

Managing High Cholesterol

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I. What is Cholesterol?

Cholesterol is an organic molecule synthesized by all animals. This molecule is essential for the production of molecules like sex hormones and vitamin D, the fluidity of cell membranes, and the repair of damaged cells. Without cholesterol, the body would not be able to function properly. There are two types of cholesterol: LDL-C and HDL-C. Low density lipoprotein cholesterol (LDL-C) is considered "bad" cholesterol because it contributes to fatty buildups in the arteries, a phenomenon known as atherosclerosis. High density lipoprotein cholesterol (HDL-C) is considered "good" cholesterol because it removes other forms of cholesterol from the bloodstream. Health experts encourage individuals to maintain high levels of HDL-C and low levels of LDL-C in order to decrease risks of heart disease and improve one's overall health.

II. Is High Cholesterol Really That Bad For You?

The condemnation of cholesterol began in the 1960s when the sugar industry convinced Harvard researchers to downplay evidence that suggested that sugar played a role in promoting coronary heart disease (CHD). Instead of reporting the true data, these scientists singled out fat and cholesterol as the dietary causes of CHD. This way, companies were able to better market and profit from "low-fat" products that contained high amounts of sugar. Over the past 20 years, however, research has indicated that cholesterol may not be the proximate cause of heart disease. Rather, oxidation and inflammation are to blame.

It is important to note that cholesterol does not float around in the body by itself. It is contained within lipoproteins, molecules that act as delivery vessels. It is the lipoproteins, rather than cholesterol, that are involved in atherosclerosis. When assessing cholesterol levels, the LDL-C and HDL-C measurements only reflect the total amount of cholesterol contained in the LDL and HDL particles, not the number of LDL and HDL particles themselves. Using these assessments to determine an individual's risk for heart disease would be like counting the number of people on the freeway, rather than the vehicles, to determine the severity of traffic. The measurements could either indicate that you have a few large LDL particles, which would not be too detrimental to your health, or you have a bunch of smaller, denser LDL particles, which would be much more harmful.

Rather than running an LDL-C test to determine whether an individual's cholesterol levels are too high, consider an ApoB test. Every lipoprotein has one ApoB, or Apolipoprotein B. This protein is involved in the metabolism of lipids and exists within LDL particles. Since every LDL particle contains one ApoB molecule, ApoB count is a much stronger predictor of heart disease risk. Additionally, it is important to watch cholesterol levels over time. A single test represents only a snapshot of reality, and cholesterol levels fluctuate throughout the day. However, if multiple tests are taken, and the trend indicates a steady rise in LDL-C, it may hint that dietary changes need to be made.

Elevated cholesterol is not necessarily linked to heart disease, and sometimes it is even connected to lower mortality. In people older than 60, high LDL-C is associated with lower all-cause and cardiovascular mortality. Additionally, most

people who have heart attacks have “normal” cholesterol levels. Although high cholesterol should never be ignored, it should not be the only factor considered when making lifestyle changes. High LDL-C levels may simply be a symptom of a larger concern, rather than the main issue itself.

III. Ways to Manage High Cholesterol

There are multiple lifestyle changes you can make in order to lower your cholesterol levels. While there are certainly situations in which medication cannot be avoided, making these modifications can help keep medication dosages low and may even improve the effects of the medicines.

Some dietary changes that can be made include eliminating grains from your diet (or sticking to whole grains), eating at least 5 servings of vegetables daily, reducing saturated fat intake (found primarily in red meat and full-fat dairy products), and increasing consumption of foods like salmon, flaxseeds, and walnuts that are rich in omega-3 fatty acids. All of these nutritional alterations will help reduce LDL cholesterol levels. Additionally, in order to raise HDL-C, or “good” cholesterol, levels focus on consuming more healthy fats like avocados, nuts, olive oil, and nut butters while simultaneously integrating more exercise and physical activity into your weekly routine. Even moderate exercise in short intervals can help raise HDL cholesterol levels. Health experts also recommend quitting smoking and only drinking alcohol in moderation. While these changes will definitely benefit one’s overall health, they will also work to specifically reduce LDL-C levels.

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