

Modifying Fat Intake To Minimize Cardiovascular Risk

Target Audience: People with diabetes; people wishing to prevent or control cardiovascular disease

Objectives: Participants will:

1. Be able to identify major modifiable risk factors for cardiovascular disease.
2. Be able to define and explain the lipid terminology.
3. Be able to choose the better fats for use in food preparation.

Time Required: 30 minutes; for a 15-minute presentation, concentrate on effects and sources of cholesterol, saturated fat, trans fatty acids, and unsaturated fats in the diet and eliminate the activity

Props: Long plastic tubing; small can of hydrogenated shortening; oil bottle; labels of various snacks with different fat contents: potato chips, pretzels, butter crackers, animal crackers, container of premium ice cream, container of frozen low-fat yogurt, fat-free milk, whole milk, reduced-fat cheddar cheese, regular cheddar cheese; food models or yellow squares of cardboard or construction paper representing pats of butter or margarine

Complete Book of Food Counts by Corinne Netzer

Handouts: “Lipids”; “Solve the Fat Mystery”

AV Materials: Overheads and overhead projector

Lesson

There are many risk factors for heart disease and stroke. Tell me what some risk factors are for heart disease and stroke. *(Participants will take turns identifying risk factors. Write them on a blank overhead.)*

Possible answers: smoking, sedentary lifestyle, high blood pressure, high cholesterol, high fat intake (especially saturated fats), stress, male gender, high triglycerides and being overweight.

Most of these risk factors, except being a male, can be modified. We will focus today on control of fat and cholesterol and how they can influence cardiovascular risk. Let’s look at the handout that defines all the lipids that influence cardiovascular risk. *(Give out “Lipids” handout and review.)*

(Show overhead entitled “Sources of Cholesterol and Fats.”) Be aware that cholesterol in food is only found naturally in animal foods. Plant or animal foods, however, can contain saturated or trans fatty acids.

You should know your total cholesterol level, your levels of HDL- and LDL-cholesterol, and your triglyceride level. (*Show overhead entitled “Blood Fat (Lipids) Goals.”*) As you can see, the guidelines for those with diabetes are stricter than for people without diabetes. This is also true for those who already have had a heart attack or stroke. Ideally your total cholesterol should be less than 200, your HDL should be more than 40 (HDL for women should be over 45), your LDL should be less than 100, and your triglycerides should be less than 150. HDL for those with diabetes should be more than 45 for men and greater than 50 for women. LDL should be under 100.

To control blood cholesterol levels, we need to control saturated and trans fatty acids. Cholesterol in food does not appear to raise blood cholesterol levels as much as these two types of fat do. However, the American Heart Association (AHA) does suggest restricting cholesterol intake to less than 300 milligrams per day.

(*Show overhead entitled “Calculating Fat Grams.”*) An easy way to cut saturated fat and trans fats is to control total fat. The AHA and other organizations recommend that people get 30 percent or less of their calories from fat. To calculate your fat gram allotment, divide your desired weight by 3. Then keep track of your fat intake by reading labels or using food nutrient books. (*Show Complete Book of Food Counts by Corinne Netzer.*)

Activity

1. Have participants calculate their own fat allowance. (*Show overhead entitled “Percent Fat Individualized.”*) As we said, for the average person, keeping fat intake to 30 percent or less of calories is ideal. There is a small group, however, that does not handle a low-fat diet well. These people seem to need a larger percentage of fat in their diets to control triglyceride levels. These people convert excess carbohydrate into triglycerides. They need a *modified* fat intake. They still need less saturated fat and trans fatty acids, but they need a higher intake of mono-unsaturated fats and omega 3 fatty acids. They may need up to 40 percent of their calories from fat but they must also control their weight and alcohol intake to control their blood fats.

If your triglyceride levels are high and following a low-fat diet does not seem to improve them or seems to make them worse, you may need a meal plan with a higher proportion of mono-unsaturated fats and omega 3 fatty acids. This meal plan is not the typical American diet. A registered dietitian or nutritionist can help you change your food choices to include the correct amount of mono-unsaturated fats. In general this means eating more fish; nuts; nut butters; and canola, peanut, and olive oils; and eating less meat, high-fat dairy products, and fats that are solid at room temperature. You must add mono-unsaturated fats carefully to control calories and prevent weight gain.

No matter what eating plan you choose, you will need to substitute liquid oils and fish oils for other animal fats, hydrogenated oils, and tropical oils.

Until now trans fatty acids have not been on the nutrition label. (*Show overhead entitled “Nutrition Facts.”*) The FDA has now proposed that trans fatty acids be included in the amount of saturated fat listed on the label. Also, you can use the ingredient list on the label to find out which foods contain trans fatty acids. If the ingredient list has partially hydrogenated and hydrogenated vegetable oil listed, you know it has trans fatty acids.

Clearly, oils lower LDL cholesterol better than more solid sources of fat. So try to use small amounts of oil instead of margarine or shortening.

(Show overhead entitled "Trans Fatty Acids.") As you can see, most of the trans fatty acids we get will not be on the label. A good portion will be from food we eat in restaurants.

A way to remember which type of fat to choose is to picture this tube as your artery. *(Show plastic tubing.)* Liquid oil easily flows through *(act like the oil is being poured into the artery)*, but shortening *(show shortening can)*, which is high in trans fatty acids, will clog it like a plaque that builds up on the artery and blocks the blood flow to the heart or brain causing a heart attack or stroke.

2. Have participants identify low-fat and high-fat snacks by guessing the fat content of different foods. *Have participants write their answers on the "Solve the Fat Mystery" handout. To show answers, place food models or yellow squares of paper representing pats of butter or margarine next to each product to show fat content. As you can see, better choices can make a big difference on how much fat you get in your diet. Reading labels and choosing lower-fat and modified-fat foods can make a big difference on your cholesterol and triglyceride levels.*

To summarize, know your blood cholesterol and triglyceride levels. To keep them under control, eat less saturated fat, trans fatty acids, and dietary cholesterol. Instead substitute controlled amounts of poly- and mono-unsaturated fats. This means eating less animal fat and hydrogenated fat by substituting liquid oil or very soft margarine more often. The food label is an important source of information about the type and amount of fat in a food.