



Information about pathology tests to help Australians take control of their health and make the right decisions about their care.

## WHAT YOU SHOULD KNOW ABOUT YOUR CHOLESTEROL TESTS

Cholesterol tests are blood tests that can help find out if you are at risk of developing heart disease or stroke.



Cholesterol is a type of fat, rather like candle wax, that performs a range of important functions in the body.

We cannot live without cholesterol. It's found in every cell in our body and involved in a whole host of vital processes. It's so important that the body has developed many complex systems to make sure we have enough.

However, high amounts of cholesterol can lead to heart disease or stroke.

Cholesterol sticks together with cells, other fats, calcium and debris floating around in the bloodstream to form plaque in the walls of arteries. A cap forms over the soft sticky plaque and if this breaks open – say, if your blood pressure spikes – a clot can form that blocks the blood flow through the artery. Without blood and the oxygen it carries being able to get to your heart or brain, you can have a heart attack or stroke. For instance, the majority of heart attacks occur when small plaques break open.

By reducing cholesterol from the inside of the plaques you can reduce your risk of heart attack or stroke. It's possible to do this by lowering the cholesterol travelling around in your blood.

Cholesterol is carried around the bloodstream in lipoproteins. There are several types of lipoproteins, but the main ones are High-Density Lipoprotein (HDL) sometimes called 'good' cholesterol and Low-Density Lipoprotein (LDL) or 'bad' cholesterol. All cholesterol is the same – it's the lipoproteins that carry it that are different.

Low-density lipoprotein (LDL) deposits cholesterol into blood vessel walls. By lowering LDL it's possible to reduce the cholesterol inside plaques.

High-density lipoprotein (HDL) particles help remove cholesterol from artery walls. Having a normal HDL level is important.

Triglycerides are another type of fat carried in lipoproteins that also contribute to hardening of the arteries.



## Your results

Total cholesterol can be measured alone or in combination with HDL-cholesterol, LDL-cholesterol, and triglycerides – often called a Lipid Profile.

The cholesterol levels measured in your blood will be considered along with other risk factors, such as high blood pressure and smoking, to assess your cardiovascular risk. This overall assessment is what will be used to decide whether or not you require further treatment in the form of lifestyle changes such as diet and exercise, or drugs to lower your cholesterol levels.

If your results are higher than they should be, a second blood sample should be taken on a separate occasion before a definitive diagnosis is made, as levels may vary between tests.

## Inherited high cholesterol levels

About 1 in 250 people have a genetic predisposition to having high LDL-cholesterol which puts them at a greater risk of heart disease earlier in life. This is called Familial Hypercholesterolaemia (FH). A genetic test for this is now available in Australia through Medicare.

The body's cells, particularly the liver cells, take up LDL-cholesterol from the blood via LDL-receptors. Normally, a person has two working copies of the gene encoding the LDL-receptor (one copy inherited from their mother and one from their father), but in someone with FH one copy is defective, so only half of the normal numbers of LDL-receptors are produced. This results in LDL-cholesterol accumulating in blood and artery walls.

A calculated score called the Dutch Lipid Clinic Network Score, based on your family history, untreated LDL-cholesterol levels and physical signs, is used to decide whether FH is likely. Your doctor may order a genetic test for FH to confirm a diagnosis. If you are diagnosed with FH it is recommended that your close relatives also be tested.



### 5 questions to ask your doctor

Why does this test need to be done?

Do I need to prepare (such as fast or avoid medications) for the sample collection?

Will an abnormal result mean I need further tests?

How could it change the course of my care?

What will happen next, after the test?

## To fast or not to fast

It is now considered that fasting is not needed for cholesterol tests – in fact non-fasting is preferred by many labs. However, fasting for 8 – 12 hours may be required before a repeat test to confirm abnormal results. Only water is permitted.

Talking with your doctor about what your results mean is important.

For more detailed information on cholesterol, triglycerides and familial hypercholesterolaemia tests and many others go to [labtestsonline.org.au](http://labtestsonline.org.au)



Please use this QR code to access more information

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[www.labtestsonline.org.au](http://www.labtestsonline.org.au)

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- We are supported by the **Royal College of Pathologists of Australasia**.
- As the consumer pathology testing support resource for **My Health Record**, there is a direct link to the LTO<sup>AU</sup> website embedded in the pathology results pages of every registered person's online record.



My Health Record