

Lipid Panel Ranges

CardioChekPA

Expected range derived from NCEP Guidelines 2001

Chemistry	Expected Range (mmol/L)	Measuring Range
Total Cholesterol	<5.2 = Desirable 5.2 - 6.5 = Borderline >6.5 = High	1.295 - 10.36
HDL Cholesterol	<1.04 = Poor >1.04 = Good	0.39 - 2.59
Triglyceride (Test Fasting Values)	<1.7 = Desirable 1.7 - 2.2 = Borderline >2.26 = High	0.28 - 5.65
LDL Cholesterol (Calculated)	<2.59 = Desirable 2.59 - 3.35 = Borderline >3.35 = High	0.28 - 10.36

Summary

Cholesterol a lipid (Fat) and doesn't dissolve. It is deposited in diseased arteries and can lead to narrowing. CHD results from disease in artery walls.

Controlling high blood cholesterol levels may reduce the risk of ischaemic stroke.

Cholesterol is essential for normal cell structure and there is good and bad cholesterol and several vital hormones are made from cholesterol. Cholesterol is carried in your blood around your body in particles called lipoproteins.

A reduction in cholesterol increases length of life and reduces heart disease and the most significant way is to change your diet and lifestyle.

In addition to the in-store cholesterol testing available, we also offer retail versions of cholesterol test kits available over the counter. They include everything required for you to carry out the test in the comfort of your own home. Please remember that for an accurate reading, you should fast for 12 hours.

Please feel free to ask a member of the pharmacy department if you require any more information on this testing service and to book an appointment.

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CHOLESTEROL TESTING

..Because Prevention is far more important than a Cure

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What is Cholesterol

Cholesterol is a type of fat (lipid) that is found in the blood circulation and cells. The cholesterol in a person's blood originates from two major sources; dietary intake and liver production. After a meal, cholesterol is absorbed by the intestines into the blood circulation and is then packaged inside a protein coat. This cholesterol-protein coat complex is called a chylomicron.

The liver is capable of removing cholesterol from the blood circulation as well as manufacturing cholesterol and secreting cholesterol into the blood circulation. After a meal, the liver removes chylomicrons from the blood circulation. In between meals, the liver manufactures and secretes cholesterol back into the blood circulation.

Dietary cholesterol comes mainly from meat, poultry, fish, and dairy products. Organ meats, such as liver, are especially high in cholesterol content, while foods of plant origin contain no cholesterol.

LDL cholesterol is known as "bad" cholesterol, because higher levels of LDL cholesterol are associated with an increased risk of CHD (Coronary Heart Disease). LDL lipoprotein deposits cholesterol on the artery walls, causing the formation of a hard, thick substance called cholesterol plaque. Over time, cholesterol plaque causes thickening of the artery walls and narrowing of the arteries, a process called atherosclerosis.

HDL cholesterol is called "good cholesterol" because particles prevent atherosclerosis by extracting cholesterol from the artery walls and disposing of them through the liver so high levels of LDL cholesterol and low levels of HDL cholesterol (high LDL/HDL ratios) are risk factors for atherosclerosis, while low levels of LDL cholesterol and high level of HDL cholesterol (low LDL/HDL ratios) are desirable.

Triglyceride is a form of fat made in your body and also comes from food. People with high triglycerides often have a high total cholesterol, high LDL cholesterol and low HDL cholesterol level. Many people with heart disease also have high triglyceride levels. People with diabetes or who are obese are also likely to have high triglycerides. Triglyceride levels of less than 150 mg/dL are normal; levels from 150–199 are borderline high. Levels that are high (200–499 mg/dL) may need treatment in some people. Triglyceride levels of 500 mg/dL or above are very high.

Doctors need to treat high triglycerides in people who also have high LDL cholesterol levels.

Testing Service

There are many negative effects associated with Cholesterol as outlined later, but often cholesterol levels can go unnoticed until its too late and you have been diagnosed with the condition.

We now offer Cholesterol testing in our private consultation area which is carried out by our highly trained pharmacists which takes a matter of minutes. There are two tests available:

1. Test for Total presence of Cholesterol
2. Identifies presence of both good Cholesterol (HDL) - High Density Lipoprotein; bad Cholesterol (LDL) - Low Density Lipoprotein and Total Cholesterol. Using this method, you will get more information about both values and therefore a more accurate and detailed reading.

The tests are very accurate and you will be required to have fasted for 12 hours.

In the event of having high cholesterol levels, we will take suitable action including outlining lifestyle changes to help with your condition, recommending suitable dietary supplements and also notifying your GP with consent on your behalf.

Why test for total and HDL cholesterol?

The total presence cholesterol test indicates your overall level and does not tell you anything about the relation between "good" HDL cholesterol and "bad" LDL cholesterol. By measuring the total cholesterol and the HDL cholesterol, you get more information about both separate values, and also provides information about their relation to one another. Worldwide research has shown that this total cholesterol/HDL ratio is a reliable value to determine the risk for coronary heart disease.

In Western countries, coronary heart disease is the leading cause of death. An elevated blood cholesterol level is one of the major risk factors for coronary heart disease. However, not only the concentration of the total cholesterol is important, but also the ratio between the "good" HDL cholesterol and the "bad" LDL cholesterol.

Effects

Some of the major effects of high cholesterol are:

- CHD-arteries and muscles to the heart are narrowed and starved of blood. Effects of this include *angina* (chest pain due to partial blockage); *myocardial infarction* (chest pain when part of the heart muscle dies); *arrhythmia* (abnormal heart rhythm due to damage to the heart); *heart failure* (weakening of the pumping action of the heart)
- Stokes-brain cells supplied through blood vessels to the brain die, which can also happen in other parts of the body;
- Aneurysm-artery walls bulge and weaken and can rupture due to fatty deposits;
- Gangrene-may develop if arteries supplying lower half of body become blocked.

High levels of cholesterol in your blood increase the risk of developing CHD. In the UK, over 25% of deaths in men and 19% of deaths in women under 75 are now caused by CHD.

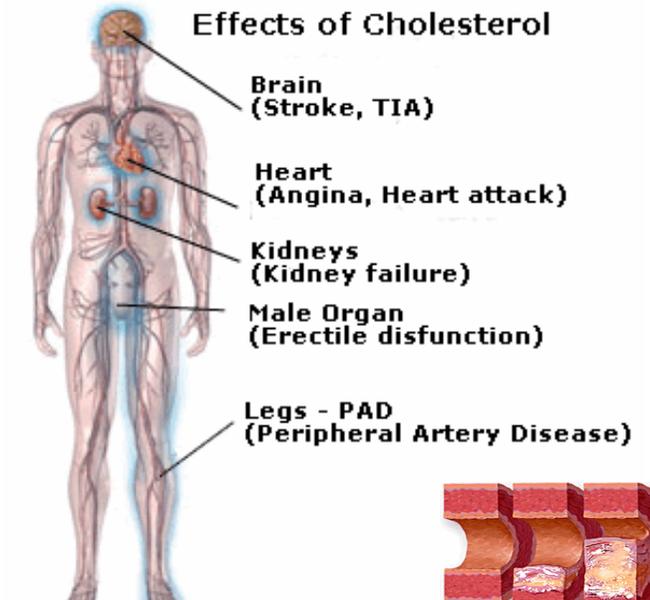


Image to the right showing effects of Cholesterol in the arteries.
Left to right: normal arteries, mild atherosclerosis, severe atherosclerosis