

## Living Heart Healthy

### Introduction

Heart disease is the leading cause of death in the United States. About 950,000 Americans die of heart disease each year. This amounts to one death every 33 seconds. Heart disease claims more lives each year than the next five leading causes of death combined: chronic lower respiratory diseases, accidents, diabetes mellitus, influenza (flu) and pneumonia. About 61 million Americans (almost 25% of the population) live with some form of heart disease.

Arkansas ranked among the top ten states for death rate due to heart disease in 1999. In this year alone, 296.5 per 100,000 Arkansans' lives resulted in death due to some form of heart disease.

The economic burden of heart disease on the U.S. health care system continues to grow as the population ages. Heart disease alone cost the nation \$329.2 billion dollars in 2002. The projected cost of this disease is expected to increase to \$351 billion in 2003.

### Objectives

Participants will learn:

- The structure of the heart.
- How the heart works.
- Risk factors for heart disease.
- How to decrease the risk for controllable risk factors.

### Icebreaker

*How many of you have someone in your family who has had heart problems or a heart attack?*

### The Structure of the Heart and How It Works

The heart is a hollow, muscular, cone-shaped organ that is about the size of a fist located in the middle of the chest. It is part of the circulatory system. The heart has two upper chambers called the right and left atrium, which receives the blood from the body. The two lower chambers of the heart are the right and left ventricles, which pumps the blood from the heart to the lungs through vessels, which are long hollow tubes of tissue. The vessels are much like drinking straws. The vessels also carry the blood to the heart from the body. The blood (with little oxygen) enters the right top chamber (atrium) of the heart. It then flows down the right lower chamber (ventricle) so it can be pumped to the lungs to receive more oxygen. The oxygen rich blood returns to the left upper chamber (atrium) and flows into the lower left chamber (ventricle) where it is pumped throughout the body organs and tissues.

The heart is an amazing part of the body. It can pump approximately 5 liters of blood every minute and it beats about 100,000 times a day.

Since the heart is such an important pump, you want to keep it free from heart disease such as a heart attack, a stroke (brain attack), or angina (chest pain). When the heart stops, life stops. So when you take care of your heart, you take care of your life.

**Activity:** Fill a liter bottle with water to show that the body pumps five times this amount of blood each minute.

**Activity:** You can feel the beat of your heart by taking your pulse. To find your pulse, gently place the index and middle finger of one hand on the inside wrist of your other hand. Slide your two fingers toward the thumb side of your wrist until you feel a slight beating. (Show the group how to do this.)

### **Risk Factors**

Taking steps to prevent heart disease at any age is important. The habits or traits that make a person more likely to get heart disease are called “risk factors.” Some of these, like age, family history, and being a man or woman are things you cannot change. But the good news is that there are some risk factors that you can do something about.

They are:

- High blood pressure
- High blood cholesterol
- Cigarette smoking
- Diabetes
- Overweight
- Physical inactivity

**Activity:** Fill out the “Are You at Risk for Heart Disease?” form. Discuss the number of risk factors each participant has.

### **Handout 1: Heart Disease Risk Factors**

#### **High Blood Pressure (Hypertension)**

Hypertension contributes to nearly 1 million heart attacks each year. Reducing hypertension has been shown to lower the incidence of stroke, coronary heart disease and heart failure.

Blood pressure is a measurement of the blood flowing through blood vessels and creating a pressure against the vessel wall. It is taken at two stages: 1) when the heart contracts and pumps blood through the vessels (systolic pressure-the higher number) and 2) when the heart relaxes between beats (diastolic pressure-the lower number). Blood pressure rises when blood vessels become narrow and hard, leaving less room for blood flow. The heart has to work harder to move the blood. An optimal blood pressure reading is 120 systolic/80 diastolic.

Uncontrolled high blood pressure can cause complications in several bodily organs, including the heart, blood vessels, brain, nerves, kidneys and retinas (eyes).

Risk factors for hypertension include:

- **Ageing:** About 52% of Americans in their 60’s have high blood pressure.
- **Family history:** If one or both of your parents have high blood pressure, you have a greater chance of becoming hypertensive.
- **Race:** African-Americans have about twice the risk of developing hypertension than do Caucasians.
- **Overweight or obese individuals:** Overweight or obese individuals have a higher risk of becoming hypertensive as individuals at a healthy body weight.

To avoid becoming hypertensive, the following is recommended:

- Have your blood pressure measured by a health professional every two years.
- Keep your blood pressure under control: less than 140/90.
- If you have hypertension, maintain a healthy body weight, exercise regularly, cut down on salt, quit smoking and take medication prescribed by your doctor.

### **High Blood Cholesterol**

Cholesterol is a fatty substance found in animal tissues. Your body produces cholesterol, but you also get it from food that comes from animals, such as meat, egg yolks, milk, butter, cheese and other dairy products.

Cholesterol is an important part of a healthy body because it is used to form cell membranes, some hormones, bile acids for good digestion and insulation for nerves. However, a high level of cholesterol in the blood is a major risk factor for heart disease. To be heart-healthy, your total blood cholesterol should be less than 200 mg/dl. High cholesterol is 240 mg/dl or higher.

Total blood cholesterol is made of three parts:

1. LDL (low density lipoprotein): this is a bad cholesterol. LDL is associated with clogging and hardening of the arteries (atherosclerosis) and is a primary cause of heart attacks when you have too much in your blood. This cholesterol level should be low in your blood. An LDL level of less than 130 mg/dl is heart healthy. You can keep your LDL low by (1) watching your fat and calories, (2) losing weight if necessary and (3) eating dietary fibers such as oats and barley.
2. VLDL (very low density lipoprotein): this is a bad cholesterol. This level should also be low in your blood. You can keep VLDL low by eating seafood oils, such as sardines, tuna, trout, salmon, mackerel, soybean oil, margarine with soybean oil and black walnuts. The fatty acids in seafood oils also help your heart maintain a regular heartbeat and not get out of rhythm (cardiac arrhythmia). You should eat fish at least once a week to get these helpful seafood oils.
3. HDL (high density lipoprotein): this is a good cholesterol to have in your blood. HDL helps remove harmful cholesterol from your body. HDL should be higher than 60 mg/dl in your blood. Less than 35 mg/dl is too low.

### **Handout 2: Cholesterol in Blood Vessels**

To maintain or improve your blood cholesterol level, the following is recommended:

- Have your doctor check your total blood cholesterol, LDL and HDL to see if they are in the healthy limits. If within the healthy limits, go back to be rechecked every two years. If it is too high, get rechecked according to your doctor's recommendation.
- If any of your cholesterol levels are not heart-healthy, you can:
  - Reduce your total fat intake, saturated fat intake and cholesterol intake.
  - Eat a Food Guide Pyramid diet: lots of grains and breads, fruits and vegetables. These foods are high in fiber and low in calories, saturated fat and cholesterol.
  - Exercise regularly – light to moderate physical activity for at least 30 minutes per day.
- If you are overweight, reduce your weight to a healthy level by eating right and exercising.

## Handout 3: Total Cholesterol

### Cigarette Smoking

A tremendous amount of evidence shows that cigarette smoking is the most important risk factor for coronary heart disease (CHD). Cigarette smoking increases the triglyceride (fat) level and lowers the HDL (good cholesterol) level in your blood. When a person stops smoking, benefits occur immediately. After one year of not smoking, the CHD risk is lowered by 50% as compared with those who continue to smoke.

### Summary

There are five important things you can do to reduce your risk for heart disease:

1. **Eat a heart-healthy diet.** Practice balance, variety and moderation when planning and eating meals by using the Food Guide Pyramid. Select foods that are low in total fat, saturated fat and cholesterol.
2. **Exercise.** Regular physical activity should be an important part of your daily routine.
3. **Watch your weight.** Always strive to maintain a healthy body weight.
4. **Be a non-smoker.** When a person stops smoking, benefits occur immediately.
5. **Moderate or refrain from alcohol.**

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