



## Understanding Cholesterol

Cholesterol is a soft, fat-like, waxy substance found in the bloodstream and in all your body's cells. It's normal to have cholesterol. It's an important part of a healthy body because it's used for producing cell membranes and some hormones, and serves other needed bodily functions. But too high a level of cholesterol in the blood is a major risk for coronary heart disease, which leads to heart attack. It's also a risk factor for stroke. **Hypercholesterolemia** is the term for high levels of blood cholesterol.



You get cholesterol in two ways. Your body makes some of it, and the rest comes from cholesterol in animal products that you eat, such as meats, poultry, fish, eggs, butter, cheese and whole milk. Food from plants — like fruits, vegetables and cereals — doesn't have cholesterol. Some foods that don't contain animal products may contain trans-fats, which cause your body to make more cholesterol. Foods with saturated fats also cause the body to make more cholesterol.

Cholesterol and other fats can't dissolve in the blood. They have to be transported to and from the cells by special carriers called lipoproteins. There are two kinds that you need to know about. Low-density lipoprotein, or LDL, is known as the "bad" cholesterol. Too much LDL cholesterol can clog your arteries, increasing your risk of heart attack and stroke. High-density lipoprotein, or HDL, is known as the "good" cholesterol. Your body makes HDL cholesterol for your protection. It carries cholesterol away from your arteries. Studies suggest that high levels of HDL cholesterol reduce your risk of heart attack.

## What Are Healthy Levels of Cholesterol?

### \* **Your total blood cholesterol level:**

Your total blood cholesterol will fall into one of these categories:

**Desirable** — Less than 200 mg/dL

**Borderline high risk** — 200–239 mg/dL

**High risk** — 240 mg/dL and over

Here is some more explanation about each of these categories.

### **Desirable:**

If your total cholesterol is less than 200 mg/dL, your heart attack risk is relatively low, unless you have other risk factors. Even with a low risk, it's still smart to eat foods low in saturated fat and cholesterol, and also get plenty of physical activity. Have your cholesterol levels measured every five years — or more often if you're a man over 45 or a woman over 55.

**Borderline high risk:**

People whose cholesterol level is from 200 to 239 mg/dL are borderline high risk.

Have your cholesterol and HDL rechecked in one to two years if:

- Your total cholesterol is in this range.
- Your HDL is less than 40 mg/dL.
- You don't have other risk factors for heart disease.

You should also lower your intake of foods high in saturated fat and cholesterol to reduce your blood cholesterol level to below 200 mg/dL. Your doctor may order another blood test to measure your LDL cholesterol. Even if your total cholesterol is between 200 and 239 mg/dL, you may not be at high risk for a heart attack. Some people — such as women before menopause and young, active men who have no other risk factors — may have high HDL cholesterol and desirable LDL levels.

**High risk:**

If your total cholesterol level is **240 or more**, it's definitely high. Your risk of heart attack and stroke is greater. In general, people who have a total cholesterol level of 240 mg/dL have twice the risk of heart attack as people whose cholesterol level is 200 mg/dL.

**\* Your LDL cholesterol level:**

Your LDL cholesterol level greatly affects your risk of heart attack and stroke. The lower your LDL cholesterol is the lower your risk. In fact, it's a better gauge of risk than total blood cholesterol. Your LDL cholesterol will fall into one of these categories:

**LDL Cholesterol levels:**

**Optimal** — Less than 100 mg/dL

**Near Optimal / above optimal** — 100-129 mg/dL

**Borderline high** — 130-159 mg/dL

**High** — 160-189 mg/dL

**Very high** — 190 mg/dL and above

The key point to remember is: the lower your LDL cholesterol, the lower your risk. Your doctor will refer you to a nutrition consultant who will prescribe a diet low in saturated fat and cholesterol, regular exercise and a weight management program if you're overweight. If you can't lower your cholesterol with these efforts, medications may also be prescribed to lower your LDL cholesterol. Check these categories and the goals for treatment that can lower your risk of heart attack.

**\* Your HDL cholesterol level:**

In the average man, HDL cholesterol levels range from 40 to 50 mg/dL. In the average woman, they range from 50 to 60 mg/dL. HDL cholesterol that's less than 40 mg/dL is low. Low HDL cholesterol puts you at high risk for heart disease. Smoking, being overweight and being sedentary can all result in lower HDL cholesterol. If you have low HDL cholesterol, you can help raise it by:

- Not smoking
- Losing weight (or maintaining a healthy weight)

- Being physically active for at least 30–60 minutes a day on most or all days of the week

People with high blood triglycerides usually have lower HDL cholesterol and a higher risk of heart attack and stroke. Progesterone, anabolic steroids and male sex hormones (testosterone) also lower HDL cholesterol levels. Female sex hormones raise HDL cholesterol levels.

\* **Cholesterol ratio:**

Total blood cholesterol is the most common measurement of blood cholesterol. It's the number you normally receive as test results. Cholesterol is measured in milligrams per decilitre of blood (mg/dL). Knowing your total blood cholesterol level is an important first step in determining your risk for heart disease. However, a critical second step is: knowing your HDL or "good" cholesterol level.

Some physicians and cholesterol technicians use the ratio of total cholesterol to HDL cholesterol in place of the total blood cholesterol. The American Heart Association recommends that the absolute numbers for total blood cholesterol and HDL cholesterol levels be used. They're more useful to the physician and the nutrition consultant than the cholesterol ratio in determining the appropriate treatment for patients.

The ratio is obtained by dividing the HDL cholesterol level into the total cholesterol. For example, if a person has total cholesterol of 200 mg/dL and HDL cholesterol level of 50 mg/dL, the ratio would be stated as 4:1. The goal is to keep the ratio below 5:1; the optimum ratio is 3.5:1.

\* **Your triglyceride level:**

Your triglyceride level will fall into one of these categories:

**Normal** — Less than 150 mg/dL

**Borderline high** — 150-199 mg/dL

**High** — 200-499 mg/dL

**Very high** — 500 mg/dL or higher

Many people with high triglycerides have underlying diseases or genetic disorders. If this is true for you, the main therapy is to change your lifestyle. This includes controlling your weight, eating foods low in saturated fat and cholesterol, exercising regularly, not smoking and, in some cases, drinking less alcohol. People with high triglycerides may also need to limit their intake of carbohydrates to no more than 45–50 percent of total calories. The reason for this is that carbohydrates raise triglycerides in some people and lower HDL cholesterol. Use products with monounsaturated and polyunsaturated fats.

*[www.diatrofologos.com](http://www.diatrofologos.com)* offers [personalized services](#) that can help you understand where you stand in terms of your dietary habits and also create an individualized plan for you to help you lower your cholesterol levels, and improve your overall health. Thus, visit the [personalized services](#) section and choose the plan that will suit you most ([nutrition counselling](#)).