

# Cholesterol and Older Adults

High blood cholesterol is a major controllable risk factor for coronary heart disease, heart attack, and stroke.

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## What is blood cholesterol?

Cholesterol is a fat-like substance essential for bodily functions. It is produced by the liver and also obtained from dietary sources.

Cholesterol has many vital functions in your body, including:

- Helping your cell membranes form protective layers that control what can enter or leave your cell.

- Helping your liver make bile, which you need to digest food
- Supporting your body's production of certain hormones and vitamin D.

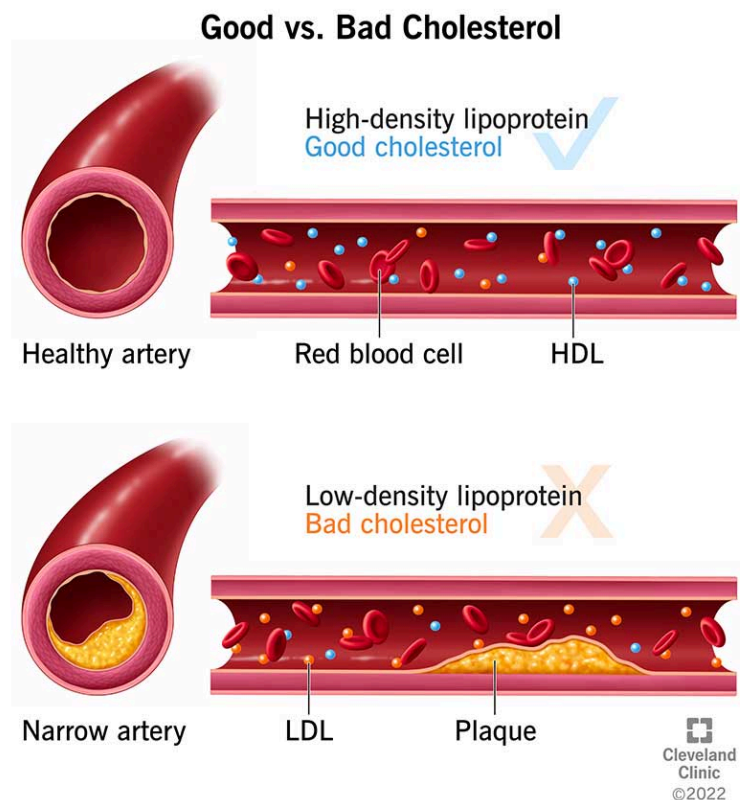
## Types of cholesterol

There are two primary types of blood cholesterol: high-density lipoprotein (HDL) and low-density lipoprotein (LDL).

**LDL cholesterol** is known as 'bad' cholesterol, which can create plaque or fatty deposits on the artery walls. If the LDL level is high, it can block blood flow to the heart and brain.

**HDL cholesterol** is known as 'good' cholesterol because it aids in removing excess cholesterol from the body.

**Non-HDL cholesterol** represents the total amount of 'bad' cholesterol, calculated by subtracting HDL cholesterol from total cholesterol.



## Health Impacts

Recent studies emphasize the importance of proactively treating high cholesterol in older adults.

High cholesterol can lead to plaque buildup in the arteries' walls, causing them to narrow and harden. This condition can restrict blood flow to the heart and brain, increasing the risk of heart attacks and strokes.

The good news is that we can manage high cholesterol by adopting healthy lifestyle habits. Medications are also available if lifestyle changes are insufficient to help treat the condition.

## Risk Factors

Unhealthy cholesterol levels can be inherited and can also result from lifestyle choices. Factors such as a diet high in trans fats and saturated fats, obesity, diabetes, a lack of exercise, and smoking can increase the risk of developing high blood cholesterol.

Ask your healthcare professional to schedule a cholesterol blood test if you:

- are male over 40 years of age
- are female over 50 years of age and/or post-menopausal
- have heart disease, diabetes, or high blood pressure
- have a waist circumference greater than 37 inches for men and 31.5 inches for women
- have smoked within the last year
- have erectile dysfunction
- have a family history of heart disease or stroke.

The risk factors listed above are based on the Canadian Clinical Guidelines. The American Heart Lung and Blood Institute goes a step further and recommends annual tests for adults over 65.

As we age, everyone's risk of developing high cholesterol increases. This happens because our bodies become less efficient at clearing cholesterol from the blood than when we were younger.

Check your risk score using a [Framingham Risk Score online calculator](#).

## Prevalence in Canada

Hypercholesterolemia (high LDL Cholesterol) was observed in 60% of Canadians aged 60 to 79 (Statistics Canada 2016-19).

The prevalence of hypercholesterolemia increases with age. As a result, cholesterol levels can rise, which in turn elevates the risk of heart disease and stroke.

About 1.7 million or 27.0% of Canadian seniors (65+) were living with diagnosed Ischemic heart disease (IHD) in 2016–2017 (Statistics Canada).

In 2016–2017, men aged 65+ were 1.5 times more likely than women the same age to have been diagnosed with IHD.

## Measuring cholesterol

Cholesterol levels are checked with a blood test using a needle inserted into the vein in your lower arm or a prick to the fingertip.

In Canada, we measure cholesterol levels in millimoles per liter (mmol/L), a unit used in medical tests to indicate the concentration of substances in the blood.

Cholesterol Measurements:

- **Total cholesterol**

- **LDL cholesterol** (bad cholesterol)
- **HDL cholesterol:** (good cholesterol)
- **HDL-C Ratio** of total cholesterol over HDL cholesterol
- **Triglycerides** (another type of fat in your blood)

Your healthcare provider will determine your target levels based on cardiovascular disease risk factors. Below are the average target levels.

#### **Low Risk:**

- LDL < 5.0 mmol/L
- HDL-C ratio less than 6 mmol/L

#### **Medium Risk:**

- LDL < 3.5 mmol/L
- HDL-C ratio less than 5 mmol/L

#### **High Risk:**

- LDL < 2.0 mmol/L
- HDL-C ratio less than 4 mmol/L

## **Prevention**

Heart and Stroke Canada Canada recommends the following to improve your cholesterol levels:

#### **Eat a Healthy Diet**

- Focus on whole and minimally processed foods. Fill half your plate with vegetables and fruits.
- Select vegetables and fruit for snacks without added sauces, sugars, or salts.
- Include whole grains like whole grain bread, barley, oats, quinoa, brown rice, and bulgur.

- Include more vegetarian options like beans, tofu, lentils, and nuts.
- Choose lean cuts of meat and skinless poultry, and eat fish a few times a week while keeping portions small. Fatty fish such as salmon, tuna, and sardines are particularly effective.
- Choose low-fat dairy products or unsweetened alternatives, such as plain yogurt.
- Plan healthy snacks with at least two food types, like hummus and carrots or yogurt with berries.
- Drink water or lower-fat plain milk. Avoid sugary drinks and sweetened coffees and teas.
- Choose less saturated fats from fatty meats, full-fat dairy products, butter, hard margarine, lard, ghee, coconut oil, and palm oil.
- Choose less processed foods such as sausages, bologna, salami, hot dogs, liver, prepared foods, snack foods, chocolates, and sugary drinks.

### **Cook and eat more meals at home**

- Cooking at home allows you to select whole foods and minimize sugar, salt, and unhealthy fats in your recipes.

### **Make eating out a special occasion**

- Eating out tends to result in consuming more food, as well as more fat, salt, and sugar.

### **Maintain a healthy weight**

- Being overweight increases LDL cholesterol, lowers HDL cholesterol, and raises triglyceride levels.

### **Keep physically activity**

- Being physically active will help improve your cholesterol levels and general heart health. It is said, "*If we could bottle exercise, it would be the most effective*

*pill ever.*" For more information on exercises for older adults click here <https://www.nicenet.ca/exercises-for-older-adults>.

## No smoking

- Smoking reduces the level of your HDL "good" cholesterol.

# Treatment

If your cholesterol is high, your health professional may recommend treatment options including:

- Dietary changes.
- Lifestyle changes.
- Medications

For many older adults, a combination of these methods may be most beneficial. Studies show cholesterol-lowering drugs are much more effective when combined with a healthy diet and exercise.

Here are two famous quotes to consider when assessing treatment options.

*"If exercise were a pill, it would be the most widely prescribed medicine in the world."* Covert Bailey

*"Let food be thy medicine, and let medicine be thy food."* This famous quote is often attributed to Hippocrates.

However, if you have a medium to high risk of cardiovascular disease and high LDL cholesterol, diet and exercise alone may not be sufficient. Your healthcare professional might recommend a cholesterol-lowering drug, such as a statin.

Statins are the most common medicine used to treat high blood cholesterol. In fact, they are one of the most prescribed medications in Canada.

Statins work by reducing the amount of cholesterol made in the liver. Some statins can decrease your LDL cholesterol by more than 50%.

There is significant debate online regarding the over-prescription of statins and the extent of their side effects.

There's a risk of side effects, and most people need to keep taking statin drugs for the rest of their lives.

Some argue that low-risk patients are overprescribed and high-risk under-prescribed.

However, you won't know what works best for you until you check your numbers and discuss them with your healthcare provider.

### **Sources:**

Aging and chronic diseases: A profile of Canadian seniors

[https://www.canada.ca/en/public-health/services/publications/diseases-conditions/aging-chronic-diseases-profile-canadian-seniors-report.html#a3\\_2](https://www.canada.ca/en/public-health/services/publications/diseases-conditions/aging-chronic-diseases-profile-canadian-seniors-report.html#a3_2)

Managing cholesterol

<https://www.heartandstroke.ca/heart-disease/risk-and-prevention/condition-risk-factors/managing-cholesterol>

Cholesterol levels of adults, 2016-2019

<https://www150.statcan.gc.ca/n1/pub/82-625-x/2021001/article/00003-eng.htm>

What is cholesterol?

<https://my.clevelandclinic.org/health/articles/23922-what-is-cholesterol>

2021 Canadian Cardiovascular Society Guidelines for the Management of Dyslipidemia for the Prevention of Cardiovascular Disease in Adults

[https://onlinecjc.ca/article/S0828-282X\(21\)00165-3/fulltext](https://onlinecjc.ca/article/S0828-282X(21)00165-3/fulltext)

Cholesterol and Cardiovascular Disease: Treatment Considerations for Patients

<https://www.youtube.com/watch?v=k5efB2BB6N0>

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