

## Information on High Cholesterol for Staywell Members

### What Is High Cholesterol?

Cholesterol is a type of fat called a lipid. The body uses it for many things, such as making new cells. Your liver makes the cholesterol that your body needs. You also get it from the foods you eat.

Your body needs some cholesterol. But if you have too much, it starts to build up in your arteries. (Arteries are the blood vessels that carry blood away from the heart.) This is called hardening of the arteries. It is also known as atherosclerosis. It is usually a slow process. It gets worse as you get older.

To understand what happens, think about how a clog forms in the pipe under a kitchen sink. Like the buildup of grease in the pipe, the buildup of cholesterol narrows your arteries. It makes it harder for blood to flow through them. It reduces the amount of blood that gets to your body tissues, including your heart. This can lead to serious problems, including heart attack and stroke.

A simple blood test tells you how much cholesterol you have. The test results are given in mg/dL of cholesterol. But most people just say the numbers. These numbers help your doctor know your risk of heart attack. To know this risk, your doctor will also take into account other factors. These include your age, blood pressure, family history and if you smoke.

For a general idea about your total cholesterol number, compare your number to the following:

- **Best** is less than 200
- **Borderline-high** is 200 to 239
- **High** is 240 or above

### What Are the Different Types of Cholesterol?

Cholesterol moves through the blood attached to a protein. This package of cholesterol (a lipid) and protein is called a lipoprotein. They are either high- or low-density. This is based on how much protein and fat they have.

- Low-density lipoproteins (LDL) are the “bad” cholesterol. LDL is mostly fat with only a small amount of protein. It can clog your arteries. If you have high cholesterol, your doctor will want you to lower your LDL.
- High-density lipoproteins (HDL) are the “good” cholesterol. HDL is more protein than fat. It helps clear the bad cholesterol from your blood. Then it will not clog your arteries. A high level of HDL can protect you from a heart attack.
- Triglycerides are another type of fat in the blood. They can also affect your health. If you have high triglycerides and high LDL, your chances of having a heart attack are higher.

It may help to think of HDL as the “Healthy” cholesterol and LDL as the “Lousy” cholesterol. Or you could remember that HDL should be High and LDL should be Low.

Experts have come up with goals for each type of cholesterol. Your doctor will help you decide on your goals based on your risk of heart attack and stroke. Your doctor will help you know this risk. To find out your risk of a heart attack, you can use the Interactive Tool: Are You at Risk for a Heart Attack?

- **LDL** should be low. Your LDL goal depends on your risk of heart attack and stroke. If you are at very high risk, your goal may be less than 70. If you are at high risk, your goal is less than 100. If you are at moderate risk, your goal is less than 130. If you are at low risk, your goal is less than 160.
- **HDL** should be high. A good HDL goal is 40 or higher. HDL over 60 helps protect against a heart attack. HDL below 40 increases your risk of heart problems. A high HDL number can help offset a high LDL number.
- **Triglycerides** should be less than 150. A level above 150 may increase your risk for heart problems.

### What Are the Symptoms?

High cholesterol doesn't make you feel sick. But if cholesterol builds up in your arteries, it can block blood flow to your heart or brain. This can cause a heart attack or stroke. By the time you find out you have it, it may already be clogging your arteries. So it is very important to start treatment even though you may feel fine.

### What Causes High Cholesterol?

Many things can cause high cholesterol, including:

- **Diet.** Too much saturated fat, trans fat, and cholesterol can raise your cholesterol. These items are in foods that come from animals. For example, meats, whole milk, egg yolks, butter and cheese. They are also in many packaged foods and snack foods. Examples are cookies, crackers and chips.
- **Weight.** Being overweight may raise triglycerides and lower "good" HDL.
- **Activity level.** Not exercising may raise "bad" LDL and lower HDL.
- **Overall health.** Diseases such as hypothyroidism can raise cholesterol. Smoking may lower HDL.
- **Age.** Cholesterol starts to rise after age 20. In men, it usually levels off after age 50. In women, it stays fairly low until menopause. After that, levels rise to about the same levels as in men.
- **Family.** Some people inherit a rare disease. It is called a lipid disorder. It can cause very high total cholesterol, very low HDL and high triglycerides. If you have this problem, you will need to start treatment at a young age.

### How Is High Cholesterol Diagnosed?

Doctors use these blood tests to check cholesterol:

- A fasting cholesterol test is the most complete test. It measures total cholesterol. That means HDL, LDL and triglycerides. You can't have food for 9 to 12 hours before this test.
- A direct LDL test measures just your LDL. You can have this test done at any time. You can eat before this test.
- A simple cholesterol test can measure total cholesterol and HDL. You can eat before this test. Sometimes doctors do this test first. If it shows you have high cholesterol or low HDL, then you will get a fasting cholesterol test.

### How Is It Treated?

The two main treatments are lifestyle changes and medicines. The goal of treatment is to lower your "bad" LDL cholesterol. This will reduce your risk of a heart attack. You may also need to raise your "good" HDL cholesterol. A high level of HDL helps reduce your risk of heart problems.

Some lifestyle changes are important for people with high cholesterol. Your doctor will probably want you to:

- **Follow the Therapeutic Lifestyle Changes (TLC) diet.** The goal is to reduce the saturated fat you eat. The TLC diet helps you learn to make better food choices. This is done by picking lean meats, low-fat or nonfat products, and good fats like olive and canola oils.
- **Lose weight,** if you need to. Losing just 5 to 10 pounds can lower your cholesterol and triglycerides. Losing weight can also help lower your blood pressure.
- **Be more active.** Exercise can raise your "good" HDL. Also, it may help you control your weight.
- **Quit smoking,** if you smoke. Quitting can help raise your HDL. It also improves your heart health.

Sometimes lifestyle changes are enough on their own. Your doctor will have you try them for a few months. If they don't lower your cholesterol enough, your doctor may order a drug to lower your cholesterol. It is called a statin.

You also may need drugs to lower triglycerides or raise HDL. You may need to start taking them right away if your cholesterol is very high. Or if you have another problem that increases your chance of having a heart attack. People who have a high risk for heart attack benefit from taking higher doses of statins. This will lower their LDL cholesterol as much as possible. The lower their LDL, the less likely they are to have a heart attack. To find out your risk, use the Interactive Tool: Are You at Risk for a Heart Attack?

It is important to take your medicine the way your doctor tells you to. If you stop taking your medicine, your cholesterol will go back up.

You will need to have your cholesterol checked often. Your results can help your doctor. They will let the doctor know if lifestyle changes have helped. Or if you need more or different medicines.

### References

Healthwise, Incorporated. High Cholesterol. Author: Robin Parks, MS. Medical Review: E. Gregory Thompson, MD (Internal Medicine), Robert A. Kloner, MD, PhD (Cardiology). July 11, 2008.

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