



## The Heart of Good Health



A Mission to Care. A Mission to Cure.



## Welcome!

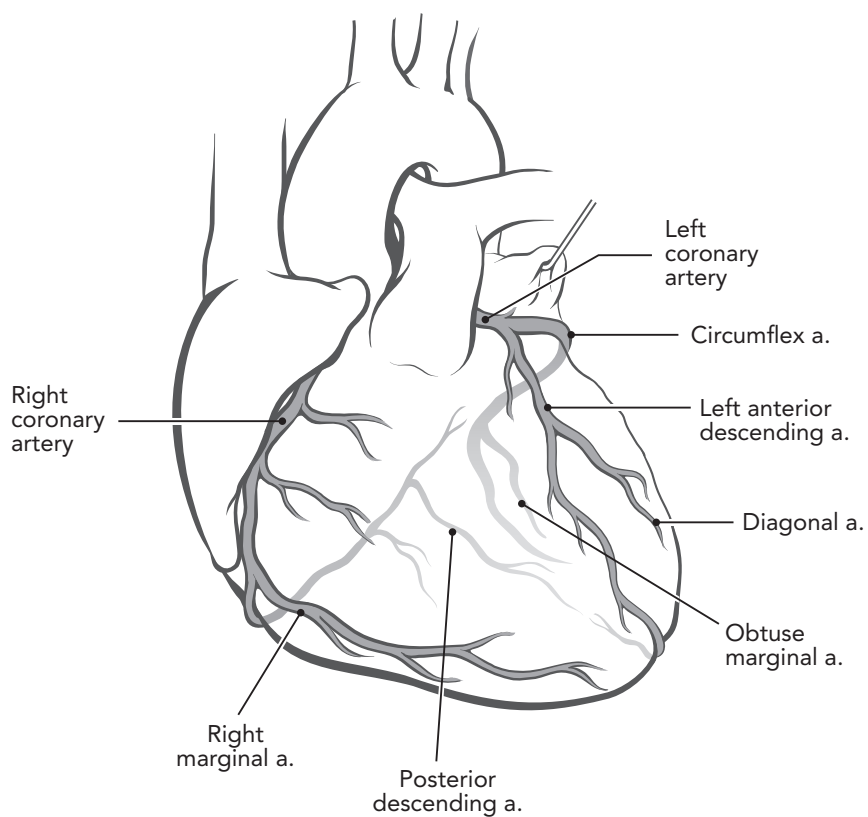
Thank you for choosing the Heart and Vascular Center of Wake Forest Baptist Health. For people with heart problems, our Heart and Vascular Center is a place of hope. Wake Forest Baptist Health Heart Center is a world-class facility, and we are happy to have earned a national reputation for excellence. The Heart and Vascular Center is the first hospital in the region to have earned Chest Pain Center Accreditation by the Society of Chest Pain Centers. A mere 1 percent of hospitals in the U.S. have this honor, which we continuously uphold. The Heart and Vascular Center has also been named one of the Triad's Most Preferred hospitals by the National Research Corporation. We are consistently ranked as one of America's high-performing hospitals by *U.S. News and World Report*. We have earned Joint Commission disease-specific certification for Acute Myocardial Infarction (heart attack) and Congestive Heart Failure care.

While you are at the Heart and Vascular Center, our goal is to give you the best care we can. Please tell us how we are doing. We want to know your thoughts and urge you to share them with your nurse, doctor or the Service Excellence Department. You may call Service Excellence at 336-713-2273.

If you have a concern about your health once you leave the hospital, please refer to the next page for phone numbers.

Thank you for allowing us to be a part of your care.  
*The Heart and Vascular Center Staff*





Ejection Fraction  
(EF) \_\_\_\_\_  
Normal 55–65%



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This information is general. If your doctor tells you something different, follow his or her advice and instructions.

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By the Department of Nursing, Wake Forest Baptist Health

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September 2017



**Heart and Vascular Center**

Medical Center Boulevard

Winston-Salem, NC 27157



## **RETURN APPOINTMENTS**

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Keeping appointments with your doctor is important. Your heart doctor or surgeon will tell you if you are to return here or see your local doctor.

If you are to return here and do not receive an appointment card within two weeks after you get home, call the:

- ♥ **Cardiology Clinic** (heart doctor) at (336) 716-6674 or
- ♥ **Cardiothoracic Clinic** (heart surgeon) at (336) 716-4095

## **IN AN EMERGENCY**

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If you need to speak to a doctor at Wake Forest University Baptist Medical Center between 5:00 p.m. and 8:00 a.m., on weekends and holidays, please call (336) 716-2011 and ask for the doctor on-call for your doctor.

## **HEALTH ON-CALL**

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If you have questions or concerns and can't reach your doctor, you can talk to a nurse at 1-800-446-2255 or (336) 716-2255.



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## **YOUR HEART (ANATOMY)**

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Your heart is a muscle about the size of your fist. It lies in the middle of the chest, tilted to the left. It pumps blood, oxygen, and other nutrients to all parts of the body. The heart is protected by the rib cage, the spine, and the flat bony surface in the center of the chest called the sternum.

Your heart is divided into four chambers. The two upper chambers are called the atria. Blood flows from the atria through valves into the lower chambers. These chambers are called the ventricles and pump blood to the body.

The right side of the heart receives blood from the body and pumps it to the lungs. Blood picks up oxygen in the lungs. The left side of the heart receives blood from the lungs and pumps it to all parts of the body, including the heart itself. When the ventricles pump blood, you feel a heart beat or pulse.

Four valves are inside your heart. They open to let blood flow through the heart and close to keep blood from backing up.

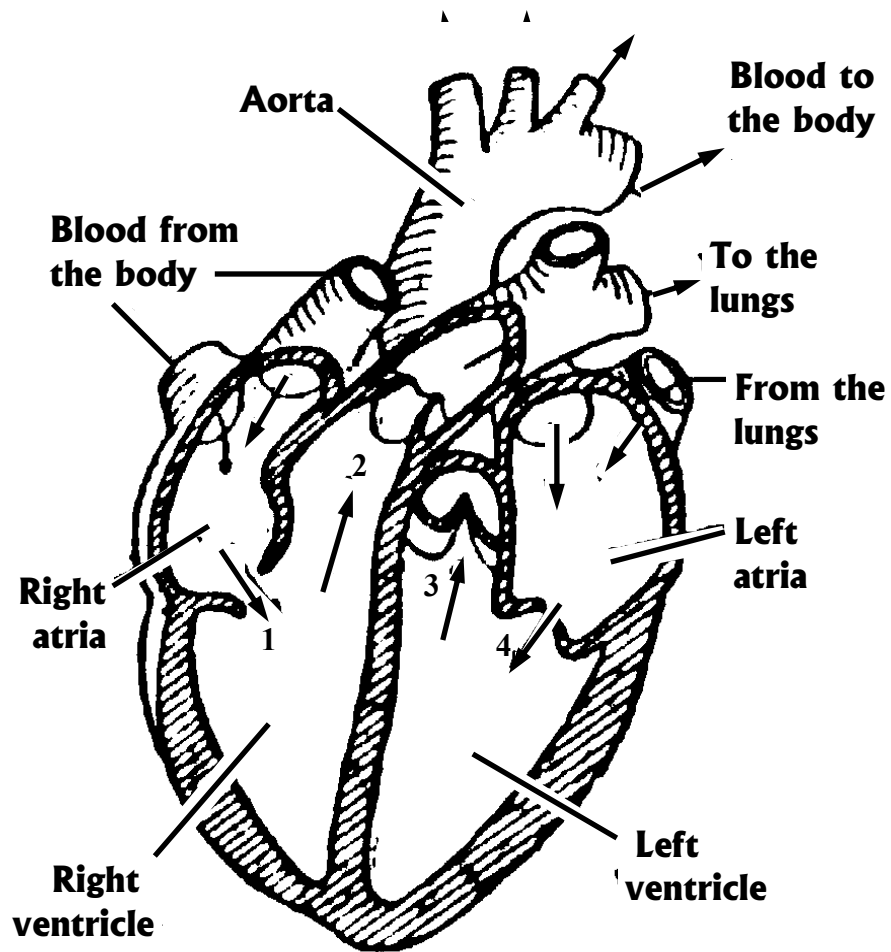
1. The tricuspid valve is between the right atria and the right ventricle.
2. The pulmonary valve is between the right ventricle and lungs.
3. The aortic valve is between the left ventricle and aorta.
4. The mitral valve is between the left atria and the left ventricle.



# YOUR HEART (ANATOMY)

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## Blood Flow through the Heart



1. Tricuspid valve

3. Aortic valve

2. Pulmonary valve

4. Mitral valve



## YOUR HEART (ANATOMY)

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### »»»➔ CORONARY ARTERIES

Your heart needs a good supply of blood and oxygen, just as your body does. The heart gets its blood and oxygen from three major arteries. They are:

1. The right coronary artery (RCA)
2. The circumflex (Cx) branch of the left coronary artery
3. The left anterior descending (LAD) branch of the left coronary artery.

Please see inside the back cover of this book for a picture of the heart and arteries.

Normally, the walls inside the arteries are smooth. Blood with oxygen flows well through the arteries. But, the opening inside the arteries can become narrow or blocked. This is caused by fats and other materials that build up on the inside walls of the arteries. This is called arteriosclerosis (r-TEAR-e-o-skluh-RO-sis).

When this happens, less blood and oxygen get through to the heart muscle. The result of this blockage may be angina or a heart attack.

*Artery  
narrowed by  
plaque.*



## **RISK FACTORS**

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Risk factors are conditions which can lead to heart disease. The more risk factors you have, the more likely you are to get heart disease. There are risk factors that can and cannot be controlled.

**Check all the risk factors you have.**

Risk factors that cannot be controlled are:

- ☐ Family history
- ☐ Gender (male older than 55 or female older than 65)

Risk factors that can be controlled are:

- ☐ Tobacco: smoking and long-term exposure to secondhand smoke
- ☐ Diabetes
- ☐ High cholesterol
- ☐ High blood pressure
- ☐ Being overweight
- ☐ Lack of exercise
- ☐ Unhealthy diet
- ☐ Metabolic Syndrome
- ☐ Stress
- ☐ Substance abuse: Alcohol and/or recreational drugs

The next few pages will review briefly each of the risk factors you can improve.



## **RISK FACTORS**

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### **»»» CIGARETTE SMOKING**

Smoking is a risk factor for heart disease because studies suggest that cigarette smoking speeds up heart disease. Smoking may make the heart beat faster, raise blood pressure, narrow and constrict blood vessels. When blood vessels constrict, blood flow to the heart muscle decreases or stops. Smoking increases carbon monoxide which robs the blood of oxygen. It also leads to fatty deposits on artery walls. Smoking also increases your risk of cancer to the mouth, throat, lungs, and other organs. Smokers are 10 times more likely to get lung cancer and emphysema.

### **Why Do You Smoke?**

You know you want to quit smoking but you haven't done it. A first step toward quitting is to know what it is that keeps you from quitting. Do you smoke because all your friends do? Because it relieves anxiety? Write the reasons you smoke and begin to think about your plan to overcome those reasons that cause you to smoke.



## **RISK FACTORS**

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### **What Are the Benefits of Quitting Smoking?**

- ♥ Immediate benefits of quitting - within 20 minutes of smoking that last cigarette, your pulse and blood pressure drop to normal
- ♥ In 8 to 12 hours - the oxygen level in your blood increases to normal and your chance of heart attack decreases
- ♥ In 48 hours - your nerve endings start to re-grow and your ability to taste and smell improves
- ♥ In 72 hours - breathing becomes easier as the bronchial tubes in the lungs relax and your energy levels increase
- ♥ In 2 to 12 weeks - blood flow improves throughout the body making it easier to walk
- ♥ In 3 to 9 months - breathing problems such as coughing, shortness of breath, and wheezing improve. Lung function can improve as much as 5 to 10 percent
- ♥ In 5 years - risk of heart attack falls to about half that of a smoker
- ♥ In 10 years - risk of heart attack is like that of someone who has never smoked and your risk of lung cancer falls to about half that of a smoker



## **RISK FACTORS**

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### **What Can You Do to Quit?**

To stop smoking often takes more than one attempt to succeed. Research shows that most successful quitters think about not smoking and take time to prepare a plan. Please take this time in the hospital to prepare your plan to not smoke after you go home. You might try some of these tips:

- ♥ Set a “quit date.” It could be the day you came in the hospital. Tell your family and friends you are going to quit smoking.
- ♥ Throw away the cigarettes, lighter, and ashtrays, including the one in your car. You may ask your family to do this for you before you go home.
- ♥ Know when you will crave a cigarette. A craving will last only about 3 to 5 minutes. Write down things you can do during those times. For instance, you might walk the dog, ride a bike, brush your teeth, or call a friend.
- ♥ Think of things you can do with your hands.
- ♥ Carry things to put in your mouth such as sugar-free gum or candy, a toothpick, straw, etc.
- ♥ The first few days after you quit, don’t hang around people who smoke and avoid places where you used to smoke.



## **RISK FACTORS**

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- ♥ Ask others not to smoke around you and not to leave cigarettes where you can find them.
- ♥ If your family smokes, have at least one room in the house that is a non-smoking room.
- ♥ Take quitting one day at a time. Pat yourself on the back or reward yourself for getting through the day without a cigarette.

### **How Can You Cope with Withdrawal?**

Not everyone who quits smoking will have withdrawal symptoms. For those who do have withdrawal, the symptoms won't last long. They may last for a few days after quitting to a week or so. Here are some tips to help you cope with withdrawal.

- ♥ Exercise and get plenty of rest if you feel grouchy or nervous, have trouble sleeping, or feel tired and weak.
- ♥ Sit down if you feel dizzy. The feeling will soon pass.
- ♥ Eat foods high in fiber, such as grain products, fruits, and vegetables to prevent constipation.
- ♥ Try to avoid stress. Relax or take deep breaths through your nose and breathe out slowly through your mouth if you feel stressed.



## **RISK FACTORS**

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- ♥ Call a friend if you feel depressed.
- ♥ More than likely you will gain some weight. Most people do not gain more than about 10 pounds. The effects of smoking made your heart work as though you weighed about 75 pounds more than you did. To decrease your weight gain you should:
  - Eat regular meals
  - Eat things like fresh fruit, popcorn, vegetable sticks for snacks
  - Drink extra water to help you feel full
  - Avoid drinks with caffeine in it like sodas, coffee, and tea

### **What Are Some Resources to Help You Quit Smoking?**

Most smokers have trouble quitting. Some people quit several times before they stop for good. If you start smoking again, you are not a failure. Remember your reasons for quitting and what helped you quit before. Then, Quit Again! If you have trouble quitting, ask your doctor if nicotine replacements or other treatments might be right for you.



## **RISK FACTORS**

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There are lots of people alive today who quit smoking. Get help if you need it. Ask your doctor for advice. Also, there are many groups that offer written materials, programs, and advice to help smokers quit for good. For more information try:

♥ **Centers for Disease Control and Prevention**

1-800-232-4636

[www.cdc.gov/tobacco](http://www.cdc.gov/tobacco)

♥ **American Cancer Society**

1-800-ACS-2345 (1-800-227-2345)

[www.cancer.org](http://www.cancer.org)

♥ **American Heart Association**

1-800-AHA-USA-1 (1-800-242-8721)

[www.americanheart.org](http://www.americanheart.org)

♥ **American Lung Association**

1-212-315-8700

[www.lungusa.org/tobacco](http://www.lungusa.org/tobacco)



## RISK FACTORS

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### »»»➔ DIABETES

When your body doesn't make enough insulin, or when the insulin you make doesn't work as well as it should, you have diabetes. When you have diabetes, you must do the work your body used to do to keep the insulin and glucose (blood sugar) in balance.

Keeping your blood glucose levels as close to the normal range as you can may help prevent the complications of diabetes. The American Diabetes Association believes that close-to-normal blood glucose levels should be:

- ♥ between 70 and 130 mg/dL before a meal, and
- ♥ less than 180 mg/dL two hours after a meal.

A hemoglobin A<sub>1c</sub> (HbA<sub>1c</sub>) is a blood test. It lets your health care provider know how well your sugar has been controlled over a 3 month period. The HbA<sub>1c</sub> level should be less than 7.



## **RISK FACTORS**

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People with diabetes have a higher risk of heart disease. High levels of blood sugar change the lining of blood vessels. This causes an increased fatty build up in the arteries or causes the vessels to collapse.

People with diabetes must know how to manage their disease to prevent problems such as heart disease. If you want to learn more information about diabetes, please ask your nurse for a free copy of *In Control: A Survival Guide for Diabetes Care*. Also talk with your doctor about being in a diabetes education program.



## RISK FACTORS

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### »»» **HIGH BLOOD CHOLESTEROL**

Cholesterol helps our bodies digest food, make vitamin D, and build cells. The liver makes all the cholesterol our bodies need. We do not need to get it through food.

All adults age 20 and over should have their blood checked for cholesterol at least once every 5 years. Adults with high cholesterol and those with heart disease or risk factors for heart disease should have the blood test more often.

You may need to “fast” before your test. This means you cannot eat or drink for at least 9 to 12 hours before the test. The total cholesterol blood level should be less than 200 mg/dL.

Cholesterol is carried through the body in “packages” coated with protein. These packages are called lipoproteins. There are two main types called low-density and high-density lipoproteins.

♥ **Low-density lipoproteins (LDLs)** stick to artery walls. This causes a buildup called plaque. LDLs are called “bad cholesterol.” LDL levels should be:

- less than 100 mg/dL
- less than 70 mg/dL if you have heart disease

Tips to decrease LDL include:

- Avoid high levels of saturated fat (meat fat)
- Tub margarine is a better choice than butter or stick margarine
- Use skim and low fat (1% or less fat) milk and dairy items



## RISK FACTORS

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- ♥ **High-density lipoproteins (HDLs)** help carry extra cholesterol out of the body. Often, HDLs are called “good cholesterol.” HDL levels should be:

- greater than 40 mg/dL
- greater than 50 mg/dL if you have risk factors for heart disease

Good food sources to increase HDL include:

- Fish oils (tuna, salmon, swordfish)
- Oils found in nuts (walnuts or almonds)
- Berries (blueberries, strawberries)

- ♥ Another fatty substance in your blood is called **triglycerides**. These are excess starches and sugars which the body can change into fat. The triglyceride level should be:

- less than 150 mg/dL

One of the easiest ways to reduce the triglyceride level is to increase your exercise.

- ♥ You can improve your cholesterol levels if you:
  - Do aerobic exercise (walk, bicycle, swim)
  - Modify your diet:
    - Cut saturated fats from your diet
    - Eat more fish and nuts
    - Switch to low fat (1% or less fat) milk and dairy products
    - Maintain a healthy weight (see chart on page 23)
    - Control your diabetes (keep the Hgb A1c less than 7)



## RISK FACTORS

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### »»» **HIGH BLOOD PRESSURE** (also called hypertension)

Blood pressure (BP) is the result of two forces:

- ♥ Force created by the heart as it pushes blood into the arteries
- ♥ Force within the arteries as they resist the blood flow

Normal BP is less than 120/80 Prehypertension is 120-139/ 80-89 Hypertension (high BP) is 140/90 or higher
--

High blood pressure occurs when the pressure in your arteries increases to unsafe levels.



High blood pressure may be lowered with a low sodium (salt) diet, exercise, medicines, and other actions prescribed by your health care provider. When you keep your blood pressure under control, you reduce strain on the heart.

If you do not have high blood pressure, you should have your pressure checked once a year. If you have high blood pressure, ask your doctor how often your blood pressure should be checked.

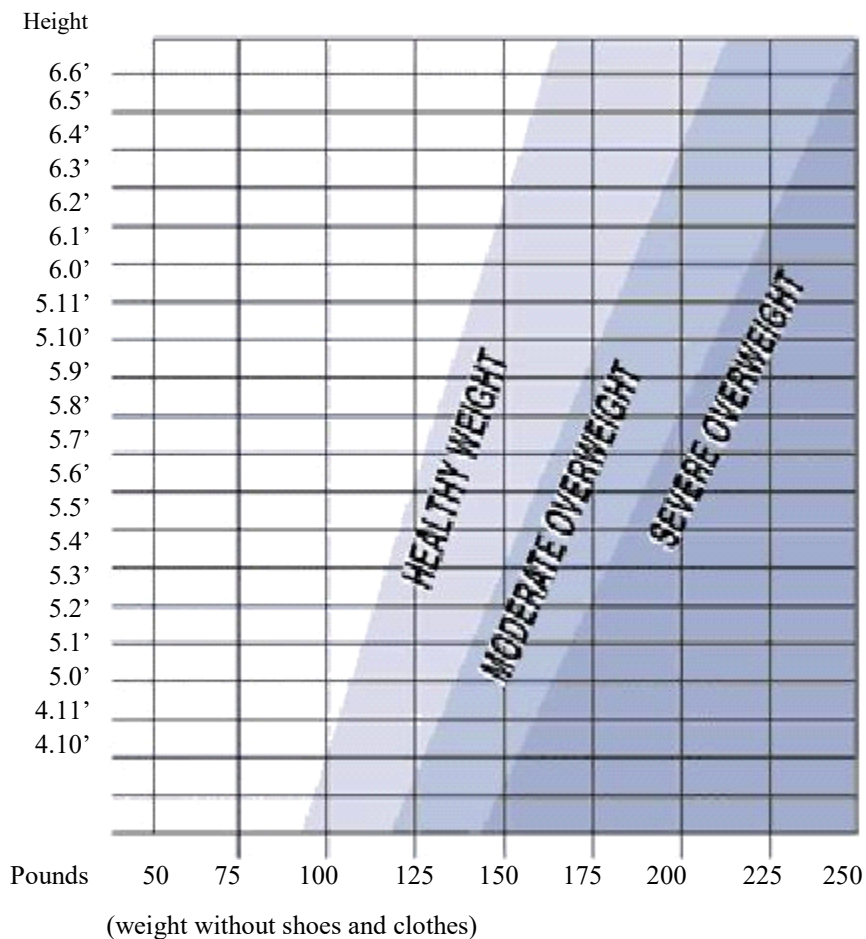


## RISK FACTORS

### ➡ OVERWEIGHT

If you are overweight, your heart has to work harder to supply your body with blood and oxygen. Also, the more extra weight you have, the harder your heart has to work.

There is no quick, easy way to lose weight. It is best to avoid extreme weight loss diets because they often leave out some foods needed for good health. If you need to lose weight, ask the nutritionist to explain the proper weight and amount of calories for you.





## **RISK FACTORS**

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### **»»» LACK OF REGULAR EXERCISE**

When you don't get enough exercise, your muscles become weak and flabby and blood flow becomes sluggish. Weak muscles must work harder than toned muscles to do daily routines.

The American Heart Association suggests 30 minutes of aerobic activity most days of the week (4 to 5 days).

Exercise may:

- ♥ Improve muscle tone
- ♥ Improve the work of the heart and blood flow
- ♥ Make one feel less tired
- ♥ Decrease chance of blood clots forming in arteries
- ♥ Improve mental and emotional well-being
- ♥ Improve diabetes
- ♥ Promote weight loss
- ♥ Decrease fats in the bloodstream
- ♥ Decrease blood pressure
- ♥ Decrease appetite
- ♥ Lessen tension and stress

Please talk with your doctor or nurse about an exercise program that is right for you. To find out if you might be eligible for cardiac rehab, contact the Cardiac Wellness Coordinator at (336) 713-5720.



## RISK FACTORS

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### »»»➔ **METABOLIC SYNDROME**

Metabolic Syndrome (MetS) means having three or more of the following:

- ♥ Waist measures more than 40 inches in men and 35 inches in women
- ♥ Triglyceride level 105mg/ dL or higher
- ♥ High Density Lipoprotein (HDL) less than 40mg/ dL in men and less than 50 mg/ dL in women
- ♥ Blood pressure of 130/85mmHg or higher
- ♥ Fasting glucose level of 110mg/ dL or higher

About 47 million people in the United States have MetS. It is found more often in African Americans, Mexican Americans, and women.

Here are some things you can do to reduce the risk of MetS.

- ♥ Maintain a healthy weight
- ♥ Increase HDL levels.
  - Eat more fish and nuts
- ♥ Do aerobic exercise at least three or more times per week for 30 minutes.
- ♥ Keep blood glucose levels between 80 and 120mg/ dL.
- ♥ Take your blood pressure medicines as prescribed and lower the amount of salt (sodium) in your diet.



## RISK FACTORS

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### »»»➔ **STRESS: WHY IS STRESS BAD?**

Stress is anything that causes you to believe you can not handle a situation well. This belief can be real or imagined. Stress becomes negative when it is overwhelming or constant. This can injure you both physically and mentally.

Stress has many negative effects on the body. When you are stressed your adrenaline increases. This slows digestion, cell repair, and your ability to fight germs. Your heart rate and blood pressure increases while blood flow in your hands and feet decreases. Blood flow to your heart may decrease when the arteries leading to the heart constrict (squeeze together).

Only you can change your lifestyle and control your reactions to events. There are a number of ways to handle stress. Some are unhealthy, such as using alcohol, street drugs, tobacco, or even too much coffee. Work on the healthy ways to handle stress. For instance, try exercise, reading, or listening to music. Choose to do the things in your life that are most important. Learn healthy ways to deal with your stress.



## **CHEST PAIN/ANGINA**

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When the heart muscle does not get enough blood and oxygen, the heart responds by having pain called angina (an-JI-nuh). The symptoms of angina may be different from person to person. It may not always be felt as pain in the chest. Other symptoms may be:

- ♥ Tightness, pressure, heaviness, burning, or aching in the chest (symptoms may spread to other body parts)
- ♥ Feeling of indigestion
- ♥ Numbness or tingling in the arms or hands
- ♥ Choking or smothering sensation
- ♥ Pain in the jaw, teeth, or ear lobes
- ♥ Discomfort in the neck or between the shoulder blades
- ♥ Aching in one or both arms
- ♥ Shortness of breath
- ♥ Sweating
- ♥ Weakness

Many people with coronary artery disease have angina when they do too much. For example, when they shovel snow or mow the lawn. Some people have angina when they get very upset or excited. Over time, most people can tell what will cause angina. Some people control their angina by taking medicine, by slowing their activities, or both.



## **CHEST PAIN/ANGINA**

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### **»»» STABLE AND UNSTABLE ANGINA**

**Stable angina** - lasts about 3 to 5 minutes and is often relieved with the rest (and/or) nitroglycerin.

**Unstable angina** - a pattern of chest pain. It often lasts more than 5 minutes and is not relieved with rest or nitroglycerin. This type of angina is a warning signal. People with unstable angina include those who:

- ♥ Have discomfort when they rest or it wakes them up
- ♥ Have angina when they exert themselves and have never had angina before
- ♥ Have angina that is more severe or happens more often

Often, unstable angina is more serious than stable angina because the risk of having a heart attack is greater.

### **»»» CAUSES OF ANGINA**

Angina may be caused by blocked arteries. In patients who have stable angina, the blockage may not stop the flow of blood. In unstable angina, the blockage may be large and stop the flow of blood to the heart muscle.

Sometimes, the blockage cracks open. When this happens, the body tries to heal the crack by making a blood clot. If the clot is big enough to block the artery, blood flow is cut off. This can cause a heart attack.



## **CHEST PAIN/ANGINA**

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### **»»» WHAT YOU SHOULD DO WHEN YOU HAVE ANGINA**

- ♥ Stop what you are doing and rest
- ♥ Sit or lie down
- ♥ Place a nitroglycerin tablet under your tongue, and let it dissolve. See “Nitroglycerin” on page 174
- ♥ If chest pain is not better or gets worse 5 minutes after taking one nitroglycerin, **call 911. DO NOT drive yourself since you may be having a heart attack.** Take nitroglycerin every 5 minutes until the ambulance arrives or the pain completely goes away.



## CHEST PAIN/ANGINA

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### »»» **WHEN TO CALL YOUR DOCTOR ABOUT YOUR ANGINA**

- ♥ Have you never had chest pain/ angina before
- ♥ You have chest pain/ angina when you rest
- ♥ You believe your chest pain/ angina is getting worse or happens more often
- ♥ One nitroglycerin tablet does not relieve pain after 5 minutes
- ♥ Your chest pain/ angina wakes you up
- ♥ You take more nitroglycerin more often, even if it relieves your chest pain/ angina
- ♥ You cannot do your normal routines, such as cooking, cleaning, dressing, or bathing without chest pain/ angina

*You should take notes about your angina so you can tell your doctor.*



## CHEST PAIN/ANGINA

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### »»» **WHAT YOUR DOCTOR NEEDS TO KNOW ABOUT YOUR ANGINA**

Your doctor will want to know:

- ♥ Where you feel the angina. For instance, is it in the chest or the shoulders?
- ♥ What the angina feels like. Does it feel like burning, squeezing, heaviness, pressure, stabbing, or a tight sensation across your chest?
- ♥ How often you have angina
- ♥ How bad is the angina. Is the angina mild, the worst you've ever felt, or something in between? Sometimes the doctor will ask you to rate your angina on a scale of 0 to 10. Zero would mean no pain and 10 would mean it is the worst pain you have ever had.
- ♥ When angina occurs
- ♥ What you were doing when you had the angina
- ♥ What you did to relieve the angina
- ♥ How long the angina lasts





## »»» HEART ATTACK/MI

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### **HEART DISEASE IS THE NUMBER ONE KILLER OF MEN AND WOMEN**

Your heart muscle needs oxygen to survive. When the blood supply to the heart muscle is cut off, a heart attack can occur. A heart attack means a part of the heart muscle was damaged. Another term for heart attack is myocardial (MY oh CAR dee uhl) infarction (in FARK shun) or MI.

**Most often a heart attack is due to two events.**

- ♥ The artery can become narrow due to the buildup of “fats,” and then the artery becomes blocked
- ♥ Coronary thrombosis is the term used if the heart attack was due to a clot and not due to a narrowed artery. Also, sudden spasm (cramping) of an artery can cause a heart attack. If the blood flow is slowed or stopped for even a short time, the heart muscle can become damaged.

The longer the heart muscle is without oxygen-rich blood, the larger the heart attack. Heart attacks can make the heart muscle weak, causing other problems such as:

- ♥ Congestive heart failure: fluid builds up in the lungs when the heart cannot pump blood well
- ♥ Arrhythmias: irregular heartbeats that may cause the heart not to pump blood as well
- ♥ Pericarditis: an inflammation of the sac around the heart



## )))➔ **HEART ATTACK/MI**

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TIME = MUSCLE

### ⇒ **IF YOU THINK YOU ARE HAVING A HEART ATTACK/MI**

- ♥ STAY CALM
- ♥ CALL 911, DO NOT DRIVE YOURSELF TO THE HOSPITAL
- ♥ Sit or lie down
- ♥ Chew an Aspirin, if recommended. Taking aspirin during an heart attack could reduce heart damage.
- ♥ If you have been prescribed Nitroglycerin take one every 5 minutes until the chest pain stops or EMS arrives.

### **NOTE:**

Some heart attacks are sudden and intense — the "movie heart attack."

However, many people have early warning signs and symptoms hours, days or weeks in advance.

Do NOT ignore the signs and symptoms.



## »»» HEART ATTACK/MI

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### ⇒ **SIGNS AND SYMPTOMS OF A MYOCARDIAL INFARCTION/HEART ATTACK**

- ♥ Tightness, pressure, heaviness (like elephant sitting on chest), burning, squeezing or aching in the chest (symptoms may spread to other body parts); most commonly seen in men
- ♥ Feeling of indigestion, lower chest discomfort
- ♥ Nausea
- ♥ Dizziness, light-headedness
- ♥ Numbness, tingling, aching in the arms or hands, usually effects left arm
- ♥ Choking or smothering sensation
- ♥ Pain in the jaw, teeth, or ear lobes
- ♥ Discomfort in the neck or between the shoulder blades
- ♥ Shortness of breath
- ♥ Sweating
- ♥ Weakness
- ♥ Unexplained fatigue

**NOTE:** Signs and symptoms in women can vary and women sometimes may not realize they are having Heart Attack. Many women having a heart attack do not always have classic chest pain.



## »»» **HEART ATTACK/MI–WOMEN’S HEALTH**

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### ⇒ **Signs and Symptoms in women:**

- ♥ Uncomfortable pressure, squeezing, fullness or pain in the center of the chest. It lasts more than a few minutes, or goes away and comes back.
- ♥ Pain or discomfort in one or both arms, the back, neck, jaw or stomach.
- ♥ Shortness of breath with or without chest discomfort.
- ♥ Breaking out in a cold sweat, nausea, or experiencing lightheadedness.
- ♥ Extreme fatigue
- ♥ As with men, women’s most common heart attack symptom is chest pain or discomfort. However, women are more likely than men to have additional symptoms, especially shortness of breath, nausea/vomiting, and back or jaw pain.

**REMEMBER:** If you have any of these signs and symptoms of a Heart Attack:

- ♥ **DO NOT** wait more than 5 minutes before calling 911
- ♥ **DO NOT** drive yourself to the hospital, you may be having a heart attack.

More than 38 million women in the United States have heart disease. Women are well known as being the caretakers in families, however, you can’t take care of anyone if you don’t care for yourself.



## »»» **HEART ATTACK/MI-WOMEN'S HEALTH**

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- ⇒ The following lifestyle tips may prevent you from becoming a statistic.
- ♥ Quit smoking and avoid secondhand smoke
- ♥ Time yourself with activity. Aim to achieve 150 minutes of a moderate intensity activity each week. The goal is 30 minutes at least 5 days per week & if needed you may divide your activity into smaller goals—for example dividing the 30 minutes into 10 or 15 minutes segments. For weight loss, increase your activity to 60 to 90 minutes 5 or more days per week. Walking briskly is one option, but the most important activity is one that you like and will maintain long term.
- ♥ Control your blood pressure and cholesterol levels with lifestyle changes (weight management & exercise) and in some cases, medications.
- ♥ Know your numbers: it is important to remember your body mass index, cholesterol levels, blood pressure, and blood sugar.
- ♥ Maintain a healthy weight by exercise and following a Mediterranean style diet.
- ♥ Limit alcohol to no more than one 4 oz glass of wine or one 12 oz beer per day.
- ♥ Have a regular dental checkup as inflammation in your teeth and gums can trigger heart disease.
- ♥ Discuss the use of supplements and the need for a daily aspirin with your healthcare provider.
- ♥ Manage your life stressors with a pleasurable and calming activity like reading, gardening, yoga, prayer, or meditation.



## »»» **HEART ATTACK/MI**

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### ⇒ **HEALING FROM A HEART ATTACK**

As healing takes place, scar tissue forms where the heart was damaged. The scarred muscle will not return to its normal state. Instead, extra blood vessels form around the part of the heart that is healing to supply it with oxygen and nutrients.

#### What to expect the first few days after a heart attack:

- ♥ We will be monitoring your heart with a heart monitor and 12-lead EKGs (heart tracings)
- ♥ Blood Tests: We will be drawing Troponin levels.
- ♥ Possible heart catheterization to access heart arteries for blockages
- ♥ Medications to decrease the work load of your heart

### ⇒ **GOING HOME**

You may go home 2 to 5 days after your heart attack. Most often, discharge time is at 12 noon or later, depending on test results your doctor may need.

#### Here are some guidelines to speed your recovery at home:

- ♥ **Rehab Program:** The American Heart Association recommends a cardiac rehab program for most patients after a heart attack. The benefit Cardiac Rehab is to you will be monitored while exercising.
- ♥ **Driving:** You should not drive for at least 2 days after your discharge.



## »»» **HEART ATTACK/MI**

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- ♥ **Exercise:** Follow walking program on pages 108-109. Increase your time and distance each day. Exercise is one of the best ways to recover after an heart attack.
- ♥ **Rest:** Rest is important after your heart attack. You may want to take rest periods or naps during the day. Limit visitors the first few days so you will not be tired.
- ♥ **Diet:** Eat a diet low in fat and sodium and high in fruits, vegetables, and fish.
- ♥ **Follow-up Appointments:** You will have an appointment within 7 days of discharge with your family doctor
- ♥ **Back to work:** It is very dependent on your job and how you are doing. Please ask your doctor for a note when you can go back to work
- ♥ **Feelings:** It is common for patients after a heart attack to feel depressed, angry and/or afraid. These are normal responses that usually go away with time and getting back to your normal activities. If the feeling continue talk to your doctor.
- ♥ **Risk Factors:** Knowing and learning to control your risk factors see page 12.



# CORONARY ARTERY DISEASE (CAD)

## TESTS AND INTERVENTIONS

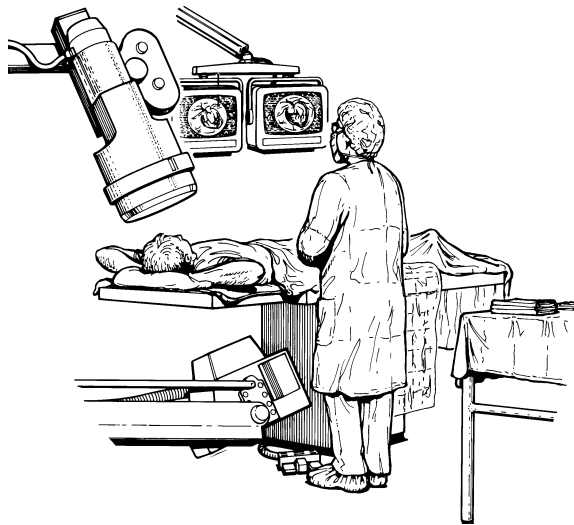
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### »»» CARDIAC CATHETERIZATION

A cardiac catheterization is a special X-ray. The doctor puts a long, thin tube into an artery either in your leg near the groin or in your arm. Using a special dye, X-rays are made which show blood flow to your heart muscle as well as how your heart and heart valves work.

A cardiologist skilled in this procedure will oversee the test. Cardiology fellows (doctors), highly trained cath-lab technologists and nurses will help your doctor during the test. You may hear this test called a heart cath or a heart dye study.

During the cath, the doctor can see if there is a heart problem. After your doctor reviews the X-rays, you and your doctor will decide the best treatment. Treatments may include medicine, surgery, or procedures which are reviewed on the next few pages.



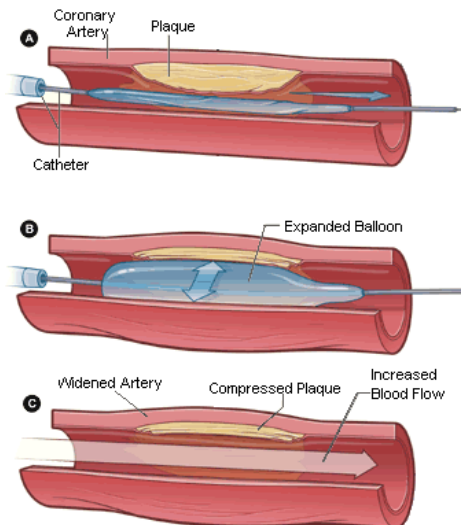


## CAD TESTS AND INTERVENTIONS

### »»»→ BALLOON ANGIOPLASTY

Percutaneous transluminal coronary angioplasty (PTCA) is a way to dilate (open) your artery. You may hear this called the balloon angioplasty or balloon procedure. The term PTCA means:

- ♥ **Percutaneous** (per q TANE e us): This means the procedure is done through a hole in the skin.
- ♥ **Transluminal** (trans LOOM uh nuhl): The doctor reaches the blockage by going inside the artery.
- ♥ **Coronary** (CORE oh NAIR e): This word refers to the heart. The artery being treated is on the outside wall of the heart and is called a coronary artery.
- ♥ **Angioplasty** (AN g o PLAS tee): A soft, hollow tube (catheter) with a tiny balloon at the tip is used. The doctor inflates the balloon inside the blocked artery. The pressure forces plaque (material blocking the artery) against the artery walls. This opens the artery to improve the blood flow to the heart.



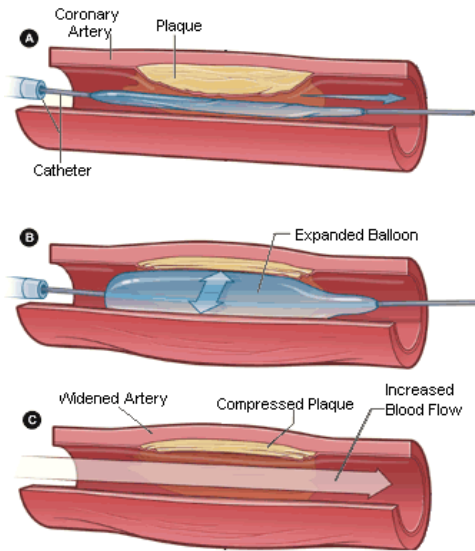
\*Illustrations on pages 51, 52, 54, 55 reprinted with permission from National Heart Lung and Blood Institute, NIH, and the U.S. Department of Health and Human Services. [http://www.nhlbi.nih.gov/health/dci/Diseases/Angioplasty/Angioplasty\\_howdone.html](http://www.nhlbi.nih.gov/health/dci/Diseases/Angioplasty/Angioplasty_howdone.html)



## CAD TESTS AND INTERVENTIONS

### »»» CORONARY STENT

Your doctor may suggest that one or more stents be put in an artery during your angioplasty and/or atherectomy. The stent is a small metal tube that covers the balloon on the catheter. The catheter is put into the artery where the blockage was just reduced. When the balloon is inflated (blown up), the stent expands and presses against the inside wall of the artery. Then, the balloon is deflated and removed. The stent stays in place to keep the artery open.



The stent stays in your artery to hold the artery open and improve blood flow. This results in decreased angina or no angina at all. Within 3 months, the lining of the artery will slowly cover the stent, making it part of the artery wall. During this time, it is very important that you take an antiplatelet such as aspirin and Plavix<sup>®</sup> (clopidogrel) to prevent blood clots from sticking to the stent.

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## CAD TESTS AND INTERVENTIONS

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Ask your doctor which type of stent you have:

- ♥ **Uncoated stent or bare metal stent** - no medicine covers the stent
- ♥ **Drug-eluting stent** - a stent covered with a drug that is released over several days. This drug limits over growth of the normal tissue during healing.

Your doctor will prescribe antiplatelet medications (see page 168). These medications prevent platelets (part of the blood) from forming a blood clot inside a newly placed stent.

- aspirin
- Antiplatelet medications:
  - Plavix<sup>®</sup> (clopidogrel)
  - *Effient<sup>®</sup> (prasugrel)*
  - Brilinta<sup>®</sup> (ticagrelor)

You must take antiplatelet medications as directed to prevent problems, such as stent blockage which could result in chest pain or even a heart attack.



## CAD TESTS AND INTERVENTIONS

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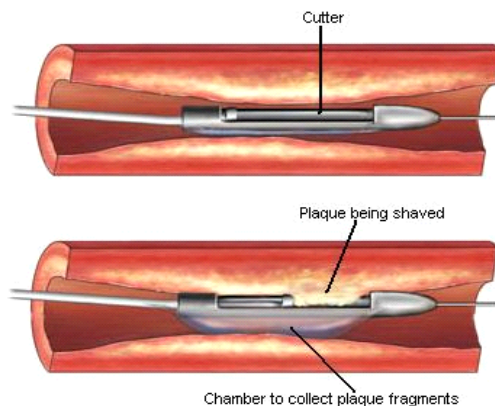
### »»» **INTRACORONARY BRACHYTHERAPY**

This procedure may be done if you had a stent that became blocked with scar tissue. If your doctor thinks this is a good choice for you, he or she will discuss it with you. Most likely, this procedure will be done in the cath lab just after your angioplasty. This procedure keeps tissue from growing inside the stent.

The doctor will put radioactive material inside a catheter. He will thread it to the spot where the stent was placed. Based on your special needs, the doctor may leave the radioactive material in place for 2 to 20 minutes, then remove it. You will not be radioactive. There is no special treatment afterwards.

### »» **DIRECTIONAL CORONARY ATHERECTOMY**

During the directional coronary atherectomy (ATH or ECK toe me), or DCA, the doctor removes plaque from the artery with a special catheter. The catheter has a small cutter that shaves the plaque and catches the fragments in a chamber.



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## CAD TESTS AND INTERVENTIONS

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### »» DISTAL PROTECTION

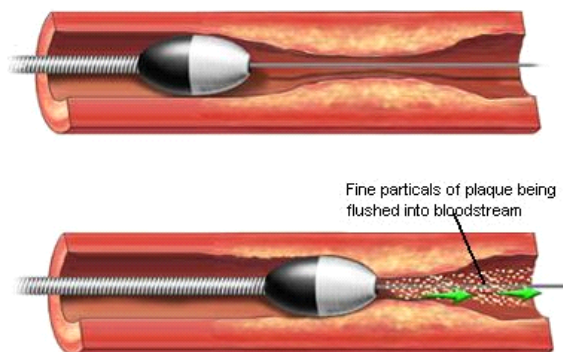
Distal Protection devices have special wires that prevent plaque or pieces of a blood clot from floating downstream in blocked saphenous vein bypass grafts (used in open heart surgery). The doctor may use a special balloon to block the flow. The doctor may remove debris with a special catheter or use a special filter basket to “catch” the debris and remove it.

### »»» CUTTING BALLOON

The cutting balloon dilates or opens your artery. When the balloon is inflated, blades cut into the plaque to open the artery. The plaque is not removed.

### »»» ROTATIONAL CORONARY ABLATION ATHERECTOMY (ROTABLATOR®)

The Rotablator® uses a special catheter with a football-shaped tip. The catheter is passed across the blockage several times. The tip cuts the plaque into very fine (microscopic) particles which are absorbed into the bloodstream. This does not harm healthy tissue in the artery.



\*Illustrations on pages 51, 52, 54, 55 reprinted with permission from National Heart Lung and Blood Institute, NIH, and the U.S. Department of Health and Human Services. [http://www.nhlbi.nih.gov/health/dci/Diseases/Angioplasty/Angioplasty\\_howdone.html](http://www.nhlbi.nih.gov/health/dci/Diseases/Angioplasty/Angioplasty_howdone.html)



## **CAD TESTS AND INTERVENTIONS**

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### **GETTING READY:**

#### **»»» FAMIL Y**

You may have visitors before and after your procedure. Times for the procedures are:

- ♥ Cardiac catheterization takes less than one hour to do.
- ♥ The coronary interventions take about one to two hours to do.

It may take another hour to take you to and from the cath lab, get you ready for the procedure, and to check you afterwards.

#### **»» WHERE SHOULD FAMILY AND VISITORS WAIT?**

Family and visitors can wait in the Cath Lab Waiting Room. It is on the fourth floor of Ardmores West Tower. When the procedure is over, the doctor will phone your family in the Cath Lab Waiting Room.



## **CAD TESTS AND INTERVENTIONS**

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### **GETTING READY:**

#### **»»» BEFORE YOUR TEST OR INTERVENTION**

- ♥ Your doctor (cardiologist or cardiology fellow), a nurse practitioner, or a physician assistant will visit to ask you some questions, explain the procedure, and do a brief exam. Please ask any questions you may have.
- ♥ Tell your doctor if you are allergic to anything, especially shellfish or X-ray contrast media (dye). Also tell your doctor if you cannot take aspirin.
- ♥ We will ask you to sign a form giving your consent to have the test done. Someone may ask if you would like to be in research studies for new medicines, devices, or both. The research team and your doctor will discuss this with you.
- ♥ Someone will shave and clean either your groin or the bend in your arm on one or both sides. This is where the doctor will insert the catheter(s).
- ♥ A nurse will start an IV in your hand or arm. You will receive fluid and medicines in the IV during and after the test or treatments.
- ♥ Do not eat or drink after midnight to prevent nausea. Take medicines with as little water as you can.
- ♥ Tell your doctor about any planned surgeries or dental procedures for the next 6 months.



## **CAD TESTS AND INTERVENTIONS**

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### **GETTING READY:**

#### **»»» POSSIBLE COMPLICATIONS**

In most cases coronary artery procedures are safe. Yet, there is some risk, as with all procedures. Your doctor believes that the information gained from a cath or the benefits of opening a blocked artery outweighs the rare complications. Although very rare, risks may include:

- ♥ Heart attack
- ♥ Stroke
- ♥ Severe reaction to the dye
- ♥ Heart rhythm changes
- ♥ Damage to the artery
- ♥ Blood clots
- ♥ Bleeding
- ♥ Redness or burning on your skin due to the X-ray.

If a problem does occur, your team will be on hand to deal with it. Please talk with your doctor or nurse about concerns you may have. If you have had problems with other procedures, tell your doctor.



## **CAD TESTS AND INTERVENTIONS**

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### **GETTING READY:**

#### **»»» DAY OF THE TEST OR INTERVENTION**

- ♥ Do not eat or drink anything unless your doctor or nurse says you can. (Patients scheduled for the afternoon may have a light, liquid breakfast.)
- ♥ You may brush your teeth, shower, and shave.
- ♥ If you wear dentures, please do NOT wear them to the cath lab. Leave dentures in a cup with your name on it at your bedside. The nursing staff will get a cup for you.
- ♥ You will wear a hospital gown. You may wear socks to the cath lab if your feet get cold.
- ♥ If you wear glasses, you may wear them so you can watch the X-ray pictures of your heart during the test.
- ♥ If you do not have a Foley<sup>®</sup> catheter, empty your bladder just before you are taken to the cath lab.
- ♥ Take medicines with as little water as you can.



## **CAD TESTS AND INTERVENTIONS**

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### **DURING:**

#### **»»»THE CATH LAB**

A patient escort will take you on a stretcher to a room outside the cath lab called a holding room. A nurse will place some sticky patches (electrodes) on your chest. The nurse will connect the patches to a machine so we can watch your heart rhythm. If you do not have an IV, the nurse will put one in. Then we will move you into the cath lab where you will lie on your back on a special X-ray table.

Someone will clean your groin or arm with an antiseptic liquid and will cover you with sterile sheets. You must keep your hands under the sheets once you are covered. If you need to move, please ask for help. Your doctor or nurse may ask you to put your arms over your head.

You will see cameras on each side of you. The cameras will not hurt you, but they may come close to your face. Your doctor may ask you to take a deep breath and hold it for a few seconds. Try to relax while holding your breath and try not to strain. Holding your breath lets the doctor see a much clearer picture of the heart.



## **CAD TESTS AND INTERVENTIONS**

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### **DURING:**

The nurse will give you some medicine to relax you. The doctor will numb the area that has been cleaned. You will feel some mild discomfort from the needle.

When the skin is numb, the doctor will use a needle, make an incision (cut), or both to get into your artery. Then the doctor will put a sheath into your artery. Most likely you will feel pressure at this point. The sheath is a hollow tube which allows the doctor to get to the artery. It is similar to an IV. Sometimes the doctor may use two sheaths depending on the procedure.

Your doctor will put the catheter into the sheath and gently guide it to the heart, where dye is injected in the coronary arteries. You will not feel this.

Your doctor also may inject dye into the heart to evaluate the heart's function. You may feel warm and flushed. This is normal. It will not hurt and will pass quickly.

If you have chest pressure or discomfort, or feel short of breath at any time, you must let someone know. You may be able to watch the procedure on the screen.



## CAD TESTS AND INTERVENTIONS

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### AFTER:

#### »»» **AFTER THE PROCEDURE**

- ♥ After the procedure, the doctor will remove the sheath either in the holding room or your room. To stop bleeding when the sheath is removed, hand pressure, collagen plug, or a stitch may be used.
- ♥ When you return to your room, you may eat and drink. In fact, you should drink as much water as you can to flush the dye out of your body.
- ♥ **You need to lie flat until your doctor or nurse says you can raise the head of the bed.** You must keep your leg or arm **still and straight**. Moving your leg or arm too soon might cause bleeding. Your nurse will let you know when you can get out of bed. You may have to stay in bed for 6 to 10 hours.
- ♥ If you notice bleeding where the catheter was inserted, use your fingers and put firm pressure on the spot. Call for a nurse.
- ♥ If your leg or foot or your hand starts to feel numb or if you have nausea, sudden stomach pain, or other symptoms, call your nurse quickly.
- ♥ Your nurse will check your blood pressure and pulse often for the first few hours. This is routine.
- ♥ Because of the IV fluids, you may produce a lot of urine. If you do not have a Foley<sup>®</sup> catheter, you may need to empty your bladder when you get to your room. A nurse or assistant will help you use a bedpan or urinal since you will not be able to get out of bed right away and must lie flat.



## **CAD TESTS AND INTERVENTIONS**

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### **AFTER:**

#### **»»» GETTING TEST RESULTS**

##### **After a cardiac catheterization:**

After your cardiologist reviews the X-rays, he or she will discuss the results and the treatment options with you and your family. Please ask your doctor questions that will help you make a decision about the best treatment for you.

##### **After coronary interventions:**

When the procedure is over, your doctor will call your family in the Cath Lab Waiting Room and tell them the results. Your cardiologist will meet with you and your family in your room to explain the results more fully as well as the treatment plan.



## **CAD TESTS AND INTERVENTIONS**

---

### **AFTER:**

#### **»»» ACTIVITIES**

##### **♥ After you have had a MI:**

- Do not lift, push, or move objects weighing over 10 pounds for the next 7 days.
- Avoid sex for 7 days, then base it on how you feel
- No hard activities for 2 weeks, such as vacuuming, pushing a lawnmower, etc.
- If riding in a car, stop every 2 hours to get out and walk
- Increase activity slowly: follow walking program (on page 108) until you start cardiac rehab
- No driving for at least 2 days.
- Ask your doctor when you can go back to work
- Take medications as directed
- Know and control your risk factors (on page 12)
- Follow Heart Healthy diet (on page 130)
- Goal is for you to see a doctor within 7 days of discharge

##### **♥ 5 Ways to Lower Your Risk of a Second Heart Attack**

Take your Medications as directed

Follow-up with your doctor

Participate in Cardiac Rehab

Manage Your Risk factors

Get support from your Family and Friends



## **CAD TESTS AND INTERVENTIONS**

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### **AFTER:**

- ♥ **After your angioplasty / coronary stenting procedure**
  - Do not lift, push, or move objects weighing over 10 pounds for the next 7 days
  - No driving for 2 days
  - Light activities for 3 to 4 days
  - Follow walking program (on page 108) until you start cardiac rehab
  - Ask your doctor when you can go back to work
- ♥ **If you had a stent implant:**
  - You will receive a wallet-sized card with information about your stent. Carry this card with you at all times. Show this card if you need to have a MRI in the future or if you go the emergency room.
  - Take your Antiplatelet medication as directed. Important that you **DO NOT** miss or stop this medication after stent placement.
- ♥ **After you have a heart cath**
  - Light activities 2 days
  - Do not lift, push or move objects weighing over 10 pounds for the next 5– 7 days



## **CAD TESTS AND INTERVENTIONS**

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### **AFTER:**

#### **»»» WOUND CARE: RADIAL**

- ♥ No lifting for 24 hours with the affect arm, than no lifting greater than 10 pounds for 7 days.
- ♥ Ok to Shower. Avoid putting your wrist in water for the next 7 days. For instance do not take a tub bath, wash dishes or swim.
- ♥ Keep site clean and dry. Wear a band-aid for at least 3 days over site (change as needed).
- ♥ Avoid activities in which the wrist could become dirty (gardening, cleaning the house) for 3 days
- ♥ Observe site daily. If you notice swelling, redness, bleeding, drainage, fever greater than 101, increased discomfort or new numbness in your hand, call your doctor.

#### **»»» WOUND CARE GROIN**

- ♥ No lifting greater than 10 pounds for 7 days
- ♥ Ok to Shower. Avoid tub bath and swimming for 7 days
- ♥ Observe groin site daily. If you notice swelling, redness, bleeding, drainage, fever greater than 101 or increased discomfort, call your doctor.

**Call 911 or your local emergency number if you have:**

- ♥ Severe bleeding , a gush of blood, or rapid swelling at the puncture site. Quickly lie down and use your hand to apply strong pressure to the area to stop the bleeding.



## **TAKOTSUBO/BROKEN HEART SYNDROME**

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### ⇒ WHAT IS TAKOTSUBO?

The Japanese name Takotsubo (tock o sue bo ) means “fishing pot for trapping octopus” because the left ventricle of the heart resembles the shape when it is stunned by the release of stress hormones. Takotsubo acts like a heart attack, but in many cases is precipitated by an acute emotional stress. Women over the age of 50 are at higher risks.

There are 4 different names for this syndrome you may hear used:

- ♥ Broken heart syndrome
- ♥ Takotsubo cardiomyopathy
- ♥ Stress cardiomyopathy
- ♥ Apical ballooning syndrome

Possible causes of the syndrome may include the death of a family member, friend, or pet, losing a job, public speaking, a serious physical injury, or even a natural weather event like a hurricane.

Symptoms may include chest pain, shortness of breath, and possibly temporary changes in the EKG. Most patients with Takotsubo were healthy prior to the event, although they may have had some risk factors for heart disease. At the hospital, a heart catheterization might show mild blockage in the arteries or reduced blood flow. A chest x-ray or echocardiogram may indicate a larger heart or the ballooning shape.

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## **TAKOTSUBO/BROKEN HEART SYNDROME**

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### **⇒ Treatment for Takotsubo:**

Most patients with Takotsubo recover faster than ones who have had heart attacks. Occasional problems may include changes in the heart's rhythm or rate and possibly fluid buildup in the lungs, however, in many cases, it is a reversible condition with time and appropriate treatment and lifestyle modifications.

### **Treatment and recovery**

- ♥ Weigh daily
- ♥ Limit your salt and alcohol
- ♥ Watch for Symptoms of Heart Failure
- ♥ Aspirin thins the blood to prevent blood clots
- ♥ ACE inhibitors relaxes blood vessels, making it easier for the heart to pump
- ♥ Beta blockers reduces the workload of the heart , controlling heart rate, blood pressure, and slowing the progression of heart disease
- ♥ Diuretics (also known as fluid pills) prevent fluid buildup in your lungs or feet, legs, or abdomen

**Call you healthcare provider or visit the Emergency Department if you experience chest pain or shortness of breath after a stressful event.:**



## OTHER HEART TESTS

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### »»» **TRANSESOPHAGEAL ECHOCARDIOGRAPHY (TEE)**

A transesophageal (TRANS e SOF uh G uhl) echocardiogram (TEE) uses ultrasound waves to see inside the heart. You will swallow a thin tube about the size of your small finger. The esophagus (swallowing tube) is beside the heart so your doctor can get good pictures of your heart.

A patient escort will take you to the Ultrasound Department. A nurse will start an IV if you do not have one. You will get medicine through the IV to help you relax and to dry the saliva in your mouth. The doctor will spray some medicine to numb the back of your throat so you can swallow the tube easier.

You will lie on your left side. The doctor will put a smooth, flexible tube into your mouth and gently push it into the esophagus (your swallowing tube). The tube, which is called a probe, records images of the heart. The probe is in place for about 20 minutes.

Do not eat or drink anything 6 hours before the test. If you have to take medicine, take it with tiny sips of water. After the test you should not eat or drink for at least 2 hours or until your throat is not numb. This allows time for the swallowing reflex to return. Drink slowly the first time you drink to make sure you do not gag or choke.



## OTHER HEART TESTS

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### »»» ECHOCARDIOGRAM (ECHO)

An echocardiogram or ECHO takes a video picture of your heart. A transducer, which is like a microphone, is moved gently around different places on your chest. It sends harmless sound waves which bounce off the heart. These sound waves become a moving image on a video screen. Your doctor may order this test to see inside your heart and see how the heart moves. Sometimes the images do not show the heart well enough. In these instances we may put a contrast agent (like a dye) in your IV to show the heart better.

### »»» STRESS ECHOCARDIOGRAPHY (ECHO)

Stress echo is a test that helps diagnose heart disease with the help of ultrasound images. Following exercise or other stress to the heart, the images reveal parts of the heart that may not receive enough blood or oxygen because of blocked arteries.

The test may be used to check your progress if you already have a known heart condition. The test includes these steps:

- ♥ You will have an echo while you rest.
- ♥ Staff will check your blood pressure and heart rhythm during the test.
- ♥ Someone will make a videotape of the ultrasound images.
- ♥ Staff will take another echo just after you reach your target heart rate.



## OTHER HEART TESTS

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### »»»➔ TILT TABLE STUDY

The Tilt Table Study helps your doctor know why you are having dizzy or fainting spells. You will lie on a special table called a “tilt table.” The table will slowly move from a flat position to an upright position to see if this change in position causes your symptoms.

- ♥ You should not eat or drink six hours before the study.
- ♥ You will be connected to a monitor (TV-like screen) and an EKG to record your heart rate and rhythm during the test.
- ♥ If you do not have one, the nurse will start an IV for fluids and medications.
- ♥ Straps will be placed across your chest and below your knees so you do not slip when the table is upright.
- ♥ Your BP and EKG will be measured constantly during the test.
- ♥ Occasionally, medication may be given as part of the test to temporarily increase your heart rate.
- ♥ A staff member will be with you at all times.

The test lasts for 1-2 hours. After the study, you may eat and resume normal activities.



## ARRHYTHMIAS

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We call an irregular heart beat an arrhythmia (ah RITH me uh). It is a heart rhythm that is not the normal, steady heart pattern. The heart pumps in response to electrical signals. An arrhythmia occurs when the electrical signals misfire and throw off the pattern.

Arrhythmias can occur in people who do not have heart problems. But, they are far more common in those who do. Often people first notice arrhythmias during an EKG. Some irregular rhythms have no symptoms. With others, some people feel light-headed, faint, dizzy, or have chest pain or a pounding heart.

Your heart usually pumps in a smooth, constant rhythm. If the pumping becomes disordered or interrupted, your heart may not send the blood your tissues need for life.



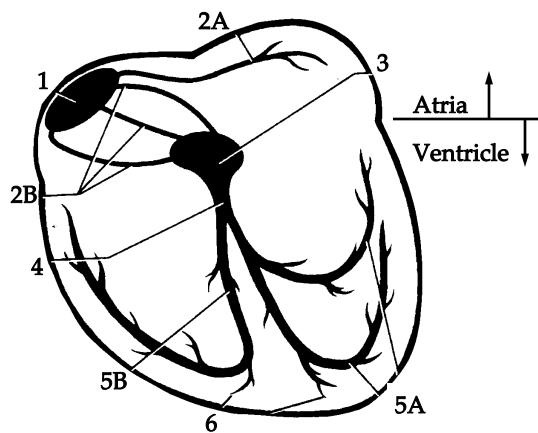


# ARRHYTHMIAS

## »»»➔ NORMAL CONDUCTION

The heart has a pacemaker that acts as a power center. You can think of this pacemaker as a spark plug that sends electricity to start the pumping action.

The rate or pace of the heart is controlled by the SA node. It is in the right upper part of the heart. The SA node sends a signal to the AV node. The AV node is the only electrical connection between the atria (the upper part of the heart) and ventricles (the lower part of the heart). The AV node delays the signal just long enough to let the ventricles fill with blood. When the AV node sends the signal, the ventricles contract (squeeze) to pump blood through the body.



### Normal Conduction through the Heart

- |                          |  |
|--------------------------|--|
| 1. SA node               | 4. Bundle of His                       |
| 2A. Intra-atrial pathway | 5A. Left bundle branches (2 divisions) |
| 2B. Internodal pathway   | 5B. Right bundle branch                |
| 3. AV node               | 6. Purkinje fibers                     |



## **ARRHYTHMIAS**

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### **»»» SLOW HEART RATE (BRADYCARDIA)**

Sometimes the electrical signals get blocked. A blocked electrical system or a diseased SA node can slow the heart rate. When a heart rate falls below 60 beats per minute, we call it bradycardia (BRAY dee CAR dee uh). Not all slow heart rates are bad. Highly trained athletes have slower heart rates so the heart can pump a greater volume of blood.

**60 beats a minute**

### **»»» FAST HEART RATE (TACHYCARDIA)**

A heart rate above 100 beats per minute is called tachycardia (TACK e CAR dee uh). It is normal to have a faster heart rate during exercise. But, a fast heart rate during rest can be bad. Fast heart rates can be caused by exercise, anxiety, excitement, stress, nervousness, fighting, or fright.

**100 beats a minute**



## **ARRHYTHMIAS**

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### **»»» SUPRAVENTRICULAR TACHYCARDIA**

Tachycardia (heart rates 100 or greater) may be caused by extra circuits or paths in the tissue above the ventricles. We call this rhythm supraventricular tachycardia (SVT). Although SVT usually is not life-threatening, it can make a person feel dizzy or faint. Most of the extra circuits or paths that cause SVT have been there since birth, but some people develop the extra circuits later in life.

### **»»» ATRIAL FIBRILLATION**

The atria are the two upper chambers in the heart. Atrial fibrillation occurs when cells in the atria send extra electrical signals. These signals cause the atria to beat unevenly and very fast (from 400 to 500 beats per minute). The atria beat so fast and unevenly that they may quiver instead of contracting. If the atria don't contract, they can't push enough blood into the ventricles. This means there is less blood to pump to the body. This may cause a person to feel dizzy and weak.

Blood that doesn't move can pool and form clots in the atria. These clots can move into other parts of the body and cause problems such as a stroke. Doctors treat most people who have atrial fibrillation with medicines. Some people may need other treatments.



## **ARRHYTHMIAS**

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### **»»»➔ ATRIAL FLUTTER**

The atria are the two upper chambers in the heart. Electrical impulses that travel around and around inside the atria cause atrial flutter. These impulses tell the atria to beat quickly (around 200 to 300 beats per minute). Some of the signals make it to the ventricles, which also beat quickly (up to 150 beats per minute). Atrial flutter can make a person feel dizzy and weak. Atrial flutter also can lead to the faster, uneven rhythms of atrial fibrillation. Most often doctors treat atrial flutter with medicine.

### **»➔ VENTRICULAR TACHYCARDIA (VT)**

Sometimes the lower heart chambers (ventricles) may contract early. This throws off the rhythm and may cause the ventricles to beat very fast. This fast heart rate is called ventricular tachycardia (VT). People often complain of being lightheaded or having a pounding heart, chest pain, or fainting.

VT is a serious problem. People with this problem need help quickly.

VT can lead to ventricular fibrillation (V. Fib). With this rhythm, the heart muscle quivers so that the heart does not pump any blood at all. If V. Fib is not corrected in minutes, death will result. Talk with your doctor about your treatment plan.



## **ARRHYTHMIA TEST AND INTERVENTIONS**

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### **»»» ELECTROPHYSIOLOGY STUDY (EP STUDY)**

The EP study gives your doctor information about the electrical system of the heart. It measures the electrical activity from inside the heart.

Your doctor places specially coated wires in blood vessels and advances them to your heart. These wires sense where signals begin in the heart and how often these signals are sent.

You may need this test if your heart stopped (cardiac arrest), you had serious heart arrhythmias, or you have fainted. This test can help find your rhythm problem and help your doctor decide on a treatment plan.

### **»»» CATHETER ABLATION**

Catheter ablation treats fast heart rates (tachycardias) so you may not need medicines or surgery. A doctor inserts a special catheter through a blood vessel and into the heart. He or she advances the catheter to the part of your heart causing the rhythm problem. Then, the doctor sends energy through the wire to destroy (ablate) some of the problem areas. The rest of your heart is not harmed. After the test, the catheter is removed. For a few weeks, you may feel as though your heart rhythm problem is about to return. In most cases, it will not.



## **ARRYTHMIA TEST AND INTERVENTIONS**

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### **»»»➔ ELECTRICAL CARDIOVERSION**

Cardioversion is a way to get your heart back to a normal rhythm. During this treatment, a doctor gives your heart a quick electrical shock. The shock stops the heart for a brief moment. When the heart starts beating, a normal rhythm takes over. Some people need more than one shock to restore a normal heart rhythm. In others, the treatment may not work at all.

Other treatments for arrhythmias include implantable cardioverter defibrillators (ICD) and/or pacemakers.



## ARRHYTHMIA TEST AND INTERVENTIONS

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### »»→ MAZE PROCEDURE

The Maze procedure is surgery on the upper chambers of the heart (atria) to treat atrial fibrillation.

The Maze is reserved for patients whose medicines do not work and who have symptoms from atrial fibrillation. The Maze breaks the faulty electrical circuits in the atria either by:

- ♥ making small cuts in the atria and then sewing the cut edges together
- ♥ using radiofrequency
- ♥ freezing

These methods form a scar that blocks the abnormal path. The result looks like a child's maze where there is only one path the electrical impulse can take through the atria.

The Maze can be done at the same time as other heart surgeries such as coronary artery bypass surgery or heart valve surgery. The Mini-Maze can be done with a special scope placed through small incisions on either side of the rib cage.

After surgery, it is common to have atrial fibrillation for up to several months before the heart returns to a normal rhythm. This is due to swelling and irritation in the heart muscle from the surgery.

Your doctor may prescribe a blood thinner called warfarin after surgery. This drug prevents blood clots forming in your heart as a result of the atrial fibrillation. You may need to take this drug for several months until there is no risk of atrial fibrillation returning



## **IMPLANTABLE CARDIOVERTER DEBRILLATOR (ICD)**

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The cardiologist will study your heart pattern, how medicines affect your rhythm problem and the results of the EP study. An ICD may be the treatment for you if you had one or more of these problems:

- ♥ Ventricular tachycardia or ventricular fibrillation at least once
- ♥ Cardiac arrest (heart stopped) and you passed out
- ♥ Fast heart rhythms that keep returning and could cause death
- ♥ A fast heart rhythm that cannot be controlled with drugs
- ♥ Severe side effects from medicines
- ♥ Heart rhythm problem that cannot be controlled with surgery
- ♥ Low pumping function (ejection fraction) makes the heart more likely to have rhythm problems

The ICD checks your heart's rhythm all the time. The type of ICD you receive will depend on the type of heart rhythm problem you have. The ICD is a treatment, not a cure.

Your doctor programs the ICD to give the correct treatment when the ICD sees a rhythm that is faster, slower, or different from your normal rhythm. In other words, it checks to see if the rhythm should be treated.



# ICD

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## »»»→ UNDERSTANDING YOUR ICD

ICDs are about the size and weight of a pager. They have three parts:

- ♥ A **pulse generator** is a small lightweight device. It has a battery, microprocessor (small computer), and electronic circuits. It watches your heart rhythm all the time. When it sees a heart rhythm problem, it will send one or more electrical shocks to stop the problem and return your heart to a more normal rhythm. Most ICDs store information on what your heart is doing before, during, and after the device finds a problem. They also store a picture of your heart rhythm problem and the treatment used to correct it. This lets your doctor check your heart rhythm and the success of the treatment.
- ♥ **Leads** are insulated wires that connect the pulse generator to the heart. You can have 1, 2, or 3 leads implanted. The number will depend on your specific need.
- ♥ The doctor or nurse uses an **external programmer** to program and test the ICD.

Most often, the doctor inserts the ICD into a pouch made under the skin below the collarbone. He or she puts the lead (wire) into a vein and moves it forward into the heart. Sometimes the ICD may be put in a pouch made under the skin below the rib cage.



# ICD

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## »»» WHAT TO DO IF YOU RECEIVE A SHOCK

Before you have symptoms or receive a shock, it's important that you, your family, and doctor discuss a plan for contacting emergency services and your heart doctor. Write emergency phone numbers and the names of your medicines on a list and keep the list near your phone.

1. If you feel as though your arrhythmia has begun:
  - ⇒ Stay Calm, Relax
  - ⇒ Sit or Lie Down
  - ⇒ If you can, tell someone what is happening
2. If the ICD gives you 1 shock and your symptoms go away:
  - ⇒ You do not need to go to the hospital. This is the normal function of your ICD
  - ⇒ You may do your normal routines
3. If you do not feel well after the shocks, you should:
  - ⇒ Call your doctor's office
  - ⇒ Go to the emergency room or call 911
4. If you receive 2 or more shocks in 24 hours or 5 shocks in 2 days:
  - ⇒ Call your Cardiologist Office
  - ⇒ You may have to go to hospital

Family member and/or friends should be instructed to call 911 if you receive a shock and become unconscious

If people touch you when you receive a shock they might feel a slight tingle, this should NOT harm them.



## ICD

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- ♥ If you receive 3 shocks within 24 hours, call your doctor or have someone take you to the emergency room.
- ♥ If you feel well after the shock and have no more symptoms, you may not need to seek help. But, follow your doctor's advice about when to call his or her office. For example, if the shock happens at night, your doctor may tell you to call the next morning. Someone at the doctor's office will ask you questions such as:
  1. What were you doing right before the shock?
  2. What symptoms did you notice before the shock?
  3. What time did the shock occur?
  4. How did you feel right after the shock?

Remain as calm as you can. Even if the shock is painful, it lasts only a second. If someone touches you during the shock, he or she may feel a tingle or buzz. The shock will not harm the other person. Keep in mind that a shock means your device is doing its job. It sensed a dangerous rhythm and returned your heart to a normal rhythm.



## **PACEMAKERS**

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A doctor may use a pacemaker for people with a heart rate less than 60 beats per minute. A slow heart rate may cause a person to feel dizzy, short of breath, faint, or to have fatigue. A pacemaker sends an electrical charge which makes the heart beat in a more regular rhythm. There are two types of pacemakers: temporary and permanent.

### **»»» TEMPORARY PACEMAKER**

A temporary pacemaker is a battery operated unit. It has a small wire, called a lead, that the doctor puts in a vein in the neck or groin. The doctor moves the wire forward until it reaches the heart. The other end of the wire is connected to the pacemaker. A temporary pacemaker is not put inside the body.

The pacemaker sends a tiny electrical charge to the heart. You will not feel the charge. You may use this type of pacemaker until your heart returns to its normal rhythm or until your doctor decides you need a permanent pacemaker.



## **PACEMAKERS**

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### **»»»→ PERMANENT PACEMAKER**

Most often, the doctor puts a permanent pacemaker in a pouch made under the skin below the collarbone. He or she will put the lead (or wire) into a vein and move it forward into the heart. Sometimes the doctor may put the pacemaker in a pouch made under the skin below the rib cage.

The pacemaker has two parts:

- ♥ The pulse generator produces the electrical charge. It uses a battery which may need to be replaced every 6 to 10 years.
- ♥ A lead is an insulated, flexible wire that carries the charges from the generator to the heart.

### **»»»→ LOOP RECORDER**

If you have had dizzy spells, fainting spells, or fast heart rates for which your doctor can not find a cause, he may suggest a loop recorder. This small device is put in your chest just under the skin. It will record your heart rhythm when you have symptoms. It also records events when your heart rate is too fast or too slow. You will need to come to the Device Clinic for someone to “read” the recordings.



## **SPECIAL FACTS ICDs OR PACEMAKERS**

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### **»»» AFTER YOUR ICD OR PACEMAKER INSERTION**

Here are a few guidelines to follow just after your pacemaker or ICD has been put in.

- ♥ Keep the arm on the side with the pacemaker or ICD (called the involved arm) close to the body for 24 hours.
- ♥ For the first 24 hours, it is good to gently swing your arm and use gentle and limited movement with the involved arm. Do not lift your arm higher than about 30 degrees (keep below shoulder level). Keep your elbow at your side.
- ♥ Do not reach or stretch, comb or brush your hair, or do things like this with the involved arm.
- ♥ Do not lift more than 10 pounds for 2 weeks after your pacemaker or ICD was put in. Then, do not lift more than 20 pounds for the next 4 weeks.
- ♥ Avoid using walkers, crutches, trapeze bars, parallel bars, etc. for at least 72 hours.



## **SPECIAL FACTS: ICDs OR PACEMAKERS**

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### **»»» TELETRACE TRANSMITTER (PACEMAKER)**

If you received a pacemaker, your doctor will order a transmitter for you. It will send an EKG (heart rhythm strip) from your phone at home to the phone in the Heart Station at Baptist Hospital. This EKG lets your doctor know how your pacemaker is working and how much battery life is left. Someone from the Heart Station will show you how to use the transmitter. Someone from the Heart Station will mail you a schedule so you will know when to make the phone calls. If you do not get a schedule within three weeks or if you have questions, call the Heart Station at (336) 716-4912 or 1-800-777-5638. Your ID is your phone number without the area code. You may send your EKG after 5:00 p.m., weekends, and holidays, but we will not read the EKG until the next working day.

### **»»» ICD TRANSMITTER**

If you received a defibrillator (ICD) you can check it over a phone line if you choose. This is done with a transmitter the company will mail to your home. The company will send instructions on how to use the transmitter. Someone from the Heart Station will mail you a schedule so you will know when to do these transmissions. You will only be called if the doctor has concerns with the transmission or we do not receive a transmission. You will still need to come to the Device Clinic once a year.



## **SPECIAL FACTS: ICDs OR PACEMAKERS**

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### **»»» DISCHARGE GUIDELINES FOR ICD & PACEMAKERS**

For the first 6 weeks following your new pacemaker / ICD implant:

1. **Do not** raise your arm on the side of your device above shoulder level for 4 weeks.
2. **Do not** lift anything heavier than 10 pounds with the arm on the side of your device for 4 weeks.
3. **Do not** do any heavy exercise involving your arms for 4 weeks.
4. If your physician ordered a sling, this should be worn **only while sleeping** for the next 2 weeks.
5. Watch for signs of infection at the site such as swelling, redness, increased pain, drainage or fever. Contact the device clinic immediately at 336-716-5739 if any of these symptoms develop.
6. **Do not** soak the incision in a bath tub, pool or Jacuzzi, no swimming for 4 weeks.
7. If you have Steri-strips, keep the incision dry for one week. After this time you may shower, wash gently with soap and water, do not scrub, and blot dry. They will be removed at your 2 week follow up appointment.



## **SPECIAL FACTS: ICDs OR PACEMAKERS**

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8. If Dermabond was applied to your incision:

- Keep the wound dry for 2 days
- Do not scratch, rub or pick at the wound or Dermabond. If you do, the film may become loose before the wound is fully healed
- You may take brief showers or baths at the direction of your physician. After showering or bathing, gently blot your wound dry with a soft towel.
- do not scrub or soak your wound. Do not swim until the adhesive film has fallen off naturally.
- stay out of direct sunlight and do not use tanning lamps

9. If you have staples/sutures, **do not get them wet**. You will be given an appointment to have them removed in 2 weeks.

10. **Do not** put lotion, powder or cream near your device incision.

11. **Do not** drive a motor vehicle for 1 week after your procedure, unless otherwise directed.

12. If you have been given a home monitoring system, please install the system the evening after you get home. If you receive a monitoring system in the mail, you can install it the same day. If you have questions about the monitor system please, call the device company number located on the back of your card.



## **SPECIAL FACTS: ICDs OR PACEMAKERS**

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After the first 6 weeks:

1. **It is important for you to have routine follow-up of your device.** An appointment for your first visit will be sent to you in the mail for a return to Device clinic in 6-8 weeks.
2. Resume normal activity unless otherwise instructed by us or another healthcare provider.
3. Continue to watch for the signs of infection described in #5 above.
4. **Always** notify your healthcare providers that you have a pacemaker/ICD before having any procedures done. Programming changes may need to be made first.
5. **Always carry your identification card with you.** This will be helpful at the airport or in an emergency situation.
6. Cellular phones and small electronic devices are safe to use. Always maintain a distance of at least 6 inches from your device. Use the opposite ear to talk, and do not carry it in a shirt pocket on the same side as the device.
7. Microwave ovens are safe to use.
8. When traveling or passing through metal detectors, i.e, airports, government buildings, show your ID card and request a hand search or to go through the advanced imaging technology machine
9. **Do not** go through the metal detector. **Do not** allow use of the magnetic wand.
10. Walk through antishoplifting gates in stores at a normal pace. Do not linger in the gate.
11. Avoid contact with industrial sized magnetic fields. If you work in a manufacturing plant, check with the clinic before returning to work.
12. It is safe for you to have X-rays and CT scans. **Do not have and MRI** before talking to your cardiologist.



## **SPECIAL FACTS: ICDs OR PACEMAKERS**

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### **»»» ICD AND PACEMAKER FOLLOW-UP**

Patients return to the Device Clinic 2 to 3 times a year. A nurse will check your ICD or pacemaker. He or she will consult with your cardiologist if there is a problem with your device.

### **»»» REPLACING AN ICD OR PACEMAKER**

Just like any other battery, the battery in your pacemaker or ICD wears down over time. How long your battery lasts depends on the setting your doctor programs into the device and how much you use it. You may need to replace the ICD or pacemaker in 6 to 10 years. Your cardiologist will explain when your device may need to be replaced.

When your ICD or pacemaker is replaced, your doctor will open the pocket in the skin where the device is located. He or she will unplug the old device from the leads (wires). Your doctor will check the leads to make sure they still work well. Most of the time, the leads do not have to be changed. Then the leads will be connected to the new device. This is a minor operation and takes about one hour.



## HEART SURGERY

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### »»» **CORONARY ARTERY BYPASS SURGERY**

Your doctor has checked your heart function and blood flow to the heart. He or she believes that coronary artery bypass surgery is the best way to improve blood flow to the heart muscle. This surgery makes another route for blood to reach your heart muscle. Your surgeon may use either a vein in your leg or an artery in your arm or chest to make a bypass around the blocked artery.

The vein or artery used for surgery is called a graft. After surgery, blood flows through the graft and goes around or bypasses the blockage. The blocked artery is not removed. You may have one or more blocked arteries, so you may have one or more arteries bypassed.

You will have a chest incision that starts at the bottom of your neck and goes just below your breastbone. You may have an incision(s) on your arms, calves, or thighs, depending upon the graft(s) used for surgery. The surgeon does not open the heart since surgery is done on the outside wall of the heart muscle.

After surgery, better blood flow should mean less angina or no angina at all. You may be able to take less medicine and have a better quality of life.

Your surgery is not a cure. You will need to make lifestyle changes to reduce your chance for future coronary artery disease. See the chapter on Risk Factors in this book.

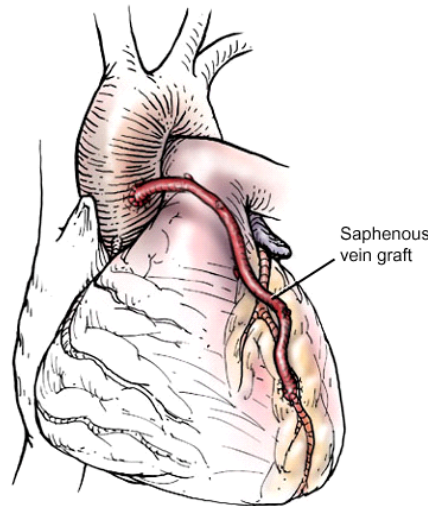


# HEART SURGERY

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## »»» **INTERNAL MAMMARY ARTERY GRAFT**

The internal mammary artery branches off the aorta, the largest blood vessel. It supplies blood to the chest. During surgery, the doctor removes the artery from the chest wall and sews it below the blockage in the coronary artery. Other blood vessels in the chest supply blood to the chest wall.



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## »»» **RADIAL ARTERY GRAFT**

Your doctor may decide it is best to use the radial artery in the arm as a graft. This artery is at the base of the thumb. Your surgeon will take a part of the radial artery and attach one end to the aorta which is a large blood vessel at the top of the heart. The surgeon will sew the other end below the blockage in the coronary artery. There is another artery in the arm that will supply blood to the arm and hand. This arm may swell, tingle, or feel a little numb for a short time after surgery. If these problems persist, please call your doctor.



## HEART SURGERY

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### »»» **SAPHENOUS (SAF-UH-NUS) VEIN GRAFT:**

Your surgeon may take a section of the saphenous vein from your leg during surgery. He or she will tie both ends of the vein that are left in your leg to prevent bleeding. In time, blood vessels will grow to take the place of the piece of the vein that was removed.

The surgeon sews one end of the vein that was removed to the aorta, a large blood vessel at the top of the heart. He sews the other end of the vein below the blockage in the coronary artery.

### »» **HEART/LUNG BYPASS PUMP**

The surgeon may use the “on pump” or the “off pump” procedure. The surgeon will discuss the benefits of the methods with you and use the one most suited for you.

#### **On Pump**

Most of the time surgeons use an “on pump” method during surgery. This means a bypass machine takes over the function of the heart and lungs during surgery. The heart does not move during the “on pump” method.

#### **Off Pump**

The “off pump” method involves using a stabilizer. It holds part of the artery “still” while the surgeon creates the bypass around the blocked artery. With this method, the heart and lungs work on their own during the surgery.



## **MINIMALLY INVASIVE HEART SURGERY**

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Certain patients having a coronary artery bypass or maze procedure may have surgery done with a few small incisions. Instead of making a large incision down the middle of the chest, the surgeon makes a few incisions in the chest that are 1 to 2 inches long. This can only be done in certain circumstances and your surgeon will determine which one is right for you. Some benefits of doing this type of surgery include:

- ♥ Able to be more active after surgery since the breastbone is not cut
- ♥ Fewer days in the hospital (usually 2 to 3 days)
- ♥ Faster recovery (most patients resume normal routines in 2 weeks)

### **After a minimally invasive heart surgery:**

- ♥ Walk about 15 minutes four times a day.
- ♥ Do not lift more than 10 pounds for 2 weeks.
- ♥ Do not drive until you don't need to take pain medicine.
- ♥ Resume sex when you feel ready to do so.
- ♥ May begin cardiac rehabilitation in 2 weeks.



## **SURGERY ON THE AORTA**

Sometimes the aorta can become enlarged and dilated causing it to bulge. The bulge is called an aneurysm: (AN u RIZ um). This can be dangerous because it can become thin and begin to leak or rupture. Medicines to lower blood pressure may manage a small aneurysm. If the aneurysm becomes large, then surgery is often needed to repair it. Where the aneurysm is located will determine what kind of incision you will need. The incision can either be on the side of your ribcage or down the middle of your chest through the breastbone. Your doctor will talk to you about where your incision will be.

Even though the surgery is not on your heart, you will need to follow the guidelines listed for after heart surgery on pages 95-117. If you do not have an incision down the middle of your chest, you do not need to follow the sternal precautions. But you need to be careful not to pick up anything heavier than 10 pounds for a least one month.



## **PATENT FORAMEN OVALE (PFO) CLOSURES**

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PFO is a hole in the wall separating the left and right side of the heart. In most cases, the hole closes on its own as a person grows into adulthood. But for a third of the population, the hole does not seal and the blood cannot flow from the left to the right side of the heart. In most cases this does not require treatment. However, a small number of people begin to have small strokes due to the abnormal blood flow.

Using an intracardiac echocardiogram (ICE), the doctor can pinpoint the defect and correct it using a PFO occluder device. The benefit is the patient does not need open heart surgery. Most often, the patient can return to work in a couple of days.

### **»»» STANDARD THERAPY**

- ♥ Take Plavix<sup>®</sup> for 6 months
- ♥ Take a 325 mg aspirin tablet each day
- ♥ You should receive a card about your PFO closure to carry in your wallet
- ♥ Your doctor will prescribe an antibiotic you need to take for the next 6 months. You take this to prevent getting an infection if you have a procedure or dental care in the next few months.



## VALVE DISEASE

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The heart has four valves. (Please see the picture on page 10.) The valves open to push blood through the heart, then close to prevent blood from backing up. One or more of the valves inside the heart may become damaged. Damage can happen when an infection causes scar tissue to form on one or more of the valves. The infection may be a result of rheumatic fever, scarlet fever, or germs that cause infections, such as strep throat. Or, some people are born with valve problems.

Over the years, the scarred tissue makes the valve thick, stiff, and deformed. This makes it hard for the valve to open or close well. A valve that is hard to open is called *stenosed*. A valve that does not close well causes *insufficiency*. Stenosis and insufficiency cause the heart to work harder. Over time this may cause some weakness in the pumping action of the heart.

Usually the heart can make up for these problems for a long time until it becomes too weak. Then congestive heart failure may occur.



## **BACTERIAL ENDOCARDITIS**

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Bacterial endocarditis (BE) is an infection of the valves or inner lining of the heart. It is most common in people who have a damaged, diseased, or artificial heart valve. BE happens when germs from the skin, mouth, bowels, or other parts of the body enter the bloodstream and settle on the heart valves. Ideas to prevent BE are described below.

### **»»» HOW TO PREVENT BACTERIAL ENDOCARDITIS**

#### **Antibiotics**

If you have a heart defect or valve problem, make sure your doctor or dentist knows about it. He or she may want to give you antibiotics to destroy or control bacteria before:

- ♥ Dental care - Care involving the mouth, even routine teeth cleaning, may allow germs into the bloodstream.
- ♥ Certain types of surgeries of the respiratory (breathing), urinary (bladder), or intestinal (bowels) system - Examples of these procedures would be having tonsils removed, prostate or gallbladder surgery, etc.
- ♥ Exams with an instrument - Examples might be gynecological exam, colon exam, looking down the throat with a tube, looking in the bladder with a scope, etc.



## **BACTERIAL ENDOCARDITIS**

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### **What You Can Do**

There are some things you can do every day to prevent infections. For instance:

- ♥ **Use good mouth care** - Brush and floss your teeth and gums at least twice each day. Get regular dental checkups.
- ♥ **Take care of cuts and open sores** - Thoroughly clean cuts and open sores. Watch for signs of infection, such as redness, drainage that smells bad or looks yellow-green, fever over 101 degrees. Call your doctor if the wound does not look good or is not healing well.
- ♥ **Tell your doctor and dentist about your heart condition** - It's a good idea to remind your doctor or dentist about your heart condition before you have dental care, surgery, or any special procedure.
- ♥ **Look for symptoms after a procedure that could lead to endocarditis** - Report flu-like aches and pains, fever, fatigue, chills, vomiting, red spots on palms and soles of feet, weight loss, night sweats, or any concerns you may have.
- ♥ **Carry a card in your wallet** - Carry a card letting others know you may be at risk for endocarditis. You can get a card from the American Heart Association.



## VALVE SURGERY

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If you have symptoms because your valves are not pushing enough blood through the heart, your doctor may suggest surgery. The surgeon may either repair the damaged valve or put in an artificial or a donor valve. Your doctor will talk with you about the best type of valve for you if your valve cannot be repaired.

### »»»➔ **ROSS PROCEDURE**

During the Ross procedure, a surgeon replaces a patient's diseased aortic valve with the patient's pulmonary valve. The surgeon replaces the pulmonary valve with a pulmonary valve from a donor. Advantages include:

- ♥ The patient's own pulmonary valve lasts longer than artificial valves, especially in younger patients
- ♥ Patients do not need to take blood thinners

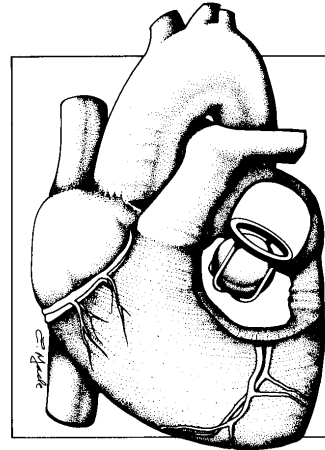
After surgery some people feel better right away. Their symptoms or physical problems are better. For others, it may take a few months or a year before they feel the full benefits of surgery. The heart has been doing extra work, so it may take time for it to recover.



## VALVE SURGERY

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Some patients with an artificial valve are at risk of forming small clots on the valve. For this reason, your doctor may prescribe a blood thinner such as warfarin sodium (Coumadin<sup>®</sup>). You must have your blood checked regularly to make sure it is not too thin which could increase your risk of bleeding. See page 165-166 to learn more about blood tests and Coumadin<sup>®</sup>.



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Also, some patients need to take an antibiotic before dental work and some types of procedures. This helps protect the heart against infection.



## GETTING READY FOR HEART SURGERY

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Before surgery, you may have blood tests, a chest x-ray, or other testing. You will meet with your heart surgeon and anesthesiologist (the doctor who will put you to sleep for your surgery). If you wish, you and your family can tour the Cardiovascular Intensive Care Unit (CV-ICU), located on the 7th floor of the North Tower. This is where you will be just after your surgery.

### »»THE NIGHT BEFORE YOUR SURGERY

Whether you are at home, in a hotel, or in the hospital the day before surgery, you will need to get ready for your surgery.

- ⇒ If you are in the hospital, your preoperative plan will be ordered by your surgery team and may vary somewhat from below.
  
- ⇒ If you are coming in from outside the hospital for surgery, the day before surgery you need to:
  
- ♥ Take a dose of Miralax<sup>®</sup> 17gm mixed in a glass of water or juice around 4pm
- ♥ Eat a light dinner such as soup but do not have anything to eat or drink after midnight except for medications with a sip of water
- ♥ Insert mupirocin (BACTROBAN<sup>®</sup>) 2 % nasal ointment in nostrils at least 12 hours before surgery (in the evening).
- ♥ Before bed, take a shower with the antibacterial soap (Hibiclens<sup>®</sup>) and rinse your mouth with chlorhexidine (PERIDEX<sup>®</sup>) from your pre op kit. Repeat the antibacterial



## ➡ **THE MORNING OF SURGERY**

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The activities listed below will occur the morning of surgery:

- ♥ You will shower with antibacterial soap.
- ♥ You will check in at the 1<sup>st</sup> floor Ardmore tower  
Surgery Check in
- ♥ A staff member will use electric clippers to remove the hair from your neck, chest, abdomen, and groin. If you are having bypass surgery, he or she may shave the hair on your legs as well.
- ♥ Your family will be able to visit with you in the surgical Holding area
- ♥ We may give you medicine to make you drowsy and relaxed.
- ♥ Your family needs to take your belongings with them. They can take them home or leave them in the car until you are out of the CV-ICU. Your family may bring your toothbrush, comb, glasses, and dentures when you are in the CV-ICU.
- ♥ A patient escort will take you to the operating room where the anesthesiologist will greet you. You will be awake for about 15 minutes while the doctor and nurses take your blood pressure, connect you to the heart monitor, and check your IVs. The doctor will put an oxygen mask over your face. Then he or she will put you to sleep.



## AFTER YOUR SURGERY

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### »»»➔YOUR FAMILY

When you go to the Operating Room, your family can wait for you in the 7 North Tower CV-ICU waiting room. They will receive phone updates from the OR staff and the surgeon will talk with them after the operation. The surgery may last six to eight hours. Your family may wish to eat in one of our food areas while waiting.

While in the CV-ICU, you cannot have flowers or personal belongings. Please ask friends and family not to send flowers until you are moved out of CV-ICU, usually one or two days after surgery. You can get cards and letters in CV-ICU.

To ensure the rest and care of all the patients, only 2 visitors may see the patient at one time. You may visit anytime **except** 6:30am –8:30am and 6:30pm - 8:30pm. This is done to ensure patient privacy while nurses discuss the patient's care to the shift coming on duty.



## AFTER YOUR SURGERY

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### »»» **CARDIOVASCULAR INTENSIVE CARE UNIT (CV-ICU)**

You will go from surgery straight to the CV-ICU. After the nurses make you comfortable, your family may have a short visit even if it is not visiting time.

In the CV-ICU, you will be in a large room with other patients, both male and female. Curtains will provide privacy as needed. The CV-ICU is filled with equipment so it can be noisy at times. Staff will connect you to some of the equipment and remove it as you progress.

Some of the equipment you may use in the CV-ICU include:

- ♥ **Breathing Tube:** During surgery, your doctor put a breathing tube called an endo (endotracheal) tube in your mouth and windpipe. It is connected to a breathing machine called a ventilator. This breathing tube and ventilator help you breathe deeper while you are asleep.

You will be asleep or drowsy most of the time the tube is in place. You must try to relax and let the machine breathe for you.

You will not be able to talk with the breathing tube in place. Your nurse will ask you to nod your head “yes” or “no” to share your needs while you have the tube in place. As soon as you begin to wake up and can breathe deeply on your own, someone will remove the breathing



## AFTER YOUR SURGERY

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- ♥ **Chest Tubes/Blake Drains:** The doctor placed these tubes/drains in your lower chest during surgery to drain fluid. They are connected to a collection chamber which may have some reddish drainage in it. This is normal. If the chest tubes or blake drains bother you, ask your nurse for pain medicine. The staff often removes the tubes/drains one or two days after surgery. As they are removed, you may feel some pressure or stinging and burning.
- ♥ **Foley® Catheter:** This small tube in your bladder drains your urine. Often, the nurse removes it the day after surgery.
- ♥ **NG Tube:** This tube goes from your nose or mouth to your stomach. The tube keeps your stomach empty and prevents vomiting. When the breathing tube is removed, the NG tube also will be removed.
- ♥ **IV Catheter Lines:** You will have IV lines in both arms. Another IV line is in your neck. Nurses connect these IVs to machines that measure the pressure of your heart. Staff may use some of these lines to draw blood samples. So, this means you do not have to be “stuck” with needles for blood samples. Other lines are connected to machines that give you fluid and medicines.



## AFTER YOUR SURGERY

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- ♥ **Pacemaker:** Sometimes after heart surgery, the heartbeat is a little slow or uneven. A temporary pacemaker is a battery-operated unit that makes your heart beat. You may have it for a few days after surgery. The pacemaker is a small box placed outside your body. It is connected to your heart by small wires that are put in during surgery. When you no longer need the pacemaker, staff will remove it. Most often, the doctor will remove the pacing wires the day before you go home. Most patients can shower once these wires are removed, but ask your nurse first.

To speed your progress, you need to know about:

- ♥ **Coughing, deep breathing, and walking:** After the breathing tube is out, you must take deep breaths, cough, and use your incentive spirometer. Taking deep breaths, coughing, and walking reduce your chance of getting pneumonia and fever. Your nurse and respiratory therapist will work with you to help you cough and deep breathe. Holding a pillow or folded blanket against your chest will support your incision while you cough and deep breathe.





## AFTER YOUR SURGERY

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- ♥ **Incisions:** You will have a chest incision that starts at the bottom of your neck and goes just below your breastbone. If you had bypass surgery, you may have incisions on your arms, calves, or thighs. Your nurse will clean your incisions while you are in the hospital.
  
- ♥ **Discomfort:** People often complain more of muscle soreness than pain after surgery. Often the patient feels the soreness around the incision, shoulders, and back. This soreness is due to muscles tightening during surgery. Anytime you feel uncomfortable, ask for something for pain. Don't wait until the pain gets very bad. Usually, you can get medicine for pain every 4 to 6 hours. If you don't have much pain, you are more likely to walk, cough, and deep breathe after surgery. This will help you improve faster. You will not get "hooked" on the pain medicines. You may want to listen to music, use imagery, or use other methods to help decrease your discomfort. Turn to channel 5 in your room for easy listening music and nature scenes to help you relax.
  
- ♥ **Eating:** After the breathing tube is removed, you can have clear liquids and ice chips. As you feel like it, you can progress to a heart healthy diet. It speeds your recovery to drink liquids and to eat.



## **AFTER YOUR SURGERY**

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### **»»» STERNAL PRECAUTION**

Just like any broken bone, the breastbone (or sternum) takes about 6 week to heal. Older women with osteoporosis, patients with diabetes, and patients taking steroids may need up to 8 weeks for their bone to heal.

Unlike broken arms and legs that can have a cast, the sternum has been pulled together with metal wires. These wires keep the breastbone together so it can heal. If there is movement along the edges of the “break”, then the body will not make new bone. As a result, you might have pain or infection in your breastbone for a long time.

Follow the guidelines below for 6 to 8 weeks after surgery. These guidelines help you avoid movements that require you to use both arms at same time. These motions use chest muscles and may make the breastbone shift or move.

### **Help promote normal healing for your breastbone**

- ♥ **DO NOT use your arms to push yourself** up from a sitting position such as from a chair or toilet, unless you need your arms for balance. When getting out of bed it is easier to turn on your side, let your legs go over the side, and then gently sit up using your “up” arm to push gently as you use your body muscles to sit up, rather than reaching out with your “up” hand to pull yourself up out of bed. (The “up” arm is the arm on top of your body when you lie on your side.) Early after surgery it may be best to let someone help you get and down until you are stronger.



## **AFTER YOUR SURGERY**

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- ♥ **DO NOT lift, push, or pull** for anything weighing more than 10 pounds. This includes heavy doors, suitcases, groceries, small children and grandchildren.
- ♥ **DO NOT use a walker to support your weight as you walk.** You may only use a cane or walker designed to help with balance. You should NOT use a cane or walker from home until a physical therapist has worked with you to be sure you can use it safely without causing injury to your breastbone.
- ♥ **DO NOT push or lean on the stair rail** when climbing stairs.
- ♥ **DO hold your heart pillow** to your chest to support it when you cough or sneeze. Regular deep breaths and coughing keeps your breathing tubes clear and your lungs fully inflated and helps prevent pneumonia. This is an important part of recovery from heart surgery.
- ♥ **AVOID movements that cause you to hear or feel a “pop” or “crack” in your breastbone.** Sometimes this happens when you move, turn in bed, or reach for something. It is not something that you need to worry about. But if it happens a lot with slight movements or with deep breaths, you should tell your surgeon.



## AFTER YOUR SURGERY

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### »»➔ RECOVERY GUIDELINES

To speed your recovery and reduce complications, please follow these guidelines unless your doctor tells you not to do so.

- ♥ It will take 6 to 8 weeks for your breastbone to heal. To protect your breastbone, follow the sternal precautions listed on page 100-101
- ♥ Use your incentive spirometer (breathing device) ten times every hour while you are awake.
- ♥ Shower each day, but do not let the water hit directly on the incision. Use an anti-bacterial soap like Dial® to clean your incisions.
- ♥ Walk at least 5 minutes four times or more each day in the hall. Try to go further with each walk.
- ♥ After you transfer from the Cardiovascular Intensive Care Unit (CV-ICU), a staff person known as a Mobility Assistant will come to your room and help you walk in the hall two times a day. You may use our “Swedish Walker” at first to help you feel steadier. As you begin to feel steadier, you should walk without the walker in order to get ready to go home. When you are steady on your feet, you may walk the halls with assistance from your family.



## **AFTER YOUR SURGERY**

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- ♥ Sit the chair at least three times every day. It is best to sit in a chair for your meals. Be out of the bed more than in bed during the day.
- ♥ Eat food with protein; it will help you heal faster. Limit salt and cholesterol. Follow the “Eating Heart Healthy” guidelines starting on page 130.
- ♥ Control your pain. Most of the time doctors prescribe pain medicine on an “as needed” basis. This means you must ask for it when you have pain. Pain medicine works quicker and with a better response if you take it at the first sign of pain. Don’t wait until your pain gets bad to ask for something. Most doctors prescribe pain medicines to be given every 4 to 6 hours. If your pain doesn’t get better, please tell your nurse.



## GOING HOME AFTER HEART SURGERY

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### »»» GOING HOME

Most likely, you will go home four to seven days after your heart surgery.

Since your surgeon is in surgery most of the day, patients are seen early in the morning or late in the evening. Sometimes families may not get a chance to talk with the surgeon. A doctor who works with your heart surgeon may talk with you and your family about your discharge needs and concerns.

Pain is common for people after surgery. Your doctor will prescribe pain pills for you to use after discharge. Take the pills when you hurt. Do not wait until you are in a great deal of pain. It will take longer to get the pain under control if you wait too long to take your pain medicine. After a few days, you may want to decrease the use of pain pills. You may want to use acetaminophen such as Extra Strength Tylenol<sup>®</sup> or ibuprofen such as Advil<sup>®</sup> to help with the soreness. Do not take Tylenol<sup>®</sup> or ibuprofen within 4 hours of taking your pain pills.



## GOING HOME AFTER HEART SURGERY

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Here are some guidelines to speed your recovery at home:

- ♥ Do not smoke. Ask your doctor and nurse for tips on how to quit smoking. Avoid second-hand smoke.
- ♥ Weigh yourself each morning after using the bathroom but before eating breakfast.
- ♥ Check your pulse rate every day while resting. Ask your nurse how to check your pulse.
- ♥ Take your temperature daily.
- ♥ Do not cross your legs or ankles. This decreases blood flow to the legs.
- ♥ Follow the sternal precautions on pages 100-101



- ♥ **Exercise:** You should take a 5 to 15 minute walk four times each day. You need to walk farther each day as you are able. See pages 108-109. Do the exercises on pages 111-113 at least 4 times each day to improve blood flow and strength.



## GOING HOME AFTER HEART SURGERY

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- ♥ **Driving:** Do not drive until you talk with your doctor at your return appointment.
- ♥ **Rest:** Rest is important after your surgery. You may want to take rest periods or naps during the day. Limit visitors for the first week or so when you get home. If you hurt or feel tired, stop and rest. Although some people find that they do not rest well at night for the first few nights, this often improves over time.

When you sit or rest, put your feet and legs up to decrease the swelling. Wear your support hose during the day but remove them at night. Support hose helps blood circulate to prevent clots and decrease swelling in your feet and legs.
- ♥ **Eat a healthy diet:** You may not feel like eating for 1 to 2 weeks after surgery. But you must try to eat 3 meals a day. Increase protein intake (meats, dairy, and nuts) for the first four weeks after surgery. This helps wounds heal better. Avoid salty foods to prevent fluid build-up and swelling (edema). Follow the heart healthy diet plan on pages 146 to 168.
- ♥ **Cardiac Rehabilitation:** Join a cardiac rehab program to help you recover from surgery and to learn how to keep your heart healthy! Most patients can begin about 2 weeks after discharge from the hospital. If you have questions about how to get in a program near your home, call the 5 Reynolds Clinical Care Coordinator at 336-716-9594.



## **GOING HOME AFTER HEART SURGERY**

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- ♥ **Take care of your incisions:** Shower each day, but do not let the water hit directly on the incision. Use an anti-bacterial soap like Dial® to clean your incision.
- ♥ Do not take a tub bath because it may put too much pressure on the breastbone getting out of the tub.
- ♥ Some doctors may use steri-strips (tape) over the incisions. They will come off by themselves in about a week. As the edges loosen, you can trim the edges with scissors.
- ♥ It is normal to have a small amount (a few drops) of pink or clear drainage from your incisions a few days after going home. Look at your incisions each day for redness, tenderness, or drainage. Wounds heal better if left uncovered (open to air).

### **»»» CALL YOUR DOCTOR**

Call your doctor if you have:

- ♥ Heart rate less than 60 or more than 120 beats per minute
- ♥ Fever above 101.5 degrees
- ♥ Drainage from the incisions that smells bad, looks yellow or greenish, or increases in amount.
- ♥ Incision that looks red or feels tender or warm
- ♥ Unusual shortness of breath
- ♥ Chest pain (other than mild incision pain)
- ♥ Weight gain of more than 3 pounds in one day or more than 5 pounds in a week
- ♥ Any questions or concerns about your surgery



## EXERCISE FOR YOUR HEART

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- ♥ Exercise is very important to help with your recovery and prevent future heart problems. Everyone needs to exercise.
- ♥ While in the hospital you should walk in your room and in the hallways every 2 hours while you are awake. Try to walk about 5 minutes at a time.
- ♥ At home you should slowly increase the amount of time that you are walking. Your long term goal is walk 45-60 minutes 5-6 days a week. Take your time working up to this goal. Some can reach this goal within a few weeks after discharge while others may need as long as three or four months to achieve this.

### Home Walking Program

Day	Goal	Completed
1	Walk 5 minutes, 3 times a day	<input type="checkbox"/>
2	Walk 5 minutes, 3 times a day	<input type="checkbox"/>
3	Walk 5 minutes, 3 times a day	<input type="checkbox"/>
4	Walk 7 minutes, 3 times a day	<input type="checkbox"/>
5	Walk 7 minutes, 3 times a day	<input type="checkbox"/>
6	Walk 7 minutes, 3 times a day	<input type="checkbox"/>
7	Walk 10 minutes, 3 times a day	<input type="checkbox"/>
8	Walk 10 minutes, 3 times a day	<input type="checkbox"/>
9	Walk 10 minutes, 3 times a day	<input type="checkbox"/>
10	Walk 12 minutes, 3 times a day	<input type="checkbox"/>
11	Walk 12 minutes, 3 times a day	<input type="checkbox"/>
12	Walk 12 minutes, 3 times a day	<input type="checkbox"/>
13	Walk 15 minutes, 3 times a day	<input type="checkbox"/>
14	Walk 15 minutes, 3 times a day	<input type="checkbox"/>



## EXERCISE FOR YOUR HEART

### Home Walking Program

Day	Goal	Completed
15	Walk 15 minutes, 3 times a day	<input type="checkbox"/>
16	Walk 17 minutes, 3 times a day	<input type="checkbox"/>
17	Walk 17 minutes, 3 times a day	<input type="checkbox"/>
18	Walk 17 minutes, 3 times a day	<input type="checkbox"/>
19	Walk 20 minutes, 3 times a day	<input type="checkbox"/>
20	Walk 20 minutes, 3 times a day	<input type="checkbox"/>
21	Walk 20 minutes, 3 times a day	<input type="checkbox"/>
22	Walk 30 minutes, 2 times a day	<input type="checkbox"/>
23	Walk 30 minutes, 2 times a day	<input type="checkbox"/>
24	Walk 30 minutes, 2 times a day	<input type="checkbox"/>
25	Walk 35 minutes one time, 25 minutes the second time	<input type="checkbox"/>
26	Walk 35 minutes one time, 25 minutes the second time	<input type="checkbox"/>
27	Walk 40 minutes one time, 20 minutes the second time	<input type="checkbox"/>
28	Walk 40 minutes one time, 20 minutes the second time	<input type="checkbox"/>
29	Walk 45 minutes one time, 15 minutes the second time	<input type="checkbox"/>
30	Walk 60 minutes one time a day	<input type="checkbox"/>

Once you can walk 60 minutes at one time you can start to increase your pace. At this time you may also start to include more hills into your walk to make you intensity slightly more difficult.



## **EXERCISE FOR YOUR HEART**

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### **»»» HOW DIFFICULT SHOULD MY EXERCISE BE?**

You can use breathing and your ability to talk as a good guide to tell you if you are doing too much. You should be able to walk and carry on a light conversation with someone. If you cannot, this means that you are walking too fast. If walking is too difficult for you, consult your Cardiac Rehab team and/or your physician. Some patients have orthopedic problems that make it difficult to walk. There are other ways we can help you exercise (ex. Bike).

### **»»» INCREASING ACTIVITY**

If you find any exercise session to be difficult, repeat that session until it feels easier. For a more advanced walking program do all of your walking at once instead of 2-3 times a day. The Cardiac Rehab program will help you advance your exercise further.

### **»»» WARMING UP AND COOLING DOWN**

The first 3 to 5 minutes of your walking session should be at a slower pace. Ease into your faster pace.

### **»»» START SMALL**

Don't be surprised if you can't walk far or for very long. Don't get discouraged. It is better to start slowly. If you can only walk a few minutes, then walk for just those few minutes. Sometimes stopping and taking a break for a few minutes can help. Start by walking around your house or yard. Move up to walking up and down your street or at a store or a mall.

### **»»» HOW TO KNOW WHEN YOU ARE DOING TOO MUCH?**

As you exercise, try to be aware of how you feel. Signs that you are doing too much include:

- ♥ Dizziness or lightheadedness
- ♥ -Nausea and/or vomiting
- ♥ -Breaking out in a cold sweat
- ♥ -Shortness of breath that makes it difficult to hold a conversation
- ♥ -Feeling extremely exhausted or unusually fatigued
- ♥ -Feeling that your heart is suddenly racing or pounding
- ♥ -Feeling pain or pressure in your chest, teeth, arm, jaw, neck, or



## **EXERCISE FOR YOUR HEART**

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### **»»» STRETCHES TO INCREASE FLEXIBILITY**

#### **Ankle Pumps**

Sit or lie down. Point toes up, keeping both heels on the floor. Then press toes to the floor while raising your heels. Repeat 5 times.

#### **Knee Extension**

Straighten one leg and then lower slowly. Do the same with the other leg. Repeat 5 times.



## **EXERCISE FOR YOUR HEART**

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To decrease stiffness and improve overall well being (or if you cannot walk) follow the exercises on these two pages.

### **Shoulder Shrugs**

Raise shoulders in an exaggerated manner, then drop them down.

Repeat 5 times.

### **Shoulder Blade Pinch**

Pull arms back, pinching shoulder blades together. Hold 5 seconds. Then relax.

Repeat 5 times.



## **EXERCISE FOR YOUR HEART**

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### **Marching**

Bring one knee up toward the chest, then lower it slowly.  
Repeat with the other leg.

Repeat 5 times with each leg.

### **Quad Sets**

Lie in bed with one leg straight. Tighten the thigh muscles of that leg while trying to push your knee toward the floor.

Repeat 5 times with each leg.



## SEX

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### »»» SEX



What about sex? This is a question on the minds of many people recovering from heart disease and their mates.

Let's start with a few reminders:

- Avoid sex for 7 days after a heart catheterization or heart attack.
- If you had open heart surgery with an incision down the middle of your chest, you can resume sex when you feel ready. You should not use your arms to support your body weight for at least 6 to 8 weeks.

Guidelines for heart-safe sex:

- Don't have sex in a place that is very hot or cold, or after eating or drinking a lot.
- After a meal, wait at least 90 minutes before having sex.
- Make plans. If you're thinking about making love, wait until you and your partner are both relaxed.
- The more comfortable you are with a lover, the more likely it is that your body will respond.
- Rest before and after you make love.
- Do not try to have sex when you are upset.



## SEX

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- Use positions that are comfortable for both you and your partner.
- To prevent shortness of breath, try lying side by side and facing each other during sex.
- If you take Viagra<sup>®</sup>, please talk with your doctor. Viagra<sup>®</sup> and nitroglycerin may not work well together.
- **Never take ephedrine or drugs like ephedra sinica, sida cardifolia or epitonin, unless you have discussed it with your doctor.**
- Do **not** stop taking **any** heart medicine because of sexual side effects. Instead, talk to your doctor.
- If you begin to have chest pain during sex, stop what you are doing. Rest. Take nitroglycerin if your doctor ordered it. If chest pain continues, call your doctor. Even if chest pain passes, tell your doctor what happened.

Remember: the better shape you are in - physically, emotionally, and in your relationship - the more likely it will be that sex will still be a safe and fun part of your life.

This section on sex was adapted with permission from the book *Thriving With Heart Disease: A Unique Program for You and Your Family/Live Happier, Healthier, Longer* by Wayne M. Sotile, PhD.

For more information, try [www.thrivingwithheartdisease.com](http://www.thrivingwithheartdisease.com)



## **CARDIAC REHABILITATION**

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Cardiac Rehab is a medically directed comprehensive exercise, education, and support program for you as you recover from and live with heart disease. It is designed to help you recover quickly, improve physical functioning, mental functioning, and reduce the risk of another cardiac event.

### **⇒ How will cardiac rehab help?**

A team of clinical exercise specialists, registered nurses, and nutritionist will show you how you can successfully manage a heart healthy lifestyle.

### **⇒ The goals of Cardiac Rehab are to:**

- ♥ -Increase your understanding about your condition and treatment
- ♥ -Help you make the right lifestyle changes to decrease your risk of future heart problems
- ♥ -Increase your ability to perform your job and your daily or recreational activities
- ♥ -Provide you and your family with the support and motivation you need to make important lifestyle changes.

### **⇒ What does the program include?**

You will participate in medically supervised exercise sessions, educational seminars, and dietary counseling. Programs also offer tobacco cessation counseling, diabetes guidance, medication management, and social support.

Exercise sessions are tailored to meet your needs and abilities. Each session is individualized to build your endurance and strength. During each exercise session, the staff will monitor your heart rate and rhythm, blood pressure, oxygen levels, and other vital signs as needed. Cardiac Rehab is for all ability levels, whether you are a seasoned athlete or exercising for the first time. Cardiac Rehab will help guide you to reach your goals.



## **CARDIAC REHABILITATION**

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### **⇒ When do I get started?**

Depending on your recovery, Cardiac rehab can start 2 weeks after your cardiac procedure. You should be contacted at home shortly after discharge to schedule an appointment.

### **⇒ How many times a week will I attend Cardiac rehab?**

Most patients attend 3 times a week for 12 weeks or 36 sessions, however, programs can be individualized to meet your needs and goals. You should incorporate exercise into your routine on the other days of the week. Your Cardiac Rehab staff can give you guidance on exercising outside of the program.

### **⇒ How long does each exercise session last?**

Most sessions will last about 1 hour. There may be some days when educational classes would require you to stay longer.

### **⇒ What is required to enter the program?**

A signed referral from your physician and an authorization from your insurance company are required. The Cardiac Rehab staff will take care of obtaining this.

### **⇒ What is the cost of the program?**

Most insurance carriers cover outpatient Cardiac Rehab. The Cardiac Rehab staff will be able to help you determine your coverage prior to starting you in the program. Some programs may have scholarship support that can be provided to qualifying participants based on financial needs and availability of funds.

**WFBH Cardiac Rehab 336-713-8855**



## CONGESTIVE HEART FAILURE (CHF)

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Congestive heart failure (CHF) is a chronic disease. CHF happens when the pumping action of the heart becomes weak. This could decrease blood flow to the rest of your body. When the heart cannot pump your blood well, fluid may collect or “pool” in your lungs, making you short of breath. Or fluid may collect in your legs, ankles, or abdomen, causing them to swell.

### ⇒ Two types of Congestive Heart Failure

- ♥ **Diastolic Heart failure**—occurs when the lower left chamber (left ventricle) is not able to fill properly with blood during the *diastolic* (filling) phase. The amount of blood pumped out to the body is less than normal.
- ♥ **Systolic Heart failure**— occurs when the heart is weak and enlarged. The muscle of the left ventricle loses some of its ability to contract. When this happens the heart may not have the muscle power to pump the amount of oxygenated and nutrient-filled blood the body needs.

### ⇒ CHF may be caused by:

- ♥ Coronary artery disease: When the arteries that feed the heart become narrow, less blood gets to the heart muscle itself.
- ♥ Cardiomyopathy:(large heart muscle) The heart muscle is not able to pump blood well.
- ♥ Hypertension (high blood pressure): The heart muscle may become weak when blood pressure stays high for a long time.
- ♥ Heart valve disease: If the valve does not open or close well, blood does not flow well through the heart. This causes the heart to work harder.



## CONGESTIVE HEART FAILURE

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- ♥ Heart attack: An artery that feeds the heart becomes blocked so less blood and oxygen can get to a part of the heart muscle. The damaged part of the heart does not work well.
- ♥ Virus: As the body fight some viruses, it can also attach the heart and make the heart muscle weak.
- ♥ Alcoholism: Drinking too much alcohol can weaken the heart muscle

### »»» **DIAGNOSIS OF HEART FAILURE**

A health history, physical exam, chest x-ray, and EKG help us diagnose heart failure. Patients also may have an echocardiogram to measure the pumping action (called ejection fraction) of the heart.

Ejection fraction (EF) is the percentage of blood that is pumped from your heart with each heart beat. A normal EF is around 55 to 65 percent.

My EF is \_\_\_\_\_

**Your health care provider will want to know:**

- ♥ Your health history such as childhood illnesses, past hospital stays, and surgeries
- ♥ History about your heart such as a heart murmur or heart attack
- ♥ Symptoms you have had such as shortness of breath, swelling, coughing, and not being able breathe comfortably while lying flat.



## **CONGESTIVE HEART FAILURE**

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### **»»» SYMPTOMS OF CONGESTIVE HEART FAILURE**

As congestive heart failure develops, you may notice some or all of these symptoms:

- ♥ Shortness of breath while doing normal activities
- ♥ Trouble breathing while lying flat
- ♥ Swelling in your ankles, legs, belly, or all three
- ♥ Wake up feeling short of breath
- ♥ Feel tired and weak
- ♥ Frequent dry, hacking cough, often when lying down
- ♥ Nausea when your belly is swollen
- ♥ Sudden weight gain such as more than 3 pounds in a day or 5 pounds in a week
- ♥ Passing out
- ♥ Irregular heart beat



# CONGESTIVE HEART FAILURE

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## Living with a Chronic Condition HF Stoplight-

### Heart Health Daily Checklist

Every Day—Daily Care Reminders:

**Weigh yourself first thing in the morning: same time, same amount of clothing, write it down and compare to baseline**

- Take medicines as prescribed
- Check for swelling in your feet, ankles, legs and stomach
- Eat low-salt foods
- Follow activity instructions as directed by your doctor

**Green Light**—Your symptoms are under control if:

- You have no shortness of breath or chest pain
- Your weight is stable, within 1 to 2 pounds of baseline weight\_\_\_\_\_
- You have no swelling in your feet, ankles, legs or stomach

**Yellow Light**—Call your doctor's office if:\_\_\_\_\_

- You've gained more than 3 pounds in one day or 5 pounds in one week
- You have more swelling than usual
- You have shortness of breath with usual activity
- You're feeling more tired than usual, lack energy or have dizziness
- You've got a dry, hacking cough
- You find it harder to breath when lying down

**Red Light**—Call 911

- You're struggling to breathe while sitting still
- You have chest pain
- You're confused or unable to think clearly



## CONGESTIVE HEART FAILURE

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### »»» HEART FAILURE SELF CARE

The changes listed below can reduce the symptoms of heart failure and improve your quality of life.

- ♥ Know your EF
- ♥ Weigh Daily and know your baseline weight
- ♥ Lose weight if you are overweight.
- ♥ Monitor for HF symptoms daily
- ♥ Conserve your strength/energy– Learn to pace yourself. If you are having a good day, don't do too much
- ♥ Take your medications as directed
- ♥ Follow 2000mg sodium diet
- ♥ Follow your Fluid Restriction
- ♥ Do not smoke or chew tobacco.
- ♥ Stop drinking or reduce the amount of beer, wine, and alcohol.
- ♥ Do not use street drugs.
- ♥ Avoid people who have colds.
- ♥ Get a flu shot every year
- ♥ Ask your physician about a pneumococcal vaccine



## CONGESTIVE HEART FAILURE

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### »»» TREATMENT FOR CONGESTIVE HEART FAILURE

Congestive heart failure is treated by finding and correcting the cause of your heart failure. Treatment may include medicines, diet, lifestyle changes, ICD placement and exercise.

#### Medications

Taking medicine every day is vital to treating heart failure. Your doctor may prescribe one or two medicines at first and then add others later. It may take a few weeks to get you on the proper drug treatment. Be patient as you and your doctor work together to find the best drug treatment.

You must take your medicine every day as prescribed to get the most benefit. **DO NOT** double the dose if you miss a dose. Tell your doctor if you think you have side effects. Do not stop taking the medicine before talking with your doctor.



It is good idea for people with heart failure to get a flu shot every year and a pneumonia vaccine once. A second pneumonia vaccine may be needed under certain circumstances after 5 years.



## CONGESTIVE HEART FAILURE

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There are a few medicines that are prescribed more often for patients with heart failure. They are:

- ♥ **ACE Inhibitors/ ARBs:** Lowers blood pressure and slows progress of heart failure. (See page 163 and 164)
  
- ♥ **Beta Blockers:** Controls heart rate, lowers blood pressure, slows progress of heart failure. (see page 170)
  
- ♥ **Diuretics** (water pills): Removes the body's excess fluid  
(see page 173)
  
- ♥ **Aldosterone Blockers:** Slows progress of heart failure.

Examples include:

- Spironolactone (Aldactone<sup>®</sup>)
  - Eplerenone (Inspra<sup>®</sup>)
- 
- ♥ **Digitalis** (Digoxin<sup>®</sup>): Strengthens pumping action of the heart. (see page 172)

Always bring your current list medicines and your weight log with you when you visit your doctor. Tell your doctor or nurse about any side effects you think you may be having. See the section on medicines in this book.



## **CONGESTIVE HEART FAILURE**

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### **Nutrition**

Part of your treatment plan includes a low sodium (salt) diet. Salt holds fluid in the body. **This can cause your ankles, legs, and/or belly to swell. Extra fluid also makes it harder to breathe.**

Goal 2000mg of sodium/salt a day

Food labels to read 250mg of less per serving

No Table Salt or Sea Salt

See pages 131-133



## CONGESTIVE HEART FAILURE

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### »»» Energy Conservation

- ♥ Plan for adequate sleep and rest periods
- ♥ Group similar activities such as carrying items upstairs
- ♥ Do NOT try to do too much at one time. Schedule things at varying times throughout the day, so you can alternate periods of activity and rest
- ♥ Ask your family and friend for help
- ♥ Sit while you are taking a shower or doing grooming activities.
- ♥ If your doctor has prescribed oxygen to be use during exercise, then use it when you shower
- ♥ Wear clothes with zippers and front openings to decrease the effort of dressing.
- ♥ Use electric toothbrush and /or electric razor
- ♥ Eat slowly and completely chew your food
- ♥ Avoid gas forming foods that bloat your abdomen and make it more difficult to breathe– Examples: Cabbage, broccoli, beans, Brussel sprouts
- ♥ Minimize bending by bringing your foot to the opposite knee, use a step stool or use long-handled equipment to put on pants, shoes and socks
- ♥ Avoid restrictive clothes such as belts, ties, tight socks
- ♥ Use a reacher to pick up objects off the ground



## CONGESTIVE HEART FAILURE

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### »»» HOW TO MEASURE FLUID INTAKE

People with CHF need to limit the amount of fluid they drink. We suggest that CHF patients follow a fluid restriction.

Fluid is anything that is a liquid or turns to a liquid at room temperature.

Tea, Water, Milk, Ice-cream, Jello<sup>®</sup>, Juice, Soda, etc.  
You do need to count Watermelon and Broth soup.

### Measuring Guidelines

Here are some measurements to help guide you as you keep a record of how much you drink:

One cup	= 8 ounces = 240 milliliters (ml) or cc
1/2 cup	= 4 ounces = 120 milliliters (ml) or cc
	1 ounce = 30 milliliters (ml) or cc

(You may hear your health care provider say the letters 'ml' or 'cc'. They are the same measurements)

2 Liters = 2000ml = 8 cups = 64 ounces

1.5 Liters = 1500ml = 6 cups = 48 ounces

1.2 Liters = 1200ml = 5 cups = 40 ounces

**I need to restrict my fluid intake each day to**

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## **CONGESTIVE HEART FAILURE**

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It is important to measure your fluid: drinking over your fluid restriction is more work load on your heart and drinking too little can be hard on your kidneys.

### **Fluid Restriction**

2000ml—64 ounces a day

#### **Sample Day:**

Breakfast: 360 ml—12 ounces

Snack: 240ml—8 ounces

Lunch: 360ml—12 ounces

Snack: 240ml—8 ounces

Supper: 360ml—12 ounces

Snack: 240ml—8 ounces

Total for 24 hours: 2000ml / 64 ounces

### **Fluid Restriction**

1500ml—48 ounces a day

#### **Sample Day:**

Breakfast: 360 ml—12 ounces

Snack: 180ml—6 ounces

Lunch: 360ml—12 ounces

Snack: 120ml—4 ounces

Supper: 360ml—12 ounces

Snack: 120ml—4 ounces

Total for 24 hours: 1500ml / 48 ounces

You can find more information on CHF, as well as charts to record how much you drink at [www.fightheartfailure.com](http://www.fightheartfailure.com).



# CONGESTIVE HEART FAILURE

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## Advanced Heart Failure Therapies

In some cases, advanced therapies for Heart failure may be considered. Some options currently used include:

- ♥ continuous IV medication
- ♥ mechanical devices, such as LVAD®,
- ♥ Heart transplant surgery

## Palliative Care

Palliative care is widely recognized as promoting best outcomes for patients and their families living with heart failure (HF). Individuals with HF suffer with physical, social and emotional distress, and their families experience many challenges.

### Key principles:

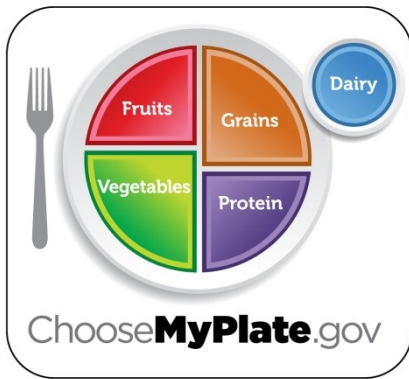
- ♥ Interventions appropriate to the diverse physical, cultural, social and emotional needs of the individual and their family.
- ♥ A focus on symptom management to decrease suffering and promote quality of life.
- ♥ Recognizing the preferences of the patient and family at the end of life.
- ♥ Planning for goals of care at all stages of the illness.



## EATING HEART HEALTHY

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Eating a heart healthy diet is good for the entire family, even for healthy children over the age of two. Here are some tips to make your diet heart healthy:



(<http://www.choosemyplate.gov/print-materials-ordering/graphic-resources.html>)

⇒ **Make half your plate veggies and fruits**

Vegetables and fruits are full of nutrients and may help to promote good health.

⇒ **Add lean protein**

Choose protein foods, such as lean beef and pork, or chicken, turkey, beans, or tofu. Twice a week, make seafood the protein on your plate.

⇒ **Include whole grains**

Aim to make at least half your grains whole grains.

⇒ **Don't forget the dairy**

Pair your meal with a cup of fat-free or low-fat milk. They provide the same amount of calcium and other essential nutrients as whole milk, but less fat and calories. Don't drink milk? Try soy milk as your beverage or include fat-free or low-fat yogurt in your meal.



## EATING HEART HEALTHY

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### ⇒ **Avoid extra fat**

Using heavy gravies or sauces will add fat and calories to otherwise healthy choices. For example, steamed broccoli is great, but avoid topping it with cheese sauce. Try other options, like a sprinkling of low-fat parmesan cheese or a squeeze of lemon.

### **Satisfy your sweet tooth in a healthy way**

Indulge in a naturally sweet dessert dish—fruit! Serve a fresh fruit cocktail or a fruit parfait made with yogurt. For a hot dessert, bake apples and top with cinnamon.

### ⇒ **Achieve a healthy weight**

If you need to lose weight, reduce your intake by 500 calories per day to lose 1 pound per week.

Do 60 minutes of moderate activity each day.

Do 90 minutes of moderate activity (if you are overweight) each day.

Talk to your doctor before starting an exercise program  
Follow MyPlate guidelines daily by choosing a variety of foods from each group.

Control portions. Do not overeat. Moderation is key! usually includes a few different foods. To know how much sodium you're getting, you have to do a little math. You may want to keep a calculator handy!



## EATING HEART HEALTHY

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### ⇒ Salt

Sodium, a part of salt, causes the body to hold fluid. This may increase blood pressure, shortness of breath, and leg swelling

Limit sodium to less than 2300 mg per day.

Includes added salt and sodium naturally found in foods.

1 teaspoon salt = approximately 2300 mg sodium.

Your doctor may recommend less sodium.

Ask your doctor before using a salt substitute with potassium chloride.

**Avoid high sodium foods.** Some high sodium foods are: most canned foods, hotdogs, sausage, pepperoni, ham, deli meats, fried foods, frozen meals, Ramen Noodles, Hot Pockets<sup>®</sup>, cheese, dressing, sauces, pickles and gravies

### ⇒ Instead of seasoning with salt try:

Mrs. Dash<sup>®</sup>

Onions, peppers, mushrooms

Vinegar, lemon juice, lime juice

Pepper, onion powder, garlic powder

Wine (alcohol evaporates during cooking)

Fresh or dried herbs and spices

### Sodium by the Numbers

Food labels tell you how much sodium is in a serving. But a meal usually includes a few different foods. To know how much sodium you're getting, you have to do a little math.

You may want to keep a calculator handy!

When you add up the parts of your meal, you will see where you can cut back. How does this meal compare to your daily



## EATING HEART HEALTHY

### Sodium by the Numbers

Food labels tell you how much sodium is in a serving. But a meal usually includes a few different foods. To know how much sodium you're getting, you have to do a little math. (you may want to keep a calculator handy!)

Loaded chicken sandwich:

2 slices (3 oz) chicken breast, skinless	65 mg
2 slices whole-wheat bread	299 mg
<i>1 slice (3/4 oz) American cheese</i>	<i>328 mg</i>
1 large lettuce leaf	1 mg
2 slices tomato	4 mg
1 Tbsp mayonnaise, low fat	90 mg
<i>1 dill pickle (medium size)</i>	<i>930 mg</i>
1 cup apple juice	7 mg
<b>TOTAL</b>	<b>1,724 mg</b>

What you can subtract?

2 slices (3 oz) chicken breast, skinless	65 mg
2 slices whole-wheat bread	299 mg
<i>1 slice (3/4 oz) Swiss cheese</i>	<i>54 mg</i>
1 large lettuce leaf	1 mg
2 slices tomato	4 mg
1 Tbsp mayonnaise, low fat	90 mg
<i>No pickle</i>	<i>0 mg</i>
1 cup apple juice	7 mg
<b>TOTAL</b>	<b>520 mg</b>

When you add up the parts of your meal, you will see where you can cut back. How does this meal compare to your daily goal?



## **EATING HEART HEALTHY**

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### **⇒ Fluid**

Drink 2 to 3 liters per day (which is 8-12 cups) unless you are on fluid restrictions.

The best drink choice is water. Other options are unsweet decaf iced tea, unsweetened fruit juice, diet soda and sugar-free fruit flavored drinks such as Crystal Light<sup>®</sup>.

Do not drink alcohol, unless your doctor approves.

### **⇒ Fruits and Vegetables**

Eat a variety of fresh or frozen fruits and vegetables.

Make half your plate fruit and vegetables.

Fruits and vegetables are the best source of vitamins, minerals, phytochemicals, and antioxidants!

Buy packages that have no salt added or are low in sodium. If you must use regular canned vegetables, drain and thoroughly rinse them under water.

Eat more raw fruits and vegetables to increase fiber.

Buy fruits packed in juice instead of heavy syrup.

If buying frozen or dried fruits, avoid products with added sugar.

Choose 100 percent fruit juice instead of fruit drinks or punches and limit intakes at meals.

### **⇒ Breads, Cereals and Grains**

Choose whole grain products.

Choose breads and cereals with 3 or more grams of fiber per serving.

Choose products that are unsalted and lower in fat

Good choices include: brown rice, whole grain pasta, couscous, quinoa, barley

Avoid fried foods and products with hydrogenated oil/trans fat.

Avoid products with visible salt added to the top.

Nuts and seeds, especially almonds, walnuts, pecans, soy nuts and peanuts contain healthy oils which may improve HDL and LDL levels.



## EATING HEART HEALTHY

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### ⇒ Legumes

Dried beans are high in fiber and help to lower cholesterol. Do not add fat (such as fat back, salt pork, lard, oil or shortening) to beans. Season bean with spices, onions or low sodium broth.

### ⇒ Fiber

Men

Less than 50 years of age need at least 38 grams each day.  
Over 50 years of age needs at least 30 grams each day.

Women

Less than 50 years of age need at least 25 grams each day.  
Over 50 years of age need at least 21 grams each day.

Examples of fiber: whole grain breads and cereals (look for “whole” in first ingredient), oats, wheat, bran, fruits and vegetables, dried beans

### ⇒ Low Fat dairy

Choose low-fat (1 percent) or non-fat (skim) milk instead of whole milk or reduced fat (2 percent) milk.

Select cheese with 5 grams or less fat per ounce and limit the use of process cheese since it is high in sodium.

If using cream cheese or sour cream, look for low-fat or non-fat options.

### ⇒ Protein

It is important to eat protein in moderation. One serving of meat is 3 ounces, or the about the size of a deck of cards.





## EATING HEART HEALTHY

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Limit fatty meats, red meats, beef, pork, lamb, and veal  
Avoid organ meats such as liver and kidney  
Choose fish 2-3 times a week (not fried)  
You can meet your protein needs WITHOUT eating meat.  
Try beans, tofu, nuts and nut butters.  
Choose healthier portions of poultry, beef and pork

Use low fat cooking methods: baking, broiling, roasting,  
grilling, poaching, stewing (skim off fat)  
Avoid frying!!!

### ⇒ **Fats and Oils**

#### Saturated Fats

Avoid them. They increase LDL cholesterol (“bad” cholesterol).  
Found mostly in animal products.  
Solid at room temperature.  
Sources include: lard, bacon drippings, butter, coconut oil, palm kernel oils, fatback.

#### Hydrogenated or Trans Fatty Acids

Make this zero! They increase LDL cholesterol and decrease HDL (the “good” cholesterol).  
Artificially processed so that they are solid at room temperature.  
Found in some margarines, crackers, cookies, and snack foods  
Written on labels as “hydrogenated oils” or “partially hydrogenated oil”

#### Polyunsaturated Fatty Acids

Decrease LDL but also decrease HDL cholesterol.  
Contain Omega 3 and Omega 6 fatty acids.  
Sources include vegetable oils.



## **EATING HEART HEALTHY**

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### Monounsaturated Fatty Acids

Increase HDL and decrease LDL cholesterol.

Sources include canola oil, olive oil, peanut oil, avocados and nuts.

### Omega 6 Fatty Acids

Sources are corn, safflower, sunflower, soybean and sesame oils.

### Omega 3 Fatty Acids

Decreases LDL cholesterol and triglycerides.

Sources include salmon, trout, tuna, sardines, mackerel (aim to eat fatty fish 2-3 times per week), flaxseed oil, legumes (beans and peas), walnuts and soy products.

### Triglycerides

Fats found in foods as well as in your body.

Calories not used for energy become triglycerides and are stored as fat cells.

High Triglycerides can increase risk of heart disease.

To decrease Triglycerides, limit or do not eat sweets, avoid trans fats, decrease saturated fats and fried foods, and choose foods rich in Omega 3 fatty acids.

### Cholesterol

There is no proof that cholesterol in foods affects the cholesterol in your body. It is more important to choose “healthy” fats (monounsaturated, polyunsaturated) and avoid “unhealthy” fats (saturated, trans fat)

### Putting it all together in the kitchen and at the table

Use olive, canola or peanut oil instead of butter and shortening. Use nonstick cooking spray.

Limit added fats to 1-2 Tablespoons per day.



## EATING HEART HEALTHY

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Choose margarines that do not contain hydrogenated oils:  
Smart Balance®, Benecol®, Take Control®.

Replace regular condiments with low-fat options made with vegetables oils when possible: mayonnaise made with olive oil, low-fat cream cheese, oil and vinegar dressing, low fat Greek yogurt.

Avoid lard, fat back, shortening, bacon drippings, butter, gravies and rich sauces.

### ⇒ **Homocysteine**

Found in our blood.

High levels are related to higher risk of heart disease, strokes, and clots in legs.

May cause atherosclerosis (fatty deposits in vessels) by damaging blood vessels and promoting blood clots.

Folic acid, B-6 and B-12 may help lower homocysteine levels because they help break down homocysteine.

It is best to eat a balanced diet than take folic acid pills.

Eat a balanced diet rich in fruits, vegetables, whole grains and low fat dairy products to keep homocysteine levels down.

### ⇒ **Sweets**

Rarely eat sweets. They should be eaten only as a small treat.

Avoid rich pies, cakes, cookies, pastries, sugar sweet beverages such as soda.

Limit sugar, jelly, jam and honey to 1-2 Tablespoons per day.

Better options are:

- Yogurt, pudding made with skim milk

- Angel food cake

- Jell-O, 1 oz solid dark chocolate candy

- Fruit, sherbet

- Animal crackers, ginger snaps, graham crackers, reduced fat vanilla wafers

- Unbuttered, unsalted popcorn



## EATING HEART HEALTHY

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### Tips for Eating Away From Home

Packing a meal is best, but when you must eat at a restaurant, follow these guidelines:

#### ⇒ **Brown Bagging**

- ♥ Try healthier breads: whole grain bread or rolls, pumpernickel, rye, whole wheat, English muffins, or bagels.
- ♥ Try a different sandwich filling. Use tuna or salmon (water packed), peanut butter and jelly, low-fat cheese, chicken, turkey, lean roast beef, or pork loin. Make egg salad with 2 boiled egg whites plus 1/2 yolk, celery, and fat-free mayo and/or mustard. Try skim cottage cheese mixed with herbs, fruit, and vegetables instead of other fillings. Try cooked beans on a taco or quesadilla (whole wheat tortilla).
- ♥ Add veggies and fruits to your lunch box. Try a tossed salad, raw veggie sticks, fresh or canned fruit. Try homemade pasta salad with chicken or fish and vegetables.
- ♥ Try a homemade soup.
- ♥ Top the sandwich with fat-free mayo, mustard, lettuce, tomato, peppers, onions, cucumbers. Limit ketchup to 1 Tablespoon due to the salt.
- ♥ Treats: treat yourself with unsalted pretzels, unsalted air popped popcorn, ginger snaps, graham crackers, fig bars, vanilla wafers, low-fat microwave popcorn (mini bag), baked lower sodium chips, unsalted nuts, unsweetened dry cereal, fat-free pudding or yogurt, oat bran or wheat bran muffins.
- ♥ Drink water, diet soda, unsweetened fruit juice, skim or 1% milk, decaffeinated iced tea, or sugar free fruit flavored drinks such as Crystal Light ®.



## EATING HEART HEALTHY

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### Reading Labels

Reading food labels can become a natural skill for you. Although it may take a little longer to shop at first, the benefits will be worth the time. For most foods, the ingredients must be listed on the label and are listed in order from the most to least.

1. Start with the serving information at the top of the label. If you eat twice the serving size, you eat twice the listed calories, fat, sodium etc.
2. Check the types of fat. Limit saturated fat. Avoid trans fat (make this zero!). Polyunsaturated and monounsaturated are better fat choices
3. Check the sodium. The lower the better.
4. Look for fiber and avoid sugar. Soluble and insoluble fiber are beneficial. Keep the sugar as low as possible.
5. Count the grams (g) and milligrams (mg) on the left side, not the percent values on the right side.

### A Note for Patients with Diabetes:

Read labels closely. When counting carbs, count total grams of carbohydrates.

1 carbohydrate serving = 15 grams of total carbohydrate

Do not skip meals. Eat a variety of foods from all food groups. Eat about the same amount of carbohydrate foods at each meal. These include bread, cereal, fruit, milk, starchy vegetables, pasta or rice.

Get regular exercise.

If you take insulin, schedule your meals, exercise, and insulin injections about the same time every day. Ask your nurse for more information. *Ask your nurse for a free copy of the book: In Control: A Survival Guide for Diabetes Care.*



# EATING HEART HEALTHY

Nutrition Facts			
Serving Size 2/3 cup (55g)			
Servings Per Container About 8			
Amount Per Serving			
Calories 230		Calories from Fat 40	
		% Daily Value*	
Total Fat 8g		12%	
Saturated Fat 1g		5%	
Trans Fat 0g			
Cholesterol 0mg		0%	
Sodium 160mg		7%	
Total Carbohydrate 37g		12%	
Dietary Fiber 4g		16%	
Sugars 1g			
Protein 3g			
Vitamin A		10%	
Vitamin C		8%	
Calcium		20%	
Iron		45%	
* Percent Daily Values are based on a 2,000 calorie diet. Your daily value may be higher or lower depending on your calorie needs.			
	Calories:	2,000	2,500
Total Fat	Less than	65g	80g
Sat Fat	Less than	20g	25g
Cholesterol	Less than	300mg	300mg
Sodium	Less than	2,400mg	2,400mg
Total Carbohydrate		300g	375g
Dietary Fiber		25g	30g



## **EATING HEART HEALTHY**

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Ask your doctor about a referral to our Diabetes Care Center here at Wake Forest Baptist Health

The Joslin Diabetes Center: to make an appointment,  
336-716-WAKE or 336-716-9253 or visit [http://  
www.wakehealth.edu/diabetes/](http://www.wakehealth.edu/diabetes/)

### **Helpful Websites/Books**

- ♥ American Heart Association,  
[www.americanheart.org](http://www.americanheart.org)
- ♥ American Stroke Association,  
[www.strokeassociation.org](http://www.strokeassociation.org)
- ♥ American Diabetes Association, [www.diabetes.org](http://www.diabetes.org)
- ♥ Delicious Decisions (recipes),  
[www.deliciousdecisions.org](http://www.deliciousdecisions.org).
- ♥ Make your own grocery list, [http://  
checkmark.heart.org](http://checkmark.heart.org)
- ♥ American Heart Association Cookbook, 7th edition,  
Mary Winston, Ed.D., editor
- ♥ American Heart Association Low- Fat Low-  
Cholesterol Cookbook, Scott Grundy, M.D., Ph.D.,  
Editor.
- ♥ Cooking Light: The Magazine of Food and Fitness,  
(Published by Southern Living, Inc.) Call 1-800-366-  
0125.



## EATING HEART HEALTHY

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### ⇒ Potassium Rich Foods

Your doctor might tell you to include more potassium rich foods in your diet.

Each serving contains about 200 to 400 mg of potassium.

#### Fruits

- ♥ Apricots, 8 halves
- ♥ Banana, 1 small
- ♥ Figs, 3 medium
- ♥ Mango, 1 raw
- ♥ Orange, 1 large
- ♥ Plantain, 1/2 cup sliced
- ♥ Prunes, 6 dried
- ♥ Avocado, 1/4
- ♥ Cantaloupe, 3/4 cup
- ♥ Honeydew melon, 1/4 small
- ♥ Melon balls, 3/4 cup
- ♥ Papaya, 1/2 medium
- ♥ Plums, 3 medium
- ♥ Watermelon, 2 cups

#### Juices

- ♥ Orange juice, 3/4 cup
- ♥ Tangerine juice, 1 cup
- ♥ Prune juice, 1/2 cup
- ♥ Tomato juice, 3/4 cup

#### Dairy Products

- ♥ Buttermilk, 1 cup
- ♥ Ice cream, 1 cup
- ♥ Milk-low fat, 1 cup
- ♥ Yogurt, 1 cup

#### Vegetables

- ♥ Tomato, 1 large
- ♥ Broccoli, 1/2 cup
- ♥ Collard greens, 3/4 cup
- ♥ Okra, 1/2 cup
- ♥ Spinach, cooked, 3/4 cup
- ♥ Pumpkin, 1/2 cup
- ♥ Squash, winter, 1/2 cup
- ♥ Sweet potato, 1 medium
- ♥ Dried beans, 1 cup cooked
- ♥ Brussels sprouts, 1 cup
- ♥ Lima beans, 1/2 cup
- ♥ Mushrooms cooked, 3/4 cup
- ♥ Peas, cooked, 1/2 cup
- ♥ Soybeans, boiled, 1/2 cup
- ♥ Potato, 1 small baked
- ♥ Boiled potato, 1/2 cup



## EATING HEART HEALTHY

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### Magnesium Rich Foods

How much magnesium do you need every day?

Males 19-30 years = 400 milligrams each day

31+ years = 420 milligrams each day

Females 19-30 years = 310 milligrams each day

31+ years = 320 milligrams each day

Your doctor may tell you to add foods containing magnesium to your diet each day. Good sources include:

- |                                |                                     |
|--------------------------------|-------------------------------------|
| ♥ Almonds, 2 ounces            | ♥ Avocado, 1 medium                 |
| ♥ Baked beans, 1/2 cup         | ♥ Banana, 1 medium                  |
| ♥ Baked potato, 1 medium       | ♥ Bran flakes, 3/4 cup              |
| ♥ Cashews, 1 ounce             | ♥ Chocolate bar, 1.5 ounces         |
| ♥ Cocoa powder, 1 Tablespoon   | ♥ Kiwi, 1 medium                    |
| ♥ Lentils, cooked, 1/2 cup     | ♥ Mixed nuts, 1 ounce               |
| ♥ Oatmeal, 1 cup               | ♥ Peanuts, 1 ounce                  |
| ♥ Peanut butter, 2 Tablespoons | ♥ Pumpkin seeds, 1 ounce            |
| ♥ Raisins, 3 ounces            | ♥ Shrimp: 3 ounces or 15 large      |
| ♥ Soybeans, cooked, 1/2 cup    | ♥ Spinach, cooked, 1/2 cup          |
| ♥ Spinach, raw, 1 cup          | ♥ Tahini, 2 Tablespoons             |
| ♥ Whole wheat bread, 1 slice   | ♥ 100% wheat bran, 1/4 cup          |
| ♥ Wheat germ, toasted, 1/4 cup | ♥ Shredded Wheat cereal, 2 biscuits |



## EATING HEART HEALTHY

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### ⇒ Supplements

Some supplements may benefit cholesterol levels and heart disease risk such as garlic, fish oil, coenzyme Q10, B12, B12, folate, flaxseed oil, grape seed extract, etc. Talk to your doctor before you take supplements to avoid medication interactions and assure a safe dose.

Ask your doctor about taking a multi-vitamin or fish oil supplements- just for safety!

### ⇒ Cooking Light

Look closely at your recipes and their ingredients:

Fat and sugar can be reduced by as much as  $\frac{1}{4}$  to 1.2 in recipes. Often it is safe to decrease an amount to the next level on a measuring cup.

Example: If a recipe call for 1 cup of sugar, reduce it to  $\frac{3}{4}$  cup.

Milk: use fat-free or low-fat milk in place of whole milk.

Salt: When possible, try to avoid adding salt in recipes.

Remember foods naturally have sodium and 1 tsp of table salt = 2300 mg of added sodium, more than the daily allowance!

Soups, stews and casseroles: Leave out the fat and salt. Use more vegetables and less meat to cut down on fat and cholesterol.

Baked goods: Fat can be reduced by  $\frac{1}{2}$  in many recipes, however baked goods ma need extra liquid to make a proper batter. For example, if a recipe calls for  $\frac{1}{2}$  cup oil and 1 cup milk, reduce the oil to  $\frac{1}{4}$

cup and increase the milk to 1-  $\frac{1}{4}$  cups.

Applesauce can be used in place of oil.

Use canola oil (not butter) in cakes if you need to cream the fat and sugar.

Salt can be reduced by  $\frac{1}{4}$  to  $\frac{1}{2}$  in non-yeast baking breads



## EATING HEART HEALTHY

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### ⇒ Poultry, fish and meat:

Remove all the fat and skin.

Bake, stew, boil, microwave, roast, poach and grill meats. Use a rack under meat if broiling or roasting so fat will drip away.

Lowering oven temperatures to 325 to 350 degrees will allow more fat to drain out of the meat. Cooking time will likely need to be adjusted.

Sear chicken, pork chops, or lean beef in a small amount of low-fat cooking spray and finish cooking in the oven. This seals in the moisture.

Poultry can be baked in covered cookware with small amount of liquid which will add moisture and prevent dryness.

Instead of fat, baste foods with lemon, lime, low sodium tomato juice or broth, wine.

Sauté vegetables and meats with non-stick canola spray or a small amount of broth or wine.

### ⇒ Gravies or sauces:

After roasting meat or poultry, chill the drippings in the refrigerator. Fat will rise to the top and harden. Remove the fat or pour the drippings in a fat separator. Thicken the broth with flour or cornstarch (instead of fat). Add a little skim milk or low sodium broth to flavor.

### ⇒ Salad dressing:

Mix powdered salad dressing mixes with low-fat yogurt, low-fat cottage cheese, or low sodium tomato juice. Although these are healthier options, still use in moderation due to sodium.

Consider making vinegar and oil dressing without added salt.

If the recipe calls for mayonnaise, use half mayonnaise made with vegetable oil and half nonfat plain yogurt.

If the recipe calls for sour cream, use half low-fat or fat-free sour cream and half low-fat or fat-free plain yogurt.



## EATING HEART HEALTHY

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### ⇒ Cooking methods:

Steam foods in a steamer basket over simmering water on the stove or in the microwave to preserve flavor, color, and nutrients. Add herbs to the steaming water or use low sodium broth instead of water to add flavor without fat.

**To season without salt, try these ideas:**

#### Beef

- Hamburger and Steaks (broiled or fried): Top with herb butter flavored with garlic, parsley, thyme, dill, or marjoram and a little lemon juice. OR sprinkle the surface with chopped fresh herbs immediately after removing from the heat.
- Stews or Loaves: Add small quantities of one or more of these: chives, garlic, onion, thyme, parsley, sweet marjoram, summer savory, or chervil.

#### Pork

- Chops: Rub with garlic, marjoram, or lemon juice before cooking.
- Roasts: Try garlic, onion, thyme, parsley, or marjoram.
- Stews: Season with garlic, leek, shallot, onion, chives, parsley, or dill

#### Poultry

- Choose one or more of these: Fresh or dried leaves of celery, basil, marjoram, parsley, rosemary, summer savory, sage, or thyme for the many dishes prepared from chicken, turkey, or other poultry.

#### Fish

- Broiled or Fried: Try lemon, garlic, or dill butter.
- Broiled or Soups and Chowders: Chopped basil leaves or a dash of powdered thyme.



## EATING HEART HEALTHY

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⇒

### ⇒ Eggs

- Deviled, Creamed, or Scrambled: Add finely minced chives or parsley.
- Omelets: Try one or more of these fine herbs – basil, marjoram, rosemary, tarragon, or thyme.
- Finely chopped onion and celery tops are favorites for other egg mixtures.

### ⇒ Vegetables

- Asparagus: season with chives, lemon, caraway, or herb butter.
- Carrots: Try chives, parsley, mint, or chervil.
- Corn: Use chives, parsley, green pepper, onion, or tomato.
- Peas: Use chives, mint, parsley, chervil, or onion.
- Potatoes: Parsley, chives, onion, rosemary, or mace may be added.
- Green Beans: Add onion, chives, scallion, dill, marjoram, rosemary, or lemon.
- Squash: Try ginger, lemon, mace, basil, or chives.
- Tomatoes: Use garlic, onion, parsley, basil, or sage



# EATING HEART HEALTHY

## Cooking Substitutes

CHOOSE...	INSTEAD OF...
Skim or low-fat milk	Whole milk
Low fat cottage cheese	Regular cottage cheese
Part skim ricotta or low-fat cottage cheese	Whole milk ricotta cheese
Evaporated skim milk	Evaporated whole milk, cream, whipped cream
Low-fat yogurt, low-fat sour cream	Sour cream
Neufchatel cheese, light cream cheese, yogurt cheese	Cream cheese
Skimmed or partially skimmed milk cheeses (mozzarella), Swiss	Whole milk cheese
Nonstick vegetable oils spray	Vegetable oil for frying or sautéing
Vegetable oil, margarine	Butter, hydrogenated fat (vegetable shortening)
3 Tablespoons dry cocoa plus 2 teaspoons liquid oil	1 square ounce of semi-sweet baking chocolate
Lemon juice, oil and vinegar dressing, mayonnaise made with olive oil	Creamy salad dressings, regular mayonnaise
Applesauce or pureed prunes	Vegetable oil in baked goods
½ cup whole wheat flour and ½ cup all-purpose flour	1 cup all-purpose flour
Homemade low-fat soups 1 cup white sauce + ¼ cup chopped celery 1 cup white sauce + 1 teaspoon low sodium chicken bouillon powder 1 cup white sauce + ¼ cup canned or fresh mushrooms *White sauce recipe listed in recipe section	Canned soups Cream of celery Cream of chicken Cream of mushroom



## RECIPES

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### Homestyle Biscuits

#### Ingredients

2 cups all purpose flour  
2 teaspoons baking powder  
 $\frac{1}{4}$  teaspoon baking soda  
2 tablespoons sugar  
 $\frac{2}{3}$  cup low-fat (1%) buttermilk  
3 tablespoons + 1 teaspoon vegetable oil

#### Directions

- 1) Preheat oven to 450 degrees Fahrenheit
- 2) In medium bowl, combine flour, baking powder, baking soda, and sugar.
- 3) In small bowl, stir together buttermilk and oil. Pour over flour mixture and stir until well mixed.
- 4) On lightly floured surface, knead dough gently for 10–12 strokes. Roll or pat dough to  $\frac{3}{4}$ -inch thickness. Cut with a 2-inch round biscuit or cookie cutter, dipping cookie cutter in flour between cuts. Transfer biscuits to an ungreased baking sheet.
- 5) Bake for 12 minutes or until golden brown. Serve warm.

**Yield: 15 servings Serving size: 1 biscuit**

Calories 99 Total Fat 3 g Saturated Fat 0 g Cholesterol 0 mg Sodium 34 mg Total Fiber 1 g Protein 2 g Carbohydrates 15 g Potassium 102 mg



## RECIPES

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### Baked Pork Chops

#### **Ingredients**

6 lean center-cut pork chops, ½-inch thick  
1 egg white  
1 cup fat-free evaporated milk  
¾ cup cornflake crumbs  
¼ cup fine, dry bread crumbs  
4 teaspoons paprika  
2 teaspoons oregano  
¾ teaspoon chili powder  
2 teaspoons garlic powder  
2 teaspoons black pepper  
⅛teaspoon cayenne pepper  
⅛teaspoon dry mustard  
2 teaspoons salt  
nonstick cooking spray, as needed

#### **Directions**

- 1) Preheat oven to 375 degrees Fahrenheit.
- 2) Trim fat from pork chops.
- 3) Beat egg white with fat-free evaporated milk. Place pork chops in milk mixture and let stand for 5 minutes, turning once.
- 4) Meanwhile, mix cornflake crumbs, bread crumbs, spices, and salt in small bowl.
- 5) Use nonstick cooking spray on 13 x 9-inch baking pan.
- 6) Remove pork chops from milk mixture and coat thoroughly with crumb mixture.
- 7) Place pork chops in pan and bake for 20 minutes. Turn pork chops and bake for an additional 15 minutes or until no pink

**Yield: 6 servings Serving size: 1 pork chop**  
Calories 216 Total Fat 10 g Saturated Fat 8 g Cholesterol 62 mg Sodium  
346 mg Total Fiber 1 g Protein 25 g Carbohydrates 10 g Potassium 414



## RECIPES

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### Smothered Greens

#### Ingredients

3 cups water  
¼ pound smoked turkey breast, skinless  
1 tablespoon fresh hot pepper, chopped  
¼ teaspoon cayenne pepper  
¼ teaspoon cloves, ground  
2 cloves garlic, crushed  
½ teaspoon thyme  
1 scallion, chopped  
1 teaspoon ginger, ground  
¼ cup onion, chopped  
2 pounds greens (mustard, turnip, collard, kale, or mixture)

#### Directions

- 1) Place all ingredients except greens into large saucepan and bring to boil.
- 2) Prepare greens by washing thoroughly and removing stems.
- 3) Tear or slice leaves into bite-size pieces.

*Yield: 5 servings Serving size: 1 cup*

Calories 80 Total Fat 2 g Saturated Fat 0 g Cholesterol 16 mg Sodium 378 mg Total Fiber 4 g Protein 9 g Carbohydrates 9 g Potassium 472 mg



## RECIPES

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### Spicy Southern Barbecued Chicken

#### Ingredients

5 tablespoons tomato paste  
1 teaspoon ketchup  
2 teaspoons honey  
1 teaspoon molasses  
1 teaspoon Worcestershire sauce  
4 teaspoons white vinegar  
 $\frac{3}{4}$  teaspoon cayenne pepper  
 $\frac{1}{8}$  teaspoon black pepper  
 $\frac{1}{4}$  teaspoon onion powder  
2 cloves garlic, minced  
 $\frac{1}{8}$  teaspoon ginger, grated  
1½ pounds chicken (breasts, drumsticks), skinless

#### **Directions**

- 1) Combine all ingredients except chicken in saucepan.
- 2) Simmer for 15 minutes.
- 3) Wash chicken and pat dry. Place it on large platter and brush with half the sauce mixture.
- 4) Cover with plastic wrap and marinate in refrigerator for 1 hour.
- 5) Place chicken on baking sheet lined with aluminum foil and broil for 10 minutes on each side to seal in juices.
- 6) Remove from broiler and add remaining sauce to chicken. Cover with aluminum foil and bake at 350 for 30 minutes.

**Yield: 6 servings Serving size: ½ breast or 2 small drumsticks**

Calories 176 Total Fat 4 g Saturated Fat 0 g Cholesterol 81 mg  
Sodium 199 mg Total Fiber 1 g Protein 27 g Carbohydrates 7 g  
Potassium 392 mg



## RECIPES

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### Grilled Salmon with Mango-Lime Cream Sauce

#### Ingredients

cooking spray

1/8 tsp. salt

1/8 tsp. pepper

4 salmon fillets (about 4 oz. each)

1/3 cup chopped, bottled mango (1 Tbsp. juice pre-served)

1/4 cup fat-free sour cream

1/2 tsp. grated lime zest

1 tsp. fresh lime juice

#### Directions

- 1) Lightly spray the grill rack with cooking spray. Preheat the grill on medium high.
- 2) Sprinkle the salt and pepper over one side of the salmon. Using your fingertips, gently press so they adhere to the fish.
- 3) Grill with the seasoned side down for 5 minutes. Turn over. Grill for 2 to 3 minutes, or to the desired doneness.
- 4) Meanwhile, in a small bowl, whisk together all the sauce ingredients. Serve at room temperature or cover and refrigerate until serving time. Spoon over the fish.

#### Nutritional Info Per Serving :

Calories 168 Total Fat 4.5g, Saturated Fat 0.5 g Trans Fat 0.0g Polyunsaturated Fat 1.5g , Monounsaturated Fat 1.0g , Cholesterol 67mg , Sodium 170 mg Carbohydrates 5g Fiber0g ,Sugars3g , Protein26g



## RECIPES

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### Spicy Oven-Fried Chicken

#### Ingredients

cooking spray  
1/4 cup low-fat buttermilk  
1/4 cup cornflakes crumbs  
1/4 cup yellow cornmeal  
2 Tbsp. all-purpose flour  
1 tsp. salt-free extra-spicy seasoning blend  
1 tsp. garlic powder  
1/2 tsp. paprika  
1/4 tsp. cayenne  
1/8 tsp. dry mustard  
4 boneless, skinless chicken breast halves, (about 4 ounces each)

#### Directions

1. Preheat the oven to 375°F. Lightly spray an 8- or 9-inch square baking pan or a baking sheet with cooking spray.
2. Pour the buttermilk into a pie pan or shallow bowl.
3. In a shallow dish, stir together the remaining ingredients except the chicken.
4. Set the pie pan, dish, and baking pan in a row, assembly-line fashion. Dip the chicken in the buttermilk and then in the cornflake mixture, turning to coat at each step and gently shaking off any excess. Using your fingertips, gently press the coating so it adheres to the chicken. Place in the baking pan. Lightly spray the chicken with cooking spray. Bake for 30 minutes, or until the chicken is no longer pink in the center and the coating is crisp.

**Nutritional Info Per Serving:** Calories 195  
Total Fat 1.5g Saturated Fat 0.5g Trans Fat 0.0g  
Polyunsaturated Fat 0.5g, Monounsaturated Fat  
0.5g ,Cholesterol 66mg, Sodium 121 mg Carbo-  
hydrates 16g ,Fiber 1g , Sugars 1g, Protein 28 g



## RECIPES

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### Lemony Mixed Vegetables

#### Ingredients

1 cup reduced-sodium chicken broth  
1/4 teaspoon ground coriander  
1/8 teaspoon salt  
1/8 teaspoon black pepper  
1/2 pound green beans, cut into 2-inch lengths (about 2 cups)  
2 cups thinly bias-sliced carrots  
1 cup cauliflower florets  
1/2 of a medium red sweet pepper, cut into 1-inch pieces  
1 tablespoon snipped fresh oregano or 1 teaspoon dried oregano, crushed  
1 tablespoon cold water  
1/2 teaspoon cornstarch  
1/2 teaspoon finely shredded lemon peel  
4 teaspoons lemon juice

#### Directions

- 1) In a large saucepan combine the chicken broth, coriander, salt, and black pepper. Bring to boiling; add green beans.  
Return to boiling; reduce heat. Simmer, covered, for 10 minutes. Add carrots, cauliflower, and sweet pepper. Return to boiling; reduce heat. Simmer, covered, for 4 to 5 minutes more or until vegetables are crisp-tender.
- 2) Using a slotted spoon, transfer vegetables to a serving bowl, reserving broth mixture in saucepan. Cover vegetables; keep warm.
- 3) In a small bowl stir together oregano, water, cornstarch, and lemon peel; stir into broth mixture in saucepan. Cook and stir over medium heat until slightly thickened and bubbly. Cook and stir for 2 minutes more. Stir in lemon juice. Pour thickened broth mixture over vegetables. Toss lightly to coat. Makes 6 servings.

**Nutrition Facts Per Serving,** 102 kcal cal., 3 g fat 1 g sat. fat, 1 mg cholesterol, 151 mg sodium, 13 g carb., 33g fiber, 4 g pro



## Heart Healthy Grocery List

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### ⇒ Beef (Lean Cuts)

#### CHOOSE:

- Extra lean ground beef
- Eye of Round
- Flank
- London Broil
- Tenderloin
- Sirloin Tip

#### AVOID/Use Sparingly:

- Brisket
- Breaded/Fried
- Corned beef
- High fat luncheon meats
- Hot dogs
- Liver, organ meats
- Prime grade
- Spam®
- Short ribs

### ⇒ Processed Meats

#### CHOOSE

- Choose those labeled 96% fat free
- Chicken breast
- Turkey breast

#### AVOID/Use Sparingly:

- Bologna
- Corned beef
- Ham
- Salami/Pastrami
- sausage



## Heart Healthy Grocery List (cont'd)

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### ⇒ Beverages

#### CHOOSE:

- Decaf coffee/tea
- Juices, unsweetened, 100% real
- Low sodium Tomato or V8
- Crystal Light

#### AVOID/Use Sparingly:

- Caffeinated tea/sodas
- Coconut milk
- Gatorade/sport drinks
- Sweetened juices

### ⇒ Cheese:

#### CHOOSE:

- Lowfat, 1-5 grams of fat/oz
- Cottage cheese, 1% milk fat
- Fat free cheese
- Reduced Fat Swiss cheese
- Reduced Fat cheese (all others)
- Light or Fat Free cream cheese

#### AVOID/Use Sparingly:

- Blue cheese/Brie
- Cheese Whiz
- Cheese spread
- Cheese food
- Velveeta cheese
- Cream cheese
- Hard cheese
- Processed cheese



## Heart Healthy Grocery List (cont'd)

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### ⇒ Eggs

#### CHOOSE:

- Egg substitute (any brand)
- Egg Whites

#### AVOID/Use Sparingly:

- Whole fresh eggs (limit yolks 2-3 per week)

### ⇒ Fats & Oils

#### CHOOSE:

- Canola oil, olive oil, oil & vinegar (dressing)
- Diet margarine, light or fat-free mayonnaise
- Low calorie or fat-free dressings
- Nonstick salad dressing sprays
- Margarine—low fat/trans-free
- Brummel & Brown
- Smart Balance Light

#### AVOID/Use Sparingly:

- Cocoa butter
- **Coconut oil**
- Cream cheese
- Fat back
- Lard
- Palm/palm kernel oil
- Sandwich spreads
- Regular salad dressing
- Solid shortenings (e.g. Crisco)



## Heart Healthy Grocery List (cont'd)

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### ⇒ Fruit

#### CHOOSE:

- Canned, packed in water or own juices
- Frozen, without added sugar
- Fresh

#### AVOID/Use Sparingly:

- Limit avocados and olives
- Dried fruit
- Coconut
- Fruit canned in syrup
- Frozen with added syrup or sugar

### ⇒ Milk/Yogurt

#### CHOOSE:

- Fat-free pudding
- Fat-free sour cream
- Lowfat Milk (1%, 1/2%)
- Lowfat or nonfat yogurt (sugar-free, any flavor)
- Skim milk/Lactaid skim milk
- Soymilk (light or nonfat)
- Buttermilk (no more than 1 cup)

#### AVOID/Use Sparingly:

- Any yogurt made with whole milk or sugar
- Chocolate milk that is not 1% or skim
- Evaporated milk
- Commercial pudding made with whole or 2% milk
- Whole milk, 2% milk



## Heart Healthy Grocery List (cont'd)

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### ⇒ Pork

#### CHOOSE:

- Leg (fresh, lean & trimmed)
- Shoulder (arm or picnic)
- Tenderloin

#### AVOID/Use Sparingly:

- Canadian bacon/bacon
- Country ham/sausage
- Blade roll
- Canned meats ( such as Vienna® sausages)
- Cured meats/ham/salt pork
- Spare ribs
- Organ meats
- Processed meats, such as hot dogs

### ⇒ Poultry

#### CHOOSE:

- Rock Cornish hen
- Skinless chicken and turkey (light meat, broiler/fryer)

#### AVOID/Use Sparingly:

- Domestic duck/Goose
- Thighs
- Wings
- Organ meats

### ⇒ Vegetables

#### CHOOSE:

- Fresh, frozen
- Low sodium canned
- Canned, if rinsed well



## Heart Healthy Grocery List (cont'd)

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### ⇒ Vegetables (cont'd)

#### AVOID/Use Sparingly:

- Canned vegetables not rinsed
- Pickles, olives
- Frozen in sauce, cream or cheese sauce
- Fried vegetables
- Vegetables with added fat, such as salt, pork, fat back

### ⇒ Seafood

#### CHOOSE:

- Crab/Lobster
- Flounder/Haddock
- Halibut, Mackerel
- Salmon. Oysters
- Water-packed tuna/salmon
- Fresh fish, not fried

#### Avoid/Use Sparingly

- Anchovies
- Caviar
- Roe
- Sardines packed in oil
- Smoked salmon packed in oil
- Fried Fish
- Shrimp



## CARDIAC MEDICATIONS

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### »»» ACE INHIBITORS

ACE inhibitors may help patients with heart failure and heart attack live longer and feel better. The medicine relaxes blood vessels and makes it easier for the heart to pump. For some people, it may take a few weeks before they feel better after starting the medicine.

#### Side Effects:

Most people take an ACE inhibitor without problems. Some side effects may include:

- Cough
- Dizziness
- Skin rash

#### Examples of ACE inhibitors include:

- Enalapril (Vasotec<sup>®</sup>)
- Lisinopril (Prinivil<sup>®</sup>, Zestril<sup>®</sup>)
- Ramipril (Altace<sup>®</sup>)
- Captopril (Capoten<sup>®</sup>)



## CARDIAC MEDICATIONS

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### »»»➔ ARBs

ARBs control high blood pressure, treat congestive heart failure, and prevent kidney failure in people with diabetes or high blood pressure. Since these medicines have effects similar to ACE inhibitors, ARBs are often used when a patient cannot take an ACE inhibitor.

#### Side Effects:

Most people take ARBs without any problems. Some side effects include:

- Cough (occurs less often than with ACE inhibitors)
- Elevated potassium levels
- Dizziness

#### Examples of ARBs include:

- Losartan (Cozaar<sup>®</sup>)
- Valsartan (Diovan<sup>®</sup>)
- Candesartan (Atacand<sup>®</sup>)
- Irbesartan (Avapro<sup>®</sup>)



## CARDIAC MEDICATIONS

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### »»»➔ ANTICOAGULANTS

Anticoagulants or “blood thinners” may prevent blood clots from forming or from getting bigger.

#### Coumadin<sup>®</sup> (warfarin)

Warfarin<sup>®</sup> is given as a pill. While you take this medicine, your doctor will order a blood test called a PT/INR. This test measures how quickly your blood clots. Your doctor will use this test to adjust how much medicine you take. When you go home, you need to have your PT/INR tested to help your doctor select the correct dose for you.

Goal INR: \_\_\_\_\_

Sample Schedule:

- Two days after discharge
- Then, twice a week for two weeks
- Then, once a week for two weeks.

NOTE: *If possible, please learn the name of the company that manufactures your Warfarin and consistently use their drug; changing companies may affect your PT/INR.*



## CARDIAC MEDICATIONS

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### Diet suggestions for people taking Coumadin® (warfarin):

- ♥ Certain foods high in vitamin K may affect how Coumadin® works. You can still have these foods, but avoid big changes in how much food with vitamin K you eat. In this way, your body can adjust to the way Coumadin® works in your system.

Foods	Vitamin K Content		Foods	Vitamin K Content
Broccoli	Medium		Avocado	Medium
Cauliflower	Medium		Lettuce (iceberg)	Medium
Brussel Sprouts	High		Cabbage	High
Endive	High		Green Scallion	High
Liver	High		Mustard Greens	High
Parsley	High		Soybeans	High
			Watercress	High
Collard Greens	Very High		Kale	Very High
Spinach	Very High		Turnip Greens	Very High

- ♥ Check with your doctor BEFORE taking vitamins, fish oil, herbal supplements, or drinking alcohol.

### Lovenox® (enoxaparin)

Lovenox® is given as a shot just below the skin's surface. Many patients receive Lovenox® only while they are in the hospital. But in some instances, patients may need to take this medicine after they go home. Your doctor, nurse, or pharmacist will teach you or your caregiver how to give the shot.



## CARDIAC MEDICATIONS

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### »»» OTHER ANTICOAGULANTS

There are other anticoagulants that your doctor may choose to prescribe. Like Coumadin®, these medicines may prevent blood clots from forming or becoming larger.

- Pradaxa® (dabigatran) – this is a twice a day medicine
- Xarelto® (rivaroxaban) – this is a once a day medicine
- Eliquis® (apixaban) – this is a twice a day medicine

- ♥ These medicines are given as a pill.
- ♥ It is not necessary for your doctor to order a PT/INR to measure how quickly your blood is clotting, and dose adjustments are not usually necessary.

#### While taking any of these medicines:

- ♥ Tell all your health care providers that you are taking this medicine
- ♥ Do not stop taking this medicine suddenly without asking your doctor
- ♥ Tell your doctor if you experience unusual bruising or bleeding including frequent nosebleeds
- ♥ Tell your doctor if you experience red or brown urine and/or black tarry stools
- ♥ Tell your doctor if you vomit blood and/or material that looks like coffee grounds
- ♥ Do not take Coumadin while taking Pradaxa®, Xarelto®, or Eliquis®
- ♥ Check with your pharmacist or doctor BEFORE you start taking new medicines, fish oil, herbal supplements, or drinking alcohol



## CARDIAC MEDICATIONS

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### »»» ANTIPLATELET MEDICATIONS

Antiplatelet medications prevent platelets in your blood from clumping together and forming a blood clot. You must take these medicines as prescribed by your doctor.

- Plavix<sup>®</sup> (clopidogrel) - This is a once a day medication
  - Effient<sup>®</sup> (prasugrel) - This is a once a day medication
  - Brilinta<sup>®</sup> (ticagrelor) - This is a twice a day medication (Note: Brilinta is only given with 81mg Aspirin)
- ♥ Your doctor will prescribe one of the above antiplatelet medications if you have had a coronary artery stent.
  - ♥ Your doctor may also prescribe an aspirin to decrease the risk of a blood clot forming on a new stent.
  - ♥ You must take your medicine as directed by your doctor. Unless your doctor tells you otherwise, do not STOP taking your antiplatelet medication due to the increased risk that a life-threatening blood clot may form in your stent.

#### Side Effects:

- Bleeding/bruising easily
- Stomach upset
- Nausea or vomiting
- Rash



## CARDIAC MEDICATIONS

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### »»»➔ **ASPIRIN**

- ♥ There are many types of generic aspirin. Bufferin<sup>®</sup> and Ecotrin<sup>®</sup> are examples of aspirin products. If you are not sure what type to use, ask your doctor, nurse, or pharmacist.
- ♥ To decrease the risk of side effects, it is best to take aspirin with food.
- ♥ Acetaminophen (like Tylenol<sup>®</sup>), ibuprofen (like Motrin<sup>®</sup>, Advil<sup>®</sup>), or naproxen (like Aleve<sup>®</sup>) are not the same as aspirin and should not be used in place of aspirin.
- ♥ Ask your pharmacist about cough and cold medicines which may contain aspirin and should not be used.

### Guidelines you should follow if you take Warfarin<sup>®</sup>, Plavix<sup>®</sup>, or Brilinta<sup>®</sup>

- ♥ If you get cut, put pressure on it for 5 to 10 minutes. If the bleeding does not stop, call your doctor.
- ♥ Always carry a card or wear a medic alert tag stating you take a blood thinner.
- ♥ Always wear shoes.
- ♥ Do not trim corns or nails on your hands or feet with a sharp object.
- ♥ Avoid all sports or events in which you can be hit.
- ♥ Use an electric razor if you shave.
- ♥ Tell ALL health care providers that you take a blood thinner.
- ♥ Keep dental checkups and use a soft toothbrush. Avoid dental work that is not needed.



## CARDIAC MEDICATIONS

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### »»» BETA BLOCKERS

These drugs reduce the work load of the heart to control heart rate, lower blood pressure, and/or slow heart disease. Some beta blockers relieve angina and prevent further heart attacks in patients who have had a heart attack.

#### Side Effects:

About 10 percent of people will feel:

- Tired
- Dizzy

About 5 percent of people will have:

- Depression
- Constipation

Less common side effects include:

- Mental confusion
- Headaches
- Heartburn
- Shortness of breath
- Diarrhea
- Skin rash

#### Examples of Beta Blockers include:

- Metoprolol (Lopressor<sup>®</sup> Toprol XL<sup>®</sup>)
- Atenolol (Tenormin<sup>®</sup>)
- Carvedilol (Coreg<sup>®</sup>)



## CARDIAC MEDICATIONS

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### »»»➔ CALCIUM CHANNEL BLOCKERS

These drugs decrease the amount of work your heart has to do and the amount of oxygen your heart needs. It also may be used to control heart rate.

#### Side Effects:

About 10 percent of people will have:

- Tiredness
- Dizziness
- Edema (swelling in legs)

About 5 percent of people will have:

- Depression
- Headache
- Constipation
- Flushing

Less common side effects include:

- Mental confusion
- Diarrhea
- Nausea
- Skin rash

#### Examples of Calcium Channel Blockers include:

- Diltiazem (Cardizem<sup>®</sup>, Cartia<sup>®</sup>, Tiazac<sup>®</sup>)
- Amlodipine (Norvasc<sup>®</sup>)
- Felodipine (Plendil<sup>®</sup>)
- Verapamil (Calan<sup>®</sup>, Verelan<sup>®</sup>, Isoptin<sup>®</sup>)



## CARDIAC MEDICATIONS

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### »»»➔ **DIGOXIN (LANOXIN®)**

Digoxin strengthens the pumping action of the heart.

- Monitor your heart daily when starting this medication

#### Side Effects:

Digitalis has been proven safe for most patients. If too much digitalis is in your body, you may have:

- Nausea or loss of appetite
- Mental confusion
- Blurred or yellow vision
- Rapid, forceful heartbeat (palpitations)
- Slow heart rate

**\*If you experience the above symptoms, call your doctor immediately.**



## CARDIAC MEDICATIONS

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### »»» DIURETICS

Diuretics make you urinate (pass water) more often, so less fluid collects in your feet, ankles, legs, and abdomen. If you skip a dose, you may notice swelling (edema) and shortness of breath while lying down or being active. Regular use of some diuretics may cause the body to lose too much potassium. You may need blood tests to check the amount of potassium in your body.

To replace lost potassium, you may have to:

- Eat more foods rich in potassium, such as bananas and raisins see page 143.
- Take a prescribed potassium supplement.

#### Side Effects:

- Leg cramps
- Dizziness or lightheadedness
- Incontinence (urine leaks)
- Gout (a type of arthritis)
- Skin rash

**Urinating more often is not a side effect since it is caused by the diuretic.**

#### Examples of Diuretics include:

- Furosemide (Lasix<sup>®</sup>)
- Hydrochlorothiazide (HCTZ)
- Spironolactone (Aldactone<sup>®</sup>)
- Bumetanide (Bumex<sup>®</sup>)

**Note:** Sometimes your Doctor will direct you to take a medication called Metolazone (Zaroxlyn<sup>®</sup>) 30 minutes before your Diuretic



## CARDIAC MEDICATIONS

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### »»» **NITROGLYCERIN**

Nitroglycerin<sup>®</sup> (NTG) quickly relieves most angina. There are different ways to take nitroglycerin. The most common way to take nitroglycerin is to put a small white pill under the tongue. As the pill melts, you might feel stinging or burning under your tongue or a fullness in your head. This means that the Nitroglycerin<sup>®</sup> is fresh and should relieve your angina.

Nitroglycerin pills come in a dark colored glass bottle with a screw-on lid.

- ♥ Light and dampness cause the pills to lose their strength. So always keep the pills in the original bottle and out of direct sunlight. Never put the pills in a bottle with other medicine.
- ♥ Once your Nitroglycerin<sup>®</sup> bottle is opened, you should get a refill every six months even if you have not used all of the pills. Also get a new bottle if the pills begin to crumble in the bottle.
- ♥ Always carry Nitroglycerin<sup>®</sup> with you!
- ♥ Nitroglycerin<sup>®</sup> may be used as a spray. Like the tablets the Nitroglycerin spray is used under the tongue. One spray gives about the same dose as the most common strength of Nitroglycerin<sup>®</sup> tablet.

#### **How to Take:**

- ♥ When chest pain/ angina occurs, sit down and put one Nitroglycerin<sup>®</sup> tablet under your tongue or spray once under your tongue.
- ♥ If the pain has not gone away completely or if the pain is getting worse, call 911. Take a Nitroglycerin<sup>®</sup> tablet or spray every 5 minutes until the ambulance arrives or the pain stops.
- ♥ **NEVER** try to drive yourself to the hospital when you have chest pain/ angina.



## CARDIAC MEDICATIONS

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### »»»➔ NITRATES

- ♥ Nitrates are like Nitroglycerin<sup>®</sup>. Nitrates lower the blood pressure and relax the blood vessels. As a result, your heart does not have to work as hard when pumping blood. You may have fewer bouts of chest pain/angina when you exercise.
- ♥ Nitrates come as either a pill or a patch.
- ♥ You must not take drugs such as Viagra<sup>®</sup>, Revatio<sup>®</sup>, Cialis<sup>®</sup>, or Levitra<sup>®</sup> while taking nitrates. Taking nitrates with these medicines may result in an unsafe drop in blood pressure.

### »»»➔ ANTI-INFLAMMATORY DRUGS

Non-steroidal anti-inflammatory drugs (NSAIDs) are a group of medications commonly used to treat pain, inflammation, or fever.

- ♥ Some examples of these medications include: ibuprofen (Motrin, Advil), naproxen (Aleve<sup>®</sup>, Naprosyn<sup>®</sup>), celecoxib (Celebrex<sup>®</sup>).
- ♥ While these medications provide relief through the anti-inflammatory effects, there are some additional risks if you have heart disease. Taking these medications on a regular basis may increase the risk of experiencing a heart attack or stroke.
- ♥ Before taking these medications on a regular basis, talk with your doctor about the risks and benefits.



## CARDIAC MEDICATIONS

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### »»»→ “STATINS”

“Statins” reduce the total cholesterol and LDL (bad) cholesterol levels while improving the HDL (good) cholesterol. They also may prevent first heart attacks and may reduce the chance of a second heart attack.

- ♥ Most people take “statin” drugs at night with dinner or at bedtime.
- ♥ Your doctor will check liver enzymes before starting the medication and periodically during follow-up visits.

#### Side Effects:

- Muscle weakness or aches
- Muscle cramps
- Headache
- Upset stomach

#### Examples of Statins include:

- Lovastatin (Mevacor<sup>®</sup>)
- Atorvastatin (Lipitor<sup>®</sup>)
- Simvastatin (Zocor<sup>®</sup>)
- Pravastatin (Pravachol<sup>®</sup>)
- Rosuvastatin (Crestor<sup>®</sup>)



## TRACKING RISK FACTORS

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- ♥ When you visit your doctor, please take this book and record the information you receive.

It is important for you to know your NUMBERS!

Date	Goal									
Blood Pressure										
Heart Rate										
Total Cholesterol	Less than 200									
LDL (Bad) Cholesterol	Less than 70									
HDL (Good) Cholesterol	More than 50									
Triglycerides	Less than 150									
Hemoglobin A1C	Less than 7									



## CONGESTIVE HEART FAILURE

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### » RECORD KEEPING

*Call your doctor if you gain more than 3 pounds in a day or 5 pounds in a week, have more trouble breathing, or notice ankles*

Directions:

- \* Weigh yourself each morning after emptying your bladder, but before eating breakfast.
- \* Have the same amount of clothing on each day when you weigh
- \* Record your weight and blood pressure every day
- \* Always bring this chart with you when you visit your doctor or nurse

DATE	TIME	BLOOD SUGAR	HEART RATE	BP	WEIGHT (LBS)	SYMPTOMS



## CONGESTIVE HEART FAILURE

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### »»» RECORD KEEPING

*Call your doctor if you gain more than 3 pounds in a day or 5 pounds in a week, have more trouble breathing, or notice ankles swell.*

DATE	TIME	BLOOD SUGAR	HEART RATE	BP	WEIGHT (LBS)	SYMPTOMS



## CONGESTIVE HEART FAILURE

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### »»» RECORD KEEPING

*Call your doctor if you gain more than 3 pounds in a day or 5 pounds in a week, have more trouble breathing, or notice ankles swell.*

DATE	TIME	BLOOD SUGAR	HEART RATE	BP	WEIGHT (LBS)	SYMPTOMS



## CONGESTIVE HEART FAILURE

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### »»» RECORD KEEPING

*Call your doctor if you gain more than 3 pounds in a day or 5 pounds in a week, have more trouble breathing, or notice ankles swell.*

DATE	TIME	BLOOD SUGAR	HEART RATE	BP	WEIGHT (LBS)	SYMPTOMS



## **CARDIAC ARREST**

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It is important for you and your family to know CPR, because 88 percent of cardiac arrests occur at home. Put simply: The life you save with CPR will most likely be someone you love.

- ♥ Nearly 383,000 out-of-hospital sudden cardiac arrests occur each year. Many victims appear healthy with no known heart disease or other risk factors. This is not the same as a heart attack
- ♥ Nationwide, only 32 percent of cardiac arrest victims get CPR from a bystander. Sadly, less than 8 percent of people that fall victim to cardiac arrest outside the hospital survive.
- ♥ Learning hands-only CPR can make a difference and save a life.



<p>Tap and shout.</p> <p><b>1</b></p>  <p><b>Golpee suavemente a la víctima y dirijase a ella en voz alta.</b></p>	<p>Look for no breathing or only gasping.</p> <p><b>2</b></p>  <p><b>Compruebe si la víctima no respira o solamente jadea.</b></p>	<p>Yell for help. Send someone to phone 911. If alone, leave victim and call 911 or use cell phone.</p> <p><b>3</b></p>  <p><b>Grite pidiendo ayuda. Pídale a alguien que llame al 911. Si está solo, deje la víctima para llamar al 911 ó use su celular.</b></p>
<p>Push hard and fast.</p> <ul style="list-style-type: none"> <li>• Push down about 2 inches</li> <li>• Let the chest come back up to its normal position</li> <li>• Try not to stop pushing on the chest for more than a few seconds</li> </ul> <p><b>4</b></p>  <p><b>Comprima fuerte y rápido.</b></p> <ul style="list-style-type: none"> <li>• Por lo menos 5 cm (2 pulgadas)</li> <li>• Deje que el pecho regrese a su posición original</li> <li>• No interrumpa las compresiones durante más de unos pocos segundos</li> </ul>	<p>Locate the nearest AED and bring it to the victim's side</p> <p><b>5</b></p>  <p><b>Localicé el Desfibrilador Externo Automático (DEA [en inglés AED]) más cercano y colóquelo a un lado de la víctima.</b></p>	<p>When the AED arrives, turn it ON and follow the prompts.</p> <p><b>6</b></p>  <p><b>Cuando llegue el DEA, enciéndalo y siga las instrucciones.</b></p>

According to AHA, 88 % of Cardiac Arrests occur at home/4 out of every 5.  
Put simply: The life you save with CPR is most likely to be someone you love.

Nearly 383,000 out-of-hospital sudden cardiac arrests occur each year.  
Many victims appear healthy with no known heart disease or other risk factors.  
This is not the same as a heart attack.

Nationwide, only 32 percent of cardiac arrest victims get CPR from a bystander.  
In North Carolina, only 1 in 4, 25 percent. Sadly, less than 8 percent of people that fall victim to cardiac arrest outside the hospital survive.

Learning hands-only CPR can make a difference and save a life.



**»»» YOUR QUESTIONS TO ASK THE DOCTOR**

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## **IMPORTANT NAMES**

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Attending physician:

Dr. \_\_\_\_\_

Resident Officer:

Dr. \_\_\_\_\_

Nurses: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Others: \_\_\_\_\_

\_\_\_\_\_

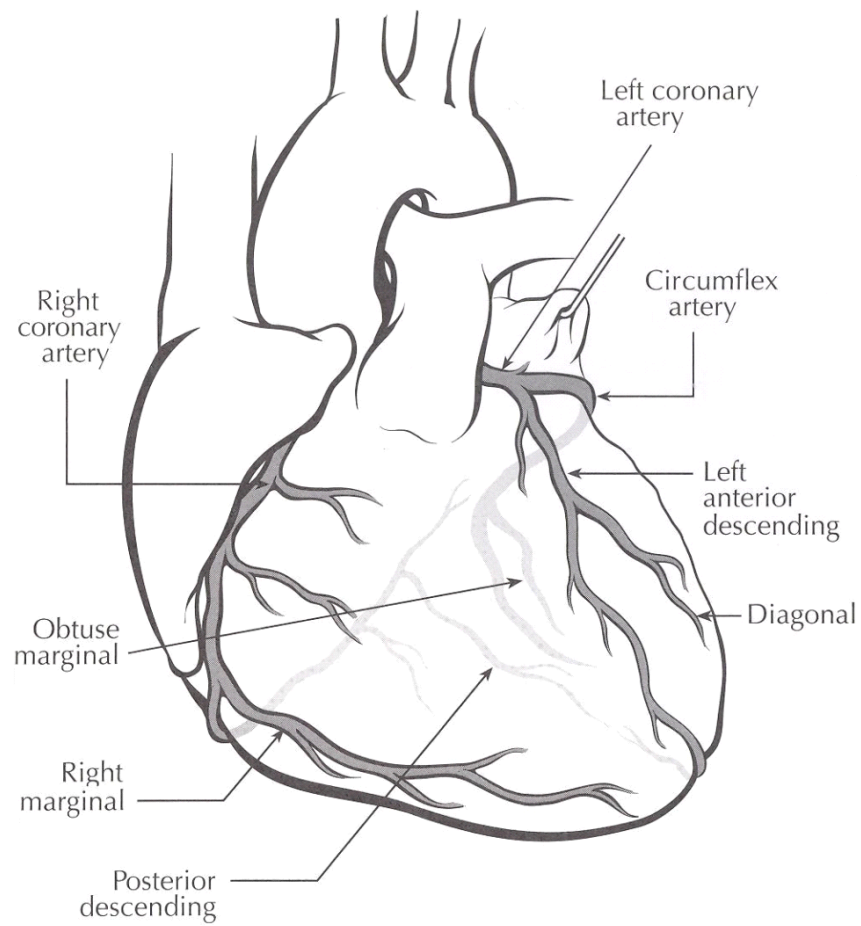
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Ejection Fraction  
(EF) \_\_\_\_\_  
Normal 55-65%



## Heart of Good Health

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*This information is general. If your doctor tells you something different,  
follow his or her advice and instructions.*

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North Carolina Baptist Hospitals

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**March 2018**

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