

# Patient Guide to Heart Health



# Table of Contents

4	Chapter 1:	Cardiac Interventions
10	Chapter 2:	Contributing Factors
30	Chapter 3:	Contact Information and Patient Resources



# Chapter 1: Cardiac Interventions

5 Heart Function

5 Heart Disease

6 Heart Repair by Percutaneous Coronary Intervention (PCI)

7 Coronary Stent

8 Atherectomy

9 Antiplatelet Therapy

## Heart Function

The heart's function is to pump blood. In order to pump properly, the heart muscle requires an abundant supply of oxygen. The heart muscle gets oxygen from the coronary arteries, which lie on the outside surface of the heart.

## Heart Disease

The coronary arteries can develop a disease known as atherosclerosis (coronary artery disease). This is a build-up of fatty deposits within the inner walls of the arteries. This build-up causes a narrowing of the arteries (sometimes called stenosis) and results in decreased blood flow to the heart muscle, which can lead to a heart attack.

Certain procedures may be prescribed to improve blood flow to the heart muscle. They are performed in a hospital by a cardiologist. These procedures use a variety of devices that are inserted through an artery (usually through the femoral artery in the groin area) up to the narrowed artery in the heart.





# Heart Repair by Percutaneous Coronary Intervention (PCI)

## Transluminal Coronary Angioplasty (PTCA) and Stent Placement

### Before PTCA

Prior to your procedure, your cardiologist will thoroughly explain PTCA to you. You will be required to sign a consent form for the procedure, as well as a consent form for bypass surgery. The reason you must sign both forms is that in the event angioplasty is not successful, you may need to be taken directly to surgery.

Before PTCA, it's important you tell your cardiologist about any allergies you have (particularly to shellfish, X-ray dye or iodine); you may need to take medications prior to PTCA.

Your cardiologist may also prescribe some routine tests prior to PTCA, such as an electrocardiogram (ECG), a chest X-ray or blood tests.

If you smoke, it is important that you stop at this time.

The night before PTCA, you will not be allowed to consume any food or drink. The area where your cardiologist will insert the catheter (the groin area) will be shaved and scrubbed with an antiseptic solution to help prevent infection. All final preparations will be completed in the catheterization laboratory (cath lab) where the procedure will take place.

### During PTCA

First, your cardiologist will numb the insertion site with a local anesthetic. Then, your cardiologist will place a short tube called an introducer sheath into your femoral artery — a major artery that extends from your abdomen down your legs. Next, a long flexible tube — a guiding catheter — is inserted through the introducer sheath. Another approach is through the radial artery in the wrist. Your

cardiologist will then advance the catheter to the blocked coronary artery. The balloon catheter and its guide wire are passed through the guiding catheter and advanced into the coronary artery until the balloon reaches the blocked part of the artery. The balloon is then inflated.

The inflated balloon opens up the blocked artery by splitting and reshaping the plaque and slightly stretching the wall of the artery. The plaque is not removed. The balloon may be inflated and deflated several times. If necessary, your cardiologist may remove the balloon and replace it with a larger balloon for additional stretching.

It's normal to have slight chest pain while the balloon is inflated because the balloon is temporarily blocking blood flow to part of the heart muscle. After the balloon is deflated, the pain should decrease. During the procedure, your cardiologist will ask you whether or not you are feeling pain.

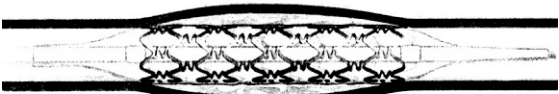
When the procedure is over, the guiding catheter, guide wire and balloon catheter are removed. The introducer tube is often left in the groin several hours or overnight.

## Coronary Stent

After angioplasty has been performed, the doctor may choose to implant a coronary stent to help keep the artery open. A coronary stent is a surgical metal coil with openings in the wall. It resembles a very



A stent is mounted on a balloon catheter.

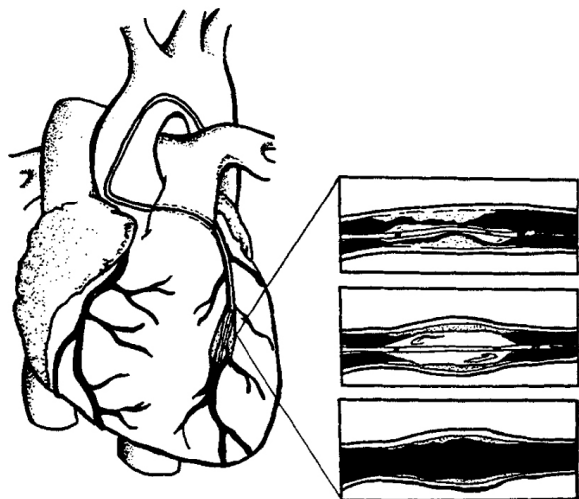


A balloon is inflated and the stent is expanded.



The balloon is removed and the stent is implanted in the vessel.

The stent is pre-loaded onto a balloon catheter. The balloon and stent are directed to the angioplasty site. Once in position, the balloon is inflated, which



expands the stent, compressing it slightly into the vessel wall. Next the balloon is deflated and removed, leaving the expanded stent behind. Tissue begins to grow between the openings in the stent, and the tissue growth completely covers it in several months.

While the stent is exposed, it is necessary to take some form of blood thinner to prevent blood from adhering to it. Your doctor will prescribe your blood-thinner medication. A blood test may be required to monitor this medication.

#### **Some of the currently available stents are:**

- **Uncoated “Bare Metal” Stents:** An expandable, slotted metal coil that acts as a mechanical scaffold in a blood vessel.
- **Drug-eluting Stents:** A drug-eluting stent allows for the release of a drug at the stent implantation site. The action of the drug is intended to limit the overgrowth of normal tissue as the healing process occurs following coronary stent implantation.

#### **After PTCA and Stent**

Following PTCA and stent, you will be taken to a recovery area where you will be closely monitored.

- Your cardiac status is monitored on an ECG monitor.
- The catheterization site (groin area) is watched for signs of bleeding, and your pulse is checked.
- You are encouraged to drink fluids to help flush the dye out of your system.
- You may undergo lab tests.
- When the sheath is removed from the groin, pressure is applied until all signs of bleeding stop.
- You will remain in bed for two to eight hours after the sheath is removed and bleeding stops. A nurse will then assist you out of bed to walk.

#### **Home Care Following PTCA/Coronary Stent**

- When you leave the hospital, you will need someone to drive you home. Do not drive yourself home.
- It is best to take it easy for several days.
- Clean the insertion site (groin or wrist area) daily with soap and water to prevent infection.
- Redness at the catheterization site, drainage and/or signs of infection should be reported to your physician. Report a temperature of 100.5 F or higher.
- Watch for signs of bleeding. If the thigh swells, it is possible that there is bleeding inside the leg. If the wrist approach was used and the wrist

swells or numbness in your fingers occurs, this could indicate bleeding. If bleeding occurs, apply pressure and call 911 immediately.

#### **When recovering from PTCA and stent, you should also:**

- Report any angina or chest discomfort to your physician. If angina occurs, take a nitroglycerin (NTG) tablet or spray and call your physician. If three NTG tablets taken over 15 minutes do not relieve your pain, call 9-1-1, and do not drive yourself to the hospital.
- Take all medications as directed.
- Avoid alcohol use while taking pain medication and blood thinners. Get your physician’s approval before resuming alcohol use. It may interfere with your medications.
- Eat a low-fat, low-cholesterol diet.
- Stop smoking.
- Start a daily walking program.
- Avoid heavy lifting, straining or vigorous leg activities until the catheterization site is healed. Vigorous leg activities, straining and heavy lifting can cause the catheterization site to start bleeding.
- Keep follow-up appointments with your physician. At some point, your physician may give you an exercise test to determine if the dilated artery is still open and if the heart has good circulation.

Following PTCA and other invasive procedures, the majority of patients have no further problems. In 5 percent of patients, however, narrowing of the coronary arteries may reoccur.

New blockage can build up and restrict flow in a nearby site due to various factors. These factors include the nature and severity of the original blockage; the presence of other diseases, such as diabetes; and cigarette smoking. The highest risk of reclosure of the treated area is within the first three to twelve months after an invasive procedure (PTCA, stent). Report any changes in angina to your physician.

#### **Home care following stent placement**

1. Take blood-thinning medication as prescribed.  
Asprin \_\_\_\_\_mg  
antiplatelet \_\_\_\_\_
2. Have your blood tests monitored as ordered.
3. Follow the “After PTCA/Stent” guidelines. (In some cases, your doctor may extend the post-PTCA/Stent guidelines an additional one to two weeks.)



## Atherectomy

Atherectomy devices are only used in very limited situations, as best determined by your cardiologist.

Atherectomy is the cutting away of plaque within a coronary artery. The plaque is removed by a small cutting device. The device operates with either a one-directional movement or a rotational movement.

*Follow “After PTCA and Stent” guidelines.*

Rotational atherectomy is a procedure used to remove plaque from a coronary artery. The rotational device is a football-shaped burr that is coated with microscopic diamond chips. The burr can rotate to speeds of up to 190,000 RPM. The device is advanced via the blood vessels to the site of the plaque. There, using a rapid rotational movement, it breaks the plaque into microscopic particles that are filtered out of the body. The rotoblator is designed to cut hard material, such as plaque, and softer elastic tissue moves out of its way. After rotational atherectomy is performed, angioplasty is used to compress the plaque that was not cut away. *Follow “After PTCA and Stent” guidelines.*

### Points to Remember

- The above-described procedures:
  - Are done to re-establish better blood flow to the heart muscle in order to prevent damage
  - Will not make an old heart attack scar go away
  - Are treatments for atherosclerosis; they are not a cure
- Coronary artery disease (atherosclerosis) is a progressive process and in many cases will continue to cause narrowing of the arteries. Inherited tendencies and lifestyle habits (risk factors) contribute to the development of the atherosclerotic process.

No one risk factor causes coronary artery disease, but the chances of disease become greater with each added risk. Modification of lifestyle habits is beneficial in order to reduce the risk of coronary artery disease.

AdventHealth offers a comprehensive four-phase cardiac rehabilitation and fitness program that provides guidance and support to those cardiac patients who want to modify or eliminate their cardiac risk factors.

QUICK TIP:

*Reference Chapter 2*





## Antiplatelet Therapy

### About Your Antiplatelet Medication

Antiplatelet medication stops platelets from clumping together and plays an important role in your blood clotting. A blood clot in one or more of your coronary arteries can cause either partial or total blockage of blood flow to your heart. Antiplatelet medication has been shown to decrease the risk of future heart events, including heart attack and stroke. Following the placement of a stent, antiplatelet medication is usually started in the hospital prior to discharge.

**My antiplatelet medication is:**

---

**I must take my antiplatelet medication for**

---

It has been proven that if you do not continue taking your antiplatelet medication after having a coronary artery stent placed, you increase your risk of thrombosis (clotting), heart attack or death. Your life is important; please do not take that risk. Take your aspirin and antiplatelet medication as directed.

### Taking Your Antiplatelet Medication

- May be taken with or without food.
- Usually taken together with a daily dose of aspirin.
- Research shows that taking aspirin and antiplatelet medication together is very beneficial, but carries with it a small risk of bleeding.
- Together, these medications help stop the platelets from sticking together and forming clots in the arteries. This is especially important if you had a coronary artery stent placed.
- Take this and all other medications as directed by your physician.
- Report any unusual bleeding to your physician.
- Duration of antiplatelet therapy varies from patient to patient. Your physician will tell you how long you need to continue taking it.
- If you have had a coronary artery stent placed, **you may remain on an antiplatelet medication for up to a year.**
- **Never stop taking your antiplatelet medication or aspirin or any other medication without talking to your doctor first.**



## Chapter 2: Contributing Factors

- 11 Contributing Factors
- 12 Smoking
- 12 Smoking Cessation
- 13 Nutrition
- 13 Survival Skills for Heart Health
- 14 Salt and Caffeine
- 14 Other Dietary Factors
- 15 Seven-Day Sample Meal Plan
- 17 Recipes
- 21 Grocery Shopping List for Heart Health
- 23 Guidelines for Dining Out
- 24 Blood Pressure
- 24 Risk Factors for High Blood Pressure
- 24 Diabetes
- 25 Stress Management
- 25 What Is Stress?
- 25 Changing Mental Response to Stressors
- 26 Obesity
- 27 Exercise
- 27 Beginning Exercise
- 28 Exercise Guidelines and Precautions
- 29 Benefits of Exercise
- 29 Phase II — Monitored Exercise

## Contributing Factors

Risk factors are inherited tendencies or daily lifestyle habits that contribute to the development of coronary artery disease (atherosclerosis). Most risk factors are related to how you live. Choices you make now about your health habits will affect how heart healthy you are in the future. Most risk factors are associated with habits that can be modified or changed.

**However, risk factors that **CANNOT** be altered are:**

- **Advancing age:** Atherosclerosis, a form of arteriosclerosis (hardening of the arteries), commonly accompanies the aging process.
- **Heredity:** Heredity determines how your body metabolizes cholesterol and fats, which is a factor in the development of coronary artery disease.

Even though you cannot control these two risk factors, you can control and/or eliminate most other risk factors.

**Risk factors that **CAN** be modified or changed include:**

- Smoking
- High-fat diet
- High blood pressure
- Diabetes
- Excessive stress
- Excessive body weight
- Lack of regular exercise

## Identify your cardiac risk factors

by checking those that apply to your lifestyle.

- ☐ Advancing age
- ☐ Family history of heart disease
- ☐ Smoking
- ☐ High-fat diet
- ☐ High blood pressure
- ☐ Diabetes
- ☐ Excessive stress
- ☐ Excessive body weight
- ☐ Lack of regular exercise

If you reduce your risk factors, the results can be good general health, physical fitness and an increased sense of well-being. In addition, lifestyle modifications may prevent acceleration of coronary artery disease. As you read the following information about cardiac risk factors, give serious thought to how you might change your lifestyle to become heart healthy. Your Cardiac Rehabilitation nurse and dietitian, as well as your bedside nurse, can help you learn more about heart-healthy habits.





# Smoking

Tobacco smoking has long been linked with lung diseases such as chronic bronchitis and cancer. Smoking is one of the top three controllable risk factors contributing to coronary artery disease.

The nicotine in tobacco is a stimulant; it speeds up the heart rate, increases blood pressure and causes the heart to work harder. Individuals with heart disease who smoke are at greater risk of having extra or skipped heartbeats (arrhythmias).

Some arrhythmias are dangerous and can lead to heart attack or sudden death. Nicotine increases the fat levels in the blood, paving the way for atherosclerosis. Nicotine also causes platelet adhesiveness, which makes blood clots form more easily.

Carbon monoxide, a familiar air pollutant from automobile exhaust, is also found in cigarette smoke. Some heavy smokers have up to 20 percent carbon monoxide in their blood.

Every cell in the body depends on oxygen to survive. The heart must have an abundant supply of oxygen-rich blood to function properly. By smoking, you are starving some cells of oxygen and depriving your heart muscle of the full amount of oxygen it requires.

Other kinds of tobacco use, such as pipes, cigars, filters and chewing, may be lower risks for heart disease.

One reason for this may be that these habits do not require the inhalation of smoke. Still, the risk for pipe and cigar smokers is twice that of non-smokers. Cancer of the lips and gums is common in pipe and

cigar smokers, as well as those who chew. Cigarette filters may reduce tar and nicotine, but they usually increase carbon monoxide intake.

Many non-smokers think that second-hand smoke from others will not affect them, but noxious gases, such as carbon monoxide and benzopyrene, are at very high levels when a smoker is present. It is almost impossible to accurately measure the negative side effects of second-hand smoke.

## Smoking Cessation

The decision to quit smoking is an important step toward the beginning of a healthier lifestyle. The encouraging news is that as soon as you stop smoking, your body begins to repair some of the damage. When you stop smoking, there is less strain on your heart, and your heart and lungs begin to function better. With improved breathing, you can increase physical activity that can minimize other risk factors. Remember, it's worth the effort for you to stop smoking, regardless of the number of years you have smoked.

Quitting smoking may be difficult. Sometimes it's helpful to talk with other people who are trying to stop.



# Nutrition

Heart disease is the leading cause of death in the United States. This has been linked to nutrition habits that include excessive caloric intake, diets high in saturated fat and cholesterol, and frequent consumption of less-healthy convenience foods. On the other hand, diets rich in the following foods have been shown to decrease the risk of heart disease: whole grains, beans and peas, vegetables and fruits, and heart-healthy fats found in flax seed, fish, nuts and seeds.

## Survival Skills for Heart Health

- Whole grains, dried beans and peas, and fruits and vegetables should comprise the largest part of the diet. Low-fat dairy foods should also be included. Lean meats or low-fat meat substitutes are recommended in moderation. Saturated fats and oils, along with sweets, should be eaten only in small amounts.
- Eat three sensibly sized, balanced meals. A balanced meal is made up of carbohydrate, protein and fat. An example of a balanced meal is grilled tuna fish, corn, broccoli, strawberries and a cup of low-fat milk. Another option would be to divide the foods from the three balanced meals into small frequent meals.
- Eat foods high in fiber at each meal. Fiber promotes digestive health and a feeling of fullness after a meal, which can help moderate caloric intake, assisting with weight control. Soluble fiber is found in oats, barley, dried beans and peas (legumes), and many fruits and vegetables, including apples, citrus and psyllium seed. Soluble fiber can help decrease heart disease risk by reducing cholesterol.
- Plan lunch and dinner in the following way. Divide the plate so that the meal is comprised of half vegetables, a quarter carbohydrate, (such as corn, brown rice, whole-grain bread or potato) and a quarter protein, such as fish. Choose fresh fruit for dessert.
- Choose whole grains, fresh fruits, vegetables, dried beans and peas. Examples of whole grains include oats, whole wheat, corn, rye, barley, brown rice, millet and quinoa. Whole grains contain fiber and are high in vitamins and minerals. Other high-fiber foods include fresh fruits, vegetables, dried beans and peas.
- Choose mono-unsaturated fat or Omega 3 fat most of the time. Polyunsaturated fat may be used in moderation. Saturated and hydrogenated fat should be limited or avoided.
- Monounsaturated fat — found in olive, peanut and canola oils; nuts; and seeds
- Omega 3 fat — found in fatty fish, flax seed, nuts, seeds
- Polyunsaturated fat — found in sunflower, safflower, soybean, corn, sesame oils
- Saturated fat — found in animal fat (meat, poultry, cheese, butter), palm and coconut oils
- Hydrogenated or partially hydrogenated oil (trans-fat) — found in desserts, baked goods, crackers, chips, fast foods, margarine and shortening
- Use low-fat dairy or dairy substitutes in place of regular dairy. Milk, sour cream, cottage cheese, ice cream, cheese and yogurt are all available in low-fat forms. Instead of butter or stick margarine, use lite margarine in a tub or liquid form. Butter-flavored low-fat yogurt spreads like Brummeln-Brown®, butter-flavored cooking sprays, and fat-free butter substitutes are also available.
- Margarines with plant sterols such as Benecol®, Take Control®, or Smart Balance® help lower cholesterol if used several times daily.
- Limit meat to a three-ounce serving per meal and six ounces per day to reduce cholesterol and saturated fat intake. Skinless chicken or turkey breast, pork tenderloin and very lean cuts of red meat are wise choices. Eat fish at least twice a week to increase intake of the beneficial Omega 3 fat. Also, choose beans and nuts at a meal instead of meat; for example, black beans and rice and a tossed salad with slivered almonds and olive oil dressing.
- Sauces, gravies, salad dressings and pastries contain hidden saturated fat. Look for low-fat versions of these foods and use them in moderation.



- Limit cholesterol and especially saturated fat. Cholesterol is found only in animal foods. Foods that are high in cholesterol and saturated fat (cheese, meat, fatty poultry) should be avoided or limited. Avoid organ meats, such as liver. Foods that are high in cholesterol but low in saturated fat such as fish and shellfish may be eaten in moderation. Egg yolks should be limited to three or four per week.
- Another type of fat found in the blood and associated with heart disease is triglycerides. Limiting refined carbohydrates, eating high-fiber nutrient-dense carbohydrates, eating heart-healthy fats, and reducing weight (body fat) are recommended. Avoid alcoholic beverages if your triglyceride level is high.
- Some people may benefit by combining meal plan changes with a prescription medication to lower their blood fats. Consult with your physician about this issue.
- Consult with your doctor before taking vitamins, minerals or other supplements including fish oil or herbal supplements. Some of these may interact with your heart medicines.

## Salt and Caffeine

The average American consumes about six to eight grams of salt daily (about three to four teaspoons). The body does not require this much sodium. A high-salt (sodium) diet may increase the risk of high blood pressure. In addition, most high-sodium foods are processed and therefore low in fiber and other nutrients that are heart healthy. Also, you may have a heart condition which will be better managed by limiting your salt intake. Limit sodium intake to 2000mg per day- includes meals, snacks, drinks and desserts.

### Keep the following points in mind:

- Most processed foods are high in sodium
- Salt is about half sodium
- Sodium is found naturally in most foods, in small amounts

### To reduce sodium intake, EAT MORE:

- Fresh fruits and vegetables
- Foods prepared with herbs/lemon and small amounts of oil
- Unprocessed foods

- Low-salt and low-sodium foods

### To reduce sodium intake, EAT LESS:

- Canned items and frozen dinners
- Condiments such as pickles, olives and salad dressings
- Processed meats and luncheon meats
- Desserts and sweets

**Caffeine** may be a contributing factor to health problems such as heart disease, cancer and diabetes. Excess caffeine use can cause irregular heart rhythms, increases output of stomach acid and acts as a diuretic. Ideally, use decaffeinated beverages. If you are going to use caffeinated beverages, limit the number to two eight-ounce cups or less per day.

## Other Dietary Factors

### Other dietary factors should be monitored.

Remember the possibility of adverse reactions exists when alcohol and medications are mixed. If your physician advises you to use alcohol, intake should be limited to one drink daily. A drink is considered a 12-ounce beer, one-and-a-half ounces of hard liquor or five ounces of wine. Tell your doctor and pharmacist about any drug or alcohol intake.

Some research suggests dark chocolate may provide some benefit. However, you should limit your portions since chocolate contains small amounts of caffeine and is usually part of a high-fat food.

Increase consumption of dietary fiber. Fiber speeds up the passing of food wastes through the intestines, allowing less time for dietary cholesterol to be absorbed. Fresh fruit, vegetables, beans and whole grains supply dietary fiber.

Water is essential for all functions of the human body. Drink eight glasses (64 ounces) of water per day unless your doctor has asked you to limit fluid.

### Points to Remember

Usually it is helpful to shop the perimeter of the store where fresh produce, low-fat dairy and fresh lean meats are located.

Methods of food preparation can affect blood fat levels as much as food choices can. Baking, broiling, boiling and grilling are preferable to frying.

# Seven-Day Sample Meal Plan

Day One	Day Two
<b>Breakfast</b> <ul style="list-style-type: none"> <li>• Oatmeal w/ blueberries</li> <li>• Nuts</li> <li>• Whole wheat bread, Benecol &amp; diet jelly</li> <li>• Low-fat milk 1%</li> <li>• Decaf coffee</li> </ul>	<b>Breakfast</b> <ul style="list-style-type: none"> <li>• Orange slices</li> <li>• Waffle w/ low calorie syrup</li> <li>• Benecol</li> <li>• Nuts</li> <li>• Decaf coffee</li> </ul>
<b>Lunch</b> <ul style="list-style-type: none"> <li>• Broiled chicken w/ canola oil</li> <li>• Carrot coins – Benecol</li> <li>• Green peas – Benecol</li> <li>• Wheat bread</li> <li>• Pear</li> <li>• Diet decaf cola</li> </ul>	<b>Lunch</b> <ul style="list-style-type: none"> <li>• Hearty, lentil soup</li> <li>• Spinach</li> <li>• Tossed salad w/ oil &amp; vinegar</li> <li>• Berries w/ low-fat yogurt</li> <li>• Whole wheat roll – Benecol</li> <li>• Diet lemon lime soda</li> </ul>
<b>Dinner</b> <ul style="list-style-type: none"> <li>• Tomato bisque</li> <li>• *Enchilada Sonora</li> <li>• Tossed salad w/ olive oil</li> <li>• Dressing</li> <li>• Pineapple bits</li> <li>• Unsweetened, decaf iced tea</li> </ul>	<b>Dinner</b> <ul style="list-style-type: none"> <li>• Broiled salmon</li> <li>• Small baked potato</li> <li>• Beets, sliced</li> <li>• Peaches w/ low-fat cottage cheese</li> <li>• Decaf hot tea</li> </ul>
Day Three	Day Four
<b>Breakfast</b> <ul style="list-style-type: none"> <li>• *Bran muffin – Benecol</li> <li>• Banana half</li> <li>• Yogurt w/ nuts</li> <li>• Decaf coffee</li> </ul>	<b>Breakfast</b> <ul style="list-style-type: none"> <li>• All bran cereal w/ strawberries</li> <li>• Nuts</li> <li>• 1% or skim milk</li> <li>• Decaf coffee</li> </ul>
<b>Lunch</b> <ul style="list-style-type: none"> <li>• Roast turkey breast</li> <li>• Low-fat dressing</li> <li>• Mashed sweet potatoes – Benecol</li> <li>• Tossed salad w/ vinaigrette oil</li> <li>• 1% or skim milk</li> </ul>	<b>Lunch</b> <ul style="list-style-type: none"> <li>• Vegetable soup w/ barley</li> <li>• Turnip greens</li> <li>• Tossed salad w/ oil &amp; vinegar</li> <li>• Plum</li> <li>• Diet decaf cola</li> </ul>
<b>Dinner</b> <ul style="list-style-type: none"> <li>• Fish scampi – cod filet w/ lemon wedges</li> <li>• Brown rice – Benecol</li> <li>• Zucchini squash</li> <li>• *Tropical fruit w/ ginger</li> <li>• Decaf hot tea</li> </ul>	<b>Dinner</b> <ul style="list-style-type: none"> <li>• Grilled chicken on a whole wheat bun w/ lettuce &amp; tomato, &amp; slice of low-fat cheese</li> <li>• Italian green beans w/ olive oil</li> <li>• Baked apple w/ cinnamon</li> <li>• Sugar-free lemonade</li> </ul>

\*Recipe provided on following pages



# Seven-Day Sample Meal Plan

Day Five	Day Six
<b>Breakfast</b> <ul style="list-style-type: none"><li>• Oatmeal w/ nuts</li><li>• Low-fat cottage cheese</li><li>• Cantaloupe</li><li>• Eggbeater omelet</li><li>• Decaf coffee</li></ul>	<b>Breakfast</b> <ul style="list-style-type: none"><li>• Apple slices w/ natural peanut butter</li><li>• Egg substitute French toast w/ low calorie syrup</li><li>• 1% or skim milk</li><li>• Decaf coffee</li></ul>
<b>Lunch</b> <ul style="list-style-type: none"><li>• *Stir fry veggies w/ peanut oil</li><li>• Brown rice</li><li>• Tossed salad w/ olive oil &amp; vinegar</li><li>• Mandarin orange slices</li><li>• Decaf hot tea</li></ul>	<b>Lunch</b> <ul style="list-style-type: none"><li>• Chicken breast stuffed w/ broccoli &amp; cheese – low-fat</li><li>• Mixed vegetables</li><li>• Peaches</li><li>• Unsweetened, decaf iced tea</li><li>• Brown rice</li></ul>
<b>Dinner</b> <ul style="list-style-type: none"><li>• Spaghetti &amp; meatballs</li><li>• Steamed mixed vegetables</li><li>• Sugar-free fruit sorbet</li><li>• 1% or skim milk</li><li>• Fresh fruit – peach/blueberry medley</li></ul>	<b>Dinner</b> <ul style="list-style-type: none"><li>• *Stuffed cabbage rolls</li><li>• Green beans</li><li>• Wheat bread</li><li>• Low-fat vanilla pudding w/ banana half</li><li>• Decaf hot tea</li></ul>
Day Seven	
<b>Breakfast</b> <ul style="list-style-type: none"><li>• Waffles w/ low-calorie syrup</li><li>• Nuts</li><li>• Honeydew melon</li><li>• Low-fat milk 1%</li><li>• Decaf coffee</li></ul>	
<b>Lunch</b> <ul style="list-style-type: none"><li>• Vegetarian chili</li><li>• Low-fat cheese slice on whole wheat bread w/ tomato slices</li><li>• Tossed salad w/ oil &amp; vinegar</li><li>• Fresh fruits/salad</li><li>• Diet decaf cola</li></ul>	
<b>Dinner</b> <ul style="list-style-type: none"><li>• BBQ chicken</li><li>• *Stuffed tomatoes</li><li>• Steamed broccoli</li><li>• Angel food cake w/ strawberries</li><li>• Sugar-free lemonade</li></ul>	

Use the plate method as guideline for portion sizes

\*Recipe provided on following pages

# Recipes

## Stir-Fry Vegetables

**Ingredients:**

- 1 tbsp peanut oil
- 1 cup broccoli florets
- ½ cup julienne carrots
- 1 cup snow peas
- 1 cup red bell pepper, sliced
- 1 cup summer crooked-neck squash
- 2 tsp water
- 2 tsp low-sodium soy sauce
- 3 tsp broth (reduced salt)
- 1 tsp cornstarch

**Instructions:**

Put peanut oil on a wok or non-stick skillet, add stir-fry broccoli, carrots, snow peas, bell pepper and squash with water for 2-3 minutes. In a small bowl, mix the soy sauce, broth and cornstarch. Pour into wok, stir until thick. Add vegetables, toss and serve immediately. 3 servings.

**Nutritional Analysis:**

Serving size: 1 cup cooked	400 mg sodium
50 calories	12.9 gm carbohydrate = 1 starch exchange

## Fruit or Vegetable Bran Muffins

**Ingredients:**

- 3 cups 100% bran flakes cereal
- 3 cups skim milk
- 4 egg whites (or ½ cup egg substitute)
- 2 tbs vegetable oil
- 2 ¾ cups whole wheat flour
- 1 cup sugar
- 2 tsp baking powder
- 1 tsp baking soda
- 2 tsp cinnamon
- ½ tsp nutmeg
- 1 ½ cups fruit or vegetable of choice
- Nonstick cooking spray

**Instructions:**

Combine bran flakes, milk, egg whites and oil; let stand for 5 minutes. Add all other ingredients and stir by hand until well blended. Spray muffin tins with cooking spray or use paper liners that have been sprayed with cooking spray. Fill muffin tins and bake at 400 degrees for approximately 20 minutes. Makes 24 muffins. For the fruit/vegetable of choice, try mashed bananas, grated apples, blueberries, grated zucchini, grated carrots, or crushed pineapple.

**Nutritional Analysis:**

Serving size: 1 muffin	11% calories from fat
122 calories	24 gm carbohydrate = 1.5 carbohydrate servings (may round up to 2 carbohydrate choices)
1.6 g fat	Developed by the Cooper Clinic. Taken from Shape magazine, January 1994, p.78
170 mg sodium	



# Recipes

## Stuffed Tomatoes

**Ingredients:**

- Canola oil cooking spray
- ¼ cup onions, chopped
- 1 tsp garlic, chopped
- ½ cup mushrooms, chopped
- 4 medium ripe, firm tomatoes
- 1 cup cooked brown rice
- 1 tsp fresh basil, chopped
- 1 tsp fresh rosemary
- Pepper

**Instructions:**

Spray frying pan with cooking spray and sauté onion, garlic and mushrooms adding a little water as necessary. Cut tops off tomatoes and scoop out the center. Chop up the scooped out centers and add to mushroom onion mixture. Add the rice and seasonings. Cook until liquid has been reduced. Fill tomatoes with rice mixture. Place in baking dish. Bake at 350 degrees for 15-20 minutes. Makes 4 servings.

**Nutritional Analysis:**

Serving Size: 1 tomato	12 mg sodium
92 calories	19.6 gm carbohydrate = 1 carbohydrate choice

## Low-Fat, Low-Salt Enchilada Sonora

**Ingredients:**

- 2 cans fat-free refried beans
- 2 cups salt-free Picante sauce
- 4 oz baked Tostitos (1/2 bag)
- 2 cups salsa
- 1 cup Healthy Choice fat-free shredded cheese
- 1 cup light mild shredded cheddar cheese

**Instructions:**

Warm refried beans and add salt-free Picante sauce and stir. In a 12”x9” baking dish layer baked Tostitos chips, bean mixture, summer salsa and cheese. Continue layering until mixture is gone. Finish with cheese layer. Bake at 300 degrees for 20-25 minutes. Makes 10 servings.

**Nutritional Analysis:**

Serving Size: 1 cup	384 mg sodium
208 calories	12% calories from fat
2.6 g fat	21.4 gm carbohydrate = 1 carbohydrate choice

HINTS

To lower the sodium content by 25% use rinsed, canned beans and mash them. To reduce the sodium content to about 216 mg per 1 cup serving, cook the beans from dried beans and mash. See information on “Bean Cookery” at the end of the recipes.

To save time use 2 cups chopped tomatoes and approximately 1 cup Pace picante sauce. This will however increase the sodium.

Serve with avocado slices to add heart healthy fat.

Enchilada recipe adapted by Kathy Beardsley, LD, RD, and AdventHealth Nutritional Services

# Recipes

## Tropical Fruit With Ginger

**Ingredients:**

- |  |  |
|--|--|
| <ul style="list-style-type: none"><li>• 1 cup pineapple chunks</li><li>• 1 cup mandarin oranges</li><li>• 1 banana, sliced</li></ul> | <ul style="list-style-type: none"><li>• ¼ cup pineapple juice</li><li>• 1 tsp honey</li><li>• ½ tsp fresh ginger, minced</li></ul> |
|--|--|

**Instructions:**

Drain the pineapple and orange slices. Slice banana into bowl, add oranges and pineapple. Mix ginger and honey with pineapple juice and pour over fruit. Chill and serve. Makes 6 servings.

**Nutritional Analysis:**

Serving Size: ½ cup	19.2 gm carbohydrate = 1 carbohydrate choice
68 calories	Developed by Kathy Beardsley, LD, RD, and AdventHealth Nutritional Services

## Stuffed Cabbage Rolls

**Ingredients:**

- |  |  |
|--|--|
| <ul style="list-style-type: none"><li>• 1 head green cabbage</li><li>• 1 tsp garlic, minced</li><li>• ¼ cup onion, minced</li><li>• 2 cups cooked brown rice</li></ul> | <ul style="list-style-type: none"><li>• ½ cup crumbled vege Boca burger (fat-free)</li><li>• ½ tsp oregano</li><li>• pepper</li><li>• canola oil cooking spray</li></ul> |
| <p>Sauce:</p> <ul style="list-style-type: none"><li>• 2 cups tomato juice (salt free)</li><li>• 2 tsp brown sugar</li></ul>  | <ul style="list-style-type: none"><li>• 3 tsp lemon juice</li><li>• ¼ cup raisins</li></ul>  |

**Instructions:**

Core cabbage and remove leaves. Blanch leaves in boiling water for 1 minute, set aside. Sauté garlic and onion in cooking spray until soft and mix with remaining ingredients. Place ¼ cup of filling on end of cabbage leaf, roll up and place in 9"x9" baking dish. Mix sauce ingredients together and pour over cabbage rolls. Bake at 350 degrees for 40 minutes. Makes 4 servings.

**Nutritional Analysis:**

Serving size: 2 rolls	303 mg sodium
260 calories	48 gm carbohydrate = 3 carbohydrate choices

Hints: Stuffing can also be used for other vegetables such as bell peppers. For variety, try this sauce over the cabbage rolls:

- 2 cups tomato juice      1 tsp caraway seeds  
½ cup sauerkraut, washed and drained

Arrange sauerkraut around cabbage rolls, sprinkle with caraway seeds and add tomato juice.

218 calories    484 mg sodium    26.4 gm carbohydrate = 2 carbohydrate choices

Developed by Kathy Beardsley, LD, RD, and AdventHealth Nutritional Services



# Recipes

## Bean Cookery

There are several ways to use beans, depending on your needs and your time. Many people are used to having beans cooked for several hours and seasoned with fat back or other kinds of fat and salt.

There are a number of seasonings, herbs and spices to increase the flavor and to develop a wonderful product. However, there is no fat substitute available to replace the fat back and no salt replacement for "sodium chloride."

There are ways of reducing gaseous properties of beans. The problem is more apparent when you use beans infrequently. To improve intestinal tolerances try the following:

1. Build up your tolerance by slowly increasing the amount of beans you use
2. Properly soak and cook dry beans
3. Drink adequate fluids
4. Use a product such as "Beano" to provide the body with enzymes to digest gaseous fiber and starches. (Avoid Beano if allergic to penicillin)

### Canned Beans

Various types of canned beans are available in the market. They are convenience foods and easy to use. They can be used any way that beans cooked from dry can be used.

The salt in canned beans varies. Draining and rinsing them with water eliminates about half of the sodium.

### Beans Cooked from Dry:

1. Beans soaked overnight and then cooked: Add 1/8 tsp of baking soda to each quart of water and soak the beans overnight. The soda will help the water to be absorbed through the seed skins. In the morning, pour off the water, rinse and add new water for cooking.
2. Beans brought to boil and let set: Add beans to water, using 1/8 tsp baking soda per quart of water and bring to a boil, boiling for 2-3 minutes. Take off heat and let sit for 1 hour. Discard soaking water and add new water. Begin cooking again until done.
3. Beans soaked overnight and then sprouted: This method will reduce the amount of gas producing products. Soak the beans overnight in plain water. In the morning, pour off the water and keep the beans in a dark place. Rinse 2 or 3 times a day to allow the beans to sprout. When the sprouts are about 1/4 inch long, cook the beans until done. They will cook in about half of the usual time and they will have less gas.

# Grocery Shopping List for Heart Health

## Fresh Fruits and Vegetables

- Apples
- Berries
- Bell peppers
- Broccoli
- Cauliflower
- Celery
- Dark leafy greens
- Eggplant
- Grapes
- Kale
- Oranges
- Pears
- Squash
- Tomatoes
- Zucchini

## Dairy and Dairy Alternatives

- Buttermilk, low-fat or nonfat
- Cheese, nonfat or reduced-fat
- Cottage cheese or ricotta cheese, nonfat or 1%
- Cream cheese, nonfat or light
- Creamers, nonfat
- Milk, skim or 1%
- Sour cream, nonfat
- Yogurt, nonfat or 1%
- Soy milk, almond milk, and other non-dairy products may also be options

## Meat, Poultry, Fish and Meat Substitutes

- Beef, lean cuts and lean ground round or sirloin
- Chicken or turkey breasts and tenders, skinless, boneless
- Chicken or turkey, ground
- Fish, high in omega-3s, such as herring, mackerel, salmon, trout, tuna
- Pork tenderloin, trimmed of fat
- Seitan
- Tempeh
- Tofu

## Frozen Foods

- Fruits without added sugar (for example, frozen blueberries, raspberries, and strawberries)
- Soybeans (*edamame*)
- Vegetables and vegetable blends without added sauce, gravy, or sodium

## Beans, Grains, Soups and Sauces

- Barley
- Beans, canned, reduced-sodium: assorted cans of beans such as black, garbanzo, kidney, navy and pinto
- Beans, dried: Choose your favorite beans.
- Broth, reduced-sodium chicken, beef, or vegetable
- Cereals, whole-grain (*Note: Choose cereals that have 5 or more grams of dietary fiber and fewer than 8 grams of sugar per serving*)
- Cornmeal
- Flaxseed, ground or whole
- Flour, whole wheat
- Grains such as wheat berries, couscous, polenta, millet, bulgur and quinoa
- Oat bran
- Oats, rolled, steel-cut, or Irish
- Pasta sauce, low-fat or fat-free
- Pasta, whole wheat, spelt, or kamut (*Note: These whole-grain pastas come in bowtie, fettuccini, lasagna, spaghetti, fusilli, spiral, elbow macaroni, and ravioli varieties*)
- Rice: brown, wild, and brown basmati
- Soups, low-sodium, and 98% fat-free cream of mushroom
- Soy flour
- Tomato paste
- Tomatoes, whole or diced, reduced-sodium
- Vegetarian or nonfat refried beans

Condiments

- Barbecue sauce, low-sodium
- Ketchup, reduced-sodium
- Mayonnaise, reduced-fat or nonfat
- Mustards: whole grain, honey, Dijon, yellow
- Soy sauce, reduced-sodium
- Vinegars: rice, red wine, balsamic, apple cider, raspberry

Fats and Cooking Oils

- Margarine, trans-fat-free
- Nonfat cooking sprays
- Nonhydrogenated shortening
- Oils, olive and canola
- Replacements for fat when baking, such as applesauce, fruit puree, or yogurt
- Salad dressings, reduced-fat or nonfat

Snacks

- Nuts and seeds, assorted, raw (almonds, walnuts, sunflower seeds, sesame seeds)
- Breads, tortillas, pitas, whole-grain
- Crackers, whole-grain, trans-fat-free
- Dried fruits
- Peanut butter
- Popcorn cakes or brown rice cakes
- Popcorn, plain or light microwave
- Pretzels, whole-grain
- Tortilla chips, baked, trans-fat-free

Spices Instead of Salt

- Allspice
- Basil
- Bay leaves
- Black pepper
- Caraway seeds
- Cayenne
- Chili powder
- Chinese five-spice
- Cinnamon
- Cloves
- Coriander
- Cumin
- Curry powder
- Dill
- Garlic powder
- Ginger
- Italian seasoning
- Marjoram
- Mint
- Nutmeg
- Onion powder
- Oregano
- Paprika
- Parsley
- Red pepper flakes
- Rosemary
- Thyme
- Sodium-free seasonings

Sweeteners

- Brown rice syrup for a sweetening alternative in baking
- Honey (in moderation)
- Sugar-free or “light” maple syrups

WebMD Medical Reference

Sources: American Dietetic Association: “Fresh, Canned, or Frozen?”; American Heart Association: “Eating Low-Fat Dairy Foods May Reduce Your Risk of Stroke.”; American Heart Association: “Eating Fish for Heart Health.”; American Heart Association: “Fats and Oils.”; American Heart Association: “Shaking the Salt Habit.”; American Heart Association: “Sugars and Carbohydrates.”

Reviewed by Arefa Cassoobhoy, MD, MPH on July 02, 2014  
© 2014 WebMD, LLC. All rights reserved.

I can help by limiting my sodium intake to \_\_\_\_\_mg per meal.





## Guidelines for Dining Out

### **Appetizers**

Have cooked oysters, clams or shrimp. Try a fruit platter.

### **Soups/Salad**

Try gelatin salads. Eat tossed salad, raw vegetables and fruit. Try lemon juice or vinegar instead of salad dressing. Avoid soups and broths.

### **Breads**

Ask for the garlic/butter sauce to be left off.

### **Entrees**

Avoid salty meats such as ham, corned beef and canned meats. Have your meal prepared without MSG and added salt. All sauces should be served on the side and limited to one tablespoon.

### **Sandwiches**

Avoid salty meats such as ham, corned beef and canned meats. Use low-sodium lunch meats. Use ketchup and sauces sparingly.

### **Vegetables**

Eat fresh or frozen vegetables without sauce. Eat baked potatoes.

### **Desserts**

Ask for gelatin and ice cream. Try angel food or sponge cake.

### **Breakfast**

Avoid casseroles, cheeses and salty meats. Ask for your eggs prepared without salt. Eat pancakes, muffins and biscuits only two to three times weekly, since they contain more sodium.

### **Fast Foods**

These are usually high in sodium, so avoid or choose based on above guidelines.

Use these American Heart Association nutrition recommendations when eating in and dining out as well, and you'll be eating heart healthy.

# Blood Pressure

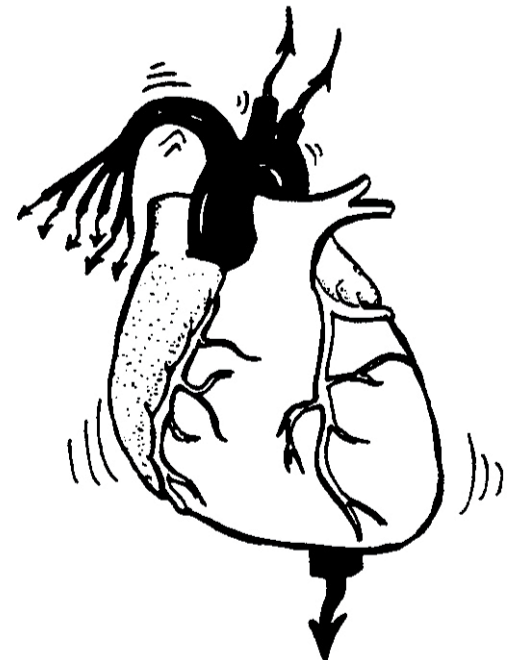
Blood pressure is the force exerted by the blood on the walls of the arteries (blood vessels that carry blood from the heart to all parts of the body). This force is created by the pumping actions of the heart. Each time the heart beats, it pushes blood out into the arteries. The arteries expand and contract to carry the blood from the heart to parts of the body. Blood pressure remains low or normal if the arteries expand as the heart beats, allowing blood to flow freely. If the arteries are constricted, resisting blood flow, blood pressure is higher.

Blood pressure is highest when the heart beats (pumps blood out). This is called systolic pressure and is the top number of a blood pressure reading.

Blood pressure is lowest when the heart rests between beats. This is called diastolic pressure and is the bottom number of a blood pressure reading.

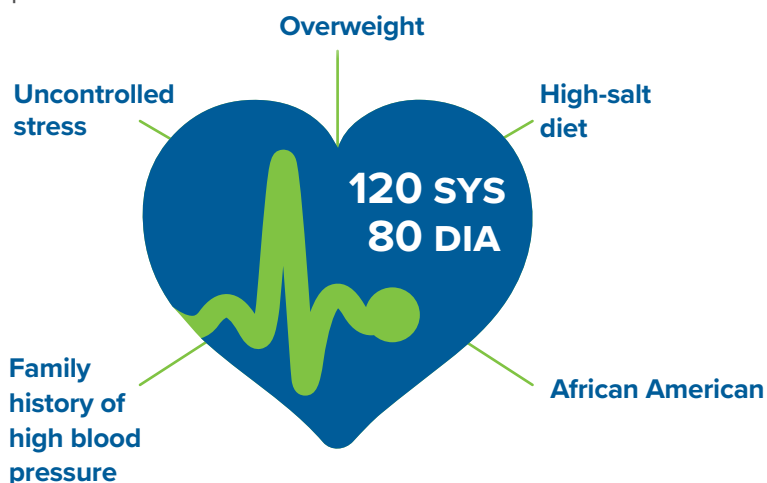
Example:        120 - Systolic pressure  
                      80 - Diastolic pressure

A blood pressure reading of 140/90 or higher is considered high blood pressure; it must be monitored closely and treated appropriately.



## Risk Factors for High Blood Pressure

Certain characteristics identify a person at risk for having high blood pressure:



# Diabetes

Insulin is a hormone manufactured by the body; it turns sugar and starch into energy. Diabetes is a disorder in which insulin is either inadequately produced by the body or does not function properly in the body. When insulin is absent or not functioning normally, excess sugar builds up in the blood, and this excess amount of sugar is associated with a rise in blood fat levels and thus, the development of atherosclerosis.

Diabetes can usually be detected early through regular medical checkups. Blood sugar levels can be controlled with proper treatment. Some treatments for diabetes include diet modification, weight control, regular exercise and stress management. Insulin injections or diabetic pills may also be required.



# Stress Management

## What Is Stress?

Stress is our body's response to something in the environment that places a demand on our system.

## Changing Mental Response to Stressors

**This can be controlled by asking 3 questions:**

1. What are my expectations of this situation?
2. How likely is it that my expectations, good or bad, will be met?
3. If they are not met, do I have to respond by feeling bad? How can I work to achieve better outcomes?

**Then learn to recognize what you can and can't control:**

- Put the stressor in perspective. Will it matter a year from now?
- Be flexible and look for answers to those things you can control.
- Plan ahead for the next time.
- Finally, with practice, you can learn to control your response to stressors.
- Learn to take things one step at a time.
- Try to break big problems into smaller tasks that you can handle.
- Keep focused on your goals, allowing for continuing skills to develop over time.

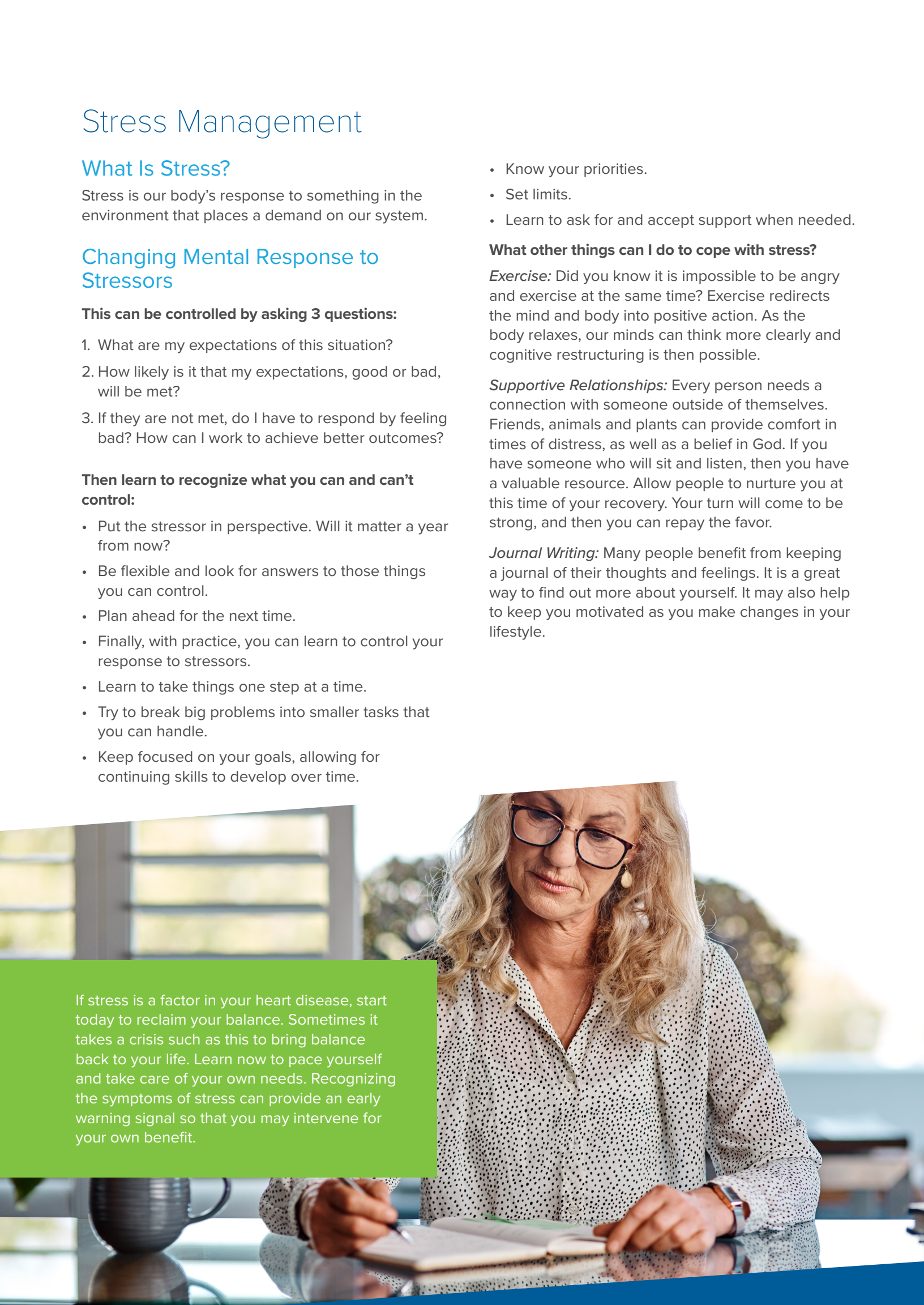
- Know your priorities.
- Set limits.
- Learn to ask for and accept support when needed.

**What other things can I do to cope with stress?**

*Exercise:* Did you know it is impossible to be angry and exercise at the same time? Exercise redirects the mind and body into positive action. As the body relaxes, our minds can think more clearly and cognitive restructuring is then possible.

*Supportive Relationships:* Every person needs a connection with someone outside of themselves. Friends, animals and plants can provide comfort in times of distress, as well as a belief in God. If you have someone who will sit and listen, then you have a valuable resource. Allow people to nurture you at this time of your recovery. Your turn will come to be strong, and then you can repay the favor.

*Journal Writing:* Many people benefit from keeping a journal of their thoughts and feelings. It is a great way to find out more about yourself. It may also help to keep you motivated as you make changes in your lifestyle.



If stress is a factor in your heart disease, start today to reclaim your balance. Sometimes it takes a crisis such as this to bring balance back to your life. Learn now to pace yourself and take care of your own needs. Recognizing the symptoms of stress can provide an early warning signal so that you may intervene for your own benefit.



***Humor:*** Laughter is often called internal jogging. It causes a release of endorphins in your body, which acts as a mood elevator. Try to see some humor in your life. Smile more often. It takes fewer muscles to smile than to frown.

***Relaxation:*** Relaxation techniques can be useful to break the stress cycle. This allows our body to calm down, and the blood pressure and heart rate to decrease. Choose a quiet place, away from distractions, and focus on deep, relaxing breaths as you think about a peaceful favorite place. Some people listen to music or use a specific relaxation tape for this purpose.

## Obesity

An alarming number of adults and children in the United States are overweight (obese). Statistics show that the death rate for obese individuals is much higher than that for people of normal weight. Health problems associated with obesity include gout, diabetes, high blood pressure, high blood cholesterol levels and coronary artery disease.

Many factors influence a person's eating habits. Often the habit is learned during childhood, such as snacking and overeating (the "clean plate club"), and then become permanent patterns of behavior. Ethnic and religious customs as well as social influences (peer pressure) also influence eating habits. In addition, many people consume foods rich in fats and refined sugars.

Be aware that the only method of permanent weight control is to continually balance caloric intake with calories used. This can be done with a reduced-calorie diet and a progressive exercise program. A loss of one to two pounds per week is a reasonable goal.

Develop a pattern of eating and exercising that will keep your weight normal and provide long-term weight control.

### Points to Remember

- Set realistic goals for weight loss and be patient.
- Avoid "magic" pills or "miracle" drugs.
- Avoid starvation diets, extremely low-calorie diets or fad diets.



- Eat a variety of foods. No one food supplies all your body's daily nutritional needs.
- Avoid using food to alleviate tension, worry and boredom.
- Develop a regular exercise program.
- Labor-saving devices, escalators, elevators and automobiles have taken much of the physical work out of living.
- Be aware of stumbling blocks like weekends, vacations and dining out.
- Reward yourself for pounds lost, but not with food. Try new clothes, a movie, a relaxing massage, etc.

See the Cardiac Rehabilitation dietitian for information on a calorie-controlled diet.

# Exercise

Thousands of ingenious devices have been invented to save time and work. These devices have reduced much of our physical activity and created a sedentary lifestyle. As a result, the average American “sits” most of his or her life away. Many people sit when they eat, read, study, watch TV or play games, and many sit while working as well. An exercise program should provide pleasure and enjoyment as well as physical conditioning. It should be demanding, but not exhausting.

## Points to Remember

- Choose activities that are rhythmic, repetitive and exercise large muscle groups. Try walking, biking, skating or swimming; these activities improve circulation by forcing the heart to pump blood to meet the increased oxygen needs of the muscles. These activities are called isotonic or aerobic (activities in which the muscles are receiving adequate oxygen). These activities also promote cardiovascular fitness.
- Avoid activities that require straining, holding your breath or keeping your muscles tense for extended periods of time. This includes heavy weight lifting, push-ups, etc. These activities do not promote cardiovascular fitness, and, in fact, can raise blood pressure to abnormal levels and place an abnormal workload on the heart.

These kinds of activities are called isometric or anaerobic (activities in which muscles are not receiving adequate oxygen). Many patients can benefit from participating in a weight-resistance activity at least twice a week. To begin this activity after a cardiac event, consult with your physician or Cardiac Rehabilitation staff.

## Beginning

## Exercise

Each exercise session should have three phases: the warm-up, exercise activities and the cool-down. The warm-up helps you prepare for an effective exercise session in which you don't injure your muscles. It also helps increase your cardiac workload gradually. The warm-up should increase circulation as well as stretch and warm the muscles. Doing some range-of-motion exercises and walking slowly for 5 to 10 minutes is usually adequate for warming up.

The purpose of the cool-down phase is to gradually reduce circulation and cardiac work. To cool down, walk five to 10 minutes and/or repeat the range-of-motion exercises.

Do not stop exercising suddenly! Exercise activities should be carefully planned.

### A balanced exercise program has several components:

**Type of activity:** Activities should be enjoyable and suitable for the climate and location.

**Frequency:** Exercise daily.

**Duration:** Start with 15 to 20 minutes of total exercise time each session. Depending on your previous exercise habits and current medical or surgical status, you may need to start with less time. Gradually increase to 45 to 60 minutes.

**Intensity:** The exercise session should demand greater exertion than normal daily activities.

The goal is to stimulate cardiovascular fitness without overtraining or producing shortness of breath, extreme fatigue, chest pain or prolonged muscle soreness.

**Progression:** After your heart attack or surgery, exercise will be limited for awhile. You should continue the walking program you began while in the hospital. Take a walk three or four times each day for 5 to 10 minutes each time. Gradually increase the distance and time. These walks should make you feel refreshed, not



exhausted or short of breath. Increase exercises gradually according to your tolerance for each level of exercise. Length of time or intensity can be increased. In most cases, increasing the length of time you exercise will promote cardiovascular fitness without risk or strain to the heart. Be consistent - don't exercise a lot one day and none the next.

Your exercising heart rate should be determined by your physician or Cardiac Rehabilitation nurse. It will serve as a guide for adjusting the duration and intensity of exercise. Adjusting the exercises will keep your pulse within your heart-rate range and you will be assured a proper workout session.

An awareness of “perceived exertion” is another method for adjusting exercise levels. Perceived exertion is how hard you feel you are working; it is ranked on a scale of one to 20. One equals a very minimal workload, and 20 equals an extremely hard workload. You may find that the amount of exercise needed to achieve your desired perceived exertion number will vary due to many factors, such as changing physical fitness, a poor night’s sleep, weight gain, illness, stress or fatigue.

Perceived Exertion Levels	
1–7	Very Light
8–11	Fairly Light
12–13	Somewhat Hard
14–15	Hard
16–17	Very Hard
18–20	Very, Very Hard

A recommended perceived exertion of about 10 to 12 should be your goal at approximately six weeks into recovery and beyond.

If for any reason walking must be limited, substitute with a stationary bicycle. Do not use tension or resistance on the stationary bicycle at first; the workload will be sufficient without tension while healing takes place.

If your stationary bicycle has an arm activity connected, do not use that part in the early phase of recovery. If you have had open-heart surgery, consult your doctor or Cardiac Rehabilitation staff about appropriate time to begin using the arm action on your bike.

Although swimming is a good cardiovascular exercise, avoid swimming for two to four months following bypass surgery so that the sternum and incisions are completely healed.

## Exercise Guidelines and Precautions

**These guidelines can promote a safe exercise program:**

- Obtain approval from your physician before beginning an exercise program.
- Choose activities you like.
- At first, choose activities that require familiar skills.
- Increase the variety and intensity of exercise that requires familiar skills.
- Wear appropriate clothing and shoes for the exercise chosen.
- Avoid moderate to heavy exercise within two hours of eating.
- Avoid smoking before exercising.
- Avoid consuming caffeinated beverages before exercising.
- Avoid exercising in extreme temperatures.
- Avoid exercising on uneven or unsafe ground.
- Avoid sudden or strenuous activities.
- If you have not exercised for awhile, begin with low workloads.
- Do not push yourself beyond your limits to keep up with someone else.
- Avoid competitive games.
- Wait 30 to 40 minutes after exercising before showering. Use lukewarm rather than hot water.
- Stop exercising if you experience pain in your chest, jaw, neck or arm, or unusual shortness of breath, dizziness or fatigue. Report abnormal symptoms to your physician. If these symptoms persist, go to the hospital immediately.
- If you are a diabetic, monitor your blood glucose level to avoid complications.
- Keep your physician aware of your exercise progress. This will prevent complications relating to high blood pressure, diabetes, gout, etc.



# Benefits of Exercise

## Exercise is beneficial because it:

- Decreases resting and exercising blood pressure
- Decreases resting and exercising heart rates
- Improves muscle tone
- Develops collateral circulation to the heart muscle
- Provides an outlet for built-up tension, and helps you relax for rest and sleep
- Improves your ability to cope with stressful situations
- Provides an increased “zest for living”
- Lowers cholesterol and fat levels in the blood
- Burns calories, making it easier to lose and maintain an ideal weight
- Reduces appetite, thus helping control weight
- Increases stamina

There is no conclusive evidence, as yet, that a long-term exercise program will prevent or retard coronary artery disease. However, exercise has a positive effect on controlling coronary risk factors like high blood pressure and diabetes. A regular exercise program of sufficient intensity should improve heart and lung functioning, and exercise tolerance.

Exercise improves the quality of life at every age. Even if you have yielded to sedentary habits, you can improve your physical fitness.

When you stop an exercise program, the benefits are rapidly lost. Remember, exercise should be a lifelong commitment. AdventHealth offers a comprehensive four-phase cardiac rehabilitation and fitness program that provides medical supervision and progress reports to your physician.

## Phase II — Monitored Exercise

This is an EKG-monitored wellness program that begins shortly after hospitalization for cardiac patients. The patient’s exercise routine is customized to meet their particular needs and goals. Electrocardiogram (EKG), blood pressure and oxygen-saturation monitoring is provided at regular intervals.

Additionally, our on-going classes offer information and support as patients continue to modify their lifestyle:

- Heart function
- Secondary prevention of risk factors
- Stress management
- Support group
- Nutrition
- Smoking cessation

Medicare covers certain diagnoses including bypass surgery, stable angina or a heart attack within one year of occurrence. Our team will be happy to talk to you about your diagnosis and insurance benefits.

## Identify your heart disease risk factors

My risk factors for heart disease are:

---

---

---

I would like to work on:

---

---

---

i need help with :

---

---

---

## Chapter 3: Contact Information and Patient Resources

30 AdventHealth Cardiac Rehab Centers in Florida

30 AdventHealth Diet and Nutrition Services

30 Support Organizations

30 Community Resources

31 Online Resources

31 Suggested Reading

32 Glossary

33 Our Health Equity Promise

## Online Resources

In addition to this guidebook, there are several helpful resources for patients and family members preparing for or recovering from heart surgery. From your local book or grocery store to the internet, the assistance is both easy to find and simple to follow.

### **American Heart Association**

Heart.org

### **Heart Failure Matters**

HeartFailureMatters.org

### **Mended Hearts**

MendedHearts.org

### **Fight Against Heart Failure**

FightAgainstHeartFailure.com

### **Heart Failure Society of America**

HFSA.org

### *Smoking-cessation Resources*

#### **American Cancer Society**

Cancer.org

#### **Great Start**

(Program for pregnant women)  
1-800-Quit-Now

#### **Truth Initiative**

(Formerly American  
Legacy Foundation)  
TruthInitiative.org/Topics/  
Patterns-use/Cessation

#### **Centers for Disease Control**

CDC.gov/Tobacco

#### **National Cancer Institute**

SmokeFree.gov

### *Community Service*

#### **Elder Care**

800-963-5337

## Suggested Reading

### Cookbooks and Books

#### *Cookbooks*

##### **American Heart Association**

##### **Low-Salt Cookbook, 4th Edition:**

A Complete Guide to Reducing Sodium  
and Fat in Your Diet 2013

##### **American Heart Association Healthy Slow Cooker**

**Cookbook:** 200 Low-Fuss, Good-for-You Recipes

##### **American Heart Association Quick & Easy Cookbook,**

**2nd Edition:** More Than 200 Healthy Recipes You Can  
Make in Minutes

##### **Don't Eat Your Heart Out**

Covert Bailey, Houghton Mifflin Co. 1991

#### *Current Books*

##### **From Stress to Strength**

Robert S. Eliot, MD, Bantam Books, New York 1995

#### *Classic Books*

##### **Everyday Cooking With Dr. Dean Ornish**

Dr. Dean Ornish, Harper Collins Publishers 1996

##### **Program For Reversing Heart Disease**

Dean Ornish, MD, Random House Publishers,  
New York 1996

##### **Take a Load Off Your Heart:**

**109 Things You Can Actually Do to Prevent,  
Halt and Reverse Heart Disease.** Joseph C. Piscatella  
and Barry Franklin Ph.D., Workman Publishing, New  
York 2003

##### **Thriving with Heart Disease:**

**Live Happier, Healthier, and Longer.**

Wayne M. Stotile PhD Free Press, New York 2003



# Glossary

**Angina:** Discomfort or pain that develops because of decreased oxygen to the heart muscle.

**Anticoagulant:** A medication that alters blood clotting time; also known as a “blood thinner.”

**Aorta:** The large artery extending out of the left side of the heart that carries blood from the heart to the body.

**Aortic Stenosis:** A narrowing or stiffening of the aortic valve.

**Arrhythmias:** Irregular heartbeats.

**Arteries:** Blood vessels that carry oxygen away from the heart to all parts of the body.

**Atherosclerosis:** Narrowing of the arteries due to deposits of cholesterol, fats, blood-clotting materials or calcium that forms within the inner walls of the arteries.

**Bacterial Endocarditis:** An infection of the heart’s inner lining or valves.

**Bradycardia:** A heart rate of less than 60 beats per minute.

**Capillaries:** Tiny blood vessels that connect arteries and veins.

**Carbon Dioxide:** An odorless, colorless gas formed in the tissues and eliminated by the lungs.

**Cardiac Cycle:** The contracting-relaxing sequence of the heart cells that moves blood in and out of the heart chambers.

**Cells:** The very small basic unit of living things.

**Cholesterol:** A fatty substance found in animal products.

**Collateral Circulation:** A small network of vessels that may dilate, increasing the blood flow to the area of the heart muscle affected by a blocked artery.

**Commissurotomy:** A surgical procedure to loosen the stenotic valve, increasing the size of the valve’s opening.

**Conductive System:** A specialized group of heart cells that electrically stimulate the heart to cause it to beat.

**Congenital Heart Disease:** An abnormal formation of the heart at birth.

**Congestive Heart Failure:** Increased workload on the heart due to too much blood in the heart.

**Coronary Arteries:** Blood vessels that supply blood to

the heart muscle.

**Coronary Artery Bypass Surgery:** A surgery that increases circulation by bypassing the blocked artery, providing another pathway for blood flow to the heart muscle.

**Coronary Artery Disease:** Coronary artery blockages due to plaque build-up within the inner walls of the arteries (atherosclerosis).

**Coronary Artery Spasm:** A sudden, temporary constriction of a coronary artery, interfering with blood flow to the heart muscle.

**Coronary Occlusion:** Another name for a heart attack.

**Coronary Thrombosis:** A blood clot in a coronary artery; another name for a heart attack.

**Coumadin:** An anticoagulant drug (blood thinner).

**Digoxin (or Lanoxin):** A medication that increases the strength of the heartbeat and helps control irregular heartbeats.

**Diuretic:** A medication that decreases the amount of blood the heart must pump by helping the kidneys produce more urine, expelling salt and water from the blood.

**Dysrhythmia:** An irregular heartbeat or rhythm disturbance.

**Ectopic Heartbeat:** A heartbeat not initiated at the sinus node.

**Electrocardiogram (ECG):** A graphic record of the electrical activity of the heart used in diagnosing abnormalities in heart action.

**Endocarditis Prophylaxis:** Antibiotics that are given before and after a surgical or dental procedure to prevent a valve infection.

**Heart:** A hollow, four-chambered, muscular organ that pumps blood.

**Heart Attack:** Permanent damage to the heart muscle due to lack of blood and oxygen supply.

**Heart Block:** A problem conducting the electrical impulse from the atrium to the ventricles.

**Insufficient:** A valve that is unable to close properly, allowing blood to back flow.

**Ischemia:** A decrease of blood and oxygen supply to the heart muscle.

**Lungs:** The organs that bring oxygen into the body and eliminate carbon dioxide from the body.



**Mitral Valve Prolapse (MVP):** A common, rarely serious, abnormal closing of the mitral valve.

**Myocardial Infarction (MI):** Another name for a heart attack.

**Nitroglycerin (NTG):** A medication that expands blood vessels, increasing blood flow.

**Normal Sinus Rhythm (NSR):** A heart rate between 60 and 100 beats per minute.

**Oxygen:** A chemical element that humans, animals and plants must have to live.

**Percutaneous transluminal coronary angioplasty (PTCA):** A procedure for improving blood flow to the heart muscle.

**Pericarditis:** An inflammation of the sac surrounding the heart.

**Plaque:** Fat deposits that build up within the inner walls of the arteries.

**Potassium:** A mineral needed by the body; low potassium can cause irregular heart rhythm.

**Premature Atrial Contraction:** A common rhythm disturbance originating in the upper portion of the heart.

**Premature Ventricular Contraction:** A common rhythm disturbance originating in the lower portion of the heart.

**Prolapsed:** A valve that bulges or flops.

**Prophylaxis:** See Endocarditis Prophylaxis.

**Regurgitating:** A valve that is unable to close properly, allowing blood to back flow.

**Risk Factors:** Inherited tendencies and lifestyle habits that contribute to the development of coronary artery disease.

**Sinus Node:** The area of the heart that initiates electrical impulses, causing the heart to beat.

**Stenosis:** A narrowing or stiffening of the valves that decreases their effectiveness.

**Sternum:** The breast bone.

**Tachycardia:** A heart rate greater than 100 beats per minute.

**Valve:** Heart tissue that acts as a one-way door.

**Valvuloplasty:** A procedure that uses a special balloon to open a stenotic valve.

**Vasodilator:** A medication that lowers blood pressure by relaxing or widening blood vessels, making it easier for the heart to pump.

**Veins:** Blood vessels that carry blood from various parts of the body back to the heart.

