



ALL ABOUT CHOLESTEROL

High cholesterol levels go hand in hand with a number of other factors which fall under chronic conditions. It is often a result of lifestyle factors.

According to the South African Heart and Stroke Foundation, one in four adults in South Africa has high total cholesterol, while **30%** have a high LDL level and **50%** have low HDL levels.

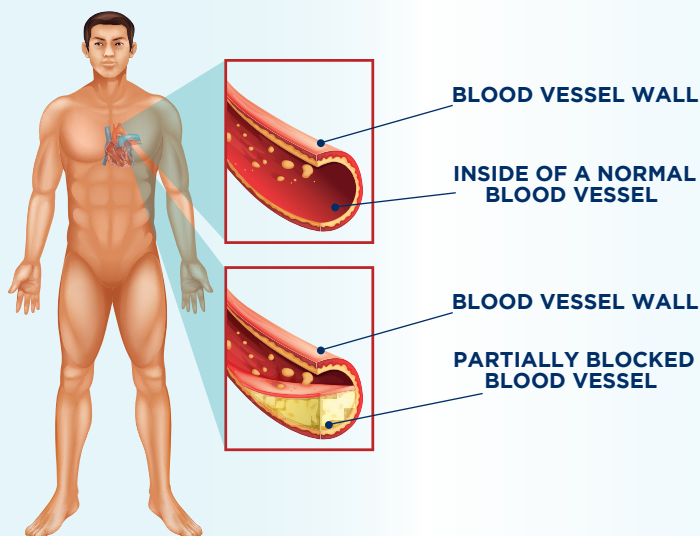
WHAT IS CHOLESTEROL?

Cholesterol is a waxy fat-like substance, made in the liver and found in the blood and cells of your body.

Cholesterol is an essential component of cell membranes, of brain and nerve cells, and of bile, which helps the body absorb fats and fat-soluble vitamins. The body uses cholesterol to make vitamin D and various hormones, such as estrogen, testosterone, and cortisol. The body can produce all the cholesterol that it needs, but it also obtains cholesterol from food.

Fats, such as cholesterol and triglycerides, cannot circulate freely in the blood, because blood is mostly water. To be able to circulate in blood, cholesterol and triglycerides are packaged with proteins and other substances to form particles called lipoproteins.

When there is too much cholesterol in the blood it begins to line the blood vessels and will cause blockages over time. Blockages in important blood vessels cause heart attacks, strokes and kidney failure.



GOOD AND BAD CHOLESTEROL

Cholesterol that is transported from the liver to the rest of the body is carried in transporters called low density lipoproteins, commonly known as LDL. A different transporter, called high density lipoprotein or HDL, collects cholesterol from the rest of the body and the blood vessels, and returns it to the liver.

Because high levels of LDL cholesterol are associated with heart disease, it is often called 'bad cholesterol'. HDL 'cleans' the blood vessels of cholesterol and is therefore commonly referred to as 'good' cholesterol but it is important to know that a low HDL can also increase your risk of disease.

The SA Heart and Stroke Foundation maintain that healthy cholesterol levels should be:

- Total cholesterol LESS than 5.0 mmol/L (millimoles per liter)
- LDL cholesterol level LESS than 3.0 mmol/L
- HDL cholesterol levels MORE than 1.2 mmol/L for women or 1.0 mmol/L for men
- Fasting triglyceride levels LESS than 1.7 mmol/L

People who are at a higher than normal risk for cardiovascular events may have stricter individual targets as advised by their doctor or specialist. This includes people who have:

- Existing heart disease, previous strokes or heart attacks, peripheral vascular disease.
- Diabetes, kidney disease and other medical conditions that increase the risk of heart disease.
- Familial hypercholesterolaemia (inherited high cholesterol).

What test is used to determine the levels of cholesterol in your body?

A fasting lipogram measures the exact number of different types of cholesterol you have. Blood cholesterol tests often also include a triglyceride test. This is a measure of the amount of fat that is being transported in the blood, which could be from fatty food that was recently eaten, or from fat production in the liver. High fasting levels of triglycerides in the blood increases the risk of heart diseases and strokes.

How often should cholesterol be tested?

All adults should have a fasting lipogram at least once in young adulthood (from age of 20). If cholesterol levels are normal, the test should be repeated again in a few years. People with diabetes, kidney disease or who are overweight should have their cholesterol levels monitored frequently by their doctor.

If 'bad' cholesterol levels are high or someone is at a high risk of heart disease, cholesterol levels should be checked every six months. Children don't need to have their levels tested unless they have a family history.

How can cholesterol levels be lowered?

Depending on the individual's risk profile, a doctor may recommend first making lifestyle changes and the use of medication. Whether someone is started on medication or not, diet, physical activity and lifestyle changes are critical. Changes to eating habits and other lifestyle factors can help to improve abnormal cholesterol levels.

What lifestyle changes can help to lower cholesterol levels?

- Losing weight
- Eating a heart-healthy diet: Focus on plant-based foods, including fruits, vegetables and whole grains
- Exercising regularly
- Not smoking

What role does genetics play in high cholesterol levels?

The medical term for high blood cholesterol is Familial hypercholesterolaemia. It is an inherited condition characterised by higher-than-normal levels of LDL blood cholesterol. It causes up to 10 percent of early-onset coronary artery disease (heart disease that occurs before the age of 55 years). The cause is a mutation in a gene.

What are common causes of high cholesterol levels?

Factors that cause high cholesterol levels are categorized into:

- Primary: Genetic (hereditary) causes
- Secondary: Lifestyle and other causes

Both primary and secondary causes contribute to abnormal cholesterol levels in varying degrees.

Secondary causes include:

- A sedentary lifestyle with excessive dietary intake of total calories, saturated fat, cholesterol, and trans fats
- Having diabetes mellitus
- Consuming large amounts of alcohol
- Having chronic kidney disease
- Having hypothyroidism
- Having primary biliary cirrhosis
- Using certain drugs like contraceptives, steroids and certain antiretroviral therapies.

Can I lower my genetically high LDL cholesterol?

There is no cure for familial hypercholesterolaemia. Treatment aims to reduce the risk of coronary artery disease and heart attack and may include dietary changes, including reduced intake of saturated fats and cholesterol-rich foods, and increased intake of fibre. Statins are the most common medicine for high cholesterol. They reduce the amount of cholesterol your body makes, and you usually need to take them for life.

Did you know?

- One-third of adults have high cholesterol.
- No one can live without cholesterol.
- High cholesterol could be genetic.
- Even children can have high cholesterol.
- Sweating can raise your good cholesterol levels.
- Supplements may work to lower cholesterol – but slowly.

