

# Cholesterol tests



## What is a cholesterol test?

A cholesterol test is a blood test that measures levels of fatty substances called lipids in the blood. Cholesterol is one type of lipid.

## Why is a cholesterol test done?

Raised cholesterol levels can cause cholesterol to be deposited within the walls of arteries, making it difficult for blood to flow through. This build-up in the walls of the arteries, which is called atherosclerosis, puts a person at significant risk of heart disease and stroke.

Abnormally high cholesterol levels may not give you any symptoms, so a blood test is the best way to check how much cholesterol and other lipids your blood contains.

## What does a cholesterol test measure?

A cholesterol test measures the amount of cholesterol and other lipids carried by protein-based particles called lipoproteins, in the blood. Cholesterol and other lipids are transported in the blood in these lipoproteins because they are fats, and so don't dissolve freely in blood, which is water based.

These are some of the main lipid categories measured in a cholesterol test.

- ▶ **Low-density lipoprotein (LDL) cholesterol.** This is the so-called 'bad' cholesterol that tends to be deposited in the arteries, causing atherosclerosis. High levels of LDL cholesterol are associated with cardiovascular disease.
- ▶ **High-density lipoprotein (HDL) cholesterol.** As HDL helps carry cholesterol back to the liver, HDL cholesterol is sometimes known as 'good' cholesterol. Acting like a clean-up crew, HDL helps keep your arteries free of fatty deposits. It is advantageous to have high levels of HDL-cholesterol.
- ▶ **Triglycerides.** These are another type of lipid circulating in the blood, mainly in a different lipoprotein — very low density lipoprotein (VLDL). Your body converts excess kilojoules in the diet to triglycerides to be stored in fat cells. A raised level of triglycerides can be caused by consuming too many kilojoules, by drinking too much alcohol, or by diabetes. A high triglyceride level can add to your risk of cardiovascular disease, especially if your HDL cholesterol is low.
- ▶ **Total cholesterol.** This gives an overall level of cholesterol in the blood.

The most recent position statement by the Heart Foundation (2005) stresses that levels of HDL and LDL cholesterol are more important than those of total cholesterol.

## Who should have a cholesterol test?

Regular cholesterol tests are recommended by the Heart Foundation and the Cardiac Society of Australia and New Zealand for everyone aged 45 years and older.

If you are younger than 45, your doctor may suggest you have a cholesterol test if you fall into a high-risk group for cardiovascular disease — for example if you have one or more of the following:

- ▶ diabetes;
- ▶ impaired glucose tolerance (blood glucose levels that are higher than normal but not high enough for a diagnosis of diabetes);
- ▶ a history of cardiovascular disease;
- ▶ a genetic disease causing very high lipid levels; or
- ▶ chronic (long-term) kidney disease.

## How is a cholesterol test done?

Usually, you will be asked to fast (not consume any food and drink only water) for at least 12 hours but not more than 16 hours. The test is therefore often done in the morning after an overnight fast. The pathology service that does your blood test or your doctor will be able to advise you of the exact requirements. If you have diabetes, you should seek your doctor's advice before fasting.

Blood will be drawn from a vein into a tube and sent to the lab for testing, and the results will be sent to your doctor.

## What happens after the test?

Your doctor will interpret the results of your cholesterol test in the light of your individual risk factors for cardiovascular disease. This means that you may be set a different cholesterol target from someone else.

If your lipid levels are abnormal, your doctor may want to repeat the test, especially if you were unwell or extremely stressed when it was done as these factors can give an abnormal result. If your doctor suspects that another disorder, such as diabetes, kidney disease or obstruction of bile flow, has caused the abnormal lipid results, he or she will probably advise further tests to investigate this.

If your doctor is concerned about your cholesterol or triglyceride levels, he or she will probably advise you on dietary and lifestyle changes to follow to try to improve your lipid levels, before re-testing you in 6 weeks.

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