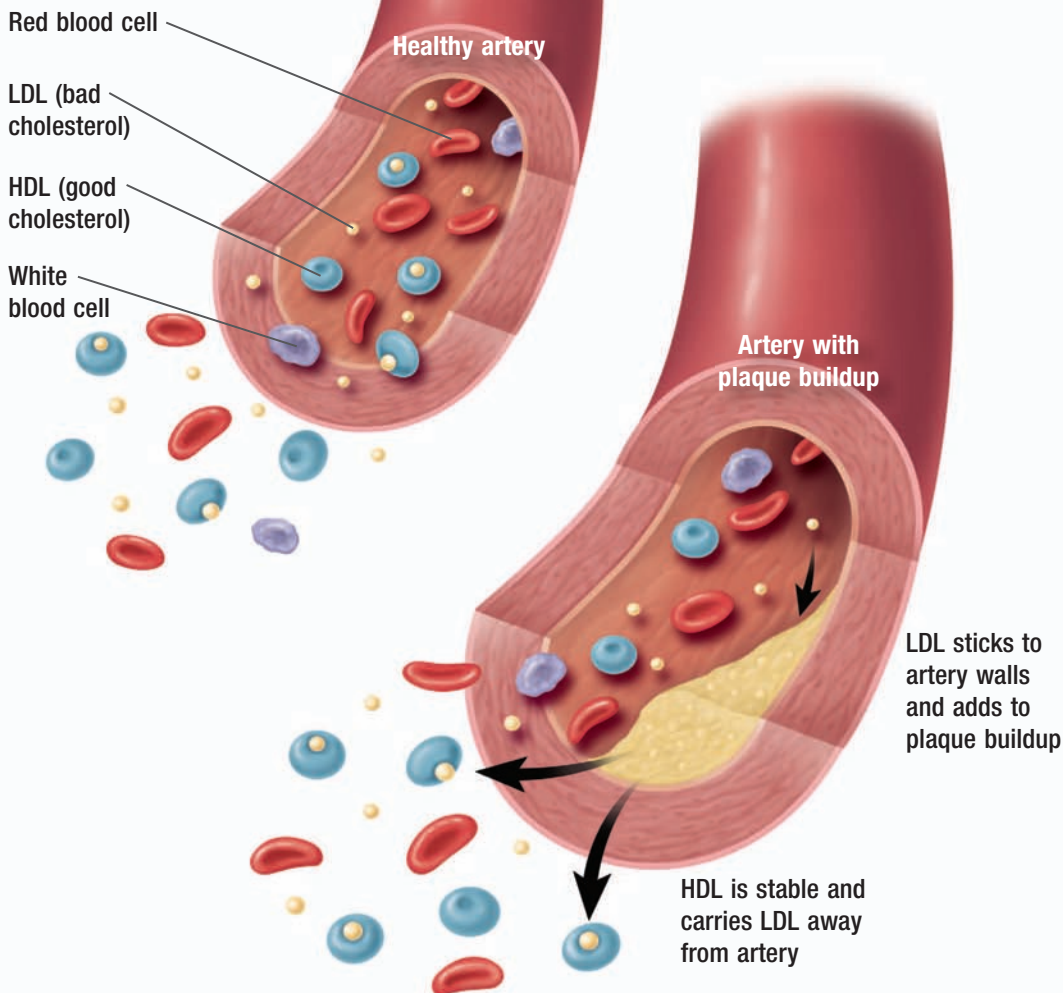


Hyperlipidemia



High Blood Cholesterol

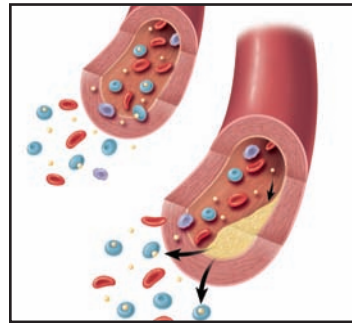
Hyperlipidemia is dangerous because the extra cholesterol circulating in the bloodstream forms the basis for plaque lining the arteries. Plaque slows the flow of blood through the arteries, which is especially dangerous when it occurs in the heart. Coronary artery disease can result in angina or a heart attack. During a heart attack, a section of the heart muscle receives no oxygen because blood circulation in the heart arteries is blocked by plaque. Plaque can also break off from an artery wall and circulate in the body, causing a stroke or peripheral arterial disease.

In itself, high cholesterol does not cause symptoms. Many people do not discover that they have high cholesterol until after plaque has formed. Unless a person has regular checkups that include laboratory testing, high cholesterol may silently cause plaque buildup in the arteries until symptoms of heart disease appear. Angina, heart attack, and stroke are all possible results of untreated high cholesterol.

Treatment for high cholesterol includes lifestyle changes and cholesterol-lowering medication. Weight loss, regular exercise, smoking cessation, and a healthful diet low in saturated fats, trans fats, and cholesterol can lower bad cholesterol significantly. The recommended target cholesterol level depends upon the patient's overall health and the presence of other risk factors for heart disease, such as diabetes and high blood pressure. If lifestyle changes are not effective in reducing cholesterol to the target level, various medications are available that are safe and effective for lowering cholesterol, including statins, fibrates, bile acid sequestrants, the selective cholesterol-absorption inhibitor ezetimibe, and nicotinic acid.

Both Lifestyle and Genetic Factors Can Raise Cholesterol Levels

Cholesterol is a type of fat that is both produced by the body and absorbed from food. Everyone needs a certain amount of cholesterol to be healthy. When the amount of cholesterol in the bloodstream is too high, a condition called *hyperlipidemia* results. The cholesterol the body does not need combines with fats and other substances to form *plaque*, a hard substance that coats the inside lining of the arteries and slows down the blood flow through them. This condition is known as *atherosclerosis* (sometimes called “hardening of the arteries”). When plaque forms in the arteries of the heart, the result is coronary artery disease. Plaque also is dangerous because it can break free from the arterial lining and circulate through the bloodstream. As a result, plaque formation in people with atherosclerosis and coronary heart disease increases the chances of heart attack, stroke, and sudden death.



Excess cholesterol combines with fats and other substances to form plaque, which builds up in the arteries, impeding blood flow.

There are several types of cholesterol. Laboratory testing typically measures low-density lipoprotein (LDL) cholesterol, high-density lipoprotein (HDL) cholesterol, and total cholesterol. Cholesterol is carried through the bloodstream as tiny bundles of protein covered with fat (called *lipoproteins*). LDL is often referred to as “bad” cholesterol because high levels of LDL lead to plaque formation and atherosclerosis. HDL is often called “good” cholesterol because it carries extra cholesterol to the liver, where it is removed from the body.

Risk Factors

Factors that increase the risk of developing high cholesterol include too much fat in the diet, obesity, and insufficient exercise. A genetic form of high cholesterol known as *familial hyperlipidemia* is often difficult to control, even through diet and medication. Excessive alcohol intake can raise LDL cholesterol, and smoking can lower HDL cholesterol. Some drugs can increase cholesterol, including estrogen and birth control pills, certain water pills, blood pressure medications, and antidepressants. Some diseases, including diabetes, hypothyroidism, kidney disorders, and polycystic ovarian syndrome, are associated with high cholesterol.

Diagnosis

A high cholesterol level (>200 mg/dL) alone does not cause symptoms, but the health problems that result from high cholesterol can cause symptoms. A blood test can be used to diagnose hyperlipidemia long before symptoms arise. There are normal ranges for total cholesterol (≤ 200 mg/dL), LDL cholesterol (<100 mg/dL), and HDL cholesterol (>60 mg/dL), but these may be adjusted based on individual factors such as the patient’s age and the presence of other health problems, such as diabetes or heart disease.

Treatment and Management

Therapy to lower high cholesterol begins with lifestyle changes. These behaviors include losing weight, exercising regularly, eating a diet low in animal sources of fat (especially saturated fat, trans fat, and cholesterol), not smoking, and limiting alcohol intake.

If lifestyle changes do not sufficiently lower cholesterol, there are medications that can further control it. The prescription medications most commonly used to lower cholesterol are the statins. These drugs are generally quite safe, although rarely they can cause muscle pain or liver problems. Other medications, such as fibrates, bile acid–sequestering drugs, ezetimibe, and nicotinic acid, work in different ways to lower total cholesterol, lower LDL cholesterol, or raise HDL cholesterol. Each type of cholesterol medication has a specific set of actions and side effects. The type of hyperlipidemia will determine the most effective drug for an individual patient.

If you have questions about a drug prescribed to lower your cholesterol, ask your pharmacist.