

CHOLESTEROL

■ WHAT IS CHOLESTEROL?

Cholesterol is a type of fat that occurs naturally in the body. It has both good and bad effects on the body. Your body uses cholesterol to make hormones and to build and maintain nerve cells. Cholesterol also produces vitamin D and acids that help to digest fat. However, when your body has too much cholesterol, deposits of fat called plaque form inside blood vessel walls. This causes the walls to thicken which means less blood can flow through the blood vessel. This condition is called atherosclerosis. When blood flow is reduced, it increases the risk for heart attack or stroke.



Stages of plaque build-up inside an artery. The normal artery is on the left.

Most of the cholesterol in your blood is made by your liver from the fats, carbohydrates, and proteins you eat. You also get cholesterol by eating meat, eggs, and dairy products. Cholesterol travels through the body in the bloodstream. Since cholesterol is fatty, it doesn't mix well with blood. To travel through the bloodstream, cholesterol attaches to a protein. This makes what is called a lipoprotein. There are different types of lipoproteins. Each has a different effect on your risk of atherosclerosis and heart disease.

Low density lipoproteins (LDL) carry most of the cholesterol in the blood. LDL is the main cause of atherosclerosis. As a result, LDL is often called "bad cholesterol". High density lipoproteins (HDL) carry cholesterol in the blood back to the liver. The liver then removes the cholesterol from the body. High density lipoproteins help keep plaque from building up. HDL is called "good cholesterol".

Triglycerides also affect atherosclerosis. Triglycerides are fats that are found in nature and they are also made in the body. They come from foods high in fat, such as butter, sweets and starches. High triglyceride levels in the blood do not cause atherosclerosis. However, in some people, high triglyceride levels can cause atherosclerosis. Many people with high triglycerides may have other diseases, such as diabetes, or genetic disorders.

■ WHAT SHOULD MY CHOLESTEROL LEVELS BE?

Total Cholesterol:

Less than 200 mg/dl – desirable
200 – 239 – borderline high
240 and over – high risk

HDL (good cholesterol):

Less than 40 mg/dl – too low/at risk

LDL (bad cholesterol):

Less than 100 mg/dl – optimal
100–129 mg/dl – near optimal/above optimal
130–159 mg/dl – borderline high
160–189 mg/dl – high
Greater than 190 mg/dl – very high

Triglycerides:

Less than 150 mg/dl – desirable
150-199 mg/dl – borderline high
200-499 – high
Greater than 500mg/dl – very high

■ HOW CAN I CONTROL MY CHOLESTEROL LEVELS AND REDUCE MY RISK OF ATHEROSCLEROSIS?

You can raise your good cholesterol (HDL) levels by quitting smoking, losing excess weight and being more active (walking and exercising). Drinking alcohol can help raise HDL, but because it can also cause other problems, it is not recommended to raise HDL. There are also medications that help raise HDL levels. People can lower their bad cholesterol (LDL) by eating a diet low in saturated fats. Sometimes medication is needed as well to further lower cholesterol levels. These medications can be very effective. To lower triglyceride levels, patients are asked to lose weight, improve their diets, exercise, drink less alcohol and stop smoking.

Follow these diet guidelines to help control your cholesterol:

- Reduce the amount of cholesterol in your diet. The American Heart Association recommends eating less than 300 milligrams (mg) of cholesterol a day if you do not have heart disease. Eat less than 200 mg if you have heart disease.
- Eat less fat. Fats should not make up more than 30% of your daily calories. No more than 10% of the fat you eat should be saturated fat. If you have heart disease, no more than 7% of fat in your diet should be saturated. Some kinds of fats are better than others. Polyunsaturated and monounsaturated fats are better than saturated fats. Monounsaturated fats are found in olive oil, canola oil, and avocados. Polyunsaturated fats are found in fish and some vegetable oils. Saturated fat raises your blood cholesterol because saturated fat is changed into cholesterol in the liver. Saturated fat is found in different amounts in almost all foods. Butter, some oils, meat, and poultry fat contain a lot of saturated fat.
- Adjust the amount of calories you eat and exercise regularly to maintain a lean body weight.

To control the amount of fat and cholesterol you eat:

- Check food labels for fat and cholesterol content
- Limit the amount of butter and margarine you eat.

- Use sunflower, safflower, soybean, canola, corn or olive oil rather than tropical oils such as palm or coconut
- Use salad dressings and margarine made with polyunsaturated and monounsaturated fats
- Replace whole-milk dairy products with nonfat or low-fat milk, cheese, spreads, and yogurt
- Eat skinless chicken, turkey, fish, and meatless entrees more often than red meat
- Choose lean cuts of meat and trim off all visible fat. Keep portion sizes moderate
- Avoid fatty desserts such as ice cream, cream-filled cakes, and cheesecakes. Choose fresh fruits, nonfat frozen yogurt, popsicles, etc
- Eat less fried foods, vending machine food, and fast food
- Limit the amount of nuts you eat, especially nuts high in saturated fat. Nuts that are especially high in saturated fat are cashews, pistachios, Brazil and macadamia nuts
- Eat lots of fruits and vegetables (especially fresh fruits and leafy vegetables), beans, and whole grains daily. The fiber in these foods helps lower cholesterol
- Look for low-fat or nonfat varieties of the foods you like to eat, or look for substitutes.
- Increase consumption of fish, soy, and nuts such as almonds, pecans and walnuts.

Exercise helps lower cholesterol because it:

- Keeps your weight down
- Decreases your total cholesterol level
- Decreases your LDL (bad cholesterol)
- Increases your HDL (good cholesterol)

A good exercise program includes aerobic exercise. Aerobic exercise is any activity that keeps your heart rate up (such as swimming, jogging, walking, and cycling). You should get 20–30 minutes of aerobic exercise at least every other day. If you haven't been exercising, talk to your doctor first before starting an exercise program. Do not smoke. Smoking increases your risk of heart disease because it lowers HDL levels. High cholesterol may run in families. Know your family history and discuss it with your doctor.

The keys to controlling cholesterol levels:

- Eat healthy
- Get regular exercise
- Don't smoke
- Take your cholesterol medications as directed by your doctor
- Check you cholesterol yearly