

# Heart Facts

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## **CHOLESTEROL**

Today, people are more aware than ever of the risks of having a high blood cholesterol level.

High cholesterol levels can lead to clogged arteries, heart attack or stroke. So if you have high cholesterol, you should take steps to lower it. Simple dietary and lifestyle changes can reverse your course and set you back on the path of good health. For those who have coronary artery disease, or are at unusually high risk for it, lowering your lipid levels can reduce further coronary events and the possible need for interventions such as surgery or angioplasty.

### **What is cholesterol?**

Cholesterol is a waxy substance produced by the liver that is also found in animal foods such as red meat and whole milk dairy products, which are usually high in fat as well. (Plant sources do not contain cholesterol.) Your body uses cholesterol to build cell walls and other necessary tissues. High-fat diets stimulate the liver to produce excessive cholesterol. As a result of the amount your body manufactures normally and in response to a fat-laden diet, you can accumulate too much cholesterol in your blood. That is when trouble occurs in the form of cardiovascular disease.

Cholesterol travels through the blood in packages called lipoproteins. Low-density lipoproteins (LDL), or bad cholesterol, have a tendency to cling to the inner walls of the arteries as plaque. This plaque restricts the flow of blood to the heart or brain, which can lead to heart attack or stroke. High-density lipoproteins (HDL), or good cholesterol, whisk surplus cholesterol from the blood and arterial walls, thus lowering the odds of developing cardiovascular disease.

### **What do my cholesterol numbers mean?**

Total blood cholesterol is the number most people are familiar with. Doctors no longer measure just the total cholesterol level in your blood, because that only provides part of the picture. Your doctor should do a complete lipid profile, which includes measuring your levels of good (HDL) and bad (LDL) cholesterol and triglycerides. (Although completely different from cholesterol, triglycerides likewise are fats found in foods and manufactured in the body. Most of the fat we eat is in the form of triglyceride.) Other lipid tests are also available, if needed, to help your doctor and you define your risk level.

Ideally, your LDL cholesterol should be below 100; a desirable HDL level is 45 or higher. The lower the LDL and the higher the HDL, the more protected you are from cardiovascular disease. Most pre-menopausal women have high levels of HDL because of the female hormone estrogen, which offers added protection against heart disease. After menopause, though, a woman's risk for heart attack jumps until she is 65, by which time it is almost as great as a man's.

Triglyceride levels above 150 mg/dl are abnormally high. A high triglyceride level often accompanies a higher total cholesterol and LDL cholesterol level, and especially a lower HDL cholesterol. The combination of high triglycerides and low HDL levels in concert with disorders such as diabetes or high blood pressure is termed "metabolic syndrome." Metabolic syndrome is strongly associated with abdominal obesity, which itself has been shown to put you at risk for coronary artery disease. Whatever your cholesterol counts, keep in mind other important risk factors as well. Age, heredity, family history, high blood pressure, diabetes, smoking and lifestyle should all be considered when evaluating your risk of cardiovascular problems.

### **How can I lower my cholesterol level?**

You can take control of your cholesterol by making lifestyle changes. Eating a heart-healthy diet is often an effective way to bring your blood cholesterol within a normal range. Limit saturated fat to no more than 7 percent of your daily calories and trans fat to no more than 1 percent, and substitute more whole-grain and high-fiber foods.

Load up on fish, fruit, vegetables, beans, rice and other whole grains in place of meat or baked goods. Switch to low-fat or skim milk dairy products. When you must cook with fat, choose the monounsaturated varieties, such as olive or

canola oils. Don't overdo your use of even these oils, however, as they are still high-fat foods. Fat in the diet stimulates the liver to raise blood cholesterol levels; it is not just eggs that elevate blood cholesterol.

Additionally, since regular exercise has been shown to increase the level of good cholesterol, get active. Because smoking reduces the level of good cholesterol, smokers should quit. Everyone should maintain a normal body weight, as above-normal weight and obesity contribute to abnormal lipid levels, as well as diabetes, high blood pressure and other disorders. The rewards of changing your habits are well worth it; for every 1 percent drop in bad cholesterol, you get a 2 percent drop in cardiovascular risk.

### **Are foods labeled 'Cholesterol Free' safe bets?**

Don't be fooled by food labels that say "cholesterol free." Foods bursting with saturated fat are sometimes disguised with these healthier-sounding labels. Likewise, products made with hydrogenated vegetable oils may seem good for you but are actually rich in fat. Current U.S. Food and Drug Administration regulations cut down the hype surrounding terms used on food labels, such as "cholesterol free." To prevent being misled, however, read nutrition labels to learn the amount of fat in a serving. A truly low-fat product contains three grams or less of fat for every 100 calories.

### **Should I consider cholesterol-lowering drugs?**

Drugs that can help normalize blood cholesterol may be necessary for people at higher risk who can't control their levels through diet. Dietary changes should often be tried before medication, however. Within three months of following a low-fat diet, you should notice a reduction in your cholesterol count. If this self-care method doesn't lower your cholesterol to an acceptable level, you may need to add medication to your regimen, particularly if you have other risk factors for cardiovascular disease. Since drugs that lower cholesterol can have side effects, however, you should consult your physician before deciding if medication is appropriate.

### **Do I need to worry about my child's cholesterol levels?**

Research indicates that one out of four children and teenagers has a high cholesterol level. Clearly, it's never too early to start thinking about your child's cholesterol. Although the American Academy of Pediatrics does not recommend universal screening of all children, it's wise to test children over two years of age who have a family history of early heart attacks or elevated cholesterol. Overweight children or those with high blood pressure, diabetes or other risk factors for heart disease should also be screened. An abnormal level warrants dietary modifications, but it is best to consult your doctor in individual cases.

Eating habits are established at a young age, and regardless of whether your child has a clean bill of health, you should set an example for a healthy future by serving low-fat meals to children over two years old. Remember, though, that children need some fat in their diets to help them grow.

### **How can I ensure an accurate cholesterol test?**

It's usually better to get tested at your doctor's office rather than at a mass screening at a mall. To obtain a correct measurement of blood cholesterol, you need to fast for 12 hours prior to an HDL/LDL/triglyceride workup for a total profile.

### **How often should cholesterol be checked?**

A high cholesterol level produces no warning symptoms, so it makes sense to test periodically. The American Heart Association recommends a lipid profile by age 20 or earlier in some cases. If your levels are acceptable, return to your doctor every five years for subsequent checks until age 45; after that, screenings should be scheduled every three years.

Before menopause, some degree of protection is afforded to most women, but they should still be tested. After menopause, all women should have their cholesterol measured every three to five years.

### **Can a cholesterol level ever be too low?**

Usually, a low cholesterol level is a good health indicator. In other cases, it may point to a systemic disease that needs treatment. Ask your family physician to discuss your cholesterol measurement with you.

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