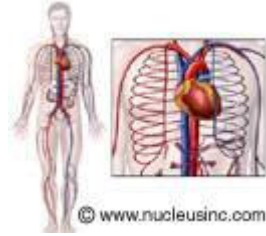


High Cholesterol

Overview

By Healthwise



What is cholesterol?

Cholesterol is a waxy, fatlike substance ([lipid](#)) that your body needs for many important functions, such as producing new cells. If you eat too many high-cholesterol foods and/or too much saturated fat or you have an inherited tendency to make too much cholesterol, your cholesterol levels may be too high. This increases your risk for hardening of the arteries, or [atherosclerosis](#), and can lead to life-threatening illnesses, such as [coronary artery disease](#) (CAD), [heart attack](#), or [stroke](#).

Your body gets cholesterol from two sources: from the foods you eat and from your liver. Although many foods contain cholesterol, your liver actually produces up to 80% of what you need.

What is high cholesterol?

A blood test can determine whether your cholesterol is too high. Cholesterol is measured in milligrams per deciliter (mg/dL) or millimoles per liter (mmol/L).

Cholesterol Levels

Total cholesterol (mg/dL) cholesterol (mmol/L)	Classification	Total
less than 200 mg/dL	desirable	5.17
200 to 239	borderline-high	5.17 - 6.18
240 or higher	high	6.21 or higher

What are LDL and HDL cholesterol and triglycerides?

Cholesterol travels through your blood attached to a protein. This cholesterol-protein package is called a lipoprotein. Lipoproteins are either high density, low density, or very low density, depending on how much protein there is in relation to fat.

Low-density lipoprotein cholesterol (LDL) is called "bad" cholesterol because it can cause cholesterol buildup and blockage of your arteries. (See an illustration of a [blocked artery](#) 📺.) **LDL** is mostly fat with only a small amount of protein. By lowering LDL cholesterol, you can reduce your risk of atherosclerosis, heart attack, stroke, and other complications.

LDL (mg/dL)	Classification	LDL (mmol/L)
less than 100	optimal	less than 2.6
100 to 129	near optimal	2.6 to 3.35
130 to 159	borderline high	3.35 to 4.10
160 to 189	high	4.12 to 4.88
190 and above	very high	4.90 and above

High-density lipoprotein cholesterol (HDL) is sometimes called "good" cholesterol because it helps prevent cholesterol from building up in your arteries. It is mostly protein with only a small amount of fat. HDL cholesterol helps clear the bad cholesterol from the body by picking up leftover cholesterol from the bloodstream and carrying it back to the liver for disposal. If you are at risk for heart disease, it may be beneficial to raise your HDL cholesterol levels. Low HDL cholesterol increases the risk of coronary artery disease. High levels of HDL appear to help protect against atherosclerosis, heart attack, stroke, and other complications.

HDL (mg/dL)	Classification	HDL (mmol/L)
60 or above	high/desirable	1.56
less than 40	low	1.04 or below

Triglycerides are another type of fat that is carried in the blood by very low-density lipoproteins. Only a small amount of triglycerides is normally found in the blood; most are stored in fat tissue. A [high triglyceride](#) level along with a high LDL cholesterol also can increase the risk of heart attack.

Triglyceride (mg/dL)	Classification
150 to 199	borderline high
200 or above	high
500 or higher	very high

What causes high cholesterol?

Several factors can cause high cholesterol. Some risk factors can be controlled; others can't.

- **Controllable risk factors** include some medical conditions, such as [diabetes](#) and [hypothyroidism](#), and diet. Being overweight, smoking, not exercising, and eating a diet high in [saturated fat](#) and cholesterol can cause high LDL, low HDL, and increased triglycerides.
- **Uncontrollable risk factors** include a genetic condition called a [lipid disorder](#), which can cause very high cholesterol levels in your blood. Your age and gender are other risk factors you cannot control. After age 20, cholesterol levels naturally begin to rise. Men have higher cholesterol levels than women until women reach age 50 or so, when their cholesterol levels rise. After puberty, women have higher levels of HDL ("good") cholesterol than men.

There are also secondary causes of high cholesterol, such as medications and medical conditions.

What are the symptoms of high cholesterol?

Generally, high cholesterol is a "silent" condition that rarely causes its own symptoms. As a result, many people do not realize that they have high cholesterol.

You may, however, have symptoms caused by a serious illness associated with high cholesterol, such as atherosclerosis, stroke, [peripheral arterial disease](#), or inflammation of the [pancreas](#). Atherosclerosis is a narrowing of your arteries that can lead to [coronary artery disease](#) (CAD). Unfortunately, by the time you have symptoms of CAD, such as chest pain, the arteries in your body are usually severely diseased already. Your first symptom of high cholesterol could be a heart attack or a stroke.

Inherited forms of high cholesterol, such as familial hypercholesterolemia, can cause physical signs that you or your doctor may notice. The most common is the formation of xanthomas, which are cholesterol deposits below the skin.

How will a health professional diagnose my cholesterol?

A doctor, nurse practitioner, or physician assistant will use one of two blood tests to check your cholesterol:

- A nonfasting cholesterol test will show your total cholesterol and high-density lipoproteins (HDL, or "good" cholesterol).
- A fasting cholesterol test, called a lipid profile or a lipoprotein analysis, will measure your LDL ("bad" cholesterol), HDL, and total cholesterol. It will also measure very low-density lipoproteins (VLDL) and triglycerides.

Your doctor may start with a nonfasting cholesterol test and then recommend a lipid profile, based on your results.

How is high cholesterol treated?

There are two basic ways of lowering your cholesterol: modifying your lifestyle and/or taking medications. Your doctor may first recommend lifestyle changes, such as modifying your diet, quitting smoking, losing weight, and exercising.

If you cannot lower your cholesterol to desirable levels with lifestyle changes, your doctor may prescribe medications, often once called a [statin](#), along with your new diet and exercise plan. The goal in either case is to lower your LDL ("bad") cholesterol, raise your HDL ("good") cholesterol, and lower triglycerides.

Treatment for high cholesterol is based on your risk of developing coronary artery disease (CAD) or whether you already have CAD or conditions equally as serious, such as diabetes. Your cholesterol level and risk for CAD will guide your treatment.

New guidelines recommend that those who have a moderate to high risk for CAD or who already have CAD should be considered for more intensive treatment with medications to lower their LDL cholesterol. The guidelines are based on research which shows that in those at high risk, the more you lower LDL, the less likely you are to have a heart attack. Risk factors for CAD include high blood pressure, smoking, low HDL cholesterol, peripheral arterial disease, family history of heart disease, diabetes, and being 45 years of age or older for men or 55 or older for women.

What lifestyle changes will I have to make?

Dietary therapy, combined with regular exercise and weight loss, if needed, is the cornerstone of treatment. Diets designed to lower your cholesterol are called dietary therapy or medical nutrition therapy because this approach is more than just "going on a diet." Your doctor and a professional dietitian will give you specific advice about eating a balanced diet, including how much total fat and saturated fat you may eat every day.

As a part of your dietary therapy, you will learn that not all fats are created equal. There are several different types of fat, each of which has a different effect on your cholesterol levels.

Exercising and losing weight, if you are overweight, are also critical. They can increase your "good" HDL cholesterol and lower your "bad" LDL cholesterol and triglycerides. Losing weight can also help lower [high blood pressure](#) and help prevent diabetes and [osteoarthritis](#). Most health experts recommend that you exercise for a minimum of 30 to 45 minutes most days of the week.

Another critical lifestyle change you can make is to stop smoking cigarettes. Smoking decreases "good" HDL cholesterol and changes LDL cholesterol so that it promotes the buildup of deposits on the walls of your coronary arteries. It also increases the risk of heart disease.

More Information:

- [The role of lipoproteins](#)
- [Inherited disorders that cause high cholesterol](#)
- [What happens if I develop atherosclerosis?](#)
- [Stages of atherosclerosis](#)
- [Who is affected by high cholesterol](#)

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