CONDITION

High cholesterol

High cholesterol means there is too much cholesterol in your blood, which can raise your risk of heart and circulation problems.

WHAT IT IS
Excess cholesterol carried in the blood

BODY SYSTEM
Heart and circulation

MAIN SYMPTOMS
Usually none, rarely fatty deposits around tendons or eyes

WHAT CAUSES IT
Genes, diet, health conditions, and some medicines

HOW IT IS DIAGNOSED
Blood lipid panel, sometimes repeated

MAIN TREATMENT
Lifestyle changes and cholesterol-lowering medicines

CAN IT BE CURED?
Sometimes - reversible causes can be corrected

IS IT AN EMERGENCY?
Sometimes - chest pain or stroke signs need emergency care

LONG-TERM OUTLOOK
Often manageable; untreated levels raise cardiovascular risk

Overview

Cholesterol is a waxy, fat-like substance in your blood. Your body needs it to make cell membranes, hormones, and vitamin D. Your liver makes most of the cholesterol you need, and some also comes from food.

Cholesterol cannot travel through blood by itself. It is carried in particles called lipoproteins. A cholesterol blood test usually reports several types:

Over time, excess LDL and other harmful particles can become trapped in artery walls. This may lead to atherosclerosis, which means the arteries become narrowed or stiff because of fatty plaque. Atherosclerosis can increase the risk of heart attack, stroke, and poor circulation in the legs.

High cholesterol is a condition rather than an illness you can usually feel. Finding and managing it is mainly about reducing future risk.

- LDL cholesterol is often called "bad" cholesterol. High levels can contribute to fatty deposits inside arteries.
- HDL cholesterol is sometimes called "good" cholesterol because it helps carry cholesterol back to the liver. However, a high HDL level does not cancel out other risks.
- Non-HDL cholesterol includes LDL and other particles that can contribute to artery disease.
- Triglycerides are another type of blood fat. They are not cholesterol, but they are usually checked at the same time.

Symptoms

High cholesterol usually causes no symptoms. You may feel well even if your level has been high for years. A blood test is the usual way to find it.

Very high cholesterol, especially when inherited, can sometimes cause visible fatty deposits. These may include:

These signs can have other causes and do not confirm high cholesterol by themselves.

Symptoms such as chest pain, sudden weakness, or difficulty speaking are not symptoms of cholesterol itself. They may signal a complication affecting the heart or brain and need urgent assessment.

- Firm swellings over tendons, often around the knuckles or Achilles tendon
- Yellowish patches around the eyelids
- A pale or grey ring around the coloured part of the eye at a younger age

Causes and risk factors

High cholesterol often results from several factors acting together. Your genes influence how your liver makes and removes cholesterol. Diet, activity, age, and other health conditions can also affect the result.

Eating a diet high in saturated fat can raise LDL cholesterol in many people. Saturated fat is found in foods such as fatty or processed meat, butter, ghee, cream, and some baked or fried foods. Trans fats can also raise LDL, although their use in food has fallen in many countries.

Other factors linked with an unhealthy cholesterol pattern or a higher overall risk of heart and circulation disease include:

Cholesterol levels also tend to change with age. Menopause can be associated with a rise in LDL cholesterol.

Some people inherit a condition called familial hypercholesterolaemia , or FH. It limits the body's ability to remove LDL from the blood and can cause very high cholesterol from childhood. FH is more likely when close relatives have very high cholesterol or develop heart disease unusually young.

- Limited physical activity
- Smoking
- Carrying excess body weight, especially around the waist
- Type 2 diabetes
- An underactive thyroid
- Chronic kidney disease
- Some liver conditions
- Heavy alcohol use, particularly when triglycerides are high
- Certain medicines, including some treatments for blood pressure, hormones, immune conditions, or mental health conditions

Diagnosis

High cholesterol is diagnosed with a blood test called a lipid panel or lipid profile. This usually measures total cholesterol, HDL cholesterol, and triglycerides. LDL and non-HDL cholesterol may be calculated or measured directly.

Many cholesterol tests can be done without fasting. You may be asked to fast beforehand if your triglycerides are high, the result is difficult to interpret, or a particular measurement is needed.

There is no single cholesterol result that means the same thing for everyone. A clinician considers the full pattern alongside factors such as your age, blood pressure, smoking history, diabetes, kidney health, and family history. A cardiovascular risk calculator may be used to estimate your chance of having a heart or circulation problem over a set period.

An unexpected result may be repeated. Further blood tests may look for contributing conditions, such as diabetes, thyroid disease, kidney disease, or liver problems.

If FH is suspected, assessment may include a detailed family history, examination for cholesterol deposits, and testing of relatives. Genetic testing is helpful in some cases, but a negative genetic test does not always rule out inherited high cholesterol.

Treatment and management

Treatment aims to lower harmful cholesterol and reduce your overall risk of heart attack, stroke, and other circulation problems. The right approach is based on more than one number.

Lifestyle changes are important whether or not you take medicine. Helpful changes may include:

These changes can improve cholesterol and support blood pressure, blood sugar, and general heart health. Their effect differs between people, particularly when high cholesterol is strongly inherited.

Medicines may be recommended when your overall cardiovascular risk is high, your cholesterol remains elevated, or you already have artery disease. Statins like atorvastatin or simvastatin are the most commonly used medicines. They reduce the liver's production of cholesterol and increase its removal from the blood.

Other medicines include cholesterol-absorption inhibitors, injectable medicines that help the liver remove LDL, and treatments that reduce the production of certain cholesterol-carrying proteins. They may be used when a statin does not lower cholesterol enough, causes troublesome side effects, or is not suitable.

Muscle aches can occur while taking a statin, but muscle pain also has many other causes. Do not stop a prescribed medicine without discussing it unless you have been told to do so. Severe muscle weakness, especially with dark urine or feeling very unwell, needs prompt medical advice.

Tell the clinician managing your medicine if you are pregnant, trying to become pregnant, or breastfeeding. The treatment plan may need to change.

Follow-up blood tests check whether treatment is working and may monitor liver health or other concerns. The timing depends on the medicine, your results, and your overall health.

- Replacing saturated fats with unsaturated fats from foods such as olive or rapeseed oil, nuts, seeds, avocado, and oily fish
- Eating more soluble fibre from oats, barley, beans, lentils, fruit, and vegetables
- Choosing mostly minimally processed foods

- Being physically active on a regular basis
- Working toward a sustainable weight if weight loss would benefit your health
- Not smoking
- Limiting alcohol, especially if triglycerides are raised

Complications

The main concern is atherosclerotic cardiovascular disease. This develops when fatty plaque builds up in arteries.

Possible complications include:

The chance of complications is shaped by how high the cholesterol is, how long it has been elevated, and other factors such as smoking, high blood pressure, diabetes, and family history.

Very high triglycerides can also cause pancreatitis, an inflammation of the pancreas. This is separate from the artery risk linked with LDL cholesterol.

- Coronary heart disease , which reduces blood flow to the heart
- Heart attack , caused by a sudden blockage in a heart artery
- Stroke or transient ischaemic attack , caused by disrupted blood flow to the brain
- Peripheral artery disease , which reduces blood flow to the legs or feet

Prevention

High cholesterol cannot always be prevented. Inherited conditions such as FH can cause high LDL even in someone with a balanced diet and active lifestyle.

For many people, eating less saturated fat, staying active, avoiding smoking, and maintaining a weight that supports their health can reduce the chance of developing an unhealthy cholesterol pattern. Managing diabetes, thyroid disease, kidney disease, and other contributing conditions can also help.

Because high cholesterol usually has no symptoms, testing is an important part of prevention. When testing should begin and how often it should be repeated depend on age, health conditions, previous results, and family history.

Living with it and what to expect

High cholesterol is often a long-term condition. It may improve with lifestyle changes, treatment of an underlying cause, or medicine, but it can rise again if those changes or treatments stop.

You are unlikely to notice a physical difference as cholesterol falls. Progress is measured through blood tests and changes in your estimated heart and circulation risk.

If you take cholesterol-lowering medicine, treatment may continue for years or for life. This is especially likely if you have FH, diabetes, existing artery disease, or a high overall cardiovascular risk. Needing long-term treatment does not mean that it has failed; the medicine works while you continue taking it.

Follow-up is usually routine. It may involve reviewing blood results, medicine use, side effects, blood pressure, smoking status, and other risk factors. Contact the prescribing service if cost, side effects, swallowing difficulties, pregnancy plans, or daily routines make treatment hard to continue. There may be other suitable options.

Many people with high cholesterol remain active and well. Lowering LDL and managing other risk factors can reduce the chance of future heart and circulation problems, although no treatment removes that risk completely.

When to get medical help

Arrange a routine appointment if:

Seek prompt medical advice for severe or worsening muscle weakness, especially if you also have dark urine, fever, or feel very unwell while taking cholesterol-lowering medicine.

Call emergency services for possible signs of a heart attack, including chest pressure or tightness that does not settle, particularly with breathlessness, sweating, nausea, or pain spreading to the arm, jaw, back, or stomach.

Sudden facial drooping, arm weakness, speech difficulty, loss of vision, severe imbalance, or one-sided numbness may be signs of a stroke. Call emergency services immediately, even if the symptoms improve.

- A cholesterol test is high and has not been reviewed
- A close relative has FH or very high cholesterol
- A parent, sibling, or child developed heart disease or had a stroke unusually young
- You notice firm tendon swellings or yellow patches around your eyes

- You are having side effects or difficulty taking prescribed treatment
- You want to understand when your cholesterol should be rechecked

Common questions

Can I feel when my cholesterol is high?

Usually not. High cholesterol rarely causes symptoms, so a blood test is needed. Symptoms normally appear only if artery disease causes a problem or if an inherited condition produces visible cholesterol deposits.

What is a normal cholesterol level?

There is no single ideal result for everyone. The meaning of your result depends on LDL, non-HDL, HDL, triglycerides, and your wider risk of heart and circulation disease. People who already have cardiovascular disease usually need greater LDL reduction than people at lower risk.

Can I lower cholesterol without medicine?

Some people can lower it through changes in food, activity, weight, smoking, or treatment of another condition. Lifestyle changes may not be enough when cholesterol is very high, inherited, or combined with a high cardiovascular risk.

Do eggs cause high cholesterol?

Eggs contain dietary cholesterol, but saturated and trans fats usually have a greater effect on blood LDL for most people. Eggs can fit within a balanced diet, although your wider eating pattern and individual health needs matter.

Will I need statins for life?

Statins are often used long term because cholesterol commonly rises again after they are stopped. Whether treatment continues depends on why it was started, how well it works, side effects, and changes in your health. Do not stop it solely because a later test is lower; that may show the medicine is working.

Is high cholesterol inherited?

It can be. FH is caused by an inherited genetic change and often leads to very high LDL from a young age. More commonly, several genes combine with diet, activity, age, and health conditions to influence cholesterol.

Sources

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