

Do you have trouble making sense of nutrition messages about fat and cholesterol? You probably have heard many confusing nutrition messages about cholesterol, saturated fat and heart disease from the public, television, radio, internet, health professionals, and many other resources. If so, then this Click and Learn Course may be just what you have been looking for to help you and your family have a heart healthy lifestyle. The Heart Healthy Living Click and Learn Course is designed to help you understand the relationship of nutrition, weight maintenance, and daily physical activity to heart disease. This information should also help you learn ways to use this knowledge to reduce the risk factors of high blood cholesterol and triglyceride levels. Think about it – the more you know about coronary heart disease and the methods to control it, the better you will be able to make lifestyle changes to promote better health.

Are You At Risk? Take this quiz to determine your personal heart disease risk. How many risk factors for heart disease do you have?

Do you:

- have high blood cholesterol (240 mg/dL or greater)?
☐ Yes
☐ No
- have high blood pressure (140/ 90 mmHg or higher or take blood pressure medication)?
☐ Yes
☐ No
- smoke cigarettes?
☐ Yes
☐ No
- have a family history of heart disease before the age of 55?
☐ Yes
☐ No

Are you:

- obese (30 % or more overweight)?
☐ Yes
☐ No
- male? (Men have 2 to 3 times the risk of heart disease as women.)
☐ Yes
☐ No

If you answered “yes” to two or more questions, you are at risk of getting heart disease. If your blood cholesterol level is 200 mg/dL or greater, consult your physician.

Statistics

- Coronary heart disease is America's number one killer.
- Over 7 million Americans suffer from coronary heart disease.
- Heart disease is the leading cause of death among American women.
- Each year, more than a million people in the United States have a heart attack and about half (515,000) of them die.

What Affects Your Cholesterol Levels?

Several things affect cholesterol levels. Not all things can be controlled, but you can take an active role to lower your cholesterol. These are some risk factors that you can control:

- **Diet** – Foods high in saturated fat, trans fatty acids and cholesterol make your blood cholesterol level go up. Cholesterol in food matters, but saturated fat is the main culprit affecting cholesterol levels. Reducing the amount of saturated fat and cholesterol (found in animal products) in your meals as well as trans fatty acids (found in hard margarine and shortening - most often in baked goods and fried foods) can help lower your blood cholesterol level.
- **Weight** – Being overweight tends to increase your cholesterol and is a risk factor for heart disease. Lose weight to help lower LDL and total cholesterol levels.
- **Physical Activity** – Not being physically active is a risk factor for heart disease, but regular physical activity can help raise HDL (good) cholesterol and lower LDL (bad) cholesterol levels. Plus regular physical activity helps you lose weight. Everyone should try to be active physically for 30 minutes on most days--if not all days.
- **Smoking** – Cigarette smoking can increase your risk of heart disease. Just stop the habit to reduce your heart disease risk.

There are two risk factors that you cannot change which also affect your cholesterol levels:

- **Heredity** – High blood cholesterol can run in your family. Your genes, to a certain point, can determine how much cholesterol your body makes naturally.
- **Age and Gender** – As women and men age, their cholesterol levels tend to rise. Before menopause, women have lower total cholesterol levels than men of the same age. After the age of menopause, women's LDL levels tend to rise.

Know Your Cholesterol Number

If your blood cholesterol is 240 or greater, you have more than twice the risk of experiencing heart disease as someone whose number is 200. Fortunately, high blood cholesterol is one of the major risk factors for heart disease that you can do something about.

Heart disease is the leading cause of death in the United States. But research has shown that a diet low in fat and cholesterol can lower blood cholesterol and reduce the risk of heart disease.

High blood cholesterol is one of the three major risk factors for heart disease that you can change. The other two are cigarette smoking and high blood pressure. A risk factor increases the chance of getting the disease.

Cholesterol, a fat-like substance, builds up in the walls of your arteries when too much is in your blood. Over time, this buildup leads to "hardening of the arteries" or atherosclerosis, which slows down blood flow to the heart. Blood carries oxygen to the heart so if your blood cannot reach your heart, you may suffer

chest pain. If the blood is completely cut off from reaching any portion of the heart, the result is a heart attack.

Because high blood cholesterol does not have any symptoms, people are unaware that their levels are too high. In 2002, the National Cholesterol Education Program recommended that everyone 20 years or older should have their cholesterol measured at least once every 5 years. The blood test called “lipoprotein profile” is the best blood test to find out your cholesterol numbers. If this is not available, knowing your total cholesterol and HDL cholesterol can give you a general idea about your levels.

<u>Total Cholesterol Level</u>	<u>Category</u>
Less than 200 mg/dL*	Desirable
200 - 239 mg/dL	Borderline High
240 mg/dL and above	High

<u>LDL Cholesterol Level</u>	<u>LDL Category</u>
Less than 100 mg/dL	Optimal
100 - 129 mg/dL	Near/above Optimal
130 - 159 mg/dL	Borderline High
160 - 189 mg/dL	High
190 mg/dL and above	Very High

**Cholesterol levels are measured in milligrams (mg) of cholesterol per deciliter (dL) of blood.*

- LDL- Low Density Lipoproteins or (bad) cholesterol is the main source of cholesterol arterial buildup/blockage.
- HDL- High Density Lipoproteins or (good) cholesterol protects against heart disease, so higher numbers are better. HDL levels less than 40 mg/dL is low and considered a major risk factor. HDL levels greater than 60 mg/dL helps lower your risk for heart disease.
- Triglycerides can also raise heart disease risk. Levels that are high (200 mg/dL or more) or borderline high (150-199 mg/dL) may need treatment in some people.

So, have you had your cholesterol levels checked lately? Did you have it checked at a screening in a shopping mall, a grocery store, or at a health fair sponsored by your local hospital? If so, then you may be asked to see your doctor for a second measurement to verify the accuracy of your first one.

Women and Heart Disease

Many women hold on to the myth that only men are at a high risk of dying from heart disease. Most women, in fact, believe they are more likely to die from breast cancer than heart disease. The reality is that heart disease is the number one cause of death and illness for American women.

The American Heart Association recently released a survey with disturbing results: Only 8 percent of women know the facts about heart disease. That means that 92 percent of women do not know all they could to help protect themselves against the number one killer.

This information is dedicated to helping you understand and pass along information on measures toward preventing heart disease among women.

Cardiovascular disease is a disease of the heart or blood vessels. Cardiovascular diseases include heart, disease, heart attack, stroke, and atherosclerosis.

Getting the facts

Though numbers aren't always the best way to get a person's attention, here are some astounding ones that may help you to dispel myths and get the word out about women and heart disease:

- ♥ One in ten American women aged 45-64 years has some form of heart disease.
- ♥ One in four women aged 65 and over has some form of heart disease.
- ♥ In 1996, about 19,600 women under age 65 died of coronary heart disease; 35 percent of them were under age 55.
- ♥ Each year about 250,000 American women die of coronary heart disease, the main form of heart disease.
- ♥ Each year, approximately 90,000 women die of stroke.
- ♥ In 1996, all cardiovascular diseases combined claimed the lives of more than 505,930 American women. In the same year, 453,297 men died of these diseases.
- ♥ Statistics on cancer for 1996, by comparison, show 43,091 women died of breast cancer and 61,741 women died from lung cancer. All forms of cancer combined claimed the lives of 257,635 women.
- ♥ Forty-two percent of women who have heart attacks die within one year compared to 24 percent of men.
- ♥ During the first six years after a heart attack, the rate of having a second attack is 33 percent for women compared with 21 percent for men.
- ♥ Coronary heart disease is the single largest killer of American women.

What are cardiovascular diseases?

Cardiovascular diseases are diseases of the heart and blood vessel system, such as coronary heart disease, heart attack, high blood pressure, stroke, and angina (chest pain).

What is coronary heart disease?

The heart pumps blood through a complex network of arteries and veins to all vital organs of the body. Thus, it is essential that your heart, arteries, and veins stay in good condition. Arteries supply blood to different parts of the body and are named accordingly; those supplying the heart are called coronary arteries. When the coronary arteries are negatively affected, the result is coronary heart disease.

Coronary heart disease results when the inside of the coronary artery walls become narrowed with fatty deposits. This narrowing reduces blood-flow to the heart and increases chances of a blood clot blocking the artery, preventing oxygen and nutrients from getting to the heart, resulting in a heart attack.

Common symptoms

As coronary arteries become narrowed, common symptoms people often experience include:

- ♥ Chest pain or tightness, known as angina. This pain may spread to the left shoulder or arm, or to the neck and jaw.
- ♥ Uncomfortable pressure, fullness, squeezing, or pain in the center of the chest that lasts more than a few minutes or goes away and comes back.
- ♥ Chest discomfort with lightheadedness, fainting, sweating, nausea, or shortness of breath.

Unfortunately, until recently, women have been excluded from research studies on heart disease.

Thus, doctors and researchers are not certain whether heart disease develops the same way, has the same symptoms, or responds to treatment the same way as in men.

Some symptoms found to be common among women thus far include the following:

- ♥ Strange pain in the chest, shoulder, shoulder blade, abdomen, or jaw.
- ♥ Nausea or dizziness.
- ♥ Shortness of breath and difficulty breathing.
- ♥ Unexplained anxiety, weakness, or fatigue.
- ♥ Palpitations, cold sweat, or paleness.

Women's symptoms may be different because:

- ♥ Women's hearts are smaller.
- ♥ Women's blood vessels are smaller.
- ♥ Women's nervous systems and pain awareness' are different.

A woman's best strategy is to:

- ♥ take heart disease seriously
- ♥ don't underestimate the importance of preventing risk factors within your control
- ♥ insist your doctor look for signs of heart disease should recurrent chest pain occur

Risk factors

Some women have more risk factors for cardiovascular diseases than others. Risk factors are traits or habits that make a person more likely to develop a disease. Although some risk factors for cardiovascular disease cannot be changed, many risk factors are wholly changeable or controllable.

Unchangeable risk factors

- ♥ Increasing age
- ♥ Family history
- ♥ Race

Changeable risk factors

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

In addition to personal risk factors, other factors may also play a role in a woman's risk for developing heart disease.

Other factors

- ♥ Stress
- ♥ Birth control pills
- ♥ Alcohol
- ♥ Hormones and menopause
- ♥ Aspirin
- ♥ High triglyceride levels
- ♥ Homocysteine

Recent research has shown that high blood levels of homocysteine (an amino acid found normally in the body) may increase a person's chances of developing heart disease, stroke, and reduced blood flow to the hands and feet. Levels of homocysteine seem to be affected by the consumption of three vitamins:

1. Folic acid (good sources include citrus fruits, tomatoes, vegetables, whole- and fortified- grain products, beans, and lentils)
2. Vitamin B6 (good sources include meat, poultry, fish, fruits, vegetables, and grain products)
3. Vitamin B12 (good sources include meat, poultry, fish, milk, and other dairy products).

People who consume less than the recommended daily amounts of these vitamins are more likely to have higher homocysteine levels. Recommended daily amounts are 400 micrograms of folic acid, 2 milligrams of B6, and 6 micrograms of B12. Though it has not been proven that lowering homocysteine levels will prevent heart disease, women can help protect their health by getting enough of these vitamins.

Unchangeable risk factors

- ♥ **Increasing age** – The older a woman gets, the more likely she is to develop heart disease. While men tend to have heart attacks earlier than women, the risk for women increases after menopause. Scientists believe the hormone estrogen, produced by a woman's body, offers some protection against heart disease until menopause. In addition, a tendency towards other heart-related problems seems to increase with age. Older women, for example, are more likely to develop high blood pressure, high cholesterol levels, to have diabetes, to be overweight, and to be less physically active than younger women.
- ♥ **Family history** – Both women and men are more likely to develop cardiovascular disease if a close blood relative has developed it. Additionally, if a woman has had a previous heart attack or stroke, she has a higher risk for having a second heart attack or stroke.
- ♥ **Race** – African American women are at greater risk of developing heart disease than white women, partly because, on average, they have higher blood pressure levels. In fact, African American women have a death rate from high blood pressure that is almost five times greater than the rate for white women.

Heart Healthy Food Shopping

What's the first step in lowering blood cholesterol levels? Most people think they have to stick to some boring, unsatisfying, rigid meal plan in order to lower their blood cholesterol. Not so! Changes can be healthful, easy, and tasty. Begin by being more selective about the foods you eat and follow the recommended number of servings from the USDA MyPyramid Food System. Choose lower fat foods to replace those higher in fat. Your goal is to eat a diet lower in saturated fat and cholesterol. The National Heart, Lung and Blood Institute has these recommendations for total fat, saturated fat and cholesterol for

people with high blood cholesterol:

1. Reduce your total fat intake to 30% or less of your total daily calories.
2. Limit saturated fat to less than 7% of total daily calories.
3. Limit cholesterol intake to less than 200 mg per day.
4. Increase the amount of soluble fiber (whole grains & vegetables) in your meals.

Make changes gradually so they are more likely to become habits that will last a lifetime. Here is a list of helpful hints to get you started:

- Drink 2 or more servings of 1% or skim milk daily. If you drink whole milk, switch to 2% milk and then eventually to 1% or skim so you get the same nutrients without the fat. Once you have trained your taste buds, they won't know the difference.
- Use egg whites and egg substitutes in place of whole eggs. Keep egg yolk consumption to no more than 4 per week.
- Limit your consumption of cheese. Select cheese varieties with less than 6 grams of fat per ounce (part-skim mozzarella, string cheese or those made with fat substitutes).
- Choose two 2-3 ounce servings daily of lean meats, poultry, and fish. Trim all excess fat before cooking. Remove the skin from poultry to reduce the fat by 1/3.
- Switch from butter to margarine. Margarine contains less saturated fat than butter and tub margarine contains less saturated fat than margarine in stick form. Go easy on the amount you use since all types get 100% of their calories from fat.
- Eat plenty of vegetables—fresh, frozen, or canned (3 to 5 servings daily).
- Eat plenty of fruit—fresh, frozen, canned, or dried (2 to 4 servings daily).
- Eat more whole grain products (6-11 servings daily).

Prepare Food Right—Ensure It's Light

To prepare foods lower in fat, start by looking at the way you cook foods. Frying in fats such as oils, butter or margarine adds fat to foods. Baking and steaming don't require fat. Low-fat cooking methods are only low-fat if you don't add fat to the food while you're preparing or eating it.

Suggestions for low-fat cooking methods are baking, steaming, broiling, roasting, microwaving, boiling, grilling, braising, simmering, and stir frying. Limit the times a week that you prepare food for the family using these high-fat cooking methods: frying, sauteing, basting with fat, and cooking with fatty sauces and gravies.

There are many choices of condiments which can be used as fat replacements in recipes: barbecue sauce, catsup, chili sauce, Dijon mustard, fat-free salad dressing, flavored vinegars, jelly, pickle relish, salsa, soy sauce, spaghetti sauce, teriyaki sauce and Worcestershire sauce.

It's not necessary to throw away your favorite recipes once you've changed to a low-fat lifestyle. You can make baked goods, meat, pies, and casseroles that are lower in fat. Here are some ideas for recipe substitutions:

Reduce fat. Cut butter and oils by one third to one half in most recipes. Experiment when modifying the fat content of baked goods, since fat affects the texture. Use some of the following suggestions to lower the fat in your recipes:

- Use just a spritz of oil or non-stick cooking spray when sauteing food.
- Select skim-milk, part-skim & low-fat cheeses over whole-milk cheeses.
- Replace fatty meats with lean or trimmed meats.

- Substitute ground turkey or chicken (white meat only) for ground beef.
- Remove skin from poultry.
- Bake, broil, roast, or stew meat instead of frying it.
- Substitute low-fat yogurt in place of sour cream or mayonnaise.
- Substitute low-fat cottage cheese, ricotta cheese, or cream cheese in place of mayonnaise or cream cheese.
- Use nonfat or 1% milk in place of whole or 2% milk.
- Use no more than four egg yolks per week. Use all the egg whites or egg substitute you want.
- Decrease the use of butter, margarine, cheese, ice cream, rich sauces, gravies, shortening and oils, salad dressings, avocados and nuts.
- Check Nutrition Facts panel on food labels to determine how many grams of fat or saturated fat are in a serving.
- Choose a margarine by checking the first ingredient on the label. The most healthful choice is the margarine in which the first ingredient on the label is liquid oil (instead of hydrogenated fat), and the one with high polyunsaturated fatty acids such as corn, safflower, soybean, cottonseed, sunflower and sesame or high mono-unsaturated fatty acids such as olive, peanut and canola oils.
- Use a minimum amount of fat to make muffins, quick breads and biscuits – 1 to 2 tablespoons per cup of flour.
- Use the minimum amount of fat for cakes – 2 tablespoons per cup of flour.
- Soft, drop cookies generally contain less fat than crisp, rolled cookies. The fat level usually can be adjusted to 2 tablespoons per cup of flour. Lowering the fat too much in rolled cookies can make the dough difficult to roll out.
- Choose margarine instead of butter.
- Select olive, canola, corn, soybean, safflower, or sunflower oil instead of palm or coconut oils.
- Substitute two egg whites for one whole egg.
- Use evaporated, powdered, or liquid skim milk instead of regular evaporated milk, cream, half-and-half and non-dairy creamers.

Increase intake of foods rich in starch/ fiber.

- Use up to half whole-wheat flour for white flour in recipes.
- Substitute brown rice for white rice.
- Eat whole grain pasta more often than white pasta.
- Choose whole grain breads and cereals instead of white breads.

Reduce salt.

- Use half the salt or omit it completely.
- Flavor with herbs and spices instead of salt.
- Limit the use of high-sodium ingredients such as canned or dried soups, some frozen foods, soy sauce, and packaged mixes.
- Substitute cream sauces made from skim milk for canned soups in casseroles.

Reduce sugar.

- Use one-half the amount of sugar specified.
- Use fresh, frozen, or canned fruits without added sugar instead of sweetened fruits.
- When using fruit packed in heavy syrup, pour off the syrup and rinse the fruit in warm water.
- Gradually decrease the sweetener in baked items by one-fourth to one-third until you obtain an acceptable product.
- Add cinnamon, cloves or vanilla to hot drinks and baked products instead of sugar.

- Try basil in fruits, vegetables and meats, and add cardamon, coriander, nutmeg, mace, cinnamon or ginger to breads, cakes and cookies to create a light, sweet taste without added sugar.
- Use 3 tablespoons cocoa for each ounce of baking chocolate.
- Use ½ cup sugar per cup of flour in cakes. (Cakes with less sugar may be more like a quick bread than a cake.)
- Use 1 tablespoon sugar per cup of flour in muffins and quick breads.

Count Total Daily Calorie Intake

Here is a formula that may help you understand the relationship between calories and weight gain.

- 140 extra calories per day (equal to one can of soda) X 365 days per year = 51,100 calories per year.
- 1 pound of body fat = 3500 calories.
- 3500 divided into 51,100 = **14.6 pounds of weight gain per year.**

Heart Healthy Cooking Methods

Microwave and/or steam:

- Lean meats, poultry or fish without added fat, sweetened sauces, gravies or breading
- Vegetables and fruits without added sugar, fat, flour or sauces

Barbeque:

- Lean meats, poultry, fish or vegetables flavored with tomato juice, lemon juice, lemon-pepper, garlic or light Italian salad dressing rather than sauces that contain fat or sugar

Braise, broil, stir-fry, roast, bake, boil or stew:

- Lean meats, poultry, fish or vegetables without added fat or sugar
- Trim excess fat from meat; remove skin from poultry

The Food Label

The Nutrition Labeling and Education Act established the format for labeling food products. The label provides consumers with the information needed to assist them in food selection. Information must be on all food products under FDA (Food and Drug Administration) jurisdiction (domestic or imported):

- Serving size ~determined by manufacturer and expressed in both metric and household measures. Nutrition information on the label is based on the serving size.
- Calories ~Listed in two ways: number of calories per serving and number of calories from fat.
- Total Fat, Saturated Fat and Trans Fats ~ Listed in grams per serving and percent of the Daily Value. Calories from fat are also given on the label to help figure how many calories from fat by the calories per serving. Then multiply this number by 100 to get the percentage of calories from fat.
- Cholesterol ~As you know people with high blood cholesterol (greater than 240 mg/dl) are recommended to consume less than 200 mg of Cholesterol per day.
- Sodium ~The Daily Value information recommends that healthy Americans limit sodium to 2,400 mg per day.
- Total Carbohydrate ~Total carbohydrate is listed in grams as well as percent of the Daily Value. The total carbohydrate contains both starch and sugar.
- Sugar ~ given in grams, represents both naturally occurring sugar and added sugar. 4 grams of sugar = 1 tsp

- Fiber ~ given in grams, can be found in most plant products (bread, cereal, pasta, rice, fruits, vegetables, and nuts)
- Protein ~ Listed in grams (1 ounce is equal to about 30 grams).
- Vitamins and Minerals ~ The percentage of Daily Value for vitamins A & C, calcium and iron are listed on the food label. Percentages are based on the current Recommended Daily Allowances (RDA).

What is a daily value?

Daily value is the intake recommended daily for a vitamin, mineral, or other food component, based on a 2,000 calories per day diet. The chart at the bottom of the label shows Daily Values for fat, saturated fat, carbohydrates and fiber levels for 2,000 and 2,500 calories.

Consumers can use the Daily Value percentages to see how a food fits into an overall diet. Keep in mind that Daily Values may vary, depending on an individual's calorie needs. Consult with a registered dietitian if you have further questions about daily values.

REFERENCES

- Eating for a Healthy Heart, Prepared by Jennifer Elsik, MA, RD, LD, Scott & White Memorial Hospital
- www.mypyramid.gov
- Special Food Needs Reference Guide, Texas Cooperative Extension. Prepared by Mary K. Bielamowicz, Ph.D., R.D.; L.D.; Professor and Extension Nutrition Specialist
- Heart Smart Letter Series, Texas Cooperative Extension. Prepared by Mary K. Bielamowicz, Ph.D., R.D.; L.D.; Professor and Extension Nutrition Specialist
- Culinary Hearts Kitchen, American Heart Association.

COOKBOOK SUGGESTIONS

All American Low-fat Meals in Minutes by M.J. Smith.
New American Heart Association Cookbook: 7th Edition.
American Heart Association Low-fat, Low-Cholesterol Cookbook: 3rd Edition.
Eat and Stay Slim, Better Homes and Gardens
American Heart Association Low-Salt Cookbook: 2nd Edition.
Jane Brody's Good Food Book

WEBSITES TO TRY

Texas Cooperative Extension – Family & Consumer Sciences: <http://fcs.tamu.edu/>
 American Dietetic Association: <http://www.eatright.org/Public>
 American Heart Association: <http://www.deliciousdecisions.org> or www.americanheartassociation.org
 National Heart, Lung, Blood, Institute & National Institute of Health: <http://www.nhlbi.nih.gov/>
 Recipe converting program: www.dietpower.com
 Information about restaurants: www.dietfacts.com or www.calorie-count.com

Heart Healthy Living

Please complete this short evaluation form after completing the Heart Healthy Living Click and Learn Course.
Return to the Rockwall County Extension Office by:

- email – j-squier@tamu.edu
- FAX – 972-882-0374
- Mail – Janie E. Squier, 101 S. Fannin, Rockwall, Texas 75087
- Drop off at the Extension office located in the Courthouse Annex

In December, the participants who submit a completed satisfaction survey will be eligible for a drawing for a free cookbook of their choice (valued at \$25.00).

Overall, how satisfied are you with the online method of receiving information?

- ☐ Not at all ☐ Slightly ☐ Somewhat ☐ Mostly ☐ Completely

How satisfied are you with the content of the Heart Healthy Living Click and Learn Course?

1. Accuracy of information

- ☐ Not at all ☐ Slightly ☐ Somewhat ☐ Mostly ☐ Completely

3. Helpfulness of the information for you and your family

- ☐ Not at all ☐ Slightly ☐ Somewhat ☐ Mostly ☐ Completely

4. Length of the information given in the Click and Learn Course

- ☐ Not at all ☐ Slightly ☐ Somewhat ☐ Mostly ☐ Completely

5. Quality of course materials

- ☐ Not at all ☐ Slightly ☐ Somewhat ☐ Mostly ☐ Completely

What additional information in this subject area would be helpful to you?

Name and Address or Phone Number (so we can contact you after the drawing for prizes):