

Tell Me About Cholesterol



Cholesterol is soft, waxy fat (lipid). It is found in the blood and body cells. Despite current beliefs, cholesterol is NOT bad. Cholesterol is needed to build cell walls, transmit nerve impulses, and produce hormones. The liver makes all the cholesterol the body needs. Cholesterol is also consumed through the diet. Most people eat far too much cholesterol, from 400 to 500 milligrams per day. Health experts recommend less than 300 milligrams per day (less than 200 mg/day if already diagnosed with high blood cholesterol). Elevated cholesterol levels increase the likelihood for plaque buildup on artery walls. This process is known as atherosclerosis.

What Are the Types of Cholesterol (Fats)?

- **Total Cholesterol** is made up of both "good" and "bad" cholesterol and is a measure of the total amount of cholesterol in the blood at a given time.
- **HDL** (high-density lipoproteins), the "good" cholesterol, protects against plaque buildup. This healthy form of fat removes bad fats from artery walls. The bad fats are transported to the liver for excretion. Regular aerobic exercise increases HDL levels. Avoiding tobacco products also increases HDL levels.
- **TC/HDL Ratio** indicates the balance between the total cholesterol and the HDL. When insufficient levels of HDL exist in relation to the total cholesterol, heart disease can develop.
- **LDL** (low-density lipoproteins), the "bad" cholesterol, builds plaque on artery walls. Limiting amounts of saturated fats and trans-fats eaten can reduce LDL levels.
- **Triglycerides**, the bad cholesterol "transporter", is another form of fat found in the blood. This fat comes from excess sugar and simple carbohydrates, excess alcohol intake, excess weight, and/or poorly controlled blood sugar levels. Triglycerides move the bad fat (LDL) to the arteries where it creates plaque build-up. Also, when blood levels are high, the blood becomes thicker and more likely to clot.

Tips to Control Cholesterol

To keep total cholesterol within the recommended levels (less than 200 mg/dl):

- Eat meals low in cholesterol and fat (especially animal or saturated fat). Avoid trans-fats.
- Total fat – Less than 30% of Total Calories
- Saturated Fat – Less than 10%
- Polyunsaturated Fat – Up to 10%
- Monounsaturated Fat – 10 to 15%
- Cholesterol – Less than 300 mg/day
- Maintain a healthy weight.
- Get regular aerobic exercise.
- Eat foods high in dietary fiber such as oatmeal, whole grain breads, brown rice, beans and nuts.
- Avoid long-term stress.
- Take cholesterol-lowering medication, if prescribed.

To raise the "Good Cholesterol"

- Get regular aerobic exercise.
- Stop smoking.
- Achieve and maintain a healthy weight.
- Use olive oil, canola oil, and sunflower oil as the primary fat, while keeping total fat intake low.

To Lower Triglycerides

- Maintain a healthy weight.
- Get regular aerobic exercise.
- Reduce animal fats in the diet; eat more fish.
- Decrease alcohol and sugar consumption.
- Take medications if prescribed.

	Ideal	Recommended	At Risk	High Risk
Total Cholesterol	159 mg/dL or less with known disease 179 mg/dL or less without known disease	199 mg/dL or less	200 – 239 mg/dL	240 mg/dL or greater
HDL	60 mg/dL or greater	above 45 men; 55 women	40-45 men, 50-55 women	below 40 men; 50 women
TC/HDL Ratio	4.0 or less	4.5 or less	4.5 – 5.9	6.0 or greater
LDL	100 mg/dL or less	130 mg/dL or less	130 – 159 mg/dL	160 mg/dL or greater
Triglycerides	150 mg/dL or less	150 – 199 mg/dL	200 – 499 mg/dL	500 mg/dL or greater

General Tips to Reduce Cholesterol

- If you see fat, don't eat it. Trim fat from meat wherever possible, and remove the skin from poultry.
- Try to eat 5 servings of fruits and vegetables every day.
- Increase your exercise. Exercise increases levels of HDL – good cholesterol.
- Replace highly saturated fats with polyunsaturated fats.
- Eat more seafood. Some seafood, such as sardines, salmon, and mackerel are high in omega-3 fatty acids, which increase your levels of HDL (good cholesterol) and may reduce your triglycerides.
- Drink skim milk instead of whole milk.
- Give up smoking. Smoking depresses levels of good cholesterol.
- Lose some weight. Extra weight is associated with higher levels of bad cholesterol.
- Increase your consumption of soluble fiber.
- Relieve your stress. There's some evidence that stress causes your body to increase the amount of fats in your bloodstream, which can cause plaque to accumulate faster.

The National Cholesterol Education Program recommends:

If you have not previously attempted to reduce your cholesterol level with diet and exercise, the first step to help you achieve healthy cholesterol levels consists of:

Heart Healthy Diet Guidelines -- you should eat:

- 8-10% of the day's total calories from saturated fat.
- 30 percent or less of the day's total calories from fat.
- Less than 300 milligrams of dietary cholesterol a day.
- Limit sodium intake to 2400 milligrams a day.
- Just enough calories to achieve or maintain a healthy weight and reduce your blood cholesterol level.

If you have followed the above for 6 months or more and not achieved the desired lower cholesterol levels, implement the following.

TLC Diet Guidelines -- you should eat:

- Less than 7% of the day's total calories from saturated fat.
- 25-35 percent or less of the day's total calories from fat.
- Less than 200 milligrams of dietary cholesterol a day.
- Limit sodium intake to 2400 milligrams a day.
- Just enough calories to achieve or maintain a healthy weight and reduce your blood cholesterol level.

About Fats:

All fats are not the same. Fat is a major source of energy for the body and aids in the absorption of vitamins A, D, E, and K. When eaten in moderation, fat is important for proper growth, development and maintenance of good health.

Saturated and trans-fats are not healthy, ever. Saturated and trans-fats raise LDL or bad cholesterol and increase the risk of heart disease. Trans-fat is made when manufacturers add hydrogen to vegetable oil to increase the shelf life. It can be found in vegetable shortenings, some margarines, and any food made with partially hydrogenated oils. Trans-fats raise LDL cholesterol. You should completely avoid trans-fat in your diet if at all possible. Saturated fat is a dietary fat that comes from red meat, whole milk products, coconut and its derivatives.

Replace trans-fat and saturated fats with unsaturated fats whenever possible. Unsaturated fats, monounsaturated and polyunsaturated) do not raise LDL cholesterol and are beneficial when consumed in moderation. Sources of monounsaturated fats include olive and canola oils. Sources of polyunsaturated fats include soybean oil, corn oil, sunflower oil, and foods like nuts.