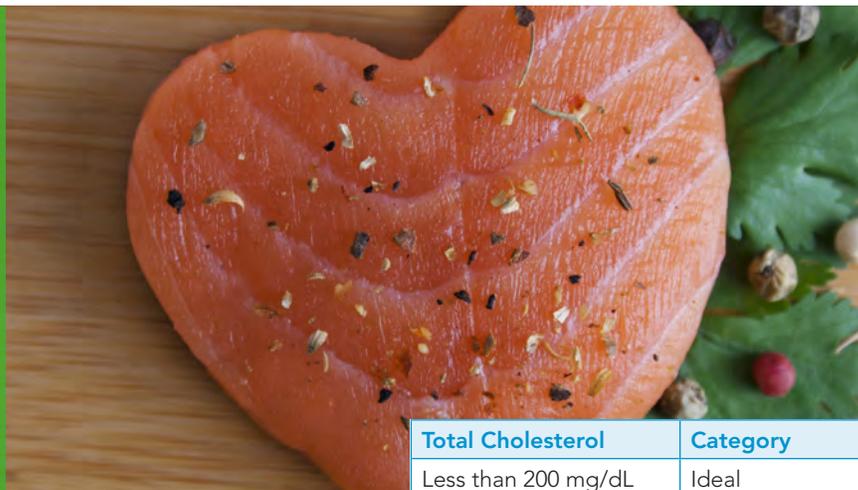


Healthy Words of Wisdom

What is Cholesterol?

Cholesterol is a soft, fat-like, waxy substance found in the bloodstream and cells. Cholesterol is important because it is used for producing cell membranes and some hormones, and serves other necessary bodily functions.



It may surprise you to know that cholesterol itself isn't bad. In fact, cholesterol is just one of the many substances made and used by our bodies to keep us healthy. But too much cholesterol in the blood is a major risk for coronary heart disease and stroke. Cholesterol levels are determined by factors that include heredity, liver, kidney, and thyroid functions, along with diet and exercise habits. **Hypercholesterolemia** is the medical term to describe high levels of cholesterol in the blood.

There are two types of cholesterol: HDL ("good") and LDL ("bad")

HDL stands for High Density Lipoprotein and LDL stands for Low Density Lipoprotein. It is important to understand the difference between the two, and to know the levels of "good" and "bad" cholesterol in your blood.

Too much of one type, or not enough of another, can put you at risk for coronary heart disease, heart attack

or stroke. Heart disease is the number one killer of men and women in the United States.

HDL and LDL are proteins made by the body. They are not actually components of food. Cholesterol is a component of food, and is found only in animal products like meat, poultry, fish, eggs and dairy.

Ideally, the liver produces and the diet provides cholesterol, which is carried by LDL throughout the body, serving vital functions. HDL then shuttles the cholesterol back to the liver for recycling so that it doesn't build up in the bloodstream. Problems arise when there is too much LDL and not enough HDL to carry the cholesterol back to the liver, creating an imbalance.

When there is too much cholesterol in your blood it builds up in the walls of your arteries. Over time, this buildup causes the arteries to become narrowed and blood flow is slowed or blocked. If the damaged arteries are those that lead to the heart, it could result in a heart attack; if they lead to the brain, it could result in a stroke.

Total Cholesterol	Category
Less than 200 mg/dL	Ideal
200-239 mg/dL	Borderline High
240 mg/dL and above	High
HDL Cholesterol	Category
60 mg/dL and above	Ideal
Men: Less than 40 mg/dL	Low
Women: Less than 50 mg/dL	Low
Total Cholesterol/ HDL Ratio	Category
Less than 5.0	Ideal
LDL Cholesterol	Category
Less than 100 mg/dL	Ideal
100-129 mg/dL	Above ideal
130-159 mg/dL	Borderline High
160-189 mg/dL	High
190 mg/dL and above	Very high
Triglycerides	Category
Less than 100 mg/dL	Ideal
Less than 150 mg/dL	Normal
150-199 mg/dL	Borderline High
200-499 mg/dL	High
500 mg/dL and above	Very high

**Total Cholesterol = LDL + HDL
+ (Fasting Triglycerides ÷ 5)**

Triglycerides (fat molecules circulating in the blood stream) need to be less than 400 for the calculation to be accurate.

LDL (“bad”) cholesterol is associated with increased risk of coronary artery disease. Most cholesterol lowering plans focus on LDL for this reason. There are many dietary options that offer an opportunity to reduce LDL. Let’s take a look at some specifics.

Foods That Raise LDL (“Bad”) Cholesterol

Saturated Fats

Saturated fats come primarily from animals, and are found in foods such as non-skim dairy products (cream, butter, milk, cheese), meats and poultry. Many of us rely on foods that are made outside the home, many of which contain saturated fat. Foods that cause problems when eaten too often include baked goods, cream soups, fried foods, entrees made with cheese, fatty meats, sauces and marinades made with saturated fats.

Trans Fats

Trans fats (also known as trans fatty acids) are fabricated when oils are partially hydrogenated to make them more solid. Manufacturers do this to give the product a longer shelf life. Trans fats are found in many processed foods, such as boxed cakes, candy bars, cookies, crackers, doughnuts, fried foods, microwaveable popcorn, stick margarines and pastries.

The FDA requires that trans fats be listed on food labels. If you don’t see trans fat listed on a label, look for the words “hydrogenated” or “partially hydrogenated.” These words indicate trans fats are present. The farther down the ingredient list these words appear, the less trans fat the food contains. Read labels and minimize these foods.



Cholesterol

Dietary cholesterol can increase LDL cholesterol, though to a lesser extent than saturated or trans fats. The American Heart Association (AHA) recommends if you need to lower your blood cholesterol, reduce saturated fat to no more than 5 to 6 percent of total calories. For someone eating 2,000 calories a day, that’s about 13 grams of saturated fat.

Along with a reduction of particular foods, there are many foods that must be included in the diet to achieve a healthy cholesterol balance.

Foods That Lower LDL

Fiber

There are two kinds of fiber: soluble and insoluble. Soluble fiber will lower LDL cholesterol. Soluble fiber is found in oats, barley, legumes, fruits, vegetables, nuts and seeds. Consider adding a high fiber cereal to your day that contains oats, or adding oat or rice bran to various foods. Try adding chick peas to your mixed green salad or make your favorite soup with barley. There are many tasty ways to increase the soluble fiber in your diet and lower your LDL cholesterol.

Insoluble fiber is found in 100% whole wheat breads, multi grain pastas, bran, and raw fruits and vegetables. Though it will not lower LDL, insoluble fiber is beneficial for digestive health.

Fruit

The recommended intake of fruit is 1 ½ to 2 cups per day, depending on your caloric needs. Colorful fruits, such as blueberries, red and purple grapes, plums and cherries, may also have a beneficial effect on the good cholesterol, HDL.

Vegetables

The recommended intake of vegetables is 2 - 3 cups per day, depending on your caloric needs. One cup of the total intake should come from dark, leafy greens such as spinach, mesclun mix, kale, collards and cabbage. Learn new and tasty ways to prepare vegetables and make them a part of your daily diet.

Fish

Fish, which can be a rich source of the powerful omega-3 fatty acids, is a wonderful way to improve all aspects of your cholesterol profile. Especially when substituted for meat, fish can lower LDL cholesterol, raise HDL cholesterol and lower triglycerides. Plan to include 2 or more servings of fish per week. If you do not eat fish, get your omega 3’s from walnuts, ground flaxseeds, chia seeds, canola oil, or soybeans.

Product	Serving Size	Trans Fat (G)
French Fries	Medium (5 Oz.)	8
Margarine stick	1 Tbsp.	3
Shortening	1 Tbsp.	4
Potato Chips	Small Bag (1.5 oz.)	3
Doughnut	1	5
Cookies (cream filled)	3	2
Candy Bar	1 (1.5 oz.)	3
Pound Cake	1 slice (3 oz.)	4.5

Limit your intake of trans fats to less than 1% of total calories (AHA).

HDL (“good”) cholesterol protects against heart disease, so for HDL, higher numbers are better. HDL levels of 60mg/dL or more help to lower your risk for heart disease.

Ways to Raise HDL (“Good”) Cholesterol

Exercise

Exercise is a tried and true way of increasing HDL cholesterol. Every little bit counts. Make exercise a priority and try your best to stay consistent.

Fish

An intake of fish has been observed to increase HDL cholesterol, even over a short amount of time. Choose fatty fish, such as salmon, sardines, herring, mackerel and sea bass. Fish oil supplements have also been shown to increase HDL cholesterol over a longer period of time. Check with your doctor before taking supplements.

Other Omega-3 Fatty Acids

Terrestrial omega-3 fatty acids can also be found in ground flax seed, soy foods, green leafy vegetables and raw walnuts. Though lower in omega-3 levels, raw almonds and brazil nuts are also considered a good source of healthy mono unsaturated fats.

Alcohol

Yes, alcohol, specifically red wine has been shown to increase HDL cholesterol though only when consumed in moderation. Moderate alcohol intake means no more than one 5-ounce glass per day for women and two per day for men. If you have high triglycerides, do not use this method of increasing HDL cholesterol.

Fruits and Fruit Juices

Fruits such as purple grapes, blackberries and blueberries may also increase HDL.

Weight Loss

If you are overweight, weight loss will often increase HDL while decreasing LDL cholesterol levels.

ERT

For women, estrogen replacement therapy (ERT) usually increases HDL cholesterol slightly.

Decrease Refined Sugars and Simple Carbohydrates

These include white breads, white rice, white pasta, candy, cookies and sweetened beverages. Modify your diet gradually to include complex carbohydrates, such as fruit and whole grain products, like 100% whole wheat bread, brown rice and whole wheat pasta. These have more fiber than simple carbohydrates. Find a favorite unsweetened beverage substitute, such as unsweet iced tea, sparkling water or club soda with a slice of lemon or lime. Try fresh fruits, trail mix, whole wheat bread with peanut butter, or low fat popcorn as a healthy snack option.

Quit Smoking

This will increase your HDL levels while greatly reducing your risk of other diseases.

Include Beneficial Fats

It is best to include fats such as those found in fish, raw nuts, flax, avocados, legumes, olive and canola oils.

Sometimes a temporary drop in HDL occurs when

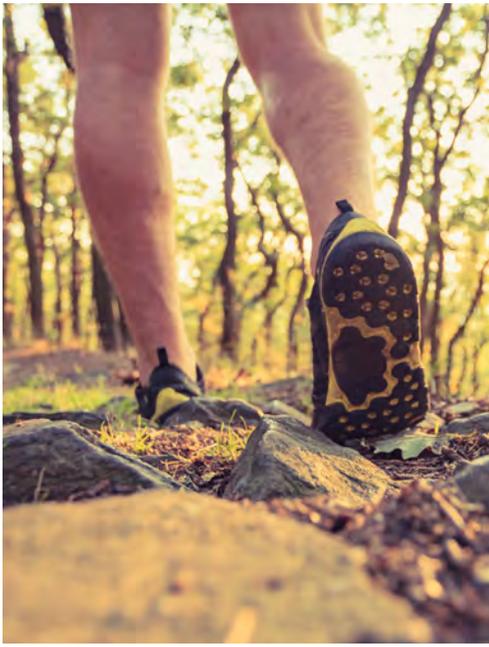
major changes have been made in the diet and total cholesterol has been lowered significantly. For most people, HDL levels will rise again if diet changes are maintained. Try the suggestions listed and see your HDL rise over the next few months.

The American Heart Association’s Nutrition Committee strongly advises these fat guidelines for healthy Americans over age 2*:

- Reducing saturated fat to no more than 5-6% of total calories. For someone eating 2,000 calories a day that’s about 11 to 13 grams of saturated fat.
- Eating between 25 -35% of your total daily calories as fats from foods like fish, nuts, and vegetable oils.
- Limiting the amount of saturated fats you eat to less than 7% of your total daily calories.
- Limiting the amount of trans fats to less than 1% of your total daily calories.
- For good health, the majority of fats you eat should be monounsaturated or polyunsaturated.

*Based on 2,000 calories per day.





What are Triglycerides?

Plasma triglycerides are a part of the cholesterol profile that is usually obtained by your doctor. Triglycerides are fatty molecules constructed of three fatty acid chains attached to a carbohydrate backbone. Triglycerides are normally found circulating in the blood with other fatty molecules such as cholesterol.

Triglycerides have a close relationship with HDL (the "good" cholesterol), and many of the factors that affect HDL also affect the elevation of triglycerides. It is not uncommon to see elevated triglycerides (greater than 150) and low HDL (less than 40) occur at the same time. The combination of elevated triglycerides and low HDL may increase the risk of coronary heart disease. Triglycerides are also indicative of "insulin resistance," diabetes or sensitivity to simple carbohydrates and alcohol.

TEN WAYS TO DECREASE ELEVATED TRIGLYCERIDES

Triglycerides are usually very responsive to dietary changes, so it doesn't take long to lower triglycerides with the right dietary intake. We can see responses to triglycerides in just a few days.

- 1. Decrease sweets.**
The sugar in sweets will have an immediate effect on individuals sensitive to elevated triglycerides. Examples include soda, candy, cookies, pies, pastries, sweet desserts, and concentrated fruit juices.
- 2. Decrease or eliminate alcohol.**
Excessive alcohol consumption is strongly associated with dangerously high triglyceride levels. For those individuals who are sensitive, even a small amount of alcohol can trigger elevated triglycerides.
- 3. Decrease refined carbohydrates.**
White bread, white pasta, and white rice can have an impact on triglycerides in sensitive individuals. Try whole grains such as 7-grain breads, 100% whole wheat pasta, brown rice and other grains such as quinoa, barley, oats and millet.
- 4. Choose foods rich in omega-3 fatty acids.**
Individuals with triglycerides above 250 mg/dl should consider including foods high in omega-3 fatty acids. The American Heart Association recommends 2 servings of fish weekly to increase the consumption of these beneficial fats. Examples include cold water fish (such as salmon, tuna, trout, herring, sardines, mackerel), flax seed oil, soy products, legumes, walnuts and dark leafy green vegetables.
- 5. Maintain a healthy weight.**
Getting to and maintaining a healthy weight is easiest when you are eating moderately and being physically active on a regular basis. A healthy diet does not have to involve severe deprivation and should not involve the exclusion of any one group of foods.
- 6. Reduce intake of saturated and hydrogenated fats.**
Use olive oil, canola oil, rice bran, walnut oil and flax oil instead of more saturated fats like butter, shortening, lard or margarine.
- 7. Avoid hidden fats.**
Avoid high fat foods such as regular fat meats, full fat dairy products and fatty snack foods. Be careful when lowering the fat in the diet that high sugar foods are not substituted.
- 8. Choose high fiber foods.**
Foods high in fiber will help to control your triglycerides and LDL. Examples include beans, whole grains, ground flaxseed, pumpkin seeds, rice bran, oat bran, fruits and vegetables. An increase in fiber should be accompanied by an increase in water intake. Increase fiber slowly to prevent any discomfort.
- 9. Replace red meat with lower fat sources of protein.**
Fish can decrease triglycerides and improve your risk of coronary heart disease. Likewise, vegetable proteins such as dried beans, peas and soy products are excellent ways to improve your health. White meat poultry, prepared without the skin, is a good source of protein without a lot of fat.
- 10. Exercise regularly.**
Regular exercise (30 minutes daily on most days) has been shown to increase HDL cholesterol and serves to burn off excess triglycerides.

References: www.americanheart.org;
www.nhlbi.nih.gov; www.fda.gov;
www.webmd.com