

Cholesterol, Triglycerides, and Fats

Cholesterol in your body

Cholesterol is a natural, waxy substance in the blood. Your body needs cholesterol to work properly. However, if the levels of fat and cholesterol in your body are too high, blockages called plaque form on the walls of your arteries. The plaque narrows the blood flow through the arteries. This buildup is called hardening of the arteries or atherosclerosis. Atherosclerosis causes most heart attacks and strokes.

Blood tests measure the **total cholesterol** in your blood. Blood tests can also measure certain types of cholesterol in your blood.

1. LDL Cholesterol (low density lipoprotein)

- This is the “lousy or bad” cholesterol because it plays a key role in building plaque on blood vessel walls.
- High levels of LDL cholesterol in your blood increase your risk of heart disease.

2. HDL Cholesterol (high density lipoprotein)

- This is the “healthy or good” cholesterol because it carries lousy cholesterol away from blood vessels to the liver where it is broken down and removed from the body.
- High levels of HDL in your blood reduce your risk of heart disease.

What affects your blood cholesterol levels?

Your body makes 75% of the cholesterol in your blood. However, your activity level, your body weight, and the food you eat also affect the level of cholesterol in your blood.

What about cholesterol in food?

Cholesterol in food is found in animal products such as organ meats (liver, kidney, heart), milk products, egg yolks, shrimp and squid.

Keeping your dietary cholesterol intake below 300 mg per day can lower your cholesterol levels by 5-10%. An average 2½ oz (75 g) serving of meat contains between 50 and 75 mg of dietary cholesterol.

Triglycerides in your body

Triglycerides are a type of fat in your blood. They are the most common form of fat in your body. If your blood level of triglycerides is too high, your risk of heart disease increases.

What affects your blood triglyceride levels?

- Triglycerides are formed in your body from the fats in the food you eat.
- The following can increase blood triglyceride levels:
 - excess alcohol intake
 - being overweight
 - foods high in sugar like sweetened beverages or baked goods
 - having uncontrolled diabetes
 - excess total fat intake

Know your blood cholesterol levels (total cholesterol, HDL, LDL) and triglyceride levels. Ask your doctor what your blood levels should be.

The Bottom Line

- Making food and lifestyle changes can lower your blood cholesterol and blood triglycerides by approximately 25%. See the next page for changes you can make.
- If you take medication to lower your blood cholesterol, making food changes helps the medication to work its best.

Fats in food

Dietary fats can be divided into 3 types:

1. Saturated fats
2. Trans fats
3. Unsaturated fats

- Calories from fat should be no more than 20-35% of your total daily calories. This means that the average person should have no more than 65g of fat per day.
- Remember to read food labels to see what types of fats are contained in the foods you choose.

Limit Saturated Fats

☹️ **Saturated fats increase your “lousy” (LDL) cholesterol.**

- Usually are solid at room temperature.
- Sources:
 - foods of animal origin (the fat in beef, lamb, pork, chicken, whole dairy products and lard).
 - coconut and palm oil
 - some commercially packaged products like cookies and puddings.
- Look at the Nutrition Facts table on food labels to choose foods lower in saturated fat.

Making changes to reduce the saturated and trans fats in your diet can reduce your lousy blood (LDL) cholesterol level by 10-15%.

Limit Trans Fats

☹️ **Trans fats increase your “lousy” (LDL) cholesterol and may decrease your healthy (HDL) cholesterol.**

- Formed during a chemical process called hydrogenation. Liquid fat is hardened into solid fat during hydrogenation and trans fats are formed.
- Sources:
 - hard margarines, some tub margarines, vegetable shortenings
 - commercially packaged products prepared with these fats such as donuts, French fries, cookies, microwave popcorn and flavoured coffee creamers
- Look for “non-hydrogenated” on the labels of margarines.
- Look at the Nutrition Facts table on food labels to choose foods with little or no trans fat.

Choose Unsaturated Fats

😊 **Unsaturated fats lower your “lousy” (LDL) cholesterol levels** when they replace saturated and trans fat in your diet.

- Usually liquid at room temperature.

Monounsaturated fats: sources include:

- olive, canola and peanut oils, some non-hydrogenated margarines made with olive, canola and peanut oils, almonds, pecans, hazelnuts and pistachios.

- ✓ Choose monounsaturated fats often.



Polyunsaturated fats: sources include:

- safflower, sunflower, soybean and corn oils
- walnuts, almonds, pecans, sunflower seeds, sesame seeds
- non-hydrogenated margarines made with safflower, sunflower, soybean and corn oils.

- ✓ Choose polyunsaturated fats often

Omega-3 fats

Omega-3 fats are a special group of polyunsaturated fats. Eating Omega-3 fatty acids lowers the risk for heart disease and has also been proven to help lower triglycerides.

The best sources of omega-3 fats are fatty fish such as:

- salmon
- trout
- herring
- sardines
- whitefish

✓ **Choose** at least two servings of fatty fish per week

Other sources of omega 3 fats include:

- ground flaxseed, walnuts
- oils and non-hydrogenated margarines made from canola, linseed and soybeans

Omega-3 supplements:

- supplements may be from fish or plant sources.
- ask your health care provider if taking a supplement is right for you.

The Bottom line

- Achieve and maintain a healthy body weight.
- Eat vegetables, fruit and whole grain foods more often.
- Choose unsaturated fats. Include small amounts of canola, olive or soybean oil, or non-hydrogenated margarine each day. (2-3 Tbsp or 30-45 mL)
- Eat at least 2 servings of fish a week.
- Limit your intake of saturated fats and trans fat.
- Limit your alcohol intake.
- Limit sugars and sweet foods like pop, fruit drinks, slush drinks, cakes, pastries, candy and chocolate.

Examples of Fat in some Common Food Items

Food Item	Total fat (g)	Saturated fat (g)	Cholesterol (mg)
Milk skim (250 mL)	0.21	0.29	5
Milk 1% (250 mL)	2.5	1.7	13
Milk 2% (250 mL)	5.08	3.05	21
Chicken breast, no skin (75 g)	0.45	0.13	33
Chicken breast, with skin (75 g)	6.56	1.75	55
Ground beef lean (75 g)	11.14	4.48	59
Ground beef regular (75 g)	16.74	6.97	63
Doughnut yeast, glazed	17.10	4.3 Trans (9.6)	4
French fries (20)	10.60	3.1 Trans (1.9)	

*Values from Canadian Nutrient File 2007b