

All About Cholesterol Control

This sheet tells you how cholesterol affects your health. It explains how medicines and lifestyle changes can help improve your cholesterol levels.



Understanding cholesterol

Cholesterol is a type of fat (lipid) that's carried in the blood. Your body makes cholesterol in the liver. You also get it from some foods. Your body needs some cholesterol to build healthy cells. But too much cholesterol can cause it to build up in blood vessels. This turns into plaque.

Plaque is a fatty substance. Over time, plaque can narrow and harden the blood vessels. This reduces or blocks blood flow in these vessels. This is known as atherosclerosis. It raises your risk for heart attack, stroke, and other health problems. High blood cholesterol is a risk factor for atherosclerosis.

Types of lipids in your blood

Your blood has 3 main fats (lipids):

- **LDL (low-density lipoprotein).** This is known as bad cholesterol. It mainly carries cholesterol to body cells. Excess LDL will build up on artery walls. This raises your risk for heart disease and stroke.
- **HDL (high-density lipoprotein).** This is known as good cholesterol. This protein shell collects excess cholesterol that LDL has left behind on blood vessel walls. That's why high levels of HDL can lower your risk of heart disease and stroke.
- **Triglycerides.** Your body uses this form of fat to store energy. Like LDL cholesterol, this fat can cause plaque to build up in the blood vessels.

Getting cholesterol tests

You find out your blood lipid levels by having a blood test. You may need to not eat (fast) before getting this test. You may need your cholesterol levels checked at regular periods.

This is to see if you are meeting your cholesterol goals. Make sure you know how often to get tested.

Understanding your health risks

In addition to your LDL levels, other factors may put you at high risk of atherosclerosis. These include:

- Diabetes
- Smoking
- High blood pressure
- Lack of exercise
- Obesity
- Family members who had early heart disease (men under age 55 and women under age 65)
- Metabolic syndrome
- Chronic kidney disease
- Chronic inflammatory conditions such as rheumatoid arthritis
- Menopause before age 40
- History of pregnancy-associated conditions such as pre-eclampsia
- Ethnicity (for example, from South Asia)

It's also important to consider your age and health history. Talk with your healthcare provider about your personal risk for heart disease and your treatment goals. Make sure you understand why these goals are based on your own health history and your family history of heart disease or high cholesterol.

Medicines to control cholesterol

Some people may need to take medicines to control their cholesterol. This can help prevent a heart attack or stroke. There are several types of medicine. Each type controls cholesterol in a different way. Your healthcare provider will prescribe the type that's best for you. You may need to take more than 1 medicine to reach your cholesterol goals. Ask your provider about any side effects your medicines may cause. Let your provider know if you have any side effects.

The main types of medicines are:

- **Statins.** These are thought to be the best at lowering cholesterol. They do this by keeping your body from making cholesterol. This then tells the liver to remove cholesterol from your blood. This lowers LDL cholesterol. It may even remove cholesterol from plaque. Benefits: Statins lower LDL cholesterol. They slightly raise HDL cholesterol and lower triglycerides.

- **Selective cholesterol absorption inhibitors.** These prevent your body from absorbing cholesterol from food. They may be prescribed to use alone. Or you may take them with a statin. Benefits: These medicines lower LDL cholesterol. They slightly raise HDL cholesterol and lower triglycerides.
- **Resins.** Resins help you get rid of cholesterol through the intestines. They work by binding to bile. Bile is a substance that helps the body digest food. Your body uses cholesterol to make bile. Normally, most bile is absorbed by the body during digestion. But when bile is bound to resin, it's removed from the body. So the body must make more bile. To do this, the body takes up more cholesterol from the blood. Benefits: Resins lower LDL cholesterol.
- **Fibrates (fibric acid derivatives).** These are best at cutting back on how many triglycerides your body makes. They don't work well to lower LDL. Benefits: Fibrates lower triglycerides. They raise HDL cholesterol.
- **Niacin (nicotinic acid).** Niacin (vitamin B-3) limits the liver's ability to make blood fats. But don't use over-the-counter niacin for cholesterol problems. It isn't regulated by the FDA. Benefits: Niacin raises HDL cholesterol. It lowers triglycerides and LDL cholesterol.
- **Omega-3 fatty acids.** These reduce the amount of triglycerides your body makes. They help to clear these lipids from the blood. Omega-3 fatty acids are found in many foods. These include salmon and other oily fish, and walnuts. Your healthcare provider may prescribe these fatty acids in capsule form. Benefits: Omega-3s lower triglycerides. (Note: They may increase LDL cholesterol in some patients.)
- **PCSK9 inhibitors.** These medicines lower LDL cholesterol levels. They do this by breaking down the chemicals in the liver that control making LDL cholesterol. These medicines are given by an injection. They are often used for people who have an inherited form of high cholesterol. This is called familial hypercholesterolemia. Benefits: This medicine helps people who have a hard time controlling their cholesterol with other medicines.

Taking your medicine

Take your medicine exactly as instructed. This will help it work best. Here are tips for taking cholesterol medicine:

- **Tell your provider if you're pregnant or breastfeeding.** Do this before taking any cholesterol medicines.
- **Know when and how to take your medicine.** Some may need to be taken with food. Others may need to be taken on an empty stomach or at a certain time of day.
- **Stick to a schedule.** Try the following:
 - Don't skip doses or stop taking your medicine. This is important even if you feel better or if your cholesterol numbers improve.
 - Set things up to help you remember. For example, work your medicine into your daily routine. Take it when you get up in the morning or when you go to bed at night.
 - Keep track of what you take. You may take a few different medicines. If so, a list or chart can help you take the right pills at the right time. Use a pillbox with days of the week or times of day to keep track.

- **Prevent medicine interactions.** Some medicines and supplements can interact with each other. This means they affect how other medicines work when taken together. Be sure to tell your healthcare provider about all other medicines you take. This includes vitamins, herbs, and over-the-counter medicines.
- **Know how to deal with side effects.** Many people have side effects when they first start taking a medicine. These are things like headache, muscle aches, and stomach upset. Side effects should go away in a few weeks. Tell your healthcare provider about any side effects you have. Some side effects include yellowing of the eyes, blurred vision, and breathing difficulties. If these occur, call your healthcare provider right away.

Treatment with a healthy lifestyle

Treatment for high cholesterol includes lifestyle changes. A healthy lifestyle is a vital part of preventing heart disease and stroke . Your healthcare provider will help you make changes to your lifestyle if needed. Things you may need to work on are:

Diet

Your healthcare provider will tell you what changes that you may need to make to your diet. You may need to see a registered dietitian for help. You might be asked to:

- Eat less meat that has saturated fat and cholesterol
- Eat less sodium (salt), especially if you have high blood pressure
- Eat more fresh vegetables and fruits
- Eat lean protein, like fish, chicken and turkey, and beans and peas
- Eat fewer processed meats, like deli meats, sausage, and pepperoni
- Choose low-fat milk, yogurt and cheese
- Use vegetable and nut oils instead of butter, shortening, or margarine
- Limit sweets and packaged foods, like chips, cookies, and baked foods
- Eat out less and not eat fast foods

Physical activity

Your healthcare provider may advise you to be more active. Exercise helps to increase your body's good HDL cholesterol. Your provider may advise that you do moderate to strong exercise for at least 40 minutes each day, 3 to 4 days each week. The amount may vary depending on your health. Some examples of this are:

- Walking at a brisk pace, about 3 to 4 miles per hour
- Jogging or running
- Riding a bicycle or stationary bike
- Swimming or water aerobics

-
- Dancing
 - Hiking
 - Martial arts
 - Tennis

If you haven't exercised in a while, start slowly and build up to more.

Weight management

If you're overweight or obese, your healthcare provider may tell you to lose weight and lower your BMI (body mass index). Changing your diet and getting more exercise can help. Controlling the number of calories you eat is the best way to lose weight.

Smoking

If you smoke, get help to quit now. Ask your healthcare provider about medicines that can help you fight cravings. Enroll in a stop-smoking program. This can improve your chances of success.

Stress

Learn ways to help you deal with stress in your home and work life. Here are a few ideas:

- **Take a yoga class.** You can find classes nearby or online.
- **Get regular exercise.** Exercise helps your mind let go of problems. It helps release stress in your muscles.
- **Do deep breathing.** Take a few minutes several times a day to just sit quietly and breathe. Focus on the air going into and out of your body.
- **Talk with loved ones.** Take a few minutes each day to connect with people that make you feel supported.