
<tr>
<td>Salami, 2 slices, dry, 2 ounces</td>
<td>1,407</td>
</tr>
<tr>
<td>Corned-beef brisket, 3 ounces</td>
<td>965</td>
</tr>
<tr>
<td>Pastrami, 3 ounces</td>
<td>707</td>
</tr>
<tr>
<td>Dried beef, 1 ounce</td>
<td>791</td>
</tr>
<tr>
<td>Frankfurter, 1.5 ounces</td>
<td>604</td>
</tr>
<tr>
<td>Liver, 3 ounces</td>
<td>79</td>
</tr>
</tbody>
</table>

*continued on page 7.14*
## Heart-healthy Diet

**Sodium Content of Common Foods (continued)**

<table>
<thead>
<tr>
<th>Food Description</th>
<th>Sodium (mg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frozen entrées and meals, 8-12 ounces</td>
<td>650-1,500</td>
</tr>
<tr>
<td>Canned stew/hash/chili, 1 cup</td>
<td>1,000-1,600</td>
</tr>
<tr>
<td><strong>Pork:</strong></td>
<td></td>
</tr>
<tr>
<td>Fresh, all cuts, 3 ounces cooked, no salt</td>
<td>50-70</td>
</tr>
<tr>
<td>Cured or processed:</td>
<td></td>
</tr>
<tr>
<td>Bacon, 3 slices</td>
<td>575</td>
</tr>
<tr>
<td>Canadian-style bacon, 3 ounces</td>
<td>1,074</td>
</tr>
<tr>
<td>Ham, extra lean, 3 ounces</td>
<td>1,113</td>
</tr>
<tr>
<td>Sausage, 3 ounces</td>
<td>786</td>
</tr>
<tr>
<td>Smoked sausage, 3 ounces</td>
<td>868</td>
</tr>
<tr>
<td>Vienna sausage, 3 ounces</td>
<td>1,017</td>
</tr>
<tr>
<td>Italian or Polish sausage, 3 ounces</td>
<td>920</td>
</tr>
<tr>
<td>Bologna, 2 slices, 2 ounces</td>
<td>784</td>
</tr>
<tr>
<td>Salami, dry, 1 ounce</td>
<td>1,407</td>
</tr>
<tr>
<td>Frankfurter, 1½ ounces</td>
<td>604</td>
</tr>
<tr>
<td>Pepperoni, 1 ounce</td>
<td>463</td>
</tr>
<tr>
<td>Salt pork, 1 ounce</td>
<td>405</td>
</tr>
<tr>
<td><strong>Lamb:</strong></td>
<td></td>
</tr>
<tr>
<td>Chop, 3 ounces</td>
<td>70</td>
</tr>
<tr>
<td>Leg, 3 ounces</td>
<td>60</td>
</tr>
<tr>
<td><strong>Veal:</strong></td>
<td></td>
</tr>
<tr>
<td>Loin chop, 3 ounces</td>
<td>75</td>
</tr>
<tr>
<td>Rib roast, 3 ounces</td>
<td>95</td>
</tr>
<tr>
<td><strong>Dairy Products and Eggs</strong></td>
<td></td>
</tr>
<tr>
<td>Milk, 1 cup</td>
<td>98</td>
</tr>
<tr>
<td>Buttermilk, salted, 1 cup</td>
<td>255</td>
</tr>
<tr>
<td>Chocolate milk or hot cocoa, 1 cup</td>
<td>165</td>
</tr>
<tr>
<td>Eggnog, 1 cup</td>
<td>140</td>
</tr>
<tr>
<td>Evaporated milk, 1 cup</td>
<td>294</td>
</tr>
<tr>
<td>Sweetened condensed milk, 1 cup</td>
<td>395</td>
</tr>
<tr>
<td>Half and half, 1 tablespoon</td>
<td>5</td>
</tr>
<tr>
<td>Heavy cream, 1 tablespoon</td>
<td>5</td>
</tr>
<tr>
<td>Frozen dessert topping, 1 tablespoon</td>
<td>1</td>
</tr>
<tr>
<td>Nondairy creamer, 1 tablespoon</td>
<td>10</td>
</tr>
<tr>
<td>Cheese, 1 ounce:</td>
<td></td>
</tr>
<tr>
<td>American processed</td>
<td>422</td>
</tr>
<tr>
<td>Blue</td>
<td>395</td>
</tr>
<tr>
<td>Cheddar or Colby</td>
<td>175</td>
</tr>
<tr>
<td>Cheese food, processed</td>
<td>359</td>
</tr>
<tr>
<td>Cheese spread, processed</td>
<td>380</td>
</tr>
<tr>
<td>Mozzarella</td>
<td>150</td>
</tr>
<tr>
<td>Muenster</td>
<td>170</td>
</tr>
<tr>
<td>Parmesan, grated, 1 tablespoon</td>
<td>95</td>
</tr>
<tr>
<td>Provolone</td>
<td>250</td>
</tr>
<tr>
<td>Roquefort</td>
<td>515</td>
</tr>
<tr>
<td>Swiss</td>
<td>54</td>
</tr>
<tr>
<td>Cottage cheese, ½ cup</td>
<td></td>
</tr>
<tr>
<td>Creamed or low-fat</td>
<td>380-460</td>
</tr>
<tr>
<td>Dry curd</td>
<td>239</td>
</tr>
<tr>
<td>Cream cheese, 1 tablespoon</td>
<td>47</td>
</tr>
<tr>
<td>Neufchatel, 1 ounce</td>
<td>95</td>
</tr>
<tr>
<td>Ricotta, ½ cup</td>
<td>153</td>
</tr>
<tr>
<td>Sour cream, 1 tablespoon</td>
<td>5</td>
</tr>
<tr>
<td>Yogurt, 8 ounces:</td>
<td></td>
</tr>
<tr>
<td>With fruit</td>
<td>135</td>
</tr>
<tr>
<td>Plain</td>
<td>165</td>
</tr>
<tr>
<td>Egg, whole, 1 large</td>
<td>65</td>
</tr>
<tr>
<td>Egg, white only, 1 large</td>
<td>55</td>
</tr>
<tr>
<td>Egg yolk only, 1 large</td>
<td>10</td>
</tr>
<tr>
<td>Egg substitute, frozen, ¼ cup</td>
<td>111</td>
</tr>
</tbody>
</table>

**Sources:**


[www.dietbites.com](http://www.dietbites.com)

[www.weightcommander.com](http://www.weightcommander.com)
A Heart-healthy Menu for the First Week Home

When you return home after heart surgery, you might not be back to your old self quite yet, and you may not feel very hungry. You will heal faster and feel better more quickly if you eat at least three small, well-balanced meals per day. Here are some easy-to-fix ideas, and of course if you have access to homemade heart-healthy foods—that is even better!

Breakfasts

<table>
<thead>
<tr>
<th>Meal Ideas</th>
<th>Shopping Tips</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 cup rolled oats cooked in water[22 g]</td>
<td>Fresh or frozen without sugar</td>
</tr>
<tr>
<td>½ cup berries[6 g for blueberries]</td>
<td></td>
</tr>
<tr>
<td>2 tablespoons walnuts[1 g]</td>
<td></td>
</tr>
<tr>
<td>¼ teaspoon cinnamon and/or Splenda[0 g]</td>
<td></td>
</tr>
<tr>
<td>1 cup skim milk[12 g]</td>
<td></td>
</tr>
<tr>
<td>1 cup shredded wheat[33 g]</td>
<td>Try Post or Barbara’s Shredded Wheat or Kashi Autumn Harvest</td>
</tr>
<tr>
<td>½ cup berries or sliced strawberries[5 g]</td>
<td></td>
</tr>
<tr>
<td>1 cup skim milk[12 g]</td>
<td></td>
</tr>
<tr>
<td>1 cup Kashi Good Friends cereal[26 g]</td>
<td></td>
</tr>
<tr>
<td>½ to 1 cup sliced strawberries[5 to 9 g]</td>
<td></td>
</tr>
<tr>
<td>1 cup skim milk[12 g]</td>
<td></td>
</tr>
<tr>
<td>¾ cup cooked whole grain hot cereal[28 g]</td>
<td>Try Zoom or Wheatena</td>
</tr>
<tr>
<td>2 tablespoons walnuts[1 g]</td>
<td></td>
</tr>
<tr>
<td>Half grapefruit[9 g]</td>
<td></td>
</tr>
<tr>
<td>1 cup skim milk[12 g]</td>
<td></td>
</tr>
<tr>
<td>1 whole-wheat English muffin[22 g]</td>
<td>Try Oroweat or Fred Meyer 100% Whole Wheat</td>
</tr>
<tr>
<td>1 poached egg[0 g]</td>
<td>Look for omega-3 eggs sold in an egg carton in the dairy case</td>
</tr>
<tr>
<td>Tomato slices[1 g] (optional)</td>
<td></td>
</tr>
<tr>
<td>Salt and pepper (optional)</td>
<td></td>
</tr>
<tr>
<td>1 cup cantaloupe[12 g] or other fresh fruit</td>
<td></td>
</tr>
</tbody>
</table>

Snacks

<table>
<thead>
<tr>
<th>Ideas</th>
</tr>
</thead>
<tbody>
<tr>
<td>• 15 almonds[2.5 g] (2 tablespoons)</td>
</tr>
<tr>
<td>• 8 walnut halves[2 g] (3 tablespoons)</td>
</tr>
<tr>
<td>• 1 cup strawberries[8 g]</td>
</tr>
<tr>
<td>• 1 small pear[17 g]</td>
</tr>
<tr>
<td>• 1 small apple[12 g]</td>
</tr>
<tr>
<td>• 1 medium orange[12 g]</td>
</tr>
<tr>
<td>• 1 large peach[13 g]</td>
</tr>
<tr>
<td>• 1 cup grapes[15 to 26 g] or cherries[16 g]</td>
</tr>
<tr>
<td>• 1 cup blueberries[16 g] or blackberries[6 g]</td>
</tr>
<tr>
<td>• ½ cup unsweetened applesauce[12 g]</td>
</tr>
<tr>
<td>• 1 cup low-fat sugar-free yogurt*</td>
</tr>
<tr>
<td>• 1 part-skim mozzarella string cheese[0 g]</td>
</tr>
</tbody>
</table>

*Check the package label because the carbohydrate content varies widely for this food.
### Heart-healthy Diet

#### Lunches

<table>
<thead>
<tr>
<th>Meal Ideas</th>
<th>Shopping Tips and Recipe Suggestions</th>
</tr>
</thead>
</table>
| 2 cups minestrone soup (28 g)  
6 whole-wheat crackers (7 g)  
1 medium apple (15 g) | Try Amy’s Light in Sodium, Low-Fat Soup  
Try Triscuits Thin Crisps |
| Tossed green salad with:  
3 ounces cubed skinless chicken breast (10 g)  
½ cup kidney or garbanzo beans (14 g)  
1 to 2 tablespoons vinaigrette or low-fat salad dressing (less than 1 g)  
1 cup sliced fresh fruit (20 g) | Try Amy’s No Salt Added Beans  
Try Newman’s Low Sodium Dressings |
| 1½ cups lentil soup (22 g)  
1 whole-wheat roll (11 g)  
Tossed green salad (less than 1 g)  
1 to 2 tablespoons vinaigrette or low-fat salad dressing (less than 1 g) | Try Amy’s Light in Sodium Soup |
| Sliced turkey breast sandwich on whole-wheat bread with:  
Lettuce (less than 1 g)  
Sliced tomato (less than 1 g)  
Mustard (less than 1 g)  
1 medium orange (12 g) | Try Newman’s Lighten Up Dressings |
| 1 cup tuna or salmon pasta salad (approx. 25 g)  
(see recipe) on lettuce (less than 1 g)  
Tomato (less than 1 g) or cucumber slices (1 g)  
1 cup raw vegetable sticks (8 g for carrot) | Tuna or Salmon Pasta Salad  
• 1 can water-packed tuna/salmon  
• 1 chopped red pepper  
• 1 chopped green onion  
• 1 tablespoon lime juice  
• ¼ cup low-fat yogurt  
• 8 ounces whole-grain pasta  
Boil pasta until tender and drain. Mix together tuna, lime, pepper, onion, and yogurt. Toss with pasta and serve! |
| Hummus and veggie plate with:  
½ cup hummus (10 g)  
1 cup celery sticks (1 g)  
carrot sticks, and sliced cucumber  
1 whole-wheat pita pocket* | Try Tapéta brand |
| Green salad (less than 1 g for 2 cups) with:  
cup black beans (13 g)  
cup salsa (3 g) (optional)  
small avocado (less than 1 g)  
20 baked chips (17 g per ounce) | Try Amy’s No Added Salt Beans  
Look for low-sodium salsa such as Salsa Hecho  
Try Guiltless Gourmet brand |

*Check the package label because the carbohydrate content varies widely for this food.
### Dinners

#### Meal Ideas

<table>
<thead>
<tr>
<th>Easy Broiled Salmon</th>
<th>Shopping Tips and Recipe Suggestions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dinners</strong></td>
<td><strong>Meal Ideas</strong></td>
</tr>
<tr>
<td>4 ounces broiled salmon&lt;sup&gt;0 g&lt;/sup&gt; (see recipe)</td>
<td>1 skinless roasted chicken breast&lt;sup&gt;0 g&lt;/sup&gt;</td>
</tr>
<tr>
<td>½ to 1 cup steamed broccoli&lt;sup&gt;approx. 5 g&lt;/sup&gt;</td>
<td>1 cup green beans&lt;sup&gt;6 g&lt;/sup&gt;</td>
</tr>
<tr>
<td>1 whole-wheat roll&lt;sup&gt;11 g or see label&lt;/sup&gt;</td>
<td>1 corn on the cob&lt;sup&gt;22 to 34 g&lt;/sup&gt;</td>
</tr>
<tr>
<td>½ to 1 cup carrot sticks&lt;sup&gt;4 to 8 g&lt;/sup&gt;</td>
<td>Green salad&lt;sup&gt;less than 1 g&lt;/sup&gt;</td>
</tr>
<tr>
<td>½ cup frozen corn&lt;sup&gt;12 g&lt;/sup&gt;</td>
<td>2 tablespoons vinaigrette or low-fat dressing&lt;sup&gt;2 g&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

**Easy Broiled Salmon**
- Salmon filets
- Pepper and/or salt
- Lime juice or lime vinaigrette

Place salmon filets on a dry cookie sheet, skin side down. Sprinkle with pepper (salt if preferred) and lime juice. Broil on high for 10 minutes.

<table>
<thead>
<tr>
<th>Easy Slaw</th>
<th>1½ cups vegetarian chili&lt;sup&gt;23 g&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 tablespoons nonfat sour cream&lt;sup&gt;14 g&lt;/sup&gt;</td>
<td>1 cup easy slaw&lt;sup&gt;0 g&lt;/sup&gt; (see recipe)</td>
</tr>
<tr>
<td>20 baked chips&lt;sup&gt;17 g per ounce&lt;/sup&gt;</td>
<td>Try Amy’s Light in Sodium</td>
</tr>
</tbody>
</table>

**Easy Slaw**
- 1 cup shredded cabbage or broccoli
- 2 tablespoons plain or vanilla nonfat light yogurt
- 1 tablespoon lemon juice
- ½ teaspoon caraway or pepper

Combine ingredients and chill.

**Lean burger made with:**
- 3 ounces lean meat<sup>0 g</sup> or veggie patty<sup>4 to 11 g</sup>
- Sliced whole-wheat bun<sup>*</sup>
- 1 tablespoon canola mayonnaise<sup>0 g</sup>
- Catsup<sup>4 g</sup> and/or mustard<sup>less than 1 g</sup>
- Lettuce<sup>less than 1 g</sup> and tomato<sup>less than 1 g</sup>
- 1 cup easy slaw<sup>0 g</sup> (see recipe)

Try Amy’s Bistro or Texas Burger or Garden Burger’s Flame Grilled

**Chicken fajitas made with:**
- 3 ounces sliced grilled chicken breast
- 1 cup sautéed peppers and onions
- ½ cup black beans
- ¼ cup salsa
- 3 corn tortillas<sup>(approx. 9 g each; see label)</sup>
- Green salad<sup>less than 1 g for 2 cups</sup>
- 1 to 2 tablespoons vinaigrette or low-fat dressing<sup>2 g</sup> or half small avocado<sup>3 g</sup>

Try La Burrita or Don Paulo tortillas

*Check the package label because the carbohydrate content varies widely for this food.*
### Heart-healthy Diet

#### Dinners (continued)

<table>
<thead>
<tr>
<th>Meal Ideas</th>
<th>Shopping Tips and Recipe Suggestions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/2 cup tuna or salmon salad on whole-wheat bread* made with: 3 ounces tuna (in water) 1 tablespoon canola mayonnaise  Sliced tomato, lettuce or spinach 1 cup cream of tomato soup (1 g)</td>
<td>Try Deep Sea no salt or oil added</td>
</tr>
<tr>
<td>1 1/2 cup split pea chowder (22 g) Whole-wheat toast* 1 teaspoon canola spread 1 cup cherry tomatoes or carrot sticks</td>
<td>Try Amy’s Light in Sodium Soup</td>
</tr>
</tbody>
</table>

*Check the package label because the carbohydrate content varies widely for this food.

#### Nutrition Information

The meal ideas on this menu were chosen for taste, ease of preparation, and heart health and to help control blood sugars. Choosing a wide variety of foods as part of a well-balanced diet will ease your recovery!

**Energy** Breakfasts and lunches contain up to 400 calories. Dinners include up to 500 calories. The snacks recommended have 60 to 100 calories.

**Fat** Fat is limited to 30 percent of the energy or less. Saturated fat content is less than 3 g for each meal. Cholesterol is less than 75 mg, except for the egg-and-muffin breakfast, which has 211 mg of cholesterol.

**Sodium** Sodium content ranges from 150 to 800 mg per meal. The American Heart Association recommends limiting sodium to 2,300 mg per day or less.

**Especially If You Have Diabetes...**

It is a good idea to eat a well-balanced diet containing carbohydrates from whole, unrefined foods. The total carbohydrate content of these meals ranges from 35 to 60 g.

Carbohydrates affecting blood sugar are provided in parenthesis (for example, the cup of rolled oats in the first breakfast has 22 g of carbohydrates after dietary fiber is excluded and is shown as: “rolled oats cooked in water(22 g).”
CONTINUING
Heart and
Vascular Care

Medications

CONFIRMING YOUR MEDICATION LIST .................. 8.1
GENERAL INFORMATION FOR TAKING MEDICATIONS .......... 8.1
Confirming Your Medication List

Before you are discharged, one of the Cardiac Clinical Case Managers or your patient care nurse will review all your medications with you and/or your family, including all the medications you were on before you came to the hospital and those your doctors want you to continue. You will receive a list of your continuing medications and any new ones your doctors want you to start taking as well as the dosages. Your patient care nurse will go over the list with you, explaining the purpose of each medication.

Ensuring that your medication list is correct and you understand how and why you need the medications takes time. There will also be time for you to ask questions. Take the list with you when you see your doctors.

This section contains many of the medications, their purpose, side effects, and special instructions for patients with cardiac conditions. You may be on one or several of these medications.

General Information for Taking Medications

- Follow directions for taking medications. Do not take extra doses or skip doses of your medications, except on the advice of your doctor.

- Be sure you know the name, purpose, dosage, and possible side effects of all medications you are taking.

- When you get a new medication, check with your doctor or pharmacist before taking any over-the-counter drugs or previously ordered medications you may have. They may interfere with one another.

- Set a routine for taking your medicine at the same time each day, to maintain a constant level in your bloodstream.

- If you have an adverse reaction to a medication, stop taking it and call your doctor.

- Do not take medications unless they have been prescribed for you, and do not let others treat themselves with your medications.

- Remember to keep all medicines out of the reach of children.

- Renew or obtain a new prescription from your doctor at least two days before your supply is to run out.

- Medicines lose potency over time. Ask your pharmacist to be sure a medication is safe and effective if it is more than several months old.

- Keep each medication in its own labeled container. Never use the same container for two or more medications.

- Write on a card the names and the dosages of all your medications and carry it with you. Tell doctors, pharmacists, and dentists what you are taking as well as any allergies you have to any medications.

- Because extreme heat or cold can alter medications, avoid placing them in the sun or on a windowsill and do not store them in your vehicle.

- Some medications, such as those for pain, should not be mixed with alcohol. Ask your pharmacist if you are not sure.
<table>
<thead>
<tr>
<th>Medication</th>
<th>Purpose</th>
<th>Possible Side Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Alpha Receptor Blockers</strong></td>
<td>These medications are used to treat high blood pressure by relaxing and dilating blood vessels. These medications are often used to control benign prostate diseases in men.</td>
<td>Notify your doctor if you develop any of the following symptoms:</td>
</tr>
<tr>
<td><em>Treat high blood pressure</em></td>
<td></td>
<td>- Persistent feeling of drowsiness, dizziness, light-headedness, or nausea</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Persistent dry mouth, nasal congestion, or impotence</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Rapid weight gain or swelling in the hands, feet, or ankles</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Changes in your heart rhythm—skipping beats, pounding, rapid, or very slow</td>
</tr>
</tbody>
</table>

**Trade Names**

- **Cardura** (doxazosin)
- **Dibenzyline** (phenoxybenzamine)
- **Flomax** (tamsulosin)
- **Hytrin** (terazosin)
- **Minipress** (prazosin)

**Special Instructions**

Usually, these medications are slowly increased over a few weeks. The initial dose should be taken at bedtime to allow your body to adjust to it.

- Never stop taking an alpha-receptor blocker without first consulting your doctor.
- Do not take tranquilizers or sleeping pills or drink alcohol unless you have first checked with your doctor.
- If you feel dizzy when getting up from a sitting or lying position, getting up slowly often lessens the problem.
<table>
<thead>
<tr>
<th>Medication</th>
<th>Purpose</th>
<th>Possible Side Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Analgesics</strong></td>
<td>These medications help alleviate pain.</td>
<td>These medicines may cause drowsiness, constipation, and stomach upset, but normally plain Tylenol taken as directed will not produce side effects. Adults should never take more than 4 grams (4,000 milligrams) of Tylenol in divided doses per day. Be careful to account for the Tylenol (acetaminophen) in many pain medications. Never take Tylenol with alcohol, as it could lead to liver failure.</td>
</tr>
<tr>
<td>Control pain</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Trade Names</strong></td>
<td><strong>Special Instructions</strong></td>
<td></td>
</tr>
<tr>
<td>Prescription:</td>
<td>Do not drive or drink alcohol while taking prescription pain medicine. If taken with alcohol, these medications could cause you to become dizzy and unsteady. Never drink alcohol even with plain over-the-counter Tylenol. To prevent irritation to your stomach, take them with food. If you have problems with constipation, try taking an over-the-counter stool softener; ask your pharmacist for suggestions.</td>
<td></td>
</tr>
<tr>
<td>Darvocet N</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(propoxyphene/acetaminophen)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OxyContin</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(oxycodone)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percocet</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(oxycodone/acetaminophen)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tylenol #3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(acetaminophen/codeine)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vicodin</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(hydrocodone/acetaminophen)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Over-the-counter:</strong></td>
<td>It is better to take pain medicine when you first experience the pain. When you wait, it’s sometimes harder for the medicine to take effect. Taking your medicine as directed is safe. Controlling your incisinal pain is important so that you are free to do the walking, coughing, and other activities that are necessary for your recovery.</td>
<td></td>
</tr>
<tr>
<td>Advil, Motrin</td>
<td></td>
<td></td>
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<tr>
<td>(ibuprofen)</td>
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<td></td>
</tr>
<tr>
<td>Aleve</td>
<td></td>
<td></td>
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<tr>
<td>(naproxen)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tylenol</td>
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</tbody>
</table>
## Medications

<table>
<thead>
<tr>
<th>Medication</th>
<th>Purpose</th>
<th>Possible Side Effects</th>
</tr>
</thead>
</table>
| **Angiotensin Converting Enzyme (ACE) Inhibitors**<br>*Treat high blood pressure* | ACE inhibitors cause blood vessels to relax or dilate. They are used to treat high blood pressure and prevent fluid retention and shortness of breath from heart disease and congestive heart failure. Recent studies have shown that these drugs may prevent future heart attacks. | Notify your doctor if you develop any of the following symptoms:  
• Persistent dizziness or light-headedness  
• Skin rash or itching  
• Loss of your sense of taste or smell  
• Sore throat  
• Loss of appetite  
• Nausea, vomiting, or diarrhea that lasts more than one day  
• Dry, hacking cough  
• Swollen or puffy feet, ankles, hands, face, or tongue  
• Changes in your heart rhythm—skipping beats, pounding, rapid, or very slow |

<table>
<thead>
<tr>
<th>Trade Names</th>
<th>Special Instructions</th>
</tr>
</thead>
</table>
| **Accupril (quinapril)**<br>**Altace (ramipril)**<br>**Capoten (captopril)**<br>**Lotensin (benazepril)**<br>**Mavik (trandolapril)**<br>**Monopril (fosinopril sodium)**<br>**Prinivil, Zestril (lisinopril)**<br>**Univasc (moexipril)**<br>**Vasotec (enalapril maleate)** | Avoid taking cough, cold, or allergy medications or using salt substitutes containing potassium without consulting your doctor.  
Capoten and Univasc: Take one hour before meals on an empty stomach. |
<table>
<thead>
<tr>
<th>Medication</th>
<th>Purpose</th>
<th>Possible Side Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Angiotensin Receptor Blockers (ARBs)</td>
<td>Treat high blood pressure</td>
<td>Notify your doctor if you develop any of the following symptoms:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Unexplained fever</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Mouth sores</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Insomnia</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Rapid weight gain or swelling in the hands, feet, or ankles</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Changes in your heart rhythm—skipping beats, pounding, rapid, or very slow</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Chest pain</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Persistent chest or nasal congestion or persistent cough</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Persistent muscle aches or cramps</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Persistent dizziness or light-headedness</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Loss of appetite</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Nausea, vomiting, or diarrhea that lasts more than one day</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Loss of your sense of taste or smell</td>
</tr>
</tbody>
</table>

**Trade Names**

- **Atacand** (candesartan)
- **Avapro** (irbesartan)
- **Benicar** (olmesartan)
- **Cozaar** (losartan)
- **Diovan** (valsartan)
- **Inspra** (eplerenone)*
- **Micardis** (telmisartan)
- **Tevetan** (eprosartan)

*Inspra blocks the binding of aldosterone in the angiotensin system.*

**Special Instructions**

If you feel dizzy when getting up from a sitting or lying position, getting up slowly often lessens the problem.
### Medications

<table>
<thead>
<tr>
<th>Medication</th>
<th>Purpose</th>
<th>Possible Side Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Anti-arrhythmics</strong></td>
<td><strong>Regulate heart rhythm</strong></td>
<td><em>Notify your doctor if you develop any of the following symptoms:</em></td>
</tr>
<tr>
<td></td>
<td>These medications are used to regulate heartbeat by controlling irregular heart rhythm. New anti-arrhythmic drugs are always under investigation and appearing on the market.</td>
<td><em>Chest pain</em></td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>Changes in heart rhythm—skipping or pounding</em></td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>Blurred vision, dizziness, tremors, nervousness, or ringing in the ears</em></td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>Nausea, vomiting, or diarrhea that lasts more than one day</em></td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>Skin rash</em></td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>Fever or chills</em></td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>Numbness or tingling of hands or feet</em></td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>Shortness of breath</em></td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>Daytime drowsiness or a change in sleeping habits</em></td>
</tr>
</tbody>
</table>

#### Trade Names

- **Betapace** (sotalol)
- **Cardioquin, Quinaglude, Quinidex, Quinidine** (quinidine)
- **Cordarone** (amiodarone HCl)
- **Lanoxin** (digoxin)
- **Mexitil** (mexiletine)
- **Norpace** (disopyramide phosphate)
- **Procanbid, Procan SR, Pronestyl** (procainamide)
- **Rythmol** (propafenone)
- **Tambocor** (flecainide)
- **Tikosyn** (dofetilide)
- **Tonocard** (tocainide HCl)

#### Special Instructions

- These drugs should be taken at regular intervals. Never discontinue taking an anti-arrhythmic without first consulting your doctor.
- If you miss a dose, do not double up on the next dose; just continue the regular schedule.

*See “Special Instructions” on next page*
<table>
<thead>
<tr>
<th>Medication</th>
<th>Purpose</th>
<th>Possible Side Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Anti-arrhythmics (continued)</strong></td>
<td>This medication is used to correct irregular heartbeat and maintain a normal rhythm. Store this drug at room temperature, out of direct sunlight, and away from high-moisture areas such as bathrooms.</td>
<td>Notify your doctor if you develop any of the following symptoms: • Painful breathing, cough, or shortness of breath • Slight fever • Blue-gray coloring of your skin or other changes or rashes • Coldness or sweating • Irregular or fast heartbeat • Weakness, numbness, or tingling in fingers or toes • Unusual or uncontrolled movements or trembling of your body • Vision changes or halos around objects As your body adjusts to this drug, you may experience: • Constipation, a bitter taste in your mouth, or a loss of appetite • Nausea or vomiting • Flushing of the face • Decreased sexual interest • Dizziness or headaches If these symptoms persist or get worse, contact your doctor.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Trade Name</th>
<th>Special Instructions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cordarone (amiodarone HCL)</strong></td>
<td>Take this medication exactly as directed at evenly spaced intervals and at the same time each day. Do not miss a dose or stop taking it without first consulting your doctor. It is best to take this drug with a full glass of water on an empty stomach, but it can be taken with food. If you miss a dose, do not double up on the next dose; just continue the regular schedule. Expect to have blood drawn periodically. Chest X-rays, eye exams, and electrocardiograms (EKGs) may also be done occasionally. You may become more sensitive to sunlight, which can lead to serious sunburn even through glass or clothing and for several months after stopping the drug. While in sunlight, wear a sunscreen that contains zinc or titanium oxide; also wear protective clothing and a wide-brimmed hat. Rarely, over time the skin may develop a blue-gray discoloration, which usually fades once the drug is stopped. Always inform any doctor caring for you that you are taking this drug.</td>
</tr>
</tbody>
</table>
Medications

**Purpose**

Harmful blood clots can form around an artificial valve, in the chambers of the heart, or in the heart arteries. To prevent this, your doctor wants you to take an anticoagulant, or “blood thinner,” called Coumadin, which slows down the time it takes your blood to clot.

**Special Instructions**

- Take Coumadin in the exact dose ordered by your doctor, at the same time every day (we suggest dinnertime).
- Never stop taking Coumadin unless your doctor tells you to.
- A prothrombin time (protime for short) test measures in seconds the time it takes your blood to form a clot. Your blood is drawn in a laboratory, doctor’s office, or Coumadin clinic. The results of your protime test will be reported as an INR number, which makes protime results standard worldwide. This number guides your doctor in prescribing the correct amount of Coumadin you should have. This may vary from one protime test to the next. You should know your INR number and keep track of it in a notebook.
- Try to have your protime test drawn at the same lab each time, as test results can vary among labs.
- If your protime test is sent to a lab and you have not heard from your doctor’s office by 4:30 p.m., you should call your doctor.
- After each protime test, you need to find out:
  - your new INR number
  - the new dose of Coumadin you should take
  - the date of your next protime test
- Never skip a protime test. Have it done early in the day. Unless ordered, avoid Fridays, Saturdays, Sundays, and the day before a holiday.
- While you are taking Coumadin, you will bleed longer because your blood takes longer to clot. For small cuts, apply pressure for a few minutes and the bleeding should stop.
- It is a good idea to use an electric razor, a soft-bristled toothbrush, wax-coated dental floss, and clothing (gloves, glasses, shoes) to protect yourself when doing things that put you at higher risk of injury.
- Always inform any doctor or dentist caring for you that you are taking Coumadin.
- Stop smoking. Smoking will change your Coumadin needs and alter your protime results.
- Notify your doctor if you are or plan to become pregnant.
- If you are planning a long trip, consult your doctor and make arrangements for getting protime tests drawn while you are away.
- Do not use aspirin or any drugs containing aspirin, such as Excedrin, Bufferin, or Alka-Seltzer. Aspirin may increase the effect of Coumadin and cause bleeding.
- You may use Tylenol (acetaminophen) occasionally for minor aches, pains, or headaches. If you require something stronger or more often, call your doctor. You may be given another medication for pain.
- If your doctor directs you to also take a daily aspirin along with your Coumadin, that is the only aspirin you are to take.
Anticoagulants (continued)

- Consult your doctor or pharmacist before taking any over-the-counter drugs because they may affect how the Coumadin works. If a new medication is prescribed for you, remind the doctor that you are taking Coumadin.
- Fever, diarrhea, vomiting, prolonged hot weather, and malnutrition may change your Coumadin needs. Report these and any antibiotic to treat an infection to the doctor who is giving you Coumadin.
- A flu shot can increase the effects of Coumadin for up to one month. Be sure to tell your doctor whenever you have one. Watch more carefully for bleeding.
- Please contact your doctor if you miss your daily dose of Coumadin. Do not double up on your dose to compensate for the dose you missed.
- If you are going to be on Coumadin for a long time or for life, you should carry a Coumadin ID card with you at all times. Before discharge, ask for a medic-alert pamphlet if you would like an ID necklace or bracelet.
- Although vitamin K helps the blood form clots, you do not have to avoid foods high in vitamin K because you are taking Coumadin. Vegetables such as broccoli and leafy greens are important, healthy, low-fat diet choices and need to be included in your heart-healthy diet. Your doctor has taken them into account when giving you Coumadin.
- Eat a well-balanced diet. Try not to go on binges and fad diets. The Mediterranean-style diet is recommended (See “Heart-healthy Diet”). Avoid excess alcohol intake and binge drinking.
- Tell your doctor if you are drinking lots of fresh vegetable juices, taking herbal supplements, or taking large doses of beta-carotene or vitamin C, E, or A. These can change your protime results.
- If you take a generic form of Coumadin or change brands, check with your doctor. You may need to have your protime rechecked. Always try to buy your Coumadin from the same pharmacy.

See “Additional Materials” for copies of the “My Coumadin Calendar.”

Possible Side Effects
Notify your doctor if you have any unusual bleeding or develop any of the following symptoms:
- Injuries
- Excessive bruising
- Bleeding gums
- Nose bleeds
- Coughing up blood
- Severe headaches
- Blood in the urine (may look smoky or rusty)
- Blood in the stool (looks like tar)
- Bloody or dark-brown vomit
<table>
<thead>
<tr>
<th>Medication</th>
<th>Purpose</th>
<th>Possible Side Effects</th>
</tr>
</thead>
</table>
| **Anti-hyper-lipidemics**  
*Lower cholesterol* | These drugs are used to lower elevated blood cholesterol levels by decreasing LDL or raising HDL cholesterol or by reducing triglyceride production. They do this either by decreasing the amount the liver produces or by binding them with resin in your intestines so that they are eliminated in the stool. The cornerstone of treating high blood cholesterol is a low-fat, low-cholesterol diet and weight reduction. Drug therapy works only when carefully combined with heart-healthy foods (see “Heart-healthy Diet”). | At first you may experience:  
- Bloating with gas  
- Diarrhea  
- Constipation  
- Upset stomach  
- Hot flashes  
- Itchy, tingling skin  
- Generalized muscle pain and tenderness  
- Flulike symptoms  
If these symptoms last several days or become severe, inform your doctor.  
Notify your doctor if you develop any of the following symptoms:  
- Rash  
- Abdominal or gastric pain or cramping  
- Nausea or vomiting  
- Frequent headaches, dizziness, or blurred vision  
- Loss of appetite  
- Unusual bleeding  
- Difficulty sleeping  
**Call your doctor if you experience a rapid onset of severe muscle pain, especially in the calf muscles, and/or a significant darkening of your urine.** |

| Trade Names | Special Instructions |  |
|-------------|----------------------|  |
| **Advicor** (niacin/lovastatin)  
**Colestid** (colestipol)  
**Crestor** (rosuvastatin)  
**Lescol** (fluvastatin)  
**Lipitor** (atorvastatin)  
**Lopid** (gemfibrozil)  
**Niacin** (vitamin B³)  
**Niacor, Niaspan, Nicolar** (nicotinic acid)  
**Mevacor, Altocor** (lovastatin)  
**Pravachol** (pravastatin)  
**Prevalite, Questran Powder** (cholestyramine)  
**Tricor** (fenofibrate)  
**Vytoris** (simvastatin/ezetimibe)  
**Welchol** (colesevelam)  
**Zetia** (ezetimibe)  
**Zocor** (simvastatin) | The dose, time, and frequency for taking these medications vary. Your doctor or pharmacist will give you clear instructions. Often the dose will be increased gradually over a period of weeks.  
For your medication to work properly, it is important that you take it as prescribed before or with meals.  
In general and with few exceptions, “statins” should be taken in the evening or at bedtime.  
You can expect to have periodic laboratory tests drawn. The test results help your doctor evaluate the effectiveness of your medication and prescribe a dose that is appropriate for you. |  |
<table>
<thead>
<tr>
<th>Medication</th>
<th>Purpose</th>
<th>Possible Side Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Beta Blockers</strong></td>
<td>Control heart rate and blood pressure</td>
<td>Notify your doctor if you develop any of the following symptoms:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Shortness of breath, wheezing, or tiredness, especially after mild exercise</td>
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<tr>
<td></td>
<td></td>
<td>• Coughing at night</td>
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<tr>
<td></td>
<td></td>
<td>• Persistent dizziness, weakness, or fainting</td>
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<tr>
<td></td>
<td></td>
<td>• Swollen or puffy feet, ankles, or hands</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Unusually slow (below 55 beats per minute) or fast heart rate that cannot be explained</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Confused or depressed feelings</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Skin rash or itching</td>
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<td></td>
<td></td>
<td>• Yellow in the whites of the eyes or yellowing of the skin</td>
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<tr>
<td></td>
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<td>• Clay- or light-colored stools</td>
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<tr>
<td></td>
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<td>• Dark yellow/orange urine</td>
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<tr>
<td></td>
<td></td>
<td>• Persistent nausea, vomiting, or diarrhea</td>
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<tr>
<td></td>
<td></td>
<td>• Unusual bleeding or bruising</td>
</tr>
</tbody>
</table>

| Trade Names       | Special Instructions                        |                                                                            |
|-------------------|---------------------------------------------|                                                                            |
| Inderal, InnoPran XL (propranolol) | Do not take tranquilizers or sleeping pills or drink alcoholic beverages unless you have first checked with your doctor. |                                                                            |
| Lopressor, Toprol XL (metoprolol) | Never discontinue taking a beta blocker without first consulting your doctor. You may need to taper off this drug before stopping. |                                                                            |
| Normodyne, Trandate (labetalol)   | Check with a pharmacist before using over-the-counter cold, sinus, or nasal medications. |                                                                            |
| Tenormin (atenolol)               | Beta blockers may decrease or increase blood-sugar levels and mask symptoms of very low blood sugar. Tell your doctor if your levels change. |                                                                            |
| Zebeta (bisoprolol)               |                                                                            |                                                                            |

| Trade Name         | Purpose                                    |                                                                            |
|-------------------|--------------------------------------------|                                                                            |
| Coreg (carvedilol) | Carvedilol is also used to treat mild to moderate heart failure. |                                                                            |

| Trade Name         | Special Instructions                        |                                                                            |
|-------------------|---------------------------------------------|                                                                            |
| Coreg (carvedilol) | Take with food and at evenly spaced intervals. |                                                                            |
|                   | Tell your doctor if you are taking any green-colored herbal products. |                                                                            |
# Medications

<table>
<thead>
<tr>
<th>Medication</th>
<th>Purpose</th>
<th>Possible Side Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Calcium Channel Blockers</strong></td>
<td>Calcium blockers restrict the normal flow of calcium into the cells of the heart and blood vessels. This decreases the tendency of small vessels to narrow and spasm, which in turn decreases the heart’s workload and need for oxygen. It also helps control fast or irregular heartbeat.</td>
<td>Notify your doctor if you develop any of the following symptoms:</td>
</tr>
<tr>
<td><em>Decrease heart workload and control heart rate</em></td>
<td></td>
<td>• Persistent dizziness, light-headedness, or giddiness</td>
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<tr>
<td></td>
<td></td>
<td>• Swollen feet, ankles, or hands</td>
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<tr>
<td></td>
<td></td>
<td>• Shortness of breath</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Nausea or heartburn that lasts more than one day</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Muscle cramps or tremors</td>
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<tr>
<td></td>
<td></td>
<td>• Extreme fatigue or weakness</td>
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<tr>
<td></td>
<td></td>
<td>• Persistent headaches</td>
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<td></td>
<td></td>
<td>• Flushing or feeling hot</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Trade Names</th>
<th>Special Instructions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adalat CC, Procardia XL (nifedipine)</td>
<td>Never discontinue taking a calcium blocker without first consulting your doctor.</td>
</tr>
<tr>
<td>Cardene (nicardipine)</td>
<td>Do not take this drug with grapefruit or grapefruit juice. Take it one hour before or two hours later.</td>
</tr>
<tr>
<td>Cardizem CD, Tiazac, Dilacor XR (diltiazem)</td>
<td>Tell your doctor if you are taking any green-colored herbal products.</td>
</tr>
<tr>
<td>Calan, Covera-HS, Isoptin SR, Verelan (verapamil)</td>
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<tr>
<td>DynaCirc CD (isradipine)</td>
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<tr>
<td>Norvasc (amlodipine)</td>
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<tr>
<td>Plendil (felodipine)</td>
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<tr>
<td>Sular (nisoldipine)</td>
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<tr>
<td>Vascor (bepridil)</td>
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<tr>
<td>Medication</td>
<td>Purpose</td>
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<td>----------------------------</td>
<td>-------------------------------------------------------------------------</td>
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</tbody>
</table>
| Central-acting Alpha Blockers | Treat blood pressure These medications are used to treat high blood pressure by relaxing and dilating blood vessels. | Notify your doctor if you develop any of the following symptoms:  
• Persistent drowsiness, light-headedness, weakness, or tiredness  
• Skin problems, such as an itchy rash or a rash with a yellow cast  
• Persistent constipation  
• Persistent dry mouth  
• Persistent fever or muscle aches |
| Trade Names                |                                                                         |                                                                                        |
| Aldomet (methyl dopa)      |                                                                         |                                                                                        |
| Catapres, Dixarit (clonidine) |                                                                         |                                                                                        |
| Catapres TTS (once weekly clonidine patch) |                                                                         |                                                                                        |
| Tenex (guanfacine)         |                                                                         |                                                                                        |
| Wytensin (guanabenz)       |                                                                         |                                                                                        |

<table>
<thead>
<tr>
<th>Medication</th>
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</tr>
</thead>
</table>
| Digoxin                    | Digoxin strengthens the contractions of the heart and helps regulate the heart rate and rhythm. | Notify your doctor if you develop any of the following symptoms:  
• Loss of appetite  
• Nausea or vomiting that lasts more than one day  
• Blurred or flickering vision  
• Changes in your heart rhythm—skipping beats, pounding, rapid, or very slow |
| Trade Names                |                                                                         |                                                                                        |
| Digitek, Lantoxicaps, Lanoxin (digoxin) |                                                                         |                                                                                        |
### Medications

<table>
<thead>
<tr>
<th>Medication</th>
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<th>Possible Side Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Diuretics</strong>&lt;br&gt;“Water pills”</td>
<td>Diuretics, or “water pills,” help the kidneys eliminate excess fluid and sodium from the body. This will increase urine output. When there is less fluid stored in the blood, blood pressure and the workload on the heart is reduced.</td>
<td>Because diuretics can also cause loss of potassium in the urine, you may need to take a potassium supplement. Notify your doctor if you develop any of the following symptoms: • Muscle cramps or numbness in the hands and feet • Extreme fatigue or weakness • Shortness of breath • Dizziness • Blurred vision • Irregular heartbeat • Rapid weight gain or swelling in the hands, feet, or ankles</td>
</tr>
</tbody>
</table>

#### Trade Names
<table>
<thead>
<tr>
<th>Trade Names</th>
<th>Special Instructions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aldactazide, Aldactone (spironolactone)</td>
<td>Diuretics should be taken early in the morning and afternoon (if you’re taking it twice daily) to avoid being awakened during the night to urinate.</td>
</tr>
<tr>
<td>Bumex (bumetanide)</td>
<td></td>
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<tr>
<td>Demadex (torsemide)</td>
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<tr>
<td>Diuril (chlorothiazide)</td>
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<tr>
<td>Dyazide, Dyrenium, Maxide (triamterene/HCTZ)</td>
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<tr>
<td>Enduron (methyclothiazide)</td>
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<tr>
<td>Hydrodiuril, Microzide, Oretic, Esidrix (hydrochlorothiazide)</td>
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<tr>
<td>Hygroton (chlorothalidone)</td>
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<tr>
<td>Lasix (furosemide)</td>
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<tr>
<td>Lozol (indapamide)</td>
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<tr>
<td>Midamor, Modurectic (amiloride)</td>
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<tr>
<td>Mykrox, Zaroxolyn (metolazone)</td>
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</table>

<table>
<thead>
<tr>
<th>Medication</th>
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<th>Possible Side Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Iron</strong>&lt;br&gt;Builds red blood cells</td>
<td>These drugs are used to replace iron in the body. Iron is important in the formation of red blood cells.</td>
<td>Notify your doctor if you have persistent stomach upset or loss of appetite. Constipation is common.</td>
</tr>
</tbody>
</table>

#### Trade Names
<table>
<thead>
<tr>
<th>Trade Names</th>
<th>Special Instructions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ferosol, Slow-FE (ferrous sulfate)</td>
<td>Iron preparations should be taken with food to decrease stomach upset. Do not be alarmed if your stools are black; that is caused by iron that was not absorbed. If you have problems with constipation, try taking an over-the-counter stool softener; ask your pharmacist for suggestions. Take only with a doctor’s guidance.</td>
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<tr>
<td>Fergon (ferrous gluconate)</td>
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<tr>
<td>Chromagen (ferrous fumarate)</td>
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<tr>
<td>Medication</td>
<td>Purpose</td>
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</tr>
</tbody>
</table>
| **Nitrates**  
* Treat angina* | Nitrates are used in the treatment of angina pectoris due to coronary artery disease. They dilate, or widen, blood vessels, allowing more blood and oxygen to flow through them. Dilating vessels also lowers blood pressure and reduces the workload on the heart, so it needs less oxygen. | Notify your doctor if you develop any of the following symptoms:  
- Severe headaches that do not respond to medication  
- Faintness, weakness, dizziness, blurred vision, or dry mouth lasting a long time  
- Skin rash |

<table>
<thead>
<tr>
<th>Trade Names</th>
<th>Special Instructions</th>
</tr>
</thead>
</table>
| Deponit, Minitran patches or films,* Nitrek,* Nitro-Bid, Nitro-Dur, Nitrolingual Spray Nitrol Ointment, Nitroquick, Nitrostat, Transderm-Nitro (nitroglycerin)  
Dilatrate-SR,  
Sorbitrate, Isordil, Bidil (isosorbide dinitrate)  
Imdur, Isotrate-ER, Ismo, Monoket (isosorbide mononitrate) | A transient headache is the most common side effect when initially starting nitrates. Many people eventually adapt to the medication, and the headaches stop. Usually, taking Tylenol or any mild analgesic is all that is needed to treat the headaches.  
Do not change from one brand of this drug to another without checking with your doctor.  
*If you are using an ointment preparation of nitroglycerine, or the Transderm-Nitro patches or film, remove them for a few hours each day so your body can rest. For example, take them off at bedtime and put on a new one in the morning. |
Medications

**Purpose**

Nitroglycerin (NTG) will temporarily dilate (widen) partially blocked coronary arteries and blood vessels. This allows more oxygen-rich blood to get to the heart muscle.

If you have coronary artery disease, your doctor has probably given you NTG. You have a choice of buying NTG in either spray or pill form; tell your doctor which you prefer. Nitroglycerin is not a cure for coronary artery disease.

**Special Instructions**

- If you experience angina (chest discomfort), always stop what you are doing, sit or lie down, and take your NTG.
- Take one NTG pill or one dose of the spray under your tongue every five minutes until the angina is gone or you have taken a total of three doses.
- NTG will not open a totally blocked artery. If your angina is not completely gone after three doses of NTG, have someone drive you to the nearest hospital emergency room or call 9-1-1. Do not drive yourself.

If you also experience any of the following symptoms, get medical help immediately:
- Dizziness
- Feeling very weak
- Shortness of breath
- Becoming very sweaty
- Feeling cold and clammy
- Nausea and/or vomiting

Call 9-1-1. Do not wait to see if three doses of NTG relieve your angina before calling. These are warning signals that you may be having a heart attack—not just angina—and you need to be seen by a doctor.

While waiting for the rescue service, take your NTG (do not exceed three doses) and chew an uncoated adult aspirin (unless you are allergic to it). Aspirin will help prevent a blood clot from forming in an already narrowed artery that is stopping the blood flow.

- Keep your NTG (pills or spray) with you at all times. You never know when you might need it.
- In some cases, a doctor may tell a patient to take NTG before doing activities known to cause angina. This may prevent the angina from occurring.
- Do not take NTG while driving. Pull off to the side of the road.
- Remember, if you are taking other nitrate medications such as a nitro skin patch, they are not a substitute for NTG. You still need to carry NTG and use it if you have angina.
Nitroglycerin Pills

• NTG pills should be dissolved under the tongue—do not swallow them.
• NTG pills will lose strength if exposed to light, heat, moisture, or air. Keep them in the original dark glass bottle, not in plastic, and keep the cap tightly closed. Remove and discard the cotton from the bottle once you open it.
• When you either open a new bottle or start to carry one in your pocket, date the bottle to keep track of how old it is and replace it with new NTG every six to eight months. Do not use the date printed on the bottle as a guide for when to replace it. That date is for the pharmacist’s use only.
• Never put your NTG in the same bottle with other medications.

Nitroglycerin Spray

• Each squirt of NTG spray is a metered, measured dose equal to one NTG pill. There are about 200 doses of NTG in a new bottle.
• To use, do not shake the bottle; hold it upright.
• Spray once (for each dose) onto or under the tongue or in the side of the cheek, then close your mouth.

If Symptoms Become More Severe

• If your angina changes its pattern or gets worse, call your doctor within 24 hours. Here are some changes that are cause for concern:
  · The angina occurs more often, lasts longer, or requires more NTG to obtain relief, such as two or three doses instead of one or two.
  · You have new symptoms, or the pain spreads to other parts of your body.
  · The angina occurs at night or while you are resting instead of with activity.

Possible Side Effects

Because NTG opens blood vessels, it will lower your blood pressure and you may experience minor side effects such as a throbbing headache, dizziness, and/or weakness. If these symptoms do not improve, call your doctor.
### Medications

**Platelet Inhibitors**  
*Prevent clot formation*

<table>
<thead>
<tr>
<th>Medication</th>
<th>Purpose</th>
<th>Possible Side Effects</th>
</tr>
</thead>
</table>
| **Clots form in blood when certain red blood cells called platelets become sticky and bind together. These drugs help prevent clots from forming by decreasing the tendency of platelets to become sticky.** | Notify your doctor if you develop any of the following symptoms:  
- Yellowing in the whites of the eyes or of the skin  
- Clay- or light-colored stools  
- Dark yellow/orange urine  
- Persistent nausea, vomiting, or diarrhea  
- Abdominal discomfort  
- Skin rash  
- Fever, chills, or sore throat  
- Any unusual or prolonged bleeding or severe bruising  
- Any vision changes, dizziness, or unsteadiness  
- Severe headaches  
- Bloody or dark, tarry stools |  

**Trade Names**

<table>
<thead>
<tr>
<th>Prescription</th>
<th>Special Instructions</th>
</tr>
</thead>
</table>
| **Aggrenox** (dipyridamole/salicylate)  
**Persantine** (dipyridamole)  
**Plavix** (clopidogel)  
**Ticlid** (ticlopidine hydrochloride) | Do not take any aspirin or drugs containing aspirin, such as Excedrin, Bufferin, or Alka-Seltzer, unless directed by your doctor. You may use Tylenol (acetaminophen) or Darvocet for minor aches, pains, or headaches. Ask your doctor before using products containing ibuprofen.  
If your doctor wants you to also take a daily aspirin along with a platelet inhibitor, that is the only aspirin you are to take. You should treat the aspirin like a prescription drug.  
Inform all doctors and dentists that you are taking a platelet inhibitor.  
If you are taking an antacid, take it two hours before or after these drugs.  
Always take a platelet inhibitor at mealtime. Taking it with food increases its effectiveness.  
You may have periodic blood tests drawn. Be sure to have them drawn on schedule. |
<table>
<thead>
<tr>
<th>Medication</th>
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<th>Possible Side Effects</th>
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</thead>
<tbody>
<tr>
<td><strong>Platelet Inhibitors</strong></td>
<td>Studies have shown that aspirin decreases stickiness in platelets. This reduces the formation of blood clots in narrow spaces. Taking an aspirin a day reduces the likelihood that clots will form in native coronary arteries and bypass vein grafts.</td>
<td>Notify your doctor if you develop any of the following symptoms:</td>
</tr>
<tr>
<td><em>(continued)</em></td>
<td></td>
<td>• Skin rash or hives</td>
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<tr>
<td></td>
<td></td>
<td>• Ringing in the ears</td>
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<tr>
<td></td>
<td></td>
<td>• Stomach pain</td>
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<tr>
<td></td>
<td></td>
<td>• Unusual bruising or bleeding</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Dark, tarry, or bloody stools</td>
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</table>

<table>
<thead>
<tr>
<th>Trade Names</th>
<th>Special Instructions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Over-the-counter:</strong></td>
<td>Always take aspirin with food or milk to decrease stomach irritation. Do not take more than the prescribed amount of aspirin per day. For minor aches, pains, and fever, you may take Tylenol.</td>
</tr>
<tr>
<td>Ascriptin, aspirin, Bayer,</td>
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<tr>
<td>Bufferin, Ecotrin, Empirin,</td>
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</tr>
<tr>
<td>Enteric-coated aspirin</td>
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<tr>
<td><em>(salicylate)</em></td>
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</table>
## Medications

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<tr>
<th>Medication</th>
<th>Purpose</th>
<th>Possible Side Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Potassium Supplements</strong></td>
<td>Because many diuretics, or “water pills,” can cause the body to lose</td>
<td>Notify your doctor if you develop any of the following symptoms:</td>
</tr>
<tr>
<td><em>Replace potassium lost in urine</em></td>
<td>potassium, it may be necessary to take a supplement to replace that</td>
<td>• Weakness or confusion</td>
</tr>
<tr>
<td></td>
<td>loss. Potassium is necessary for normal functioning of the body,</td>
<td>• Nausea, vomiting, or diarrhea that lasts more than one day</td>
</tr>
<tr>
<td></td>
<td>especially the heart.</td>
<td>• Abdominal discomfort</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Changes in your heart rhythm—skipping beats, pounding, rapid, or very slow</td>
</tr>
</tbody>
</table>

### Trade Names

<table>
<thead>
<tr>
<th>K+Care, K-Dur, K-Lor powder, K-lyte, K-Tabs, Kaochlor, Kaon-CL, Klor-Con, Klorvess, Klotrix, Micro K, Slow K (potassium chloride)</th>
<th>Special Instructions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Take after meals and with a full glass of water to reduce stomach irritation. Mix liquid or powdered preparations in a glass of fruit juice, water, or a carbonated beverage to make it more palatable. Do not chew or crush tablets. Your doctor may suggest that you first eat more potassium-rich foods to supplement your potassium. Foods high in potassium but low in sodium include:</td>
<td>See “Heart-healthy Diet” for more food choices.</td>
</tr>
<tr>
<td>• Dried fruits (apricots, dates, prunes, raisins)</td>
<td></td>
</tr>
<tr>
<td>• Fresh fruits (apricots, bananas, strawberries, honeydew melon, watermelon, cantaloupe, oranges, pears, peaches)</td>
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</tr>
<tr>
<td>• Fresh vegetables (avocados, broccoli, peas, potatoes, spinach, tomatoes, celery)</td>
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<tr>
<td>• Legumes (beans)</td>
<td></td>
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<td>• Fresh meats</td>
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<tr>
<td>Medication</td>
<td>Purpose</td>
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<td>----------------------------------------------</td>
</tr>
<tr>
<td><strong>Stool Softeners</strong>&lt;br&gt;<em>Aid bowel movements</em></td>
<td>These medications are intended to relieve constipation.</td>
</tr>
<tr>
<td><strong>Trade Names</strong></td>
<td><strong>Special Instructions</strong></td>
</tr>
<tr>
<td>Colace, Doss, Surfak&lt;br&gt;There are several over-the-counter brands available; it is your choice.</td>
<td>It takes about three days for this medication to work. It must be taken daily with a glass of water to be effective.</td>
</tr>
</tbody>
</table>
COMMUNITY RESOURCES
- Bartels Community Health Library ........................................ 9.1
- Cardiac Rehabilitation ......................................................... 9.1
- Cardiopulmonary Resuscitation (CPR) Classes ...................... 9.1
- Diabetes Care Center .......................................................... 9.1
- Smoking Cessation .............................................................. 9.1
- Walking ................................................................................. 9.2
- Mended Hearts Support Group .............................................. 9.2

REFERENCES
- Books ................................................................................ 9.2
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- Other Sources for Nutritional Information and Recipes ......... 9.3

The Heart and Vascular Center at
Rogue Valley Medical Center

www.rvmc.org

Rev. 10.09
Community Resources

Bartels Community Health Library
This library of health-related information is open to the public and is free of charge. Information on a variety of topics is available by calling or stopping by the Smullin Health Education Center at Rogue Valley Medical Center (RVMC).

Library hours are Monday, Tuesday, and Friday from 10 a.m. to 1 p.m.; Wednesday and Thursday from 10 a.m. to 4 p.m. For more information call (541) 789-5913.

Cardiac Rehabilitation
An eight- to 12-week outpatient Cardiac Rehab program is available through RVMC and Three Rivers Community Hospital (TRCH) in Grants Pass. If you or your doctor feels that Cardiac Rehab would benefit you, the doctor will need to refer you to the program. For more information call (541) 789-4466.

Cardiopulmonary Resuscitation (CPR) Classes
For information on where CPR classes are taught in your area, contact a local hospital, a fire department, the Red Cross, or call the Smullin Health Education Center at (541) 789-4148.

Diabetes Care Center
Asante Health System offers a three-part course for diabetics and their families, which covers a wide range of diabetic issues and needs. There is also diet counseling for non-diabetics. For more information call (541) 789-5906, ext. 1.

Individual appointments with a diabetes nurse educator, a medical social worker, or a dietician for nutrition counseling are available. In Medford call (541) 789-5906, ext. 1; in Grants Pass call (541) 472-7120.

American Diabetes Association
Oregon Headquarters
2350 Oakmont Way, Suite #205
Eugene, OR 97401
(888) 342-2383
www.diabetes.org

Smoking Cessation
The “Oregon Tobacco Quit Line” is a state-sponsored telephone help line for those wanting to quit. Call:
(877) 270-7867 for English
(877) 266-3863 for Spanish
or visit one of the following Web sites:
www.quitnet.com
Quitnet
www.lungusa.org
Freedom from Smoking Online
www.cancer.org
Tips on Quitting
Walking

The Rogue Valley Mall opens daily at 6 a.m. (before the stores open) to provide a secure, climate-controlled environment for walking. There is also a “Heart Walk” on the RVMC campus. It is a specially designed 1-mile loop encircling the medical center.

You are encouraged to take advantage of these safe walking sites!

Mended Hearts Support Group

The Mended Hearts, Inc., is a national volunteer organization with 220 chapters. Each chapter comprises people with heart disease, their spouses, family members, medical professionals, and other interested individuals. The objectives of Mended Hearts are to offer encouragement and support to patients and their families through visits, educational and social programs, and information distribution. Mended Hearts also supports and assists community healthcare organizations and research activities pertaining to heart disease. The local Mended Hearts chapter meets monthly. For more information call (541) 772-5819 or (541) 772-0478.

References

Books


*The Omega Diet: The Lifesaving Nutritional Program Based on the Diet of the Island of Crete* by Artemis Simopoulos, MD, and Jo Robinson (New York: Harper, 1999). The Mediterranean diet is the key to better health. This book includes recipes and meal plans, shopping lists, and preparation tips.

*Bartels Community Health Library.* This library of health-related information is open to the public and is free of charge. Information on a variety of topics is available by calling or stopping by the Smullin Health Education Center on the RVMC campus. Library hours are Monday, Tuesday, and Friday from 10 a.m. to 1 p.m.; and Wednesday and Thursday from 10 a.m. to 4 p.m. For more information call (541) 789-5913.
Web Sites

www.rvmc.org
The Heart and Vascular Center at Rogue Valley Medical Center

www.the-heartclinic.com
Heart Clinic of Southern Oregon and Northern California, PC

www.theheartpeople.com
Cardiology Consultants, PC

www.americanheart.org
American Heart Association; a comprehensive resource for cardiovascular diseases; basic tutorial about heart failure

www.emedicinehealth.com/congestive_heart_failure/article_em.htm
eMedicineHealth’s Heart Center; a consumer health information site written by physicians for patients and consumers

www.clevelandclinic.org/heart
Cleveland Clinic Heart Center; contains tutorials and links for patient education

www.nal.usda.gov/fnic/foodcomp/search
USDA National Nutrient Database for Standard Reference; search engine for sodium and other nutritional components of many foods

www.mayoclinic.com
Mayo Clinic; comprehensive patient education guides

www.nhlbi.nih.gov
Federal government site for the National Heart, Lung, and Blood Institute; the National Institutes of Health; and the U.S. Department of Health and Human Services; provides heart-failure information links

www.sts.org
The Society of Thoracic Surgeons, a professional organization of cardiac and thoracic surgeons; includes explanations of various procedures and research

www.abouthf.org
Heart Failure Society of America; a forum for patients and medical professionals

National Institutes of Health “MedlinePlus” patient education

www.heartfailure.org
Heart Failure Online; an educational site dedicated to heart-failure patients

www.mrsdash.com/recipes
Low-sodium recipes

www.fightheartfailure.com
Patient education campaign developed by the American Association of Heart Failure Nurses, the Preventive Cardiovascular Nurses Association, and the Society of Chest Pain Centers

Other Sources for Nutritional Information and Recipes

Cholesterol content of selected foods provided by the USDA National nutrient database for standard reference, release 17

www.heartwisefoods.com
www.hearthealthyonline.com
www.aarpmagazine.org
www.diet.com
aneurysm  A ballooning-out of the wall of a vein, an artery, or the heart due to weakening of the wall by disease, injury, or an abnormality present at birth.

angina  The temporary pain or discomfort that occurs whenever a part of the heart muscle cannot get enough oxygen-rich blood through narrowed coronary arteries to satisfy the heart’s demand. The full name for this condition is *angina pectoris*.

anticoagulant  A drug that delays clotting of the blood (coagulation). When given in cases of a blood vessel plugged by a clot, it tends to prevent new clots from forming, or the existing clots from enlarging, but does not dissolve an existing clot. Examples are Heparin and Coumadin derivatives.

aorta  The large main artery that carries oxygen-rich blood away from the heart. It gives off branching arteries, which carry oxygen-rich blood to all parts of the body, including the heart.

aortic insufficiency  An improper closing of the valve between the aorta and the left ventricle of the heart, permitting a backflow of blood.

aortic stenosis  A narrowing of the valve opening between the left ventricle of the heart and the large artery called the aorta. The narrowing may occur at the valve itself or slightly above or below the valve. Aortic stenosis may be the result of scar tissue forming after a rheumatic fever infection or may have other causes.

aortic valve  The heart valve between the left ventricle and the aorta. It has three flaps, or cusps.

arrhythmia  An abnormal rhythm of the heart. Also called *dysrhythmia*.

arterioles  Small muscular branches of arteries. When they contract, they increase resistance to blood flow, and blood pressure in the arteries increases.

artery  A blood vessel that carries blood from the heart to the various parts of the body. Arteries have thick, elastic walls that can expand as blood flows through them.

atherosclerosis  The process of the buildup of fats, cholesterol, blood-clotting materials, and other substances inside the inner walls of an artery, causing it to become thick and narrow. Also called *hardening of the arteries*.

atria  The two upper, holding chambers of the heart.

atrial fibrillation  An erratic heart rhythm that occurs when the upper chambers (atria) quiver instead of beat effectively and in concert with the lower chambers (ventricles).

atrium  One of the two upper chambers of the heart in which blood collects before being passed to the ventricles. The right atrium receives oxygen-depleted blood from the body; the left atrium receives oxygen-rich blood from the lungs.

bacterial endocarditis (B.E.)  A bacterial infection of the heart lining or valves. People with abnormal heart valves or congenital heart defects are at risk of developing this disease.

balloon angioplasty  *See percutaneous transluminal coronary angioplasty (PTCA)*

bicuspide valve  *See mitral valve*

blood pressure  The force or pressure exerted by the heart in pumping blood; the pressure of blood in the arteries.

bradycardia  Slowness of the heartbeat.
Glossary

capillaries  Microscopically small blood vessels between arteries and veins that distribute oxygenated blood to the body’s tissues.

carbon dioxide  A waste product of chemical reactions in the cells. It passes from the cells to the blood, which eventually releases it in the lungs to be exhaled.

cardiac  Pertaining to the heart.

cardiac arrest  The stopping of the heartbeat, usually because of interference with the electrical signal; often associated with coronary artery disease.

cardiac catheterization  The process of introducing a thin, flexible tube (a catheter) into a vein or an artery and guiding it into the heart for the purpose of examination (to take samples of blood or pressure readings in the chambers of the heart and to measure the amount of opening in the arteries) or treatment (to implant the electrodes of a pacemaker, to administer drugs, or to perform angioplasty and place a stent). Also called coronary angiography.

cardiologist  A physician specializing in the diagnosis and the medical treatment of disorders of the heart.

cardiomyopathy  A general diagnostic term for diseases that involve mainly the heart muscle itself and not the other heart structures such as the valves and the coronary vessels. The cause may be a known toxic or infectious agent, but in many cases the cause is unknown.

cardiopulmonary  Pertaining to the heart and blood vessels (cardio means heart; vascular means blood vessels). The circulatory system of the heart and the blood vessels is the cardiovascular system.

carotid arteries  The left and right common carotid arteries are the principal arteries supplying the head and the neck. Each artery has two main branches.

catheter  (1) Angiography: a long, fine, hollow tube designed to be passed into the heart through a blood vessel. Used for diagnosis and identification of abnormal cardiac anatomy. (2) Foley: A thin hollow tube designed to drain urine.

cholesterol  A fatlike substance that is both manufactured by the human body and found in all animal products, such as dairy foods, meat, fish, poultry, and egg yolks.

circulatory system  Pertaining to the heart, blood vessels, and circulation of blood.

collateral vessels  Small, new branches of arteries that develop to bypass narrowings and blockages in larger arteries. They serve as alternative routes of blood supply.

commissurotomy  An operation to widen the opening in a heart valve that has become narrowed by scar tissue. The individual flaps of the valve are spread apart along the natural lines of their closure by a blunt instrument. This operation was developed to correct rheumatic heart disease.

congenital heart defect  Malformation of the heart or its major blood vessels present at birth.

congestive heart failure  The inability of the heart to pump out all the blood that returns to it. This results in blood backing up in the veins that lead to the heart and sometimes causes fluid to accumulate in various parts of the body.
coronary  Pertaining to the heart. Usually means the arteries that supply the heart muscle and any changes in artery structure or function caused by disease.

coronary angiography  See cardiac catheterization

coronary arteries  Two arteries arising from the aorta that arch down over the top of the heart, branch, and provide blood to the heart muscle.

coronary artery bypass graft (CABG)  Heart surgery that creates new pathway(s) for oxygen-rich blood to bypass blockages or major narrowings in the coronary arteries. Also called heart surgery.

coronary artery disease  Atherosclerosis causing narrowing of the coronary arteries so blood flow to the heart muscle is reduced. This can result in angina pectoris, heart attack, and/or the need for medical treatment, angioplasty, or coronary artery bypass graft surgery.

Coronary Care Unit (CCU)  A specialized facility in a hospital designed specifically to treat coronary patients; it is equipped with monitoring devices and staffed with trained personnel.

coronary occlusion  An obstruction of one of the coronary arteries, hindering blood flow to some part of the heart muscle. Also called coronary thrombosis.

coronary thrombosis  See coronary occlusion

diabetes  A disease in which the body cannot produce or properly use insulin, which is needed to convert sugar and starch into the energy necessary for daily life. The full name for this condition is diabetes mellitus.

diastolic blood pressure  The lowest blood pressure measured in the arteries; it occurs when the heart muscle is relaxed between beats.

dysrhythmia  See arrhythmia

edema  Swelling due to an abnormally large amount of fluid in body tissues.

electrocardiogram (EKG)  A graphical record of the electric currents produced by the heart.

enzyme  A complex protein substance found in all living cells, including heart muscle cells. Enzymes are released into the bloodstream by damaged muscle.

esophagus  The muscular passage leading from the back of the mouth to the stomach.

fibrillation  A rapid, uncoordinated contraction of individual heart muscle fibers. The heart chamber involved can’t contract at once and pumps blood ineffectively.

hardening of the arteries  See atherosclerosis

heart attack  Death of, or damage to, part of the heart muscle due to a prolonged period of insufficient blood supply to the muscle. The full name is myocardial infarction.

heart block  A condition in which the electrical impulse that travels through the heart’s specialized conduction system to trigger the events of the heartbeat is slowed or blocked along its pathway. This can result in a dissociation of the rhythms of the upper and lower heart chambers and is the major disorder for which artificial pacemakers are used.

heart-lung machine  A device through which the blood is diverted for pumping and oxygenation, such as during heart surgery.
heart surgery  See coronary artery bypass graft (CABG)

heredity  The genetic transmission of a particular quality or trait from parent to offspring.

high-density lipoprotein (HDL)  A carrier of cholesterol believed to transport cholesterol away from the tissues and to the liver, where it can be excreted. Sometimes called the “good” cholesterol.

high blood pressure  See hypertension (HTN)

hypercholesteremia  An excess of the fatty substance cholesterol in the blood. Sometimes called hypercholesterolemia or hypercholesterinemia. See also cholesterol.

hypertension (HTN)  A persistent elevation of blood pressure above the normal range (140/90 mm Hg). Also called high blood pressure.

hypertrophic cardiomyopathy  A generalized enlargement and thickening of the heart muscle, particularly the ventricles and the septum, usually resulting in abnormally small ventricular cavities. It is usually genetically transmitted and shows up in young adults.

ischemia  A local, usually temporary, deficiency of oxygen in some part of the body, often caused by a constriction or an obstruction in the blood vessel supplying that part. Usually accompanied by pain.

lifestyle  An individual’s typical way of life, including diet, types of recreation, job, home environment, location, temperament, and smoking, drinking, and sleeping habits.

Low-density lipoprotein (LDL)  The main carrier of harmful cholesterol in the blood. Sometimes called the “bad” cholesterol.

MAZE  A surgical procedure performed on the left and right atria for the treatment of atrial fibrillation.

mitral insufficiency  An incomplete closing of the mitral valve between the upper and lower chambers in the left side of the heart, which permits a backflow of blood in the wrong direction. Sometimes the result of scar tissue forming after a rheumatic fever infection.

mitral stenosis  A narrowing of the valve (called the mitral valve) opening between the upper and lower chambers in the left side of the heart. Sometimes the result of scar tissue forming after a rheumatic fever infection.

mitral valve  The heart valve between the left atrium and left ventricle. It has two flaps, or cusps. Also called bicuspid valve.

monounsaturated fat  A type of fat found in many foods but predominantly in avocados as well as canola, olive, and peanut oil.

MRSA  Stands for methicillin-resistant staph aureus; an antibiotic-resistant bacterial infection. Requires patient to be in isolation. Visitors will follow specific precautions.

myocardial infarction  See heart attack

myocardial ischemia  A deficiency of oxygen-rich blood flow to part of the heart muscle.

myocardium  The muscular wall of the heart. It contracts to pump blood out of the heart and then relaxes as the heart refills with returning blood.

nitroglycerin (NTG)  A drug that causes dilation of blood vessels and is often used in treating angina pectoris.
NSTEMI  Stands for non-ST-elevation myocardial infarction; a specific type of heart attack.

occluded artery  An artery in which the blood flow has been impaired by a blockage.

oxygen  A gas that is the most important component of the air we breathe. It is vital to energy-producing chemical reactions in the living cells of the body. Breathed into the lungs, it enters the bloodstream and is carried by the blood to the body tissues.

pacemaker sinus (SA) node  The heart’s “natural” pacemaker. It’s a small mass of specialized cells in the top of the right atrium of the heart. It produces the electrical impulses that travel down to eventually reach the ventricular muscle, causing the heart to contract. The term artificial pacemaker is applied to an electrical device that can substitute for a defective natural pacemaker or conduction pathway. The artificial pacemaker controls the heartbeat by emitting a series of rhythmic electrical discharges.

palpitation  A sensation of fluttering of the heart or an abnormal rate or rhythm of the heart.

percutaneous transluminal coronary angioplasty (PTCA)  A nonsurgical procedure designed to dilate (widen or expand) narrowed coronary arteries. Done prior to placing a stent in the artery. Also known as balloon angioplasty.

pericarditis  Inflammation of the outer membrane (sac) surrounding the heart, causing heart pain.

plaque  A deposit of fatty (and other) substances in the inner lining of the artery wall characteristic of atherosclerosis.

platelets  One of the three kinds of formed elements found in the blood and one that aids in the clotting of blood.

polyunsaturated fats  Liquid oils of vegetable origin, such as corn, safflower, sunflower, and soybean oil.

prolapse  A falling, dropping, or downward displacement of an organ or internal part, such as the mitral valve in the heart.

pulmonary valve  See pulmonic valve

pulmonic valve  The heart valve between the right ventricle and the pulmonary artery. It has three flaps, or cusps. Also called pulmonary valve.

regurgitation  A backward flow of blood through a defective valve.

risk factors  Certain hazardous or dangerous characteristics that tend to increase the chances of developing and/or complicating coronary artery disease.

saturated fats  Types of fat found in foods of animal origin and a few of vegetable origin; they are typically solid at room temperature.

septum  The muscular walls dividing the two chambers on the left side of the heart from the two chambers on the right.

silent ischemia  Episodes of ischemia (oxygen deficiency to some part of the body) that are not accompanied by pain.

STEMI  Stands for ST-elevation myocardial infarction; a very acute type of heart attack, typically a big one.

stenosis  The narrowing or constriction of an opening, such as a blood vessel or heart valve.

systolic blood pressure  The highest blood pressure measured in the arteries. It occurs when the heart contracts with each heartbeat.
Glossary

thrombolysis  The breaking up of a blood clot.

thrombus  A blood clot that forms inside a blood vessel or cavity of the heart.

TMR  Stands for transmyocardial revascularization; a surgical procedure designed to treat angina that uses a small laser to drill a series of holes from the outside of the heart into the heart’s pumping chamber.

trachea  The muscular tube at the back of the throat that goes to the lungs for breathing.

tricuspid valve  The heart valve between the right atrium and the right ventricle. It has three flaps, or cusps.

triglyceride  A fatty substance found in foods and manufactured by the human body from excess alcohol, certain sugars, and fat. High levels of triglycerides may be associated with a greater risk of coronary atherosclerosis.

vein  Any of a series of blood vessels of the vascular system that carries blood from various parts of the body back to the heart.

ventricle  One of the two lower chambers of the heart that are responsible for the major pumping action of the heart.

VRE  Stands for vancomycin-resistant enterococcus; an antibiotic-resistant gastrointestinal tract infection. Requires the patient to be in isolation. Visitors will follow special precautions.
CONTINUING
Heart and Vascular Care

Additional Materials

Chest Discomfort Questionnaire .......................... 11.1
Daily Weight Log ........................................... 11.3
Coumadin Calendars .................................... 11.5
Nuclear Medicine Myocardial Scan .................. 11.7
- The Doctor Wants You to Have a Myocardial Scan .... 11.7
- Preparation .............................................. 11.7
- What Else Should I Know? ........................... 11.7
Notes ..................................................... 11.8
Chest Discomfort Questionnaire

Name: ________________________________________________

Please answer the following questions about the typical chest discomfort or pain you have experienced that brought you here.

Activity
1. What activity were you doing right before the chest discomfort started?
   ___ Sleeping
   ___ Sitting
   ___ Walking
   ___ Other: __________________________

Mood
2. What was your state of mind (emotional feelings) immediately before this discomfort started?
   (You may check more than one.)
   ___ Happy      ___ Upset
   ___ Angry      ___ Sexually aroused
   ___ Content    ___ Tense
   ___ Worried    ___ Afraid
   ___ Other: __________________________

Duration
3. How long did this discomfort last?
   ___ Less than 30 seconds
   ___ Less than 5 minutes
   ___ 5 to 20 minutes
   ___ More than 20 minutes

Intensity
4. Circle the number that indicates the greatest amount of discomfort or pain you experienced during this episode, where 0 is no discomfort and 10 is the most severe pain ever imagined.

   0 1 2 3 4 5 6 7 8 9 10
   no discomfort  most severe discomfort or pain

Descriptors
5. The following words describe characteristics of chest discomfort. Please check the word or words that fit the pain or discomfort you just experienced. (You may check more than one.)

   ___ Throbbing  ___ Shooting
   ___ Aching  ___ Tender
   ___ Splitting  ___ Dull
   ___ Tight  ___ Squeezing
   ___ Stabbing  ___ Sharp
   ___ Cramping  ___ Crushing
   ___ Hot/burning
   ___ Heaviness/pressure
   ___ Other: ___________________________
Location
6. Please shade all the areas where your discomfort was experienced. Place an X on the place where it started.

Treatment
7. What did you do to relieve your discomfort? (You may check more than one.)

___ Nothing ___ Rest
___ Medicine:
Type: ____________________________
How often?______________________
___ Other: _______________________

8. How often do you have discomfort?
___ Several times a day
___ Less than three times a week
___ More often in the past two weeks

**Daily Weight Log**

Weight at last doctor visit ___________________________ Date _____________

Weight at the end of the previous month ______________ Date _____________

Month __________________________

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Weigh yourself on the same scale each morning after urinating but before eating. Be sure the scale is on a hard surface—not on a rug. Write your weight on this log. At the beginning of each month, enter your weight from the last day of the previous month at the top of the chart.

*Note:* If you gain 3 pounds in one day or 5 pounds in five days, **call your doctor.**

*Suggestion:* Make photocopies of this page before using.
### Daily Weight Log

Weight at last doctor visit ____________________________  Date ________________

Weight at the end of the previous month ________________  Date ________________

Month _____________________

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### My Coumadin Calendar

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**INR Results**

- Date
- Daily Dose
- Time Taken
- INR Results
- Next Test Date
Nuclear Medicine Myocardial Scan

The Doctor Wants You to Have a Myocardial Scan
A nuclear medicine myocardial scan may be performed as a one- or two-day protocol, depending on the patient’s weight and height. Patient prep is also a factor, such as medications being taken and caffeine and food consumption.

Preparation
• No food or drink for three hours before scheduled injection. Water is okay.
• No caffeine or decaf products 24 hours before the exam. This includes coffee, tea, soda, and any type of chocolate. Avoid medications that contain caffeine, such as NoDoz, Excedrin, Anacin, Fiorinal, Darvon, and Cafergot.
• Medications to suspend before the exam:
  · Nitrates: off 24 hours
  · Calcium channel blockers: off 48 hours
  · Beta blockers: off 48 hours
  · Aminophylline: off 48 to 72 hours
  · Aggrenox: off 24 to 36 hours
  · Persantine: off 24 hours
  · Theopylane: off 36 to 48 hours

What Else Should I Know?
For a one-day exam, you will be injected with a radioactive tracer that will not cause any side effects. One hour later images will be taken to analyze blood flow to the heart muscle prior to a stress test for a baseline. A stress test will follow. If you cannot walk on the treadmill, you will be given a chemical stress test with dipyridamole. Images will be taken following the stress test and a second injection of the tracer. A comparison will be made with the heart at rest and with the increased blood flow of the heart during exertion.

A two-day exam has the same purpose, but it is performed over two days to obtain the maximum results.

Your height, weight, and drug allergies are essential to scheduling this exam.
Current Patient Medications