Cholesterol Information Sheet

What is Cholesterol?

Cholesterol is a waxy type of fat (lipid), which travels around the body in the blood. It is an essential molecule, as it is required for building cells, producing bile for digestion, and making vitamins and hormones. Cholesterol is produced in adequate quantities in the liver, but can also be obtained from foods from animals (1).

What are optimal cholesterol levels?

Although it is important to have enough cholesterol, excess cholesterol can cause health complications. Total cholesterol levels below 200 mg/dL are considered desirable for adults. Cholesterol levels of 200 – 239 mg/dL are borderline high, while levels of 240 mg/dL and above are considered unhealthy (2).

For children, desirable levels are below 170 mg/mL, borderline high is 170 – 199 mg/dL, and ≥ 240 mg/dL is unhealthy (2).

Should I get my cholesterol measured?

The Adult Treatment Panel of the National Cholesterol Education Program recommends that a fasting lipoprotein profile (including cholesterol analysis) should be conducted once every five years from the age of 20 years onwards (2).

What are the different types of cholesterol?

Cholesterol is transported around the body by lipoproteins. The two main lipoproteins are low-density lipoprotein (LDL) and high-density lipoprotein (HDL).

Cholesterol carried by LDL is often called "bad" cholesterol. LDL deposits excess cholesterol in blood vessel walls, where it accumulates, leading to hardening of the arteries, atherosclerosis, and blood clots. LDL cholesterol levels are often considered to be the best predictor of the risk of heart disease (3).

Cholesterol carried by HDL is considered "good" cholesterol. HDL collects cholesterol from around the body, and delivers it to the liver for recycling or excretion. HDL also carries cholesterol to other organs, where it is used to produce hormones. In addition, HDL cholesterol plays a role in protecting and maintaining the inner walls of the blood vessels by repairing damaged sites (3).

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What are the risks of elevated cholesterol?

High levels of cholesterol (hypercholesterolemia) can result in an accumulation in the arteries and plaque formation. This significantly increases the risk of a heart attack, stroke, and peripheral artery disease (4).

Various factors can contribute to hypercholesterolemia, including a high intake of saturated fats (from red meat and dairy) and refined sugars, high alcohol consumption, physical inactivity, smoking, and being overweight or obese. Each of these risk factors can be modified by dietary and lifestyle changes. There are also risk factors that cannot be changed, including a genetic risk and other medical conditions (5).

How can I lower my cholesterol?

A combination of losing weight, diet, and exercise is beneficial for reducing high cholesterol. Specific changes include limiting carbohydrate, alcohol, and fat intake, and choosing healthier unsaturated fats instead of saturated and trans fats. Abstaining from smoking and exercising for at least 30 minutes each day are also beneficial (6).

Where can I find more info?

Visit www.genetrackdiagnostics.com for full test information, including specimen collection requirements

CONTACT US:

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NOTE:
This brochure is provided for general information purposes only. It is not intended to replace medical advice from a health professional.

References:

(1) What is Cholesterol? American Heart Association. (2020).

(2) Third Report of the National Cholesterol Education Program (NCEP) Expert Panel on Detection, Evaluation, and Treatment of High Blood Cholesterol in Adults (Adult Treatment Panel III) final report. (2002). Circulation. 106 (25), 3143-421.

(3) HDL (Good), LDL (Bad) Cholesterol and Triglycerides. American Heart Association. (2020).

(4) Ravnskov U. (2002) Is atherosclerosis caused by high cholesterol? QJM, 95 (6), 397–403.

(5) Kathiresan S, et al. (2009) Common variants at 30 loci contribute to polygenic dyslipidemia. Nat Genet. 41(1), 56–65.

(6) Wing RR, et al. (2011). Benefits of modest weight loss in improving cardiovascular risk factors in overweight and obese individuals with type 2 diabetes. Diabetes Care. 34 (7), 1481-1486.