

You can reduce your risk for heart and vascular disease by making healthy food choices.

Heart-Healthy Nutrition

Coronary artery disease (CAD) is a leading cause of death in the United States. In CAD, deposits of fat, cholesterol and calcium build up inside the artery (atherosclerosis). These deposits are called “plaque.” Like the inside of a rusty water pipe, the wall of the artery becomes rough, hard and more narrow. The flow of blood and oxygen is slowed or blocked. This may cause chest pain or a heart attack. Atherosclerosis also is a major cause of stroke and vascular disease.

Reduce your risk for heart and vascular disease by making healthy food choices. An important first step is to be aware of your blood cholesterol levels.

Your Blood Tests

Total Blood Cholesterol levels should be less than 200 mg/dL. Your liver can make all the cholesterol you need, but we also eat cholesterol in food. As your cholesterol level rises above 200, your risk for heart attack also increases.

Low Density Lipoprotein (LDL) adds to the build-up of cholesterol in the arteries. High levels may increase the risk of heart attack and stroke. Desirable levels are less than:

- 160 mg/dL if you are at low risk for heart and vascular disease (0 to 1 risk factors)
- 130 mg/dL if you have 2 or more risk factors
- 100 mg/dL if you have cardiac or vascular disease or are a diabetic.

High Density Lipoproteins (HDLs) are known as the “good” cholesterol. They carry the cholesterol away from the body cells and tissues to the liver for excretion. Higher levels of HDLs are linked with a lower risk of heart attack. Desirable levels are greater than 40 mg/dL for men and 50 mg/dL for women.

Triglycerides are a type of fat in your body. They are carried in the blood and are broken down for energy. Sugar, alcohol and saturated fat may increase triglyceride levels. High triglyceride levels may add to your risk of heart attack. Desirable levels are less than 150 mg/dL.

Food Definitions

Learning more about fats found in foods will help guide you in making good nutrition choices.

Fat is one of the 3 nutrients that supply calories to the body. Fat provides 9 calories per gram. (Protein and carbohydrate provide 4 calories per gram). There are 4 types of fat:

- **Monounsaturated fat** is an unsaturated fat. It lowers total and LDL (bad) cholesterol levels without decreasing the HDL (good) cholesterol levels. Sources of these fats include olives and olive oil, canola oil, peanuts and peanut oil, and avocados. These oils are liquid at room temperature.
- **Polyunsaturated fat** is an unsaturated fat that may lower total blood cholesterol levels. These fats include liquid vegetable oils, such as safflower, sunflower, corn, soybean, sesame and cottonseed oil.
- **Saturated fat** raises both total and LDL blood cholesterol levels and is common in animal fats. A few vegetable oils are high in saturated fat, including coconut oil, palm oil, palm kernel oil and cocoa butter. This type of fat is generally solid at room temperature.
- **Trans fat** forms when vegetable oil is hardened to a solid form through a process called “hydrogenation.” Trans fats raise blood total cholesterol levels and may lower HDL cholesterol levels. Examples include margarine and shortening. Trans fats are usually found in shelf-stable foods in grocery stores, e.g., pound cake.

Cholesterol is a waxy substance only found in foods from animals, such as meat, eggs and dairy. Eating foods high in cholesterol may increase the cholesterol level in your blood.

Plant sterols and plant stanols are found in plant oils. Since their structure is similar to cholesterol, they may block cholesterol from being absorbed by the intestines. It is believed that plant sterols and stanols decrease LDL (bad) cholesterol. Sources include some butter substitutes, vegetable oils, nuts and soybeans.

Fiber is the part of foods that cannot be digested. Sources include fruits, vegetables, whole grains, nuts, seeds, beans and legumes. (See list on page 10 to learn about the amount of fiber in foods.) There are 2 main types of fiber:

- **Soluble fiber** breaks down in water. Sources include oats, beans and fruit. Soluble fiber helps lower blood LDL (bad) cholesterol levels.
- **Insoluble fiber** does not dissolve in water. This type of fiber is found in whole grains, brown rice and vegetables.

Therapeutic Lifestyle Change Guidelines

Lifestyle changes help to reduce the risk of CAD. The **Therapeutic Lifestyle Change (TLC) Guidelines** suggest that you:

- Limit fat to 25 to 35% of your total calories with no more than 7% of the total calories from saturated fat.
- Take in no more than 200 mg of cholesterol per day.
- Add 2 g of plant sterols/stanols per day to your diet.
- Limit sodium intake to 2,300 mg (unless told otherwise by your doctor).
- Set a goal of 10 to 25 g of soluble fiber per day as part of your total fiber intake of 25 to 35 g per day.
- Eat whole grains, fruits and vegetables daily.
- Maintain a healthy body weight.

Label Reading

Food labels are an easy way to help you increase your knowledge of the fat, cholesterol and sodium in the foods you choose. Food labels provide information to help you follow the TLC guidelines and lead a healthy lifestyle. (See example on page 4.)

Nutrition Facts

Serving Size: 1/2 cup (55g)
Servings Per Container: about 8

Amount Per Serving	Cereal + 125 ml. Vitamin A & D fortified skim milk	
	Cereal	milk
Calories	240	280
Calories from fat	60	70

%Daily Value**		
Total Fat 7g*	11%	11%
Saturated Fat 2g	10%	10%
Cholesterol 0mg	0%	0%
Sodium 200mg	8%	11%

Total Carbohydrate 37g	12%	14%
Dietary Fiber 5g	20%	20%
Sugars 11g		

Protein 7g		
Vitamin A	0%	8%
Vitamin C	10%	10%
Calcium	2%	15%
Iron	20%	20%
Vitamin D	0%	10%
Thiamine	40%	45%
Riboflavin	25%	35%
Niacin	2%	2%
Vitamin B6	20%	25%
Folate	8%	10%
Pantothenic Acid	4%	10%

*Amount in Cereal. One half cup skim milk contributes an additional 40 calories, 65mg sodium, 6g total carbohydrate (6g sugars), and 4g protein.

** Percent Daily Values are based on a 2,000 calorie diet. Your daily values 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	300 mg
Sodium	Less than	2,400mg	2,400mg
Total Carbohydrate		300g	375g
Dietary Fiber	25g	30g	

Calories per gram:
Fat 9 Carbohydrate 4 Protein 4

Label Lingo for Heart Health

Fat Free	Less than 0.5 grams of fat/serving
Low-fat	3 grams or less fat/serving
Reduced fat	25% less fat compared to similar food
Cholesterol free	Less than 2 mg cholesterol and 2 grams or less of saturated fat/serving
Low cholesterol	20 mg cholesterol and 2 grams or less of saturated fat/serving
Sodium Free	Less than 5 mg sodium/serving
Salt Free	
Very Low Sodium	35 mg or less sodium/serving
Low Sodium	140 mg or less sodium/serving

Making wise food choices can help you meet all your nutrition needs and keep your heart healthy. (See Pages 5 to 10 for examples of healthy food choices)

Cooking and Dining Guidelines

- Roast, bake or broil meats, trim excess fat and remove skin from poultry.
- Choose fish, poultry and legumes more often and eat smaller portions of meat.
- Avoid fried foods and fat in cooking.
- Avoid adding excess margarine, butter, salad dressing and oils to foods.
- Choose skim or 1% milk, low or reduced fat milk products and cheeses.
- Choose high fiber foods, such as fruits, vegetables and whole grains.
- Avoid adding salt to food when cooking or at the table.

A Menu Example:

Breakfast	Lunch	Dinner	Snack
1 cup cooked oatmeal	1½ to 2 cups bean soup	2 to 3 ounces fish (any variety) broiled with lemon juice or wine	¼ cup dried fruit
1 banana	Whole grain roll	1 cup steamed broccoli	3 Tbsp mixed unsalted nuts
1 cup skim milk	1 cup tossed salad with oil and vinegar dressing	Large baked potato	
1 tsp margarine or plant sterol substitute	1 cup low-fat fruit yogurt	2 Tbsp margarine or plant sterol substitute	
		½ cup rainbow sherbet	

Food Group	Choose	Decrease
Breads and Grains		
6 to 11 servings		
1 slice bread ½ english muffin, bagel	Breads – whole-grain bread, English muffins, bagels, buns, corn or flour tortillas	Biscuits, cornbreads, croissants, muffins
¾ cup most dried cereals ½ cup all other cereals	Cereals – oat, wheat, corn, multi-grain, most hot or cold cereals	Most granolas
½ cup cooked	Pasta	Pasta or rice dishes made with cream, butter or cheese sauces
⅓ cup cooked	Rice Low-fat crackers, graham, soda crackers, breadsticks, melba toast, rice cakes Homemade baked goods using unsaturated oil, skim or 1% milk, and egg substitute	Butter crackers, cheese crackers Commercial baked pastries

Food Group	Choose	Decrease
<p>Lean Meat, Poultry, Fish</p> <p>Less than 5 ounces per day</p>	<p>Beef, pork, lamb – lean cuts well trimmed before cooking</p> <p>Poultry without skin</p> <p>Fish, shellfish, tuna packed in water</p> <p>Low sodium lunch meats with less than 3 grams fat per serving</p>	<p>Beef, pork, lamb – regular ground beef, fatty cuts, spareribs, organ meats</p> <p>Poultry with skin, fried chicken</p> <p>Fried fish, fried shellfish, tuna packed in oil</p> <p>Regular luncheon meat, e.g., bologna, salami, sausage, frankfurters</p>
<p>Legumes</p> <p>½ cup cooked</p>	<p>Dried beans and peas, split peas, black-eyed peas, kidney or navy beans, lentils, tofu, natural peanut butter without added salt</p>	<p>Peanut butter made with hydrogenated oils</p> <p>Refried beans made with lard</p>
<p>Eggs</p> <p>Less than 2 yolks/week</p>	<p>Egg whites (2 whites can be substituted for 1 whole egg in recipes), cholesterol-free, low fat egg substitute</p>	<p>Egg yolks</p>
<p>Vegetables</p> <p>3 to 5 servings/day</p> <p>½ cup cooked</p> <p>1 cup raw</p>	<p>Canned vegetables, fresh or frozen without added fat or salt</p>	<p>Vegetables fried or prepared with butter, cheese or cream sauce</p>

Food Group	Choose	Decrease
Fruits		
<p>2 to 4 servings/day</p> <p>1 cup cut fruit ¼ cup dried fruit 1 medium fruit</p> <p>¾ cup juice</p>	<p>Fresh, frozen, canned or dried</p> <p>Fresh, frozen or canned fruit juice</p>	<p>Fried fruit or fruit served with butter or cream sauce</p>
Dairy Products		
<p>2 to 3 servings/day</p> <p>1 cup of milk or yogurt</p> <p>1 ounce of cheese</p> <p>¼ cup cottage cheese</p> <p>½ cup frozen dairy dessert</p>	<p>Milk – skim, ½ or 1% fat (fluid, powdered, evaporated)</p> <p>Yogurt–nonfat or low-fat yogurt or yogurt beverages</p> <p>Low fat, low sodium cheese (Ricotta, Swiss, Mozzarella, Alpine Lace®)</p> <p>Low-fat or nonfat varieties, e.g., cottage cheese – low sodium, low-fat, nonfat, or dry curd (0 to 2% fat)</p> <p>Frozen dairy dessert – ice milk, frozen yogurt (low-fat or nonfat)</p>	<p>Whole milk (fluid, evaporated, condensed), 2% fat milk (low-fat milk), imitation milk, butter milk</p> <p>Whole milk yogurt, whole milk yogurt beverages</p> <p>Regular cheese (American, blue, Brie, cheddar, Colby, Edam, Monterey Jack, whole-milk mozzarella, Parmesan, Swiss), cream cheese, Neufchatel cheese</p> <p>Cottage cheese (regular)</p> <p>Ice cream</p>

Food Group	Choose	Decrease
<p>Fats and Oils</p> <p>Less than 6 to 8 teaspoons (Includes fats and oils used in food preparation)</p>	<p>Unsaturated oils – safflower, sunflower, corn, soybean, cottonseed, canola, olive, peanut</p> <p>Margarine – made from unsaturated oils listed above, light or diet margarine, especially soft or liquid forms</p> <p>Salad dressings – made with unsaturated oils listed above, low fat or fat free</p> <p>Low-fat coffee creamer, low-fat or nonfat sour cream</p> <p>Seeds and nuts – peanut butter, other nut butters</p> <p>Cocoa powder</p>	<p>Coconut oil, palm kernel oil, palm oil</p> <p>Butter, lard, shortening, bacon fat, hard margarine</p> <p>Dressings made with egg yolk, cheese, sour cream, whole milk</p> <p>Cream, half & half, whipping cream, nondairy creamer, whipped topping, sour cream</p> <p>Coconut</p> <p>Milk Chocolate</p>
<p>Soups</p>	<p>Canned soups. Low fat and low sodium varieties such as chicken or beef noodle, minestrone, tomato, vegetable, or potato. Cream soups made with skim milk</p>	<p>Soup containing whole milk, cream, meat fat, poultry fat or poultry skin</p>

Food Group	Choose	Decrease
<p>Sweets and Modified-Fat Desserts</p> <p>Limit these foods, especially if you need to lose weight</p>	<p>Beverages – fruit-flavored drinks, lemonade, fruit punch, Crystal Light®</p> <p>Sugar, syrup, honey, jam preserves, candy made without fat (candy corn, gumdrops, hard candy), fruit-flavored gelatin</p> <p>Frozen desserts – low fat and nonfat yogurt, ice milk, sherbet, sorbet, fruit ice, popsicles</p> <p>Cookies, cake, pie, pudding prepared with egg whites, egg substitute, skim milk or 1% milk, and unsaturated oil or margarine; ginger snaps, fig and other fruit bar cookies, fat-free cookies, angel food cake</p>	<p>Candy made with milk chocolate, coconut oil, palm kernel oil, palm oil</p> <p>Ice cream and frozen treats made with ice cream</p> <p>Commercial baked pies, cakes, doughnuts, high-fat cookies, cream pies</p>

The following foods are good sources of soluble fiber.

Food Source	Soluble Fiber (grams)	Total Fiber (grams)
CEREAL GRAINS (½ cup cooked)		
Barley	1	4
Oatmeal	1	2
Oat bran	1	3
Bran flakes (½ uncooked)	1	12
FRUITS		
Apple	1	4
Banana	1	3
Blackberries (½ cup)	1	4
Citrus fruit	2	2 to 3
Nectarines	1	2
Peaches	1	2
Pears	2	4
Plums	1	1.5
Prunes (¼ cup)	1.5	3
LEGUMES (½ cup cooked)		
Black beans	2	5.5
Kidney beans	3	6
Lima beans	3.5	6.5
Navy beans	2	6
Northern beans	1.5	5.5
Pinto beans	2	7
Lentils	1	8
Chick peas	1	6
Black eyed peas	1	8
VEGETABLES (½ cooked)		
Broccoli	1	1.5
Brussels sprouts	3	4.5
Carrots	1	2.5

Northwestern Memorial Hospital's brochure, *Risk Reduction for Heart & Vascular Disease*, provides additional information about a heart-healthy lifestyle.

Health Information Resources

For more information, visit one of Northwestern Memorial Hospital's Health Learning Centers. These state-of-the-art health libraries are located on the third floor of the Galter Pavilion and on the first floor of the Prentice Women's Hospital. Health information professionals are available to help you find the information you need and provide you with personalized support at no charge. You may contact the Health Learning Centers by calling 312-926-LINK (5465) or by sending an e-mail to hlc@nmh.org.

For additional information about Northwestern Memorial Hospital, please visit our Web site at www.nmh.org.

Para asistencia en español, por favor llamar a el departamento de representantes para pacientes al 312-926-3112.

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