



Name

# Heart Disease

## ***Symptoms:***

- Pain
- Mild Ache or Pressure, severe crushing or squeezing sensation
- Burning or Bloated Feeling
- Location-center of the chest, whole chest or neck, jaws, and shoulders or down the arms
- Continuous or intermittent
- Cold sweats, nausea, vomiting, weakness, anxiety, or SOB (shortness of breath) may accompany the pain

## ***What Causes a Heart Attack?***

- Aging
- Family History of early heart disease/attacks
- Male
- High Blood Cholesterol Levels (Leads to atherosclerosis-clogging of the arteries with fatty deposits)
- High Blood Pressure
- Diabetes
- Obesity

## ***What is an Acute/Chronic Heart Attack?***

- **Myocardial Infarction**
- Blood supply to the heart muscle is reduced or completely blocked due to obstruction in one or more of the arteries which encircle the heart
- The heart muscle that is deprived of oxygen dies
- 1.5 million people per year have heart attacks, > 1/3 million die
- It is the leading cause of death

## ***How is an acute heart attack diagnosed and treated?***

- Description of pain and other sensations
- 1 or more electrograms to evaluate the rhythm and function of the heart muscle
- Blood tests that detect enzymes released by the heart damaged from such an attack

## ***Is an Acute Heart Attack Dangerous?***

- YES!!!!
- Leading cause of death in America
- 1/3 of those who have heart attacks DIE!!!!

## ***What Can I do to AVOID a Heart Attack?***

- Do Not SMOKE!!!
- Maintain IBW (Ideal Body Weight)
- Eat a low-fat, low cholesterol diet
- Exercise regularly
- Keep blood sugar < 110, cholesterol < 200, and blood pressure within normal limits

## ***What happens in the course of an acute heart attack?***

- Blood supply to the heart is decreased, cells in the heart muscle begin to die
- A mild heart attack may only last < 1 hour but the lasting effects if not treated cause greater problems
- Severe attacks can destroy large areas of the heart muscle and can cause permanent disability or death
- 80% of those who have heart attack can return to normal life within months

# Heart Disease

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## *New Facts and Figures:*

- New drugs can stop a heart attack by dissolving coronary clots, must be administered in the early stages of a heart attack
- New techniques using lasers or special drills can open clogged coronary arteries
- Adherence to a low fat, low cholesterol diet plan-can reverse at least some buildup of atherosclerotic plaque
- Administering preventive medications-Beta blockers
- Altering life styles, exercise, reduce stress, follow a diet-low fat, low cholesterol vegetarian diet is good
- Coronary bypass surgery
- Balloon angioplasty-flatten fatty deposits and widen the artery's channel
- Laser ablation-removal of plaque by melting
- Atherectomy (removal of plaque) with a drill

## ***Symptom of Heart Defects:***

- Heart-rhythm abnormalities
- Swollen ankles or feet
- Extreme fatigue
- Dizziness upon exertion
- Shortness of breath
- Chest Pain

## ***What can I do to avoid acquired heart defects?***

- Avoid recreational drugs-Cocaine, glue sniffing
- Avoid alcohol or use only in moderation
- Develop a sore throat, see Physician and take antibiotics if a strep infection is diagnosed

## ***What are the cardiac symptoms caused from heredity defects:***

- Shortness of breath
- Abnormal heart rhythms
- Easy fatigue
- Chest pain
- Fainting during exercise
- Bluish skin and nails

## ***What are the symptoms of heart enlargement?***

- Shortness of breath
- Excessive fatigue
- Dizziness or fainting
- Chest pain
- Swollen ankles
- Fluid retention
- Abnormal heart rhythms

## ***What Causes Heart Enlargement:***

- Severe Coronary Artery Disease
- Infections
- Inflammatory Disorders
- Metabolic Disorders
- Drugs or other toxins
- Alcohol Abuse
- Connective Tissue Disorders
- Inherited Neuromuscular and neurologic disorders
- Cancer
- Usually heredity or due to a congenital heart defect and if untreated this condition can lead to heart failure

## ***What can I do to Avoid Heart Enlargement?***

- Have infections treated promptly
- Avoid alcohol, moderation only
- Treat High Blood Pressure
- Do not use Cocaine
- Don't Smoke
- Lose excess weight
- Adequate Sleep

## ***What is Congestive Heart Failure?***

- The heart is unable to work efficiently
- Unable to pump adequate blood
- The body's need for oxygen rich blood is not met completely
- Oxygen depleted blood back up in the veins, forcing fluid out of the blood vessels and into the tissues of the feet and legs (edema)- pitting localized- 1 area generalized all over
- Blood also may back up into the lungs, causing congestion

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## ***Exercise and Your Heart (What are the Benefits of Exercise):***

- Feeling Better
- More Energy
- Helps in coping with Stress
- Improves Self-Image
- Increases resistance to Fatigue
- Helps counter anxiety and depression
- Helps relax, with less tension
- Sleeps better
- Easier to share an activity with a friend/family
- Looking Better
- Tones Muscles
- Burns off Calories to help decrease weight to stay within your IBW range
- Helps control your appetite

## ***Points of Interest:***

- A lighter burns less calories with exercise
- Exercise often contributes to increased productivity
- Exercise increases your capacity for physical work
- Exercise helps to increase muscle strength
- Exercise helps your heart and lungs to work more efficiently

# Heart Disease

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## ***Types of Cholesterol:***

- **Good** -HDL-High Density Lipoproteins-one of the cholesterol carrying proteins in the blood, has been linked to the decreased risk of coronary heart disease, recent studies have shown that regular exercise significantly increase the levels of HDL.
  - **Low levels** of HDL in the blood are related to an increased risk of coronary heart disease.
- **Bad** -LDL-Low Density Lipoproteins-LDL contain the greatest amounts of cholesterol and may be responsible for depositing cholesterol in the artery walls, these are known as "Bad Cholesterol." It is normal to have some LDL in the bloodstream, but when excessive becomes deposited in the artery walls, causing plaque formation and narrowing of the vessels. The higher the levels of LDL the greater the chances of plaque formation, CHD.

## ***Uncontrollable Risk Factors:***

- Age-Older people are more likely to have CHD
- Male Sex-are at a greater risk than women
- Family History-having relatives who have had CHD increases the risk
- Race-High Blood Pressure is more prominent in blacks than whites, blacks are more likely to have CHD than whites

# Heart Disease

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## ***Altering Our Diet:***

- Substitute low fat milk and low fat dairy products for whole milk or full fat products
- Choose low fat cheeses and low cholesterol breakfasts as ready-to-eat cereals with low fat/skim milk
- Choose lean cuts of meats, cut the visible fat off, remove skin and fat from poultry
- Broil, boil, bake, roast, or stew all meats with drip plates so the fat can escape
- Limit egg consumption to 2-3 eggs per week, this includes eggs in all recipes
- Limit portions of meats, fish, and poultry to a piece about the size of a deck of cards
- Limit pastry items as croissants, doughnuts, and other pastries made with solid shortenings and butter
- Limit the consumption of Fried Foods
- Cool stews and soup and skim the hard fat layer off the top

## ***Sources of Saturated Fats and Cholesterol:***

- Red meats, especially fatty or well-marbled meats (cuts)
- Full fat dairy products-whole milk, cheese, butter, cream cheese, hard cheese, and ice cream
- Fatty luncheon meats-salami, sausage, bacon
- Hard shortenings, lard, suet, palm oil, coconut oil, beef tallow, and other pastries made with solid shortenings and lard

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## ***Foods Providing Cholesterol:***

- Egg Yolks
- Organ Meats-brains, sweetbreads, liver
- Meat, poultry, fish, seafood
- Full fat dairy products

## ***Guide to a Healthy Life Style:***

- Eat a variety of foods
- Eat 6-8 small meals per day
- Drink plenty of liquids
- Maintain healthy weight
- Choose a diet low in fat, saturated fat, and cholesterol
- Choose a diet with plenty of vegetables, fruits and grains
- Use sugar in moderation
- Use salt and sodium in moderation
- Drink alcohol in moderation

## ***Blood Cholesterol Levels:***

- Desirable Less than 200 mg./dl
- Borderline-200-239 mg./dl
- High 240+ mg./dl

## ***Tips to a Healthy Heart Diet:***

- Eat more fruits, vegetables, whole grain breads and cereals
- Choose vegetable oils-canola, safflower, sunflower, corn, and soybean
- Use tub margarine made from corn, safflower, or sunflower oils
- Choose skim or 1% milk
- Choose lean meats, trim all visible fat, remove skin
- Limit ounces of meat, fish, or poultry to 5-7 oz. per day
- Use spices and seasonings low in salt for basting and cooking

# Heart Disease

- Use sorbet, fruit ice, sherbet, or low-fat yogurt instead of ice cream
- Use egg whites for eggs or low-cholesterol eggs
- Cut down on commercially baked goods especially those made with lard, coconut oil, palm oil and shortening

MIX  
FIT

## ***Statistical Information:***

- **1984-10 year study --Coronary Primary Prevention Trial**
  - Proved that lowering blood cholesterol levels will reduce the risk of heart disease
  - Study involved more than 4,000 men with high cholesterol levels
  - Men lowering blood cholesterol levels= (Lowered with diet and drugs)
    - Fewer heart attacks
    - Less heart disease
    - Farther development of atherosclerosis may be stopped
      - In some cases reversed-if cholesterol is lowered
  - 1% reduction in total cholesterol level=2% risk reduction in heart attack risk, for example
    - if a person lowered their blood cholesterol from 250 to 200 mg./dl, this reduces the risk of a heart attack by 40%

## ***Risk Factors Associated with Heart Disease:***

- Age: Male > 45 years; Female > 55 years or premature menopause without estrogen replacement therapy
- Family history of premature coronary heart disease (grandfather, father, or brother) who died from coronary heart disease before age 55 or females before age 65.
- Smoking
- Diabetes
- High Blood Pressure
- HDL-cholesterol < 35 mg./dl- Male(40-50) sex hormones ↓ HDL Female (50-60) sex hormones ↑ HDL
- ↑ HDL levels- sedentary, obesity, overweight

# Heart Disease

## ***Cholesterol:***

- Soft, fat-like substance found in the body's cells
- Part of the healthy body and forms cell membranes, it can be a problem if too much
- There are two sources of cholesterol:
  - Produced in the body, mostly in liver
  - Foods-animal sources-eggs, poultry, fish, seafood, and dairy products-egg yolks have high concentrations of cholesterol and are a key source of dietary cholesterol.
    - -Foods from plants do not contain cholesterol
- Cholesterol travels to the body's cells through the blood stream through carriers called lipoproteins-HDL and LDL.
  - LDL- BAD Cholesterol
    - major cholesterol carrier some is used by the liver and others by the tissues to form cell membranes and other products.
    - Too much LDL=build up in the cell walls of the arteries feeding the heart and brain
    - LDL + other substances = plaque-a thick, hard deposit which can clog those arteries-atherosclerosis.
    - Clot formed where plaque is located, can block the flow of the blood to part of the heart muscles and cause a heart attack
    - Clot blocks the flow of blood to the brain=**STROKE**
    - High LDL=increased risk of heart disease

## *HDL-Cholesterol*

- 1/3 to 1/4 of the blood cholesterol is carried by another lipoprotein-**HDL (High Density Lipoprotein)**.
- HDL is produced mostly in the liver
- Released in the blood stream
- HDL carries cholesterol away from the arteries and back to the liver, where it is passed from the body
- Some believe that HDL removed excess cholesterol from atherosclerotic plaques slowing growth
- HDL=Good Cholesterol
- High levels of HDL seem to protect against heart attacks
- Low HDL indicates a greater risk

## *HDL-Triglyceride Connection*

- Triglyceride is the major form in which fat occurs in nature.
- Comes from food and made in the body from other energy sources.
- Large number of people with heart disease also have high triglyceride levels, while others are free from atherosclerosis
- usually a high triglyceride=
  - higher total cholesterol
  - high LDL cholesterol
  - lower HDL cholesterol

## ***Your Total Blood Cholesterol Level:***

- Total Blood (Serum) Cholesterol Classification
  - Less than 200 mg./dl= Desirable
  - 200-239 mg./dl =Borderline High
  - 240 mg/dl & Over = High
  - Good = less than (<) 200 mg/dl
- Cholesterol level should be done at age 20 and within 5 years if no risk factors.
- People with cholesterol levels 200-239 have twice the risk of heart attacks as people whose levels are well below 200 mg/dl. (about 31% of Americans are in this group). Cholesterol should be checked one to two years.
- Not every person with a 240 cholesterol has a increased risk of developing atherosclerosis.
- Everyone's case is different.
- If you have a cholesterol over 240 mg/dl your risk of heart disease is greater and you need more tests.
- Average HDL= Male 40 to 50 mg/dl
  - Female 50 to 60 mg/dl
  - HDL cholesterol less than 35 mg/dl is low.
- Factors that contribute to LOW HDL: smoking, overweight, sedentary lifestyle-this means less of the "Good Cholesterol".
  - Female sex hormones raise HDL levels
  - Progesterone, anabolic steroids and male sex hormones help lower HDL levels (testosterone)

## ***LDL Cholesterol Level:***

- LDL-Cholesterol Classification:
  - Less than 130 mg/dl= Desirable
  - 130-159 mg/dl= Borderline High
  - 160 mg/dl or higher=High
- Most people with a LDL cholesterol level of 130 mg/dl will have a total blood cholesterol of 200 mg/dl
- LDL cholesterol of 160 is comparable to a blood cholesterol level of about 240 mg/dl
- The lower the LDL cholesterol the lower the risk

## ***Triglyceride Level:***

- Triglyceride Levels Classification:
  - Less than 200 mg/dl= Normal
  - 200-400 mg/dl Borderline=High
  - 400-1000 mg/dl= High
  - Greater than 1,000 mg/dl= Very High

## ***Dietary Cholesterol is found only in animals: (Saturated Fats)***

- Egg Yolks
- Organ Meats
- Meat
- Fish
- Poultry
- Dairy Products
- Liver
- Kidney

\*\*\*Foods from plants do not contain cholesterol-Fruits, Vegetables, Grains, Nuts, and Seeds.

# Heart Disease

## ***Dietary Cholesterol Raise Blood Cholesterol Levels & Increase Risk of Heart Disease:***

### **Person:**

- Male
- Female

### **Percent Intake:**

450 mgs cholesterol/day  
320 mgs cholesterol/day

\*\*Some dietary cholesterol is removed from the body by the liver.

## ***3 Types of Fats:***

- **Saturated**-animal/s:
  - Beef, veal, pork, milk, cheese, dairy products, etc...
  - Oils=Coconut, Palm, Cocoa Butter and Tropical Oils
- **Polyunsaturated**-
  - Liquid oils of Vegetable origin-safflower, sesame, sunflower, corn, soybeans, many nuts and seeds and their oils.
- **Monounsaturated**-
  - Canola, olive, peanut oil and avocados
- **Hydrogenated Fats**-
  - Partially hardened or molded as in a mold or tub, creamy consistency
  - Increases the time it takes before the oils become rancid-stay fresh longer,
  - Recent studies show these fats raise blood cholesterol levels
  - Should not contain more than 2 grams of saturated fatty acids per tablespoon.

## ***Who should be concerned about Heart Disease?***

- Males>45 years of age, Females>55 years of age, premature menopause without estrogen replacement therapy
- Family history of premature Coronary Artery Disease
- Smoking
- High Blood Pressure or Diabetes
- HDL Cholesterol <35 mg/dl

# Heart Disease

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## *Through DIET:*

- Eating more fruits and vegetables and whole grains instead of fatty meats and bakery goods
- Eating fish and poultry without the skin and lean meats instead of fatty meats
- Drinking Low Fat milks as buttermilk and skim milks
- Get in a habit of reading labels- know what light, low, and free mean.
  - One egg yolk contains 213 mgs. of cholesterol
    - The AHA recommends not more than 3 to 4 egg yolks per week.
  - 60 to 70% of calories in cheese come from butter fat about the same percentage as in ice cream.
  - 3 oz. of Meat = roughly 70 mgs. of cholesterol.
  - Processed Meats-70 to 80 % of calories are from fat.
  - Shellfish and crayfish are higher in cholesterol than most other types of fish and seafood.
  - Nuts and Seeds are high in fat and calories-most fat is poly or monounsaturated, so no cholesterol-don't raise blood cholesterol levels,
    - nuts and seeds are good sources of protein

## ***Through Life-style Changes:***

- Regular Exercise
- Within IBW Range
  - Male IBW Range
  - Female IBW Range
- Changing eating habits to Healthy Diet Plan
- Not Smoking
- Blood Pressure within normal limits
- Get Diabetes under control and Blood Sugar within normal limits
- HDL Cholesterol within normal limits
- Eat Polyunsaturated Fats
- Avoid Fatty Foods and Meats
- Know and have a good understanding of the management of heart disease

## ***Strategies for Planning and Preparing Low Fat Diets:***

1. Guide for Healthy Snacking-Nutritious Nibblers
2. Recipes for Low-Cholesterol, Low Fat Meals
3. An Eating Plan for Healthy Americans
4. Nutrition for Fitness by the American Heart Association

## ***Try to Eat:***

- No more than 6 oz. of Meat per day-lean & without skin
- Create Low Fat dishes with pastas
- 5 to 8 teaspoons of Polyunsaturated Fats per day
- Drain all meats, chill soups and stews after cooking & remove excess fat from the top
- 3 to 4 egg yolks per week
- Limit your use of organ meats
- Use skim milk, buttermilk, or 1% milk, low fat yogurts and cheeses
- Eat 5 or more fruits & vegetables per day

# Heart Disease

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## Quiz:

(TRUE or FALSE)

1. Some of the symptoms of heart disease are pain, mild pressure, tightness in the chest and arms and this is always continuous.
2. The causes of a heart attack are age, family history, male, high blood cholesterol levels, high blood pressure, diabetes, and obesity.
3. An acute heart attack is a myocardial infarction.
4. More than 1/2 million die per year with CHD.
5. 1.5 Million per year have heart attacks and it is the Number 1 killer.
6. I can avoid heart attacks by not smoking, maintaining IBW, eating a low fat, low cholesterol diet, exercising regularly, keeping blood sugar, cholesterol, and blood pressure within normal limits.
7. When you have an acute heart attack the blood supply to the heart is decreased, cells in the heart muscle die and if it is a severe attack it can cause permanent damage or even death.
8. 70% of those who have heart attacks can return to a normal life within months.
9. 2 Symptoms of heart enlargement are: Bluish skin and nails and also fluid retention, also included are swollen ankles, chest pain, dizziness or fainting, shortness of breath, and excessive fatigue along with abnormal heart rhythms.

# Heart Disease

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## Answers:

(TRUE or FALSE)

1. Some of the symptoms of heart disease are pain, mild pressure, tightness in the chest and arms and this is always continuous. **False**
2. The causes of a heart attack are age, family history, male, high blood cholesterol levels, high blood pressure, diabetes, and obesity. **True**
3. An acute heart attack is a myocardial infarction. **True**
4. More than 1/2 million die per year with CHD. **True**
5. 1.5 Million per year have heart attacks and it is the Number 1 killer. **True**
6. I can avoid heart attacks by not smoking, maintaining IBW, eating a low fat, low cholesterol diet, exercising regularly, keeping blood sugar, cholesterol, and blood pressure within normal limits. **True**
7. When you have an acute heart attack the blood supply to the heart is decreased, cells in the heart muscle die and if it is a severe attack it can cause permanent damage or even death. **True**
8. 70% of those who have heart attacks can return to a normal life within months. **True**
9. 2 Symptoms of heart enlargement are: Bluish skin and nails and also fluid retention, also included are swollen ankles, chest pain, dizziness or fainting, shortness of breath, and excessive fatigue along with abnormal heart rhythms. **True**

# Heart Disease

## Education Record for Dietary Department

Date: \_\_\_\_\_ Time: \_\_\_\_\_ Instructor: \_\_\_\_\_

Title: Heart Disease

Persons in Attendance-sign below- all employees\*\*\*

A synopsis of the in-service includes:

- Symptoms of heart attack
- What to avoid
- What happens when you have an acute heart attack,
- Symptoms of heart defects
- Exercise and your heart
- Types of cholesterol
- Sources of saturated fats and cholesterol

Signatures:

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Responses and Comments:

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# CERTIFICATE

1 HOUR ON -HEART DISEASE

CERTIFICATE FOR: \_\_\_\_\_

DATE: \_\_\_\_\_

TITLE: HEART DISEASE

BY: FOOD FITNESS FIRST, INC. <sup>TM</sup>

SIGNATURE: \_\_\_\_\_

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