

What is cholesterol?

Cholesterol is a waxy substance your body uses to protect nerves, make cell tissues and produce certain hormones. Your liver makes all the cholesterol your body needs. Cholesterol can also come directly in the food you eat (such as eggs, meats and dairy products). Too much cholesterol can have negative impacts on your health.

Why is a high cholesterol level unhealthy?

While some cholesterol is needed for good health, too much cholesterol in your blood can raise your risk of having a heart attack or stroke.

The extra cholesterol in your blood may be stored in your arteries (blood vessels that carry blood from your heart to the rest of your body). Buildup of cholesterol in your arteries is known as plaque. It will cause your arteries to narrow and harden (called atherosclerosis). Large deposits of cholesterol can completely block an artery. Cholesterol plaques can also split open, leading to formation of a blood clot that blocks the flow of blood.

If an artery that supplies blood to the muscles in your heart becomes blocked, a heart attack can occur. If an artery that supplies blood to your brain becomes blocked, a stroke can occur.

Are there different types of cholesterol?

Yes. Cholesterol travels through the blood in different types of bundles, called lipoproteins.

Low-density lipoprotein (LDL) delivers cholesterol to the body. High-density lipoprotein (HDL) removes cholesterol from the bloodstream.

This explains why too much LDL cholesterol is bad for the body, and why a high level of HDL is good. The balance between the types of cholesterol tells you what your cholesterol level means (see the box below).

For example, if your total cholesterol level is high because of a high LDL level, you may be at higher risk of heart disease or stroke. If your total level is high only because of a high HDL level, you're probably not at higher risk.

Total cholesterol level

- Less than 200 is best.
- 200 to 239 is borderline high.
- 240 or more means you're at increased risk for heart disease.

LDL cholesterol levels

- Below 100 is ideal for people who have a higher risk of heart disease.

- 100 to 129 is near optimal.
- 130 to 159 is borderline high.
- 160 or more means you're at a higher risk for heart disease.

HDL cholesterol levels

- Less than 40 means you're at higher risk for heart disease.
- 60 or higher greatly reduces your risk of heart disease.

What can I do to improve my cholesterol level?

If you have high cholesterol, it may be necessary for you to make some lifestyle changes. If you smoke, quit. Exercise regularly. If you're overweight, losing just 5 to 10 pounds can help improve your cholesterol levels. Make sure to eat plenty of fruits, vegetables, whole grains and fish- all of which promote heart health. Avoid saturated and trans fats, which can raise cholesterol levels. Also limit your overall cholesterol intake to less than 300 milligrams per day and 200 milligrams if you have heart disease.

Why is healthy eating important?

When combined with exercise, a healthy diet can help you lose weight, lower your cholesterol level and improve the way your body functions on a daily basis.

The [U.S. Department of Agriculture's \(USDA\) Food Guide Pyramid](#) divides food into 6 basic food groups, consisting of 1) grains, 2) fruits, 3) vegetables, 4) meats and beans, 5) dairy and 6) fats.

The USDA recommends an adult daily diet include the following:

- 3 ounces of whole grains, and 6 ounces of grains total
- 2 cups of fruit
- 2 1/2 cups of vegetables
- 3 cups fat-free or low-fat dairy

The following are some ways to make healthier food choices and to get the recommended amounts of whole grains, fruits and vegetables and dairy.

Grains

Whole-grain breads are low in fat; they're also high in fiber and complex carbohydrates, which helps you feel fuller longer and prevents overeating. Choose breads whose first ingredient says "whole" in front of the grain, for example, "whole wheat flour" or "whole white flour"; enriched or other types of flour have the important fiber and nutrients removed. Choose whole grain breads for sandwiches and as additions to meals.

Avoid rich bakery foods such as donuts, sweet rolls and muffins. These foods can contain more than 50% fat calories. Snacks such as angel food cake and gingersnap cookies can satisfy your sweet tooth without adding fat to your diet.

Hot and cold cereals are usually low in fat. But instant cereals with cream may contain high-fat oils or butterfat. Granola cereals may also contain high-fat oils and extra sugars. Look for low-sugar options for both instant and granola cereals.

Avoid fried snacks such as potato chips and tortilla chips. Try the low-fat or baked versions instead.

Instead of this:	Try this:
Croissants, biscuits, white breads and rolls	Low-fat whole grain breads and rolls (wheat, rye and pumpernickel)
Doughnuts, pastries and scones	English muffins and small whole grain bagels
Fried tortillas	Soft tortillas (corn or whole wheat)
Sugar cereals and regular granola	Oatmeal, low-fat granola and whole-grain cereal
Snack crackers	Crackers (animal, graham, rye, soda, saltine, oyster)
Potato or corn chips and buttered popcorn	Pretzels (unsalted) and popcorn (unbuttered)
White pasta	Whole-wheat pasta
White rice	Brown rice
Fried rice, or pasta and rice mixes that contain high-fat sauces	Rice or pasta (without egg yolk) with vegetable sauces
All-purpose white flour	100% whole-wheat flour

Fruits and Vegetables

Fruits and vegetables are naturally low in fat. They add flavor and variety to your diet. They also contain fiber, vitamins and minerals.

Margarine, butter, mayonnaise and sour cream add fat to vegetables and fruits. Try using nonfat or low-fat versions of these foods. You can also use nonfat or low-fat yogurt or herbs as seasonings instead.

Instead of this:	Try this:
Fried vegetables or vegetables served with cream, cheese or butter sauces	All vegetables raw, steamed, broiled, baked or tossed with a very small amount of olive oil and salt and pepper
Coconut	Fruit (fresh)
French fries, hash browns and potato chips	Baked white or sweet potatoes

Meat, Poultry and Fish

Beef, Pork, Veal and Lamb

Baking, broiling and roasting are the healthiest ways to prepare meat. Lean cuts can be pan-broiled or stir-fried. Use either a nonstick pan or nonstick spray coating instead of butter or margarine.

Trim outside fat before cooking. Trim any inside, separable fat before eating. Select low-fat, lean cuts of meat. Lean beef and veal cuts have the word "loin" or "round" in their names. Lean pork cuts have the word "loin" or "leg" in their names.

Use herbs, spices, fresh vegetables and nonfat marinades to season meat. Avoid high-fat sauces and gravies.

Poultry

Baking, broiling and roasting are the healthiest ways to prepare poultry. Skinless poultry can be pan-broiled or stir-fried. Use either a nonstick pan or nonstick spray coating instead of butter or margarine.

Remove skin and visible fat before cooking. Chicken breasts are a good choice because they are low in fat and high in protein. Use domestic goose and duck only once in a while because both are high in fat.

Fish

Poaching, steaming, baking and broiling are the healthiest ways to prepare fish. Fresh fish should have a clear color, a moist look, a clean smell and firm, springy flesh. If good-quality fresh fish isn't available, buy frozen fish.

Most seafood is high in healthy polyunsaturated fat. Omega-3 fatty acids are also found in some fatty fish, such as salmon and cold water trout. They may help lower the risk of heart disease in some people.

Cross-over Foods

Dry beans, peas and lentils offer protein and fiber without the cholesterol and fat of meats. Once in a while, try substituting beans for meat in a favorite recipe, such as lasagna or chili.

TVP, or textured vegetable protein, is widely available in many foods. Vegetarian "hot dogs," "hamburger" and "chicken nuggets" are low-fat, cholesterol-free alternatives to meat.

Instead of this:	Try this:
Regular or breaded fish sticks or cakes, fish canned in oil, seafood prepared with butter or served in high-fat sauce	Fish (fresh, frozen, canned in water), low-fat fish sticks or cakes and shellfish (such as shrimp)
Prime and marbled cuts	Select-grade lean beef (round, sirloin and loin)
Pork spare ribs and bacon	Lean pork (tenderloin and loin chop) and turkey bacon
Regular ground beef	Lean or extra-lean ground beef, ground chicken and turkey breast
Lunch meats such as pepperoni, salami, bologna and liverwurst	Lean lunch meats such as turkey, chicken and ham
Regular hot dogs or sausage	Fat-free hot dogs and turkey dogs

Dairy

Choose skim milk or low-fat buttermilk. Substitute evaporated skim milk for cream in recipes for soups, sauces and coffee.

Try low-fat cheeses. Skim ricotta can replace cream cheese on a bagel or in a vegetable dip. Use part-skim cheeses in recipes. Use 1% cottage cheese for salads and cooking. String cheese is a low-fat, high-calcium snack option.

Plain nonfat yogurt can replace sour cream in many recipes. (To maintain texture, stir 1 tablespoon of cornstarch into each cup of yogurt that you use in cooking.) Try mixing frozen nonfat or low-fat yogurt with fruit for dessert.

Skim sherbet is an alternative to ice cream. Soft-serve and regular ice creams are also lower in fat than premium styles.

Instead of this:	Try this:
Whole or 2% milk	Non-fat or 1% milk
Evaporated milk	Evaporated non-fat milk
Regular buttermilk	Buttermilk made from non-fat (or 1%) milk
Yogurt made with whole milk	Nonfat or low-fat yogurt
Regular cheese (examples: American, blue, Brie, cheddar, Colby and Parmesan)	Low-fat cheese with less than 3 grams of fat per serving (example: natural cheese, processed cheese and nondairy cheese such as soy cheese)
Regular cottage cheese	Low-fat, nonfat, and dry-curd cottage cheese with less than 2% fat
Regular cream cheese	Low-fat cream cheese (no more than 3 grams of fat per ounce)
Regular ice cream	Sorbet, sherbet and nonfat or low-fat ice cream (no more than 3 grams of fat per 1/2 cup serving)

Fats, Oils and Sweets

Eating too many high-fat foods not only adds excess calories (which can lead to obesity and weight gain), but can increase your risk factor for several diseases. [Heart disease](#), [diabetes](#), certain types of cancer and osteoarthritis have all been linked to diets too high in fat. If you consume too much saturated and trans fats, you are more likely to develop [high cholesterol](#) and coronary artery disease.

[Sugar-sweetened](#) drinks, such as fruit juice, fruit drinks, regular soft drinks, sports drinks, energy drinks, sweetened or flavored milk and sweetened iced tea can add lots of sugar and calories to your diet. But [staying hydrated](#) is important for good health. Substitute water, zero-calorie flavored water, non-fat or reduced-fat milk, unsweetened tea or [diet soda](#) for sweetened drinks. Talk with your family doctor or a dietitian if you have questions about your diet or healthy eating for your family.

Instead of this:	Try this:
Cookies	Fig bars, gingersnaps and molasses cookies
Shortening, butter or margarine	Olive, soybean and canola oils
Regular	Nonfat or light mayonnaise

mayonnaise

Regular salad dressing
Nonfat or light salad dressing

Using fat (including
butter) to
grease pan

Nonstick cooking spray