

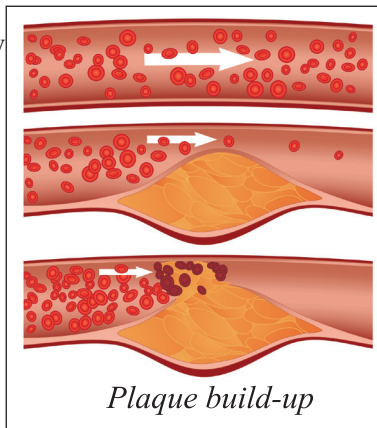


## What is the link between cholesterol and PAD?

When there is too much cholesterol in your blood, the walls of your blood vessels can become narrowed or clogged with fatty deposits called plaque (pronounced as 'plak'). Over time, the plaque builds up and causes hardening of the arteries (or atherosclerosis). The arteries become narrowed and blood flow is slowed down or blocked.

**PAD occurs when the arteries in the legs are hardened and clogged.** Blood flow to the legs and feet is reduced, which can cause pain when you walk. Likewise, if enough oxygen-rich blood cannot reach your heart, you may suffer chest pain (or angina). If the blood supply to a portion of the heart is cut off, the result is a heart attack.

When arteries harden in one part of the body, it is likely they have hardened in other parts. As such, people with PAD are likely to have hardened and narrowed arteries in the heart and brain, putting them at much higher risk for a heart attack or stroke. The good news is that studies show that **keeping blood cholesterol levels under control can help people with PAD lower their chances of a heart attack, stroke, and a poor quality of life.**



narrow. A high LDL cholesterol level (more than 2.6 mmol/l) means you have a greater risk for PAD, a heart attack or a stroke.

- **LDL (for low density lipoprotein) cholesterol** is called the “bad” cholesterol because it carries cholesterol to the tissues of the arteries, causing plaque to build up and the blood vessels to narrow. **A high LDL cholesterol level (more than for PAD, a heart attack or a stroke.**
- **HDL (for high density lipoprotein) cholesterol** is called the “good” or “healthy” cholesterol. It helps to keep cholesterol from building up inside your blood vessels and keeps them from getting blocked. A low **HDL cholesterol level (less than 1.15 mmol/l)** means you have a greater risk for PAD, a heart attack or a stroke.
- **Triglycerides** are the third major type of fat. A **high triglyceride level (2.2 mmol/l or more)** increases your risk for PAD, a heart attack or a stroke.

## What should my cholesterol goal be?

People with PAD need to keep their LDL (bad) cholesterol level at less than 2.6 (or 2.6 mmol/l). If you have PAD in your legs and your health care team has found that you are at very high risk for a heart attack or a stroke, you will need to lower your LDL cholesterol to less than 1.8 mmol/l.

“Very high risk” means that you have PAD as well as other conditions that increase your risk for a heart attack or stroke. This includes smoking cigarettes and having diabetes, high blood pressure, high triglyceride levels or low HDL cholesterol levels. To reduce your heart disease risk and to keep it low, it is very important to control these other risk factors at the same time that you are lowering your LDL cholesterol.

## What are the different types of cholesterol and blood fats?

Cholesterol is a waxy, fat-like substance found in the walls of cells in all parts of the body. Cholesterol travels in the bloodstream in packages called lipoproteins that have fat (lipid) on the inside and protein on the outside. There are a few different types of cholesterol and fats in your blood.

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## How will I know if my cholesterol level is high?

The only way to know your cholesterol numbers is to have a blood test called a “lipoprotein profile.” Your cholesterol levels should be checked at least once a year. If you take medicines to control cholesterol, you may need to be checked more often.

### What can I do to reach my LDL cholesterol goal?

Research studies show that both lifestyle changes and medicines can help to reduce LDL cholesterol levels. Since each person is different, it is very important to work with your health care team to find the treatment plan that is right for you. Here are some tips to help you lower your cholesterol and adopt a heart-healthy lifestyle.

#### ✓ **Eat less saturated fat.**

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#### ✓ **Cut back on foods high in cholesterol.**

The cholesterol in the foods you eat raises the cholesterol level in your blood — but not as much as saturated fat. Both often are found in the same foods. These include foods such as egg yolks, high-fat meat and poultry, liver and other organ meats, and high-fat dairy products such as whole milk. By cutting down on your intake of foods high in saturated fat, you also will help reduce your intake of cholesterol.

✓ **Eat more fiber.** High fiber foods can help lower your cholesterol and are good for your digestive tract. They are a good food choice if you need to lose weight since they help you feel full on fewer calories. Increase your intake of foods that are high in soluble fiber. Choose breakfast cereals such as oatmeal and oat bran. Add fruits such as bananas, berries, and sliced peaches or apples to

your cereal and eat them as snacks. Add lentils, peas and beans — black, kidney, white, pinto or other types — to salads or eat them as a main dish a few times each week.

✓ **Get more physical activity.** Ask your health care team for help on starting a new routine. Work up to at least 30 minutes of brisk walking on a treadmill or go for walks outside at least 5 days a week. If you are just starting out, begin with 5 minutes a day and add 5 minutes more each week.

✓ **Control your weight.** Losing weight if you are overweight can help lower LDL cholesterol. The best way to lose weight, or control your weight, is to move more and eat less. Cut down on high-calorie and high fat foods. Limit portion sizes. Be as active as you can throughout the day. To lose weight, eat only as many calories as you will burn.

✓ **Quit smoking.** Quitting smoking is one of the best things you can do to lower your chances of a heart attack or stroke. Ask your health care team about how they can help you quit. Set a quit date and stick to it.

✓ **Take medicines as prescribed.** There are several types of medicines to control your LDL cholesterol. These include statins, fibrates (or fibric acid derivatives), nicotinic acid (also called niacin), cholesterol absorption inhibitors and bile acid sequestrants. Your health care team will prescribe the right medicine, or maybe even more than one, that works for you. If you need medicine to lower your cholesterol, make sure you understand what it is for and how and when to take it. Be sure to take the medicine as prescribed and if you have side effects, talk to your health care team about other options.

## Action Plan for Heart-Healthy Eating

- I will cut back on eating saturated fats that are found in fatty meats, poultry skin, butter, 2 percent or whole milk, ice cream, cheese, stick margarine, palm oil, coconut oil, hydrogenated oils, lard and shortening.
- I will choose lean meats such as flank steak or chuck roast and meat substitutes such as chicken without the skin, boiled ham or pork tenderloin.
- I will switch to low-fat (1 percent) or fat-free dairy products such as low-fat cheese, sour cream, yogurt and skim milk.
- I will cut back on foods that are high in cholesterol such as egg yolks, high-fat meat and poultry, liver and other organ meats, and high-fat dairy products.
- I will choose the types of fat that can protect my heart such as olive oil, canola oil, corn oil, sunflower and safflower oils, and cholesterol-lowering margarines.
- I will eat fish 2 or 3 times a week, choosing those that are high in fat that will protect my heart such as albacore tuna, herring, mackerel, rainbow trout, sardines and salmon.

## My Life Saving Plan to Lower LDL Cholesterol

Write down three reasons you want to lower your LDL cholesterol.

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

Write down three things you will do right away to lower your LDL cholesterol level.

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

Write down the people who can help you lower your LDL cholesterol level (*for example, your husband or wife, a friend, or your health care team*):

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

**Remember:** Finding and treating PAD early can help keep your legs healthy, lower your risk for heart attack or stroke, and save your life and limbs.

Types of Cholesterol	Targets	My Targets	My Results
LDL cholesterol	Below 2.6 mmol/l		
HDL cholesterol	Above 1.15 mmol/l (for men)		
	Above 1.4 mmol/l (for women)		
Triglycerides	Below 1.7 mmol/l		

This educational resource was created by the Vascular Disease Foundation (VDF). VDF ceased operations in January 2014. In October 2014, Vascular Cures acquired most of VDF's digital assets and educational resources. VDF was founded in 1998 with the mission to provide public education and improving awareness about vascular diseases. Vascular Cures is now the only organization in the country dedicated exclusively to finding cures for vascular disease and to providing resources, information and education to patients with vascular diseases outside the heart. Please help Vascular Cures continue to make this critical educational information available. Your contribution will make saving lives a greater reality. Make a donation today at: [www.vascularcures.org](http://www.vascularcures.org).