

Demystifying Cholesterol

"Your cholesterol is a little high—better start watching your diet and making some lifestyle changes."

MAGNIFIED PHOTOGRAPH OF CHOLESTEROL ACETATE

The words we don't want to hear. Being told that your blood cholesterol is too high can come as a surprise because having high blood cholesterol doesn't always make you feel sick. Two years ago Patti Harker, a pharmacist and middle-aged mom, got the news that her cholesterol was elevated. Like many of us who've received similar reports from our doctors, she was surprised, had some questions and wanted to know what she could do about it.

In recent years, "cholesterol" has become a household word, because a high cholesterol level is one of the key risk factors for heart disease, which according to Health Canada, is the leading cause of death in Canada. Yet understanding the whole business of fats and cholesterol and how they affect our health can be confusing. The good news for most people, is managing your blood cholesterol doesn't have to be difficult. Here's what you need to know.

WHAT IS CHOLESTEROL?

Cholesterol is a waxy substance made naturally by the body. The liver makes between 800 mg and 1500 mg of cholesterol per day, which is used by the body to help form or repair cell membranes, build hormones, or synthesize tissues. The liver can also make cholesterol from carbohydrates, proteins, or fat. The liver manufactures about 80% of the cholesterol in our blood and the remaining 20% comes from food in our diet. The only dietary sources of cholesterol are from animal sources like meat, eggs, or dairy products.

While cholesterol is vital to the body, too much of the wrong kind of cholesterol in your blood can cause you to develop deposits on your artery walls (hardening of the arteries or arteriosclerosis) and increase your risk of heart attack or stroke.

LOUSY AND HAPPY CHOLESTEROL

There are two types of cholesterol found in the blood. Cholesterol is carried in the blood by lipoproteins called low-density lipoproteins (LDL) and high-density lipoproteins (HDL).

LDL cholesterol travels from the liver and circulates through the body transporting cholesterol and fat to the heart, muscles, fat

stores and other tissues. HDL cholesterol carries cholesterol from the cells back to the liver for recycling or excretion. Both types of cholesterol are essential to our bodies, but too much LDL cholesterol can result in a build up of cholesterol in the tissues, so LDL cholesterol is often referred to as "bad cholesterol" while HDL is often referred to as "good cholesterol," because it is responsible for carrying cholesterol from blood vessels back to the liver for excretion. Research shows that high levels of HDL cholesterol may protect the heart against arteriosclerosis.

Generally, for people aged 18-29, total cholesterol should be below 4.7 millimoles per litre (mmol/L). People over the age of 30 should have a total cholesterol level below 5.2 mmol/L.

Sometimes it's difficult to remember which is which. Andrea Holwegner, a registered dietitian and president of Health Stand Nutrition Consulting offers this advice: "Sometimes people find it easier to think of LDL cholesterol as "lousy" cholesterol and HDL cholesterol as "happy" cholesterol. In this way you can easily remember which kind of cholesterol is better for your body."

WHAT DOES MY CHOLESTEROL COUNT MEAN?

For good heart health, blood cholesterol should be maintained within a certain range. Many doctors recommend that people over the age of twenty check their blood cholesterol once every five years at a minimum and more often if they are at a higher risk level or have other risk factors for heart disease or stroke. Generally, for people aged 18-29, total cholesterol should be below 4.7 millimoles per litre (mmol/L). People over the age of 30 should have a total cholesterol level below 5.2 mmol/L.

Your doctor can calculate your ten-year risk of coronary artery disease using the results of your cholesterol test (including HDL, LDL and total cholesterol levels), your blood pressure, your age, and other risk factors like whether you are diabetic or a smoker. Once this calculation has been made, you and your doctor can determine your personal target levels for HDL and LDL cholesterol.

BARLEY LINKED TO LOWER BLOOD CHOLESTEROL

Recent studies conducted on barley are showing this humble grain has the ability to lower blood cholesterol, improve blood glucose response, and decrease diastolic blood pressure. Today, an exciting new clinical trial is taking place at the University of Calgary and University of Toronto.

"The new research with barley shows tremendous promise to lower blood cholesterol for low to moderate risk individuals by using dietary means rather than medications. Eating grains high in soluble fibre daily is part of a heart healthy diet," says Bev Whitmore, a registered dietitian.

So, throw a little barley into your next soup or stew—you might just be doing your heart a favour.

CHANGE IS POSSIBLE

Changing your lifestyle is a gradual process that doesn't happen overnight, but it's something worth doing because the personal and economic costs of not controlling cholesterol are monumental.

For Harker, instituting dietary changes, decreasing her body weight, and starting a more rigorous exercise program were important steps. "I'm feeling better than ever," she says. "The lifestyle changes my doctor encouraged me to make to get my cholesterol under control really worked."

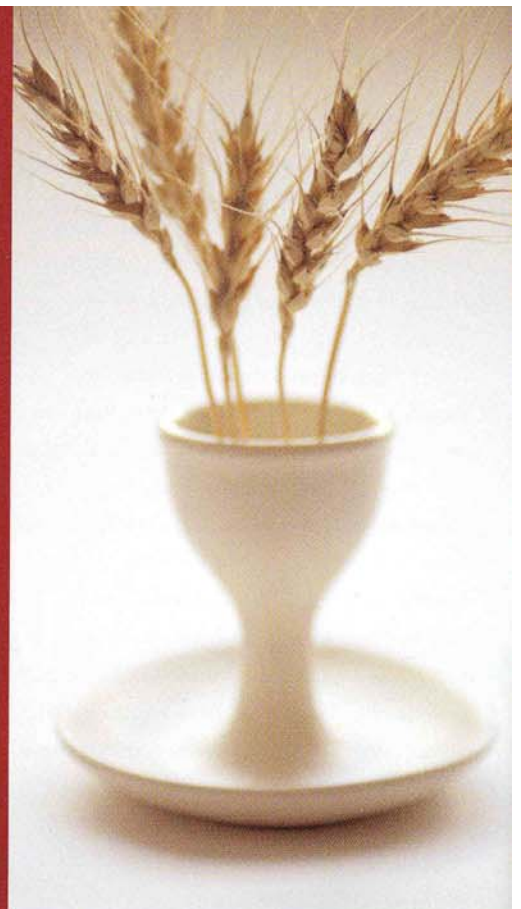
Two years later, her cholesterol levels are in the normal range, she's lost almost 30 pounds, and decreased her total body fat by more than 50%. "If I could do it, anyone can," says Harker. "Change is possible; especially when it's your life that is on the line." ●



KNOW WHAT YOU ARE EATING

While it's important to try to limit the amount of cholesterol in your diet, new research is showing that for most people dietary cholesterol does not appear to increase blood cholesterol as quickly as saturated fats do. For best results, watch your cholesterol intake and be sure to decrease your saturated fat intake as well. Below are the approximate cholesterol levels of some common foods.

Food	Cholesterol
Grains, vegetables, fruits, nuts, seeds	0 mg
Lean beef, chicken, or pork (100 g)	70-85 mg
Whole Milk, 1 cup (250 mL)	30-35 mg
Skim Milk, 1 cup (250 mL)	5-10 mg
Cheddar Cheese, (30 g)	20 mg
Butter, 1 tablespoon (15 mL)	10 mg
Margarine, 1 tablespoon (15 mL)	0 mg
Egg yolk	213 mg
Egg white	0 mg
Fish, lobster, clams (100 g)	50-60 mg



EIGHT WAYS TO MANAGE YOUR CHOLESTEROL

Since the liver produces 80% of the cholesterol in the blood, there are some risk factors associated with high cholesterol that you cannot control, such as a genetic predisposition to having higher levels of cholesterol or heart disease.

Fortunately, there are several ways you can reduce your total blood cholesterol and reduce "lousy or bad" LDL cholesterol while increasing "happy or good" HDL cholesterol.

1 REDUCE DIETARY FAT: No more than 30% of your total daily calories should come from fat. A high intake of saturated fat and trans fatty acids boosts the amount of bad LDL cholesterol in your blood. Avoiding fried foods, high-fat baked goods, along with making heart healthy dietary choices that include low fat dairy products, and lean meats and poultry will help to reduce your total cholesterol levels. Remember though, that some fats are good for you in small quantities. Monounsaturated fats (canola, olive, and peanut oil) and polyunsaturated fats (sunflowers, corn, soybeans, and sesame seeds) have been shown to decrease bad LDL cholesterol levels in blood.

2 EAT MORE FRUITS & VEGETABLES:

According to the Canada Food Guide, we should be eating between 5 and 10 servings of fruits and vegetables per day. Many of us fall short of that and fill in our calories with less nutritious food choices.

3 WATCH YOUR WEIGHT: The best way to lose weight and keep it off is by exercising, making good food choices and living in moderation.

4 EXERCISE: Research has shown that as little as 30 minutes per day of physical activity will help to reduce your total blood cholesterol and increase the amount of good HDL cholesterol.

5 QUIT SMOKING: Smoking increases the amount of bad LDL cholesterol in your blood. Not smoking may help to increase the levels of good HDL cholesterol in your blood and also reduces your risk of having a heart attack or stroke. It's also a good idea to try to avoid second-hand smoke.

6 EAT FISH: Omega-3 fatty acids, found in fish, reduce the risk of strokes and work to decrease total triglyceride levels (another type of fat found in the blood). People who eat 1-2 servings of fatty fish per week experience less heart attacks and strokes.

7 GET SOLUBLE FIBRE: Canada's Guide to Healthy Living suggests 5-12 servings of grains per day and recent research has shown that soluble fibre (particularly the fibre found in oats and barley) has the ability to lower bad LDL cholesterol levels without affecting good HDL cholesterol levels. This fibre may also be helpful to slow starch digestion and help diabetics avoid steep rises in blood sugar levels following meals.

8 USE MEDICATION IF REQUIRED: Sometimes diet and exercise are not enough to lower cholesterol levels, especially when genetics come into play. There are a number of holistic and pharmaceutical medications available to assist in lowering blood cholesterol levels and it's important to take any medication or supplement under a physician's advice and direction.