

# Cholesterol

## What you can do to lower your level.

2007 rev.

Cholesterol is a type of fat made by your liver. Some cholesterol comes from the food that you eat. Foods that come from animals – such as eggs, meat, and dairy products – have cholesterol in them. Foods that come from plants don't have cholesterol. But it's not just the cholesterol in foods that counts. Foods high in saturated fat (hydrogenated vegetable fats, tropical fats [coconut and palm oil], and animal fats) can also raise your cholesterol level.

### Why is a high cholesterol level unhealthy?

Some cholesterol is needed for good health but too much cholesterol in your blood can raise your risk of having a heart attack or stroke. The extra cholesterol in your blood may be stored in your arteries (large blood vessels) and cause them to narrow. Large deposits of cholesterol can completely block an artery. If an artery that supplies blood to your heart becomes blocked, a heart attack occurs. If an artery that supplies blood to your brain becomes blocked, a stroke occurs.

Cholesterol travels through the blood in different types of packages called lipoproteins. Low-density lipoproteins (LDL) deliver cholesterol to the body, and high-density lipoproteins (HDL) remove cholesterol from the bloodstream.

Too much LDL cholesterol is bad for the body because it builds up in the arteries, while the HDL form is good because it helps remove cholesterol from the bloodstream. It's the balance between the different forms of cholesterol that tells you what your cholesterol level means.

### When should I start having my cholesterol level checked?

If you are 20 years or older, talk to your family doctor to see whether you should have your cholesterol tested. If you have no risk factors, routine screening usually

begins at the age of 40 for men and 50 for women (or earlier if they have stopped having regular menses).

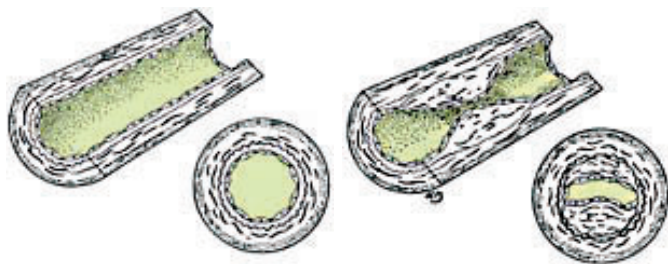
How often you have your cholesterol level checked depends on your age, family history, and what other risk factors for heart disease you have. If your cholesterol is up, your family doctor can also advise you when to have follow-up cholesterol level check.

### Other risk factors for heart disease

- Being a man of 45 years of age or older
- Being a woman of 55 years of age or older
- Having a male parent, grandparent, or sibling who had heart disease before age 55
- Having a female parent, grandparent, or sibling who had heart disease before age 65
- Smoking
- Having high blood pressure
- Having diabetes
- Having a total cholesterol to HDL cholesterol ratio above 4
- Having an LDL cholesterol level above 2.0 mmol/L (in the presence of other risk factors)
- Having an HDL cholesterol level below 1.0 mmol/L
- Being very overweight
- Having excess fat around your waist (more than 102 cm for men and 88 cm for women)
- Having already had a stroke or a heart attack
- Having already had angioplasty or heart surgery
- Not exercising
- Metabolic syndrome
- Being on hormone replacement therapy for more than 5 years

### What is metabolic syndrome (or syndrome X)

It is a condition involving the combination of risk factors for heart disease such as being overweight (or excess abdominal fat), high cholesterol, high glucose and high blood pressure. Since each of these risk factors individually puts you at risk for heart disease, having 3 or more of them together increases your risk 6 times more for a heart attack or stroke. Syndrome X is the result of inactivity and a diet rich in saturated fats. It can be controlled with lifestyle



changes such as healthy eating, exercise, weight loss, and smoking cessation.

### What should my cholesterol level be?

Your doctor will measure your cholesterol level. If the total level is high, a second test may be done to measure the levels of HDL and LDL.

If your total level is high because of a high LDL level, you may be at higher risk of heart disease or stroke. If your total level is high only because of a high HDL level, you're not at higher risk.

### Target LDL, HDL, and total cholesterol:HDL levels

Your doctor can determine your target levels based on your risk factors for heart disease using your age, gender, total and HDL cholesterol, blood pressure level, medications, and smoking status.

- An LDL cholesterol level of less than 3.0 mmol/L is best
- An HDL above 1.0 mmol/L is best
- If your risk is low, your LDL cholesterol should be less than 5.0 mmol/L and total cholesterol HDL-C ratio should be less than 6.0
- If your risk is moderate, your LDL cholesterol should be less than 3.5 mmol/L and total cholesterol HDL-C ratio should be less than 5
- If your risk is high, your LDL cholesterol should be less than 2.0 mmol/L and total cholesterol HDL-C ratio should be less than 4.0
- An HDL cholesterol level of less than 1.0 mmol/L means you're at higher risk for heart disease.
- If you have diabetes, your LDL should be less than 2.0 mmol/L.
- If you've already had a heart attack your LDL needs to be less than 2.0 mmol/L.

### What can I do to improve my cholesterol level?

You can do a number of things to improve your cholesterol level. Eating healthy food can help lower your LDL cholesterol level, and a healthy diet may help protect the body from the damaging effect of cholesterol. You can raise your HDL cholesterol level by quitting smoking if you smoke, losing weight if you are overweight, and exercising.

Following a healthy low-fat diet almost always lowers cholesterol levels. If healthy eating, exercising, and other changes don't work after about three to six months, your

family doctor may want to discuss using medicine to lower your cholesterol level. This is a lifelong treatment, so it should be thought about only if healthy habits don't work.

### What sort of foods are healthy choices?

Lowering your cholesterol level by eating healthy foods low in fat is easier than you might think. It mostly takes a bit of common sense and a real interest in improving your health. You don't have to quit eating your favourite foods, although you might need to eat them less often or sometimes replace them with healthier choices. Foods low in total carbohydrates, and saturated and trans-fatty acids, but high in complex carbohydrates, protein, and mono- and polyunsaturated fat can help you lose weight.

### Eat more of these foods:

- Omega-3 fatty acids from fish and plant source
- Fish, poultry without the skin, lean beef
- Skim or low-fat milk
- Sherbet, sorbet, ice milk
- Egg whites
- Steamed vegetables
- Baked potatoes
- Clear soups
- Unsaturated vegetable oils: corn, canola, safflower, sesame, sunflower, olive, soybean
- Angel food cake
- Graham crackers, animal crackers, fig bars, vanilla wafers, lady fingers
- Pretzels, air-popped popcorn, bagels, English muffins
- Pancakes or cereal with low-fat milk
- Fruit

### Eat less of these foods:

- Sausage, organ meats (like liver)
- Whole milk
- Ice cream
- Egg yolks
- Buttered or fried vegetables
- French fries
- Creamed soups
- Saturated fats: butter, coconut oil, palm oil, lard, bacon fat
- Cheesecake
- Pastries, doughnuts
- Potato chips
- Refined carbohydrates and sugar
- Eggs and bacon

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