

What Is Cholesterol?

Cholesterol is a soft, waxy substance found among the lipids (fats) in the bloodstream and in all your body's cells. It's an important part of a healthy body because it's used to form cell membranes, some hormones and is needed for other functions. But a high level of cholesterol in the blood (hypercholesterolemia) is a major risk factor for coronary heart disease, which leads to heart attack.

Cholesterol and other fats can't dissolve in the blood. There are several kinds, but the ones to focus on are: low-density lipoprotein (LDL) and high-density lipoprotein (HDL). However, there is a kind of cholesterol, which is hereditary. This kind of cholesterol does not affect the body and does not comprise any danger for the person. Besides the medication and the regimen used do not affect much.

What is LDL Cholesterol ?

Low-density lipoprotein is the major Cholesterol carrier in the blood. If too much LDL Cholesterol circulates in the blood, it can slowly build up in the walls of the arteries feeding the heart and brain. Together with other substances it can form plaque (a thick-hard deposit) that can clog those arteries. This condition is known as atherosclerosis. A clot (thrombus) that forms near this plaque can block the blood flow to part of the heart muscle and cause a heart attack. If a clot blocks the blood flow to part of the brain, a stroke results.

A high level of LDL Cholesterol (160 mg/dL and above) reflects an increased risk of heart disease. That's why LDL Cholesterol is called "**bad**" Cholesterol. Lower levels of LDL Cholesterol reflect a lower risk of heart disease.

What is HDL Cholesterol?

Some experts believe HDL removes excess Cholesterol from plaques and thus slows their growth. HDL Cholesterol is known as "**good**" Cholesterol because a high HDL level seems to protect against heart attack. A low HDL level (less than 40 mg/dL) indicates a greater risk, it also may raise stroke risk.

Prevention:

1. Regular exercise: Regular physical activity increases HDL Cholesterol in some people and prevent atherosclerosis. Physical activity can also help control weight, diabetes and high blood pressure. **Physical inactivity is a major risk factor for heart disease.** Even moderate-intensity activities, if done daily, help reduce your risk. Examples are walking, gardening, yard work, housework, dancing and prescribed home exercises.
2. Healthy diet regimen as the following:
 - a) Decrease food rich in Cholesterol. Foods from animals (especially egg yolks, meat, organic meat "liver, spleen, brain, and kidneys" and whole-milk dairy products) contain it.
 - b) Decrease consuming food rich in fat like butter and oil.
 - c) Increase consuming meats from: poultry, fish, seafood instead of red meat.
 - d) Increase foods high in fibers (fibers can significantly lower serum cholesterol levels) like: fruits and vegetables, oat bran, dried beans or legumes.
3. Avoid smoking: one of the most significant risk factor is cigarette smoking. Smoking lowers HDL Cholesterol levels and increases the tendency for blood to clot. Tobacco smoke is one of the major risk factors of heart diseases.

4. Decrease your weight to decrease cholesterol level in the blood especially LDL cholesterol. To calculate your weight, there is a way called Body-mass index.

$$\text{Body-mass index (BMI)} = \frac{\text{weight in kg}}{(\text{height in meter})^2}$$

If the result is between 19-25 -----it is within normal weight

If the result is between 25-30 -----it is considered overweight

If the result is more than 30 -----obese

An example: if a man is 70 Kg and his height is 160 cm= 1,6 m

$$\frac{70}{1,6 \times 1,6} = 27,5 \text{ means overweight}$$

5. Medication: drugs prescribed by a doctor to decrease cholesterol with all the previous instructions of diet habits, quitting smoking and regular exercises, which are important for everybody especially diabetic patients and those who have hypertension and coronary heart diseases.