

## Cholesterol

Cholesterol is a fatty substance that is needed by the body. Cholesterol is found in foods, but 75% of the cholesterol needed by the body is made by the body. Cholesterol is present in the membranes that surround cells, giving the cells flexibility. Cholesterol is a building block for hormones such as estrogen and testosterone. Water and fat don't mix, so cholesterol is carried through the blood stream by tiny soluble particles called lipoproteins. Low-density lipoproteins carry LDL cholesterol, which is often called "bad" cholesterol and high-density lipoproteins carry HDL cholesterol, which is often called "good" cholesterol.

Cholesterol and other lipids can line the arteries with deposits called plaques. As plaques build up, a condition called atherosclerosis occurs. Atherosclerosis can occur in any artery in body and increases the risk for heart attack and stroke.

The American Diabetes Association recommends these lipid levels for people who have diabetes

LDL cholesterol: less than 100 mg/dl  
people with cardiovascular disease or an additional risk factor: less than 70mg/dl

HDL cholesterol: Women - more than 50 mg/dl  
Men - more than 40 mg/dl

Triglycerides: less than 150 mg/dl

Exercise had been shown to lower LDL cholesterol and to raise HDL cholesterol. Guidelines suggest that adults participate in 2.5 hours of physical activity a week, preferably 30 minutes a day, most days.

Limiting the intake of saturated fats and trans fats is needed as they increase LDL cholesterol levels in the blood. The American Diabetes Association recommends keeping saturated fat to less than 7% of daily calories. For most people that is 15 grams of saturated fats per day. Trans fats should be avoided as much as possible. When the LDL cholesterol level is too high, cholesterol intake from food should be less than 200 mg. per day. Heart healthy monounsaturated and polyunsaturated fats tend to lower LDL cholesterol levels. Avocado, olive oil, and nuts are healthy fats, but they contain a lot of calories, so go easy. Omega-3 fatty acids found in fish and canola oil can lower triglycerides.

Smoking can lower the “good” HDL cholesterol and it increases the tendency for blood to clot. Those who smoke, need to stop.

For some people medication is needed to bring cholesterol levels to the recommended levels. There are several kinds of medication on the market that lower cholesterol levels. Discuss with your health care provider which medication is best for you.

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