

# HDL-C

## What is HDL-C?

HDL cholesterol (HDL-C) is the measure of the cholesterol carried in particles called high density lipoproteins (HDL). Apolipoprotein A-1 is the main protein found on HDL. HDL is known as the “good” cholesterol and a **protective** lipoprotein fraction, because *the high density lipoproteins usually carry harmful cholesterol molecules away from the vessel walls and return them to the liver where they are metabolized.* This healthy process is called “reverse cholesterol transport.” Optimally HDL levels should be greater than 40 for males and greater than 50 for females.

## What health conditions require testing?

The most common cause of low HDL-C is elevated triglycerides. A “lipid panel” (which includes HDL-C) may be recommended if you have markers of cardiovascular risk, such as elevated blood pressure, blood sugar or large waist circumference, or elevated levels of LDL-C, non-HDL, apoB and LDL-P (harmful lipoproteins when high).

Your healthcare provider may also recommend a lipid panel if you have a family history of heart disease. Low HDL-C can be inherited. Gene defects can result in very low HDL which decreases protecting the blood vessel wall and leads to increased cardiovascular disease.

## Can low HDL-C be improved?

Yes! There are several ways you can attempt to raise HDL-C:

### 1. Exercise

Raising the HDL-C can be achieved by exercise and weight management. Exercise and weight loss improves the way the hormone insulin works, resulting in improved fat metabolism. If this happens, HDL-C is likely to increase. Find an activity that you enjoy and set out to exercise most days of the week. Many people enjoy walking; attempt to work up to an hour of walking over the course of a day and ask a relative or friend to join you.

### 2. Smoking Cessation

Smoking lowers HDL-C and is a major risk factor for cardiovascular disease. Stop smoking! Consider the assistance of a skilled counselor to attain this goal.

### 3. Diet

Altering your intake of carbohydrates and fats may beneficially affect your HDL-C.

## Carbohydrates

HDL often increases when triglycerides in the blood are reduced. Sugars and starches in the diet are sources for the three carbon back-bone for triglycerides, a fat that is made by the liver, released into the blood stream and, stored in your fat cells. Decrease the refined carbohydrates in your diet including white breads, pastas, desserts and soda. Select whole grains, fruits and vegetables, and legumes (such as dried beans, peas and lentils) as your main carbohydrates. These are absorbed less rapidly by the body and many contain soluble fiber, which can help lower cholesterol. Avoid sugary beverages, including soft drinks, fruit drinks and juices, sports and energy drinks, as well as sugar-sweetened teas and coffees. Drink water as your main drink and add lemon or lime if you want to enhance the flavor.

## Fat

Attempt to consume most of the fat in your diet in the form of unsaturated fats. Foods such as canola oil and other liquid vegetable oils, salmon, avocado and walnuts, as well as other nuts, seeds and peanuts contain unsaturated fats. Saturated fat, found in full-fat dairy (including butter), prime and rib meats and tropical oils (coconut and palm oil) should be avoided, because they increase LDL-C. Trans fats, found in many packaged foods and some fried foods, should be avoided because they increase LDL-C and lower HDL-C.

## Weight Control

Achieving and maintaining a healthy body weight will increase HDL and achieve many other health benefits (ie, decrease triglycerides and LDL-C, among others). Fried foods should be avoided because they are high in calories and contribute to weight gain or prevent weight loss. Grain-based desserts and sugar sweetened beverages are two of the main sources of calories in the U.S. diet. Eliminating these extra calories can help with weight control to increase HDL-C.

## 4. Medications

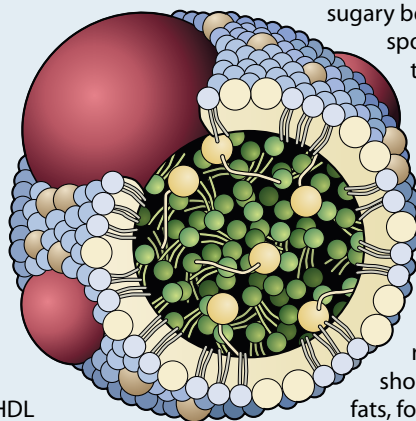
Your doctor may recommend a medication to increase your HDL-C. The available medications usually lower the harmful lipids and simultaneously raise HDL-C. Some examples of these include Niacin, and groups of drugs called fenofibrates and statins. There is no good evidence that raising HDL-C with medicines is beneficial, so using medicines that lower LDL-C, non-HDL, apoB, or LDL-P is important.

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Name: \_\_\_\_\_ Date: \_\_\_\_\_ Healthcare Provider: \_\_\_\_\_

LDL Goals: \_\_\_\_\_ Weight Loss Goals: \_\_\_\_\_

Activity/Exercise Goals: \_\_\_\_\_

Medications Recommended: \_\_\_\_\_

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