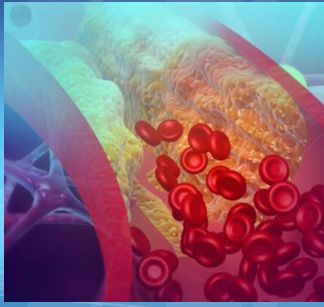
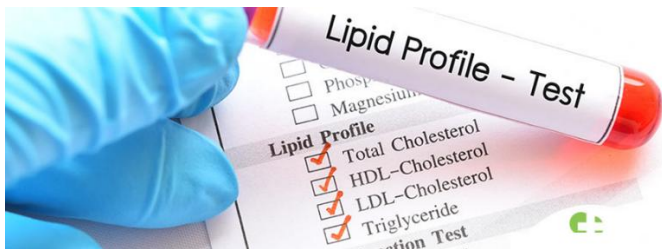




Conquering Cholesterol

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Cholesterol is a type of fat (lipid) that is essential for good health. The liver produces all the cholesterol the body needs, so there is no dietary requirement for cholesterol. Cholesterol has many vital functions. It is a key component of every cell membrane, helping maintain cell structure, flexibility, and function. It also supports cell signalling, nutrient transport, and waste removal. Cholesterol is required to produce important hormones, including cortisol, aldosterone, oestrogen, progesterone, and testosterone. It is essential for vitamin D production when the skin is exposed to sunlight, and it is used to make bile acids, which aid fat digestion. Cholesterol also forms part of the myelin sheath that insulates nerves. It also plays an important role in tissue repair, growth, and the production of new cells.

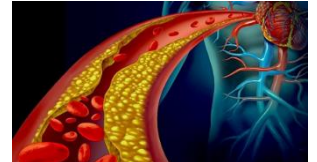


High-Density Lipoprotein (HDL) is commonly known as the "good" cholesterol because it transports excess cholesterol from the bloodstream back to the liver for recycling and removal. However, current research suggests that simply having high HDL levels does not necessarily reduce cardiovascular risk, so HDL is better considered a neutral cholesterol marker. Low-Density Lipoprotein (LDL) is often referred to as the "bad" cholesterol. It delivers cholesterol to cells throughout the body, but excess LDL can accumulate within artery walls, leading to atherosclerosis (hardening and narrowing of the arteries). Triglycerides are the body's main form of stored fat and provide energy between meals. Elevated triglyceride levels increase cardiovascular risk, particularly when combined with high LDL cholesterol. High triglycerides are commonly associated with excess alcohol intake, obesity, diets high in added sugars and saturated fat, and physical inactivity.

The major dietary contributors to elevated LDL cholesterol are saturated fat, trans fats, and dietary cholesterol. Saturated fat is found mainly in meat, poultry, eggs, dairy products, baked goods, deep-fried foods, coconut oil, and palm oil. Dietary cholesterol is found only in animal foods, including all types of red and white meat, fish, eggs, dairy products, and processed meats. Plant foods naturally contain no cholesterol. Trans fats occur naturally in small amounts in meat and dairy but are also found in foods containing partially hydrogenated oils, including many commercially baked goods, fried foods, takeaway meals, and processed foods. Reducing these dietary fats can help lower LDL cholesterol and improve cardiovascular health.



Atherosclerosis is the gradual build-up of cholesterol-rich plaque within the walls of arteries. Over time, arteries become narrower and less flexible, reducing blood flow and the delivery of oxygen and nutrients throughout the body. This can lead to heart attack, stroke, and peripheral artery disease. Elevated LDL cholesterol is the primary modifiable cause of atherosclerosis. Following a high-fat, high-cholesterol meal, blood cholesterol remains elevated for several hours, contributing to inflammation, oxidative stress, and impaired artery function.



Ideal Blood Lipid Levels:

- Total cholesterol: <4.0 mmol/L
- LDL cholesterol: <2.0 mmol/L
- Triglycerides: <2.0 mmol/L

For most people, high cholesterol is largely influenced by lifestyle rather than genetics. Healthy dietary and lifestyle changes can significantly reduce LDL cholesterol and triglycerides.

A whole-food plant-based (WFPB) diet is one of the most effective dietary approaches for lowering cholesterol and reducing the risk of atherosclerosis and cardiovascular disease. This eating pattern focuses on fruits, vegetables, legumes, whole grains, nuts, and seeds while minimising processed foods and animal products. Research shows that lacto-ovo vegetarians typically have cholesterol levels around 20% lower than meat eaters, while people following a completely plant-based diet often have cholesterol levels more than 40% lower. Even lean animal foods can raise cholesterol because animal protein itself appears to contribute to higher blood cholesterol.



A WFPB diet improves cholesterol because it:

- Provides abundant soluble fibre, which binds cholesterol in the digestive tract and reduces its absorption. Excellent sources include oats, barley, legumes, flaxseed, chia seeds, psyllium, apples, pears, citrus fruits, berries, broccoli, Brussels sprouts, carrots, and sweet potato.

- Contains naturally occurring plant sterols and stanols, which reduce cholesterol absorption. These are found in whole grains, legumes, nuts, seeds, and avocados.
- Contains no dietary cholesterol no trans fats.
- Is rich in heart-healthy unsaturated fats, particularly from olives, avocados, nuts, and seeds, which help improve blood lipid levels.



Avocados are among the most effective cholesterol-lowering foods. They reduce both LDL cholesterol and the particularly harmful small, dense LDL particles.

Regular nut consumption is associated with lower LDL cholesterol, with the greatest benefit seen in people who start with higher cholesterol levels. Pistachios, macadamias, almonds, and walnuts are all excellent choices. Aim for a small handful of raw, unsalted nuts each day. Brazil nuts are particularly beneficial. Eating just four Brazil nuts can significantly reduce LDL cholesterol within hours, with effects lasting for up to 30 days. Including one or two Brazil nuts in your daily handful of mixed nuts may help maintain these benefits.



Alcohol is a toxin, a direct carcinogen, and an addictive substance. It provides no health benefit for cholesterol or cardiovascular disease prevention. People who do not drink alcohol have lower LDL cholesterol and triglyceride levels,



less thickening of the artery walls, and no risk of alcohol-related cardiomyopathy (heart muscle damage). For many years, the "French Paradox" suggested that regular red wine consumption protected against heart

disease despite a diet high in saturated fat. We now know this theory was flawed. Early studies failed to account for France's recent shift from a traditional Mediterranean-style diet to a more Western dietary pattern and also underestimated cardiovascular deaths. Current evidence shows that red wine offers no unique cardiovascular protection, and alcohol consumption is associated with increased health risks.

Regular exercise is one of the most effective lifestyle strategies for improving blood lipid levels. Physical activity:

- Lowers LDL cholesterol
- Reduces triglycerides
- Decreases inflammation
- Improves the health and function of blood vessels

Aim to include both:

- Aerobic exercise – Activities such as brisk walking, cycling, swimming, or jogging for at least 30 minutes most days of the week.
- Resistance training – Strength exercises using weights, resistance bands, or body weight on 2–3 days per week.

Carrying excess body fat, particularly around the abdomen, is associated with higher LDL cholesterol and triglycerides. Achieving and maintaining a healthy weight can significantly improve blood lipid levels and reduce cardiovascular risk.

Smoking is one of the strongest risk factors for cardiovascular disease and has profound effects on blood lipids. Smoking:

- Raises LDL cholesterol and triglycerides
- Increases oxidation of LDL cholesterol, making it more likely to form arterial plaque

- Promotes chronic inflammation and oxidative stress
- Accelerates the development of atherosclerosis

These changes substantially increase the risk of heart attack, stroke, and peripheral artery disease. The benefits of quitting begin almost immediately. LDL cholesterol and triglycerides start to improve within weeks to months. After one year, the risk of coronary heart disease is approximately half that of a continuing smoker, and after 15 years the risk approaches that of someone who has never smoked.

Sleep and cholesterol influence each other. Diets high in saturated fat and added sugars and low in fibre are associated with both elevated cholesterol and poorer-quality sleep. Conversely, inadequate sleep can disrupt lipid metabolism, contributing to higher LDL cholesterol and triglycerides. Aim for 7–8 hours of quality sleep each night. Maintaining a consistent sleep schedule supports the hormones and enzymes involved in healthy cholesterol regulation.

Sunlight is the body's primary source of vitamin D. When the skin is exposed to ultraviolet B light, vitamin D is produced from cholesterol. Adequate vitamin D supports healthy lipid metabolism in the liver, and helps reduce LDL cholesterol, improves insulin sensitivity, and contributes to the regulation of triglyceride levels. Safe, regular sun exposure, while avoiding sunburn, can help maintain healthy vitamin D status.



Chronic stress can negatively affect cholesterol by increasing the production of stress hormones such as cortisol and adrenaline. Over time, this promotes inflammation, raises LDL cholesterol and triglycerides, and contributes to cardiovascular disease. Managing stress through regular physical activity, a healthy diet, rest and relaxation, meditating on the word of God, adequate sleep, and healthy social connections can improve both lipid levels and overall cardiovascular health.

Several herbal medicines have shown potential to support healthy cholesterol levels. They should complement—not replace—a healthy diet and lifestyle.

- Amla (Indian gooseberry): 500 mg daily
- Fenugreek seed: 2 teaspoons, three times daily
- Globe artichoke leaf: 3–6 g daily
- Hawthorn berry: 1–3 g daily (may interact with some heart medications)
- Garlic: 2–4 g dried powder daily
- Bergamot orange: 1,000 mg daily
- Barberry bark: 3 g daily (avoid during pregnancy)

Healthy Cholesterol Prescription

- Whole-Food Plant-Based Diet
- Handful of Nuts, Avocado
- No Alcohol
- Exercise Regularly
- Health Weight
- No Smoking
- Quality Sleep
- Sunlight Exposure
- Manage Stress
- Herbs: Amla, Fenugreek, Globe Artichoke, Hawthorn Berry, Garlic, Bergamot Orange