Heart&Stroke

Living with Cholesterol

Cholesterol and healthy living

HEART & STROKE FOUNDATION

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Cholesterol and Healthy Living

What is cholesterol?

The word "cholesterol" can refer either to the cholesterol found in the body (blood cholesterol) *OR* the cholesterol found in food (dietary cholesterol). In this booklet, for the sake of easy reading, we'll use the word "cholesterol" to talk about "blood cholesterol" or, specifically, high blood cholesterol. As for cholesterol in food, we'll use the term "dietary cholesterol."

Cholesterol is a soft waxy substance made by our bodies. It is one of the lipids (fats) normally found in the blood and every cell of the body. We often associate cholesterol with health problems. In fact, cholesterol is a vital building block of cell membranes, hormones and vitamin D. Without it, our bodies couldn't function.

Cholesterol is transported in the blood in lipoproteins. Excess cholesterol carried in LDL (low density lipoproteins) is a major risk factor for atherosclerosis, also known as narrowing of the arteries.

In atherosclerosis, a sticky substance called plaque builds up on the insides of arteries (blood vessels that carry blood from the heart to different parts of the body). This build-up slowly clogs the arteries and damages their lining. The major component of plaque is cholesterol. As the arteries narrow and become damaged, the risk of circulation problems, angina, heart attacks and strokes increases.

Almost 40% of Canadian adults are classified as having high blood cholesterol levels.

Where does cholesterol come from?

The liver makes about 80 percent of the cholesterol in your body. The other 20 percent comes from the foods you eat. The foods that raise your blood cholesterol the most are saturated fat and trans fat in such foods as fatty meat and whole-fat dairy products, snack foods and ready-prepared foods. Foods that have high levels of dietary cholesterol include egg yolks, organ meats, shrimp, squid and fatty meats. Dietary cholesterol only has an effect in some people.

From a nutrition perspective, the best way for controlling blood cholesterol is to eat a healthy diet that is lower in fat, especially saturated and trans fat. Your doctor will advise you on how much food containing dietary cholesterol you should eat. We'll discuss the different kinds of dietary fats and their role in your diet a little later on in this booklet.

Lifestyle and cholesterol levels

Adopting a healthy lifestyle is an important first step toward achieving and maintaining healthy cholesterol levels. In this booklet, we'll outline lifestyle changes that can help you manage your cholesterol levels and lower your risk of cardiovascular disease. The basics of cholesterol management include:

- Eating a diet that is lower in saturated and trans fats, and includes plenty of fruit, vegetables and whole grains;
- Being physically active, and accumulating 30 to 60 minutes of moderate physical activity most (or all) days of the week;
- Achieving and maintaining a healthy weight;
- Limiting excess alcohol intake;
- Being smoke-free.

Understanding lipoproteins

Cholesterol is carried through the body by the blood, in tiny cholesterol-protein packets called lipoproteins. The major lipoproteins are:

1. Low-density lipoproteins or LDL cholesterol;

2. High-density lipoproteins or HDL cholesterol.

To understand the results of cholesterol testing, we need to understand the difference between these two.

The first, LDL cholesterol, is known as "bad" cholesterol. While our bodies need normal amounts of LDL cholesterol for cell growth and repair, high levels of LDL cholesterol are responsible for the buildup of plaque in the arteries.

The second, HDL cholesterol, is known as "good" cholesterol because it helps move "bad" cholesterol out of the cells that line the arteries to the bloodstream and back to the liver for excretion.

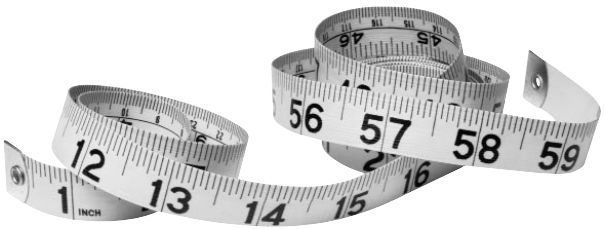
Triglyceride – the most common fat in the body

Another type of fat called triglyceride is usually measured when your cholesterol is tested. Triglyceride is not cholesterol. However, it is the most common form of fat in our bodies. It appears to be associated with increased heart disease risk, although the exact relationship is not yet clear. High blood triglycerides may increase the tendency of the blood to clot. The greater the tendency to clot, the greater the risk of a heart attack or stroke.

High triglyceride levels are associated with excess intake of simple sugars, refined carbohydrates, saturated fats, trans fats and alcohol. They are closely linked to excess body weight, a sedentary lifestyle and poorly controlled diabetes.

A question of balance

All blood lipids (fats) have a role within the body. The key to good health is maintaining a proper balance between them. In the next several pages, we'll see how blood lipids are measured and what levels of each are considered healthy.



How do I know if I have high cholesterol?

In most cases, high cholesterol does not produce symptoms. The only way to know if you have high cholesterol levels is to have your blood tested. Not sure if you should be concerned about your cholesterol levels? Ask your doctor.

Canadian guidelines recommend having your cholesterol tested if you:

- are male and over 40 years of age;
- are female and over 50 years of age and/or post-menopausal;
- have heart disease, diabetes or high blood pressure;
- have a waist measurement greater than 102 cm (40 inches) for men or 88 cm (35 inches) for women;
- smoke or have only recently stopped smoking;
- have a family history of heart disease or stroke.

A simple blood test is all it takes

Cholesterol levels can be measured by a simple test involving a blood sample taken from the arm. This test can analyze the four types of fats in the blood and total cholesterol levels.

When cholesterol is tested, you will usually receive five categories of results:

1. **Total cholesterol;**
2. **LDL cholesterol;**
3. **HDL cholesterol;**
4. **Triglycerides;**
5. **Total cholesterol/HDL cholesterol ratio.**

Measuring the levels of these different lipids (fats) helps doctors assess your risk for heart disease. To manage your health, you should know your cholesterol numbers and what they mean.

Total cholesterol

Total cholesterol means the total amount of cholesterol in your blood. This includes LDL cholesterol and HDL cholesterol.

LDL cholesterol

High levels of LDL cholesterol can cause a buildup of plaque (cholesterol deposits) inside your arteries. This can lead to narrowing of the arteries and increased risk of heart attack or stroke.

HDL cholesterol

Research suggests HDL cholesterol may help protect us from atherosclerosis (the gradual "clogging up" of arteries by plaque), heart disease and stroke. Higher levels of HDL cholesterol are generally associated with a reduced risk of heart disease and stroke.

Triglycerides

High triglyceride levels are linked to low levels of HDL "good" cholesterol, excess body weight and poorly controlled diabetes.

Total cholesterol/HDL cholesterol ratio

This ratio shows how high your HDL "good" cholesterol is relative to your overall cholesterol levels.

Your total cholesterol/HDL cholesterol ratio, which will be given in your cholesterol test results, is calculated by dividing your total cholesterol number by your HDL cholesterol number. A lower number is associated with a lower risk of heart disease.

Target cholesterol ranges

Type of lipid	Total cholesterol	LDL cholesterol	HDL cholesterol	Total cholesterol/ HDL-cholesterol ratio	Triglycerides
Target level	Less than 5.2 mmol/L	Less than 3.5 mmol/L	Higher than 1.0 mmol/L for men and1.3 mmol/L for women	Less than 5.0 mmol/L	Less than 1.7 mmol/L

* Your doctor will help establish a target level for you based on your personal risk factors, taking into account your age, total cholesterol level, smoking status, HDL-C level and systolic blood pressure.

Understanding your test results

When looking at your cholesterol test results, it's important to remember there is no "ideal" level for any type of cholesterol. Test results should be considered together with your risk factors, medical history and present health. For example, test results that are normal for a healthy young adult might indicate a health risk for an older adult with diabetes. Your doctor is the best person to interpret your test results and advise you if you need to take action.

In Canada, the results of cholesterol tests are given in millimoles per litre (mmol/L).* As we've seen, four types of blood lipids (fats) are tested. The table below will help you to understand your results.

* NOTE:
In the United States, results are reported in milligrams (mg/dL). To convert American cholesterol readings to an approximate Canadian equivalent, divide the American number by 40; for triglycerides, divide the American number by 90.

Cholesterol levels and other risk factors

When deciding your target cholesterol ranges, your doctor will take into account your cardiovascular risk factors (i.e. things that increase your risk of heart disease and stroke). These include:

- Age and gender.
  - Males, over the age of 55 years, and females,

after menopause, are at increased risk for heart disease.

– Stroke can occur at any age. As you age, your risk increases. Until menopause, women have a lower risk of stroke than men.

- Ethnicity – people of First Nations, African or South Asian descent are at a greater risk of heart disease.
- High blood pressure (hypertension).
- Family history. You are at higher risk if a close family member (parent, brother or sister) had a heart attack or a stroke before age 55 for a male relative or before age 65 for a female relative.
- Diabetes.
- Smoking.
- Physical inactivity.
- Being overweight (for men – having a waist circumference greater than 102 cm or 40 inches; for women – having a waist measurement greater than 88 cm or 35 inches).

The more risk factors you have, the more important it is to keep cholesterol levels within their target range. If any of your cholesterol levels are significantly outside of their ranges, ask your doctor about lifestyle changes you can make to positively impact those levels. Your doctor may also prescribe medication to help keep your cholesterol in check.

"Research on cholesterol metabolism is one of the keys to preventing heart disease and stroke. Although we know a lot about the effects of abnormal cholesterol levels, there is still much to be learned about the causes and the Heart and Stroke Foundation is a leading funder in this area. Understanding the causes will help us devise better ways to prevent heart disease and stroke."

Jacques Genest, MD
Heart and Stroke Foundation Researcher
Professor, Department of Medicine –
Division of Experimental Medicine
McGill University, Montreal, Quebec

Managing cholesterol through lifestyle

If your cholesterol numbers are not where they should be, don't be discouraged! Often, it is possible to manage your cholesterol by modifying your lifestyle. To achieve and maintain healthy cholesterol levels, you need to:

1. Eat a diet lower in saturated and trans fat;
2. Achieve and maintain a healthy weight;
3. Be physically active most or all days of the week;
4. Be smoke-free.

Diet and cholesterol

Simple dietary changes can help keep cholesterol at healthy levels. The key is to eat nutritious, balanced meals, choosing foods from each of the four major food groups recommended by *Canada's Food Guide to Healthy Eating*. These food groups are:

- Vegetables and fruit: (5 to 10 servings a day)
- Grain Products (5 to 12 servings a day); choose whole grains more often
- Milk Products (2 to 4 servings a day); choose lower fat milk products
- Meat and Alternatives (2 to 3 servings a day); choose leaner meats, poultry, fish, beans and other alternatives.

It is particularly important to limit foods containing saturated fats or trans fats. (We'll discuss these fats in greater detail below.)

Triglycerides

Triglycerides are fats but unlike cholesterol they are also a source of energy. Triglyceride levels increase after eating, especially after eating simple carbohydrates such as candy, alcohol or soda pop. Triglyceride levels can be reduced by increasing physical activity, reducing alcohol intake, and by switching diet to eat more complex carbohydrates such as fruit, vegetables

and whole grains, less sweet baked goods, and other high-sugar foods, and less fat.

Weight control and cholesterol

Being overweight or obese increases your triglycerides and lowers your HDL cholesterol level. It also increases your risk of diabetes, heart disease and stroke. By achieving a healthy weight you can reduce those risk factors.

The first step is to see if you are overweight. A quick way to determine this is by measuring your waist. Men with a waist measurement of 102 cm (40 inches) or greater are overweight. This significantly increases their risk for heart disease and stroke. Women with a waist measurement of 88 cm (35 inches) or more are at increased risk.

Since weight is related to body type and build, doctors sometimes rely on the Body Mass Index (BMI) scale to determine a person's target weight. You can calculate your BMI using the interactive tool on the Heart and Stroke Foundation web site. Simply visit: www.heartandstroke.ca

Physical activity

Physical activity is a lifesaver. It cuts the risk of heart disease and stroke almost in half. It can also reduce your risk of diabetes, colon cancer, osteoporosis, stroke, depression, stress and anxiety.

Physical activity plays a very important role in improving your cholesterol levels and overall heart health. Regular physical activity such as brisk walking, swimming or cycling done for 30 to 60 minutes a day, most days of the week may increase your HDL "good" cholesterol.

Being smoke-free boosts good cholesterol

Studies have shown smokers have lower levels of HDL "good" cholesterol than non-smokers. However, a few weeks after becoming smoke-free, levels of HDL in former tobacco users increases to the same levels as those of non-smokers.

Cholesterol and dietary fat

As we've already mentioned, cholesterol levels are closely linked to intake of dietary fat, especially saturated fats and trans fats. A lower-fat eating pattern means that you get about 20-35 percent of your day's calories from fat

- For a woman this means about 45-75 grams of fat a day
- For a man this means about 60-105 grams of fat a day

Use these numbers as a guideline to compare how much fat is in a food or recipe with how much fat you should eat each day.

All fats are not created equal. Some are bad for health while others, in moderate amounts, are actually healthy. The goal is to reduce bad fats, especially trans and saturated, and replace some of these with unsaturated fats and foods high in fibre and nutrient content. We are also aiming to lower our fat and calorie intake.

Work towards limiting saturated and trans fats from your diet. Saturated fats raise LDL cholesterol "bad" cholesterol, and are found in fatty meats, full-fat milk products, butter, lard, coconut, palm and palm kernel oils, fast foods, snack foods, many ready-prepared foods and those made with hydrogenated vegetable oil. Trans fats not only raise LDL cholesterol, they lower HDL "good" cholesterol, and are found in all foods with shortening or partially hydrogenated vegetable oil, snack foods, fast foods and many ready-prepared foods.

Food manufacturers are required to state the amount of trans fat in a product on the product's Nutrition Facts table. Look for the words "partially hydrogenated" or "vegetable oil shortening" in the ingredients list on food packages. These items contain trans fats.

Include monounsaturated fats in your diet such as olive, canola and peanut oils, non-hydrogenated margarines, nuts, seeds and avocados. Include

polyunsaturated fats as well. These lower blood levels of LDL-cholesterol and are found in many liquid vegetable oils such as sunflower, corn oil as well as in walnuts and almonds.

Include omega-3 fats in your diet. Omega-3 fats are polyunsaturated fats which can help to improve your blood cholesterol level (see chart below). Omega-3 fats are found in ground flaxseed, flaxseed oil, and walnuts. Enjoy fish like salmon, tuna, sardines and mackerel twice per week. Add ground flaxseeds to your cereals. Snack on a handful of nuts* instead of potato chips.

*While nuts and seeds provide a healthy type of fat, they are also high in calories and should be used in moderation. For more information on portion sizes, go to www.heartandstroke.ca/healthyliving.

Know Your Fats

Choose healthy fats more often (such as monounsaturated & polyunsaturated fats)

Types of Fat	Major Food Sources	Good Choice *or* Poor Choice
Healthy fats		
Monounsaturated Fat/ Monounsaturates	Olive, canola and peanut oils, non-hydrogenated margarines, nuts, seeds and avocados	Good Choice
Polyunsaturated Fat/ Polyunsaturates Omega-6 Fat	Safflower, sunflower and corn oils, non-hydrogenated margarines, nuts and seeds	Good Choice
Omega-3 Fat	Fattier fish such as mackerel, herring, trout, salmon, swordfish, cod and bluefish, canola, soybean oils, flaxseeds, omega-3 eggs, walnuts, pecans and pine nuts	Good Choice
Unhealthy fats		
Saturated Fat/ Saturates	Fatty meats, full-fat milk products, butter, lard, coconut, palm and palm kernel oils, fast foods, snack foods, many ready prepared foods and those made with hydrogenated vegetable oil	Poor Choice
Trans Fat	All foods made with shortening or partially hydro-genated vegetable oil, snack foods, fast foods and many ready-prepared foods	Poor Choice

For more information on how these fats affect your blood cholesterol, log on to www.heartandstroke.ca/healthyliving

Healthy eating starts with food shopping

Making healthy choices at the grocery store will make it easier to eat well throughout the week.

First, make a master shopping list of foods you would normally buy. Then, check the list. How many fruit choices are there? Vegetables, whole-grain breads and cereals? Keep in mind the recommendations from Canada's Food Guide of 5 to10 servings of vegetables and fruit per day. Does your list include chips, cookies, donuts and other foods high in saturated or trans fats? You'll want to eliminate these from your diet and substitute healthy alternatives. Here are some tips for healthy shopping:

- Buy seasonal vegetables and fruit. They're fresh, tasty – and can be reasonably priced.
- Map your route – start off with the produce section, where you should make most of your purchases.

The outside aisles of grocery stores often contain the most nutritious foods.

- Plan meals for the week before you shop. That way, you're sure to pick up all the ingredients you'll need.
- Shop on a full stomach, not when you're hungry. You'll be less tempted to buy calorie-rich snack foods.
- Read all nutrition labels and ingredient lists before buying packaged foods.
- Look for products with the Health Check™ symbol.

Check the labels for healthy choices

Health Canada now requires nutrition labeling on most packaged foods. Check the Nutrition Fact tables on boxes, bags, frozen entrées and cans to see exactly what is in the foods you are looking to buy.

Nutrition Facts
Per 125 mL (87 g)

Amount	% Daily Value
Calories 80	
Fat 0.5 g	**1** %
Saturated 0 g	**0** %
+ Trans 0 g	
Cholesterol 0 mg	
Sodium 0 mg	**0** %
Carbohydrate 18 g	**6** %
Fibre 2 g	**8** %
Sugars 2 g	
Protein 3 g	
Vitamin A 2 %	Vitamin C 10 %
Calcium 0 %	Iron 2 %

Look for the Health Check™ symbol

™HEART AND STROKE FOUNDATION

Another tool that will help you make healthy choices at the grocery store is the Health Check™ symbol a food information program developed and run by the Heart and Stroke Foundation, Health Check™ is designed to make it easier for you to make wise choices. Foods that display the Health Check™ symbol meet specific nutrient criteria to ensure they are part of a healthy diet.

Check for Health Check™. It's like shopping with the Heart and Stroke Foundation's dietitians.

Eating on the go

Fast foods are typically high in fat, calories and salt. Eating too much fat, especially saturated and trans fat, can raise your cholesterol levels and put you at higher risk for heart disease. Excess calories can lead to weight gain. And in some people, a high-salt diet is associated with high blood pressure.

Fast foods also tend to be low in fibre and important nutrients such as vitamins A, C, D and folic acid. If you eat out often, keep your choices as simple and basic as possible. Most fast food restaurants offer a selection of healthier, lower-fat choices such as grilled chicken, whole-grain breads and steamed vegetables. Some restaurants indicate lighter and lower fat options directly on their menus.

Snacking for good health

If you choose to snack between meals, make healthy choices.

In many snack foods, such as cookies, potato chips and baked goods, the fat is invisible and the calories can quickly add up. Processed snacks often contain saturated and trans fats which are unhealthy. When it comes to your health, trans fat lowers the "good" HDL (High Density Lipoprotein) cholesterol and raises the "bad" LDL (Low Density Lipoprotein) cholesterol in your blood. Take a close look at food package labels. You can control how much trans fat you eat by choosing a snack that has low amounts of total fat and trans fat.

Try to choose a snack that contains foods from at least two of the four food groups in *Canada's Food Guide to Healthy Eating*. A few whole grain crackers (Grain Products) with lower fat cheese (Milk Products) are a good example of a healthy snack. Choose snacks that have lots of nutrients and fibre. Fibre will make you feel full, helping you resist higher fat and higher calorie temptations. Healthy snack options include fresh fruit, raw vegetables with low-fat dip,

"The Heart and Stroke Foundation of Canada (HSFC) is leading the fight to remove processed trans fats from Canadians' diets. HSFC and Health Canada, co-chairs of the national Trans Fat Task Force, released a report in June 2006 recommending ways to reduce trans fats in Canada's food supply to the lowest possible levels. Trans fats have a serious impact on coronary heart disease and Canada has one of the highest consumption levels of trans fats in the world. The Foundation will continue to lead the effort to remove trans fat from foods in Canada."

Sally Brown,
CEO, Heart and Stroke Foundation of Canada
Co-Chair, Trans Fat Task Force

low-fat popcorn, frozen yogurt, dried fruits, nuts, seeds and whole-grain cereal.

And, as always, watch the portion size. A snack is meant to be a mini-meal to tide you over until the next time you eat.

Taking medication to lower cholesterol

Sometimes diet and exercise are not enough to bring your cholesterol to healthy levels. Some people have inherited a tendency towards high cholesterol levels. This makes it more difficult to achieve healthy cholesterol levels. If this is the case, your doctor will prescribe medication.

Several types of drugs are available to lower your cholesterol. Your doctor will help you decide which one is best for you. Keep in mind that these medications do not cure high cholesterol. Nor do they replace a healthy lifestyle.

Medication type: Statins

These drugs block an enzyme in your liver that is required to make cholesterol. As a result, your liver makes less cholesterol and picks up LDL "bad" cholesterol from your bloodstream. These drugs are very effective and lower LDL-cholesterol by up to 55%. They are the most widely prescribed cholesterol lowering medication.

While the frequency of side effects with these medications is generally very low, headache, muscle pain and weakness, and high liver enzymes may occur. Your doctor may do a simple blood test after starting statin therapy to rule out any serious side-effects.

Medication Type: Cholesterol absorption inhibitors

There is currently only one cholesterol absorption inhibitor available in Canada. It works by preventing your body from absorbing and storing cholesterol in your liver and improving the way cholesterol is cleared from your blood. This drug helps lower the levels of total and LDL-cholesterol in your blood. It is only prescribed when your cholesterol cannot be controlled with proper diet and physical activity. It should always be used as part of a healthy living plan, which includes eating a lower-fat, low-cholesterol diet and engaging in regular physical activity.

Medication type: Bile acid sequestrants (resins)

Your body uses cholesterol to make bile – an acid used in digestion. Bile acid sequestrants bind to bile – preventing it from being used during digestion. In response, your liver makes more bile and the more it makes, the more LDL "bad" cholesterol it needs – which means there is less LDL-cholesterol circulating through your blood. These drugs can reduce total cholesterol by 20%.

Medication type: Fibric acids (fibrates)

These medications break down triglycerides and are used to treat very high triglyceride. These drugs may cause muscle discomfort or fatigue. They are occasionally used in combination with other cholesterol lowering drugs.

Medication type: Niacin

Niacin works by slowing the liver's production of the chemicals that help make LDL "bad" cholesterol. It significantly raises HDL "good" cholesterol. It is a form of vitamin B which should only be taken as a cholesterol lowering medication when prescribed by your doctor. Side effects may include flushing in the upper body and face.

"Keeping blood cholesterol under control is a key factor in reducing the risk of heart disease and stroke. Studies have shown that a 1 mmol/L reduction in plasma total cholesterol can reduce coronary heart disease risk by 25%."

Ruth McPherson, MD, Phd, FRCPC
Heart and Stroke Foundation Researcher
Director, Lipid Clinic,
Lipid Research Laboratory
University of Ottawa Heart Institute
Professor, Medicine & Biochemistry
University Of Ottawa

Reducing the risk of heart disease and stroke

The Heart and Stroke Foundation can help you identify and control your risk factors for heart disease and stroke. Look for the *Heart&Stroke Risk Assessment*™ icon on our Web site at www.heartandstroke.ca and get your personalized risk profile. It's quick, free and confidential. When you're finished, you'll better understand your risk of heart disease and stroke.

You can also receive a customized action plan for healthy living that includes practical online tips, tools, recipes and other resources to help you reduce your risk of heart disease and stroke.

Be sure to talk to your healthcare professional about any heart health concerns you may have, and use this booklet to help guide you towards a healthier life.

As a Heart and Stroke Foundation volunteer you make all the difference!

The support of Heart and Stroke Foundation volunteers is critical to ensure improved health for our families and communities and end heart disease and stroke. For more information on how you can help, visit our Web site at www.heartandstroke.ca, call 1-888-HSF-INFO, or contact your local area office.

We Need Your Support .

Your gift is important!

We rely on public donations to fund vital heart and stroke research; help us continue our mission to stop the devastating impact of heart disease and stroke.

By Phone: Call 1-888-HSF-INFO (1-888-473-4636), 24 hours a day, seven days a week and we will assist you in making your donation. Or visit our Web site at www.heartandstroke.ca and click on "Make a Donation".

Know and control your cholesterol levels

Keep track of your cholesterol levels using this chart as your guide. Work with your doctor to keep an accurate record of your results.

Cholesterol Levels Data Table

Type of lipid	Total cholesterol	LDL cholesterol	HDL cholesterol	Total cholesterol/ HDL-cholesterol ratio	Triglycerides
Target level	Less than 5.2 mmol/L	Less than 3.5 mmol/L	Higher than 1.0 mmol/L for men and1.3 mmol/L for women	Less than 5.0 mmol/L	Less than 1.7 mmol/L
Target level set by your doctor based on your risk factors*					
Your test results					
Year	**Total cholesterol**	**LDL cholesterol**	**HDL cholesterol**	**Total cholesterol/ HDL-cholesterol ratio**	**Triglycerides**

* Your doctor will help establish a target level for you based on your personal risk factors, taking into account your age, total cholesterol level, smoking status, HDL-C level and systolic blood pressure.

Thanks to the millions of Canadians who put their hearts into supporting our vital work.

Because of you, the Foundation has helped reduce the mortality rate by 70% over the past 50 years. Sadly, one in three Canadians will develop heart disease and stroke over their lifetime – and some at a much too early age.

More answers are needed to facilitate further medical advancements, public and professional health education and effective social change programs that save lives – today and for generations to come.

HEART & STROKE FOUNDATION

Finding answers. For life.

SEE WHAT HAPPENS WHEN YOU PUT YOUR HEART INTO IT

We're finding answers, for life. Be part of our journey and see what happens when you put your heart into it.

Go to The Heart and Stroke Foundation Web site to find

- Delicious heart-healthy recipes
- Tips to get active for life
- Current heart disease and stroke patient information
- Breaking news on Foundation funded research
- Free newsletters, He@lthline and He@lthline for Parents
- Information on volunteering for the Heart and Stroke Foundation in your community

www.heartandstroke.ca
or call
1-888-HSF-INFO
(1-888-473-4636)

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