



FROM THE OFFICE OF DR.

Cholesterol: What you need to know

Why is cholesterol important?

Cholesterol is a fat-like substance that is in our blood. Our bodies naturally produce some cholesterol. The other portion comes from animal products such as meat, eggs, butter, cheese, and whole milk. Foods from plants do not contain cholesterol.

When you have a high level of cholesterol in your blood, it builds up in the walls of your arteries. Over time, this buildup causes the arteries to narrow and become hard, which slows down blood flow to the heart. This reduced blood flow can cause chest pain when you exercise, walk, or exert yourself in any way. If the blood flow is completely blocked off to a portion of your heart, a heart attack can occur.

What do my cholesterol numbers mean?

Everyone age 20 and older should have their cholesterol measured at least once every 5 years. It is best to have a blood test called a “lipoprotein profile” to find out your cholesterol numbers. This blood test is done after a 9-hour to 12-hour fast—a period of time in which you do not eat—and gives information about your:

- Total cholesterol
- LDL (“bad”) cholesterol—the main source of cholesterol buildup and blockage in the arteries
- HDL (“good”) cholesterol—helps keep cholesterol from building up in the arteries
- Triglycerides—another form of fat in you blood.

If it is not possible to get a lipoprotein profile done, knowing your total cholesterol and HDL cholesterol can give you a general idea about

What the cholesterol numbers mean

TOTAL CHOLESTEROL LEVEL	CATEGORY
Less than 200 mg/dL	Desirable
200–239 mg/dL	Borderline high
240 mg/dL and above	High
LDL CHOLESTEROL LEVEL	CATEGORY
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
190 mg/dL and above	Very high

your cholesterol levels. If your total cholesterol is 200 mg/dL or more, or if your HDL is less than 40 mg/dL, you will need to have a lipoprotein profile done. Cholesterol levels are measured in milligrams (mg) of cholesterol per deciliter (dL).

HDL (good) cholesterol protects against heart disease, so for HDL, higher numbers are better. A level less than 40 mg/dL is low and is considered a major risk factor because it increases your risk for developing heart disease. HDL levels of 60 mg/dL or more help to lower your risk for heart disease.

Triglycerides can also raise heart disease risk. Levels that are borderline high (150–199 mg/dL) or high (200 mg/dL or more) may need treatment in some people.

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Treating high cholesterol

The main goal of treatment is to lower your LDL level enough to reduce your risk of developing heart disease or having a heart attack. Depending on your LDL level and other risk factors for heart disease (for example, cigarette smoking and high blood pressure), your doctor will ask you to make the therapeutic lifestyle changes outlined below and perhaps recommend a cholesterol-lowering drug:

- **The "therapeutic lifestyle changes" meal plan.** This is a low-saturated-fat, low-cholesterol eating plan that calls for less than 7% of calories from saturated fat and less than 200 mg of dietary cholesterol per day. The meal plan recommends only enough calories to maintain a desirable weight and avoid weight gain. If your LDL is not lowered enough by reducing your saturated fat and cholesterol intake, the amount of soluble fiber in your diet can be increased. Certain food products that contain plant stanols or plant sterols (for example, cholesterol-lowering margarines such as Benecol and Take Control) can also be added to this meal plan to boost its LDL-lowering power.
- **Weight management.** Losing weight if you are overweight can help lower LDL and is especially important for those with a cluster of risk factors that includes high triglyceride and/or low HDL levels and being overweight with a large waist measurement (more than 40 inches for men and more than 35 inches for women).
- **Physical activity.** Regular physical activity (30 minutes on most, if not all, days) is recommended for everyone. It can help raise HDL and lower LDL and is especially important for those with high triglyceride and/or low HDL levels who are overweight with a large waist measurement.

Drug treatment

Even if you require drug treatment to lower your cholesterol, you will need to continue your treatment with lifestyle changes. This will keep the dose of medicine as low as possible, and lower your risk in other ways as well.

Several types of drugs are available: "statins," bile acid sequestrants, nicotinic acid, and fibric acid derivatives. Your doctor can help decide which type of drug is best for you.

- **The statin drugs**— atorvastatin (Lipitor), cerivastatin (Baycol), fluvastatin (Lescol), lovastatin (Mevacor), pravastatin (Pravachol), simvastatin (Zocor)—are very effective in lowering LDL levels and are safe for most people.
- **Bile acid sequestrants** also lower LDL and can be used alone or in combination with statin drugs.
- **Nicotinic acid** lowers LDL and triglycerides and raises HDL.
- **Fibric acid derivatives** lower LDL somewhat but are used mainly to treat high triglycerides and low HDL.

Resources

- **Live Healthier, Live Longer.** Information on lowering cholesterol. www.nhlbi.nih.gov/chd
- **Aim for a Healthy Weight.** www.nhlbi.nih.gov
- www.nutrition.gov
- www.fitness.gov
- **Healthfinder.** A free gateway to reliable consumer health and human services information developed by the US Department of Health and Human Services. www.healthfinder.gov
- **MedlinePlus.** Up-to-date, quality health care information from the National Library of Medicine at the National Institutes of Health. www.medlineplus.gov