

# THE GOOD, THE BAD AND THE UNHEALTHY: CHOLESTEROL



This document gives you information about the different types of cholesterol, the causes of high cholesterol and what high cholesterol means to your health. You'll also find useful information about what to do if you have high cholesterol. As with any medical condition, understanding what high cholesterol means and the effect it has on your health is a positive step towards you taking control of your health.

## Understanding what cholesterol is

Cholesterol is found naturally in the body and travels through the blood, attached to a protein. This package of cholesterol (a lipid) and protein is called a lipoprotein. Lipoproteins are either high-density or low-density, based on how much protein and fat they have.

### The highs and the lows

Lipoproteins with healthy cholesterol (the goodies) are called high-density lipoproteins or HDL. Those that have high cholesterol (the baddies) are called low-density lipoproteins or LDL.

It may help to think of it this way:

- HDL = high-density lipoproteins = healthy cholesterol
- LDL = low-density lipoproteins = lousy cholesterol

## The effects of high cholesterol on your health

### The goodies and the baddies

Too much cholesterol (either high LDL cholesterol or low HDL cholesterol) can lead to a build-up in the arteries (arteries are the blood vessels that carry blood away from the heart) – which leads to hardening of the arteries (this is called atherosclerosis). It is usually a slow process that gets worse as you get older.

To understand what happens, think about how a clog forms in the pipe under a kitchen sink. Like the build-up of grease in the pipe, the build-up of cholesterol narrows your arteries and makes it harder for blood to flow through. This in turn reduces the amount of blood that gets to your body organs and tissues, including your heart. This can lead to serious problems, including heart attacks and strokes.

### Hardening of the arteries (atherosclerosis) can lead to:

- Coronary artery disease resulting in a heart attack
- Stroke
- Peripheral arterial disease (reduced blood flow to the legs, which may cause pain or cramps in the calf, thigh or buttock)

## The causes of high cholesterol

Many things can cause high cholesterol. Some of these can be changed by making lifestyle changes; others can't.

### Causes you can change

- Unhealthy diet
- Being overweight
- Inactivity
- Smoking
- Certain medicines

### Causes you can't change

- Some sex hormones (oestrogen, testosterone)
- Age
- Sex
- Family history

## Dietary changes that could help to lower cholesterol

### 1. Make healthier food choices

Choose a variety of foods from different food groups each day (see the table below for examples). This will make sure you get enough nutrients from your diet for good health.



FOOD GROUP	CHOOSE MORE OFTEN	CHOOSE LESS OFTEN
Dairy	Low-fat or fat-free milk, cheese and yoghurts	High-fat cheese, full-cream milk, cream, ice-cream
Meat and meat alternatives	Fish, skinless chicken, lean cuts of meat (fat trimmed off), beans and legumes	Fatty cuts of meat like ribs, fried meats and fried seafood
Fruit and vegetables	Eat at least five portions of fruit and vegetables a day	Vegetables prepared with cream or high-fat sauces or creamy coleslaw

## 2. Get Omega-3, fibre and vitamins in your diet

Omega-3 fatty acids are essential for metabolic processes. You can only get them from your diet, because your body doesn't produce them. Omega-3 fatty acids may help to prevent heart disease, Alzheimer's disease and blood clots. To get Omega-3 fatty acids into your diet, eat at least two servings of fatty fish (as described in the table below) a week.

**Include and increase these foods:**

OMEGA-3	FIBRE	VITAMIN A	VITAMIN B	VITAMIN E
Tuna	Oats	Green leafy vegetables	Citrus fruits	Wholewheat products
Mackerel	Oat bran	Dark yellow fruit and vegetables	Tomatoes	Wheat germ
Sardines	Dried beans	Broccoli	Peppers	Nuts
Salmon	Lentils	Tomatoes	Strawberries	Sunflower seeds
Snoek	Barley	Sweet potatoes	Chilies	Soybean oil
Flax seed	Fresh vegetables	Beef liver (in small quantities)	Cabbage	Canola oil
Walnuts	Fresh fruit		Spinach	Corn oil

## 3. Learn more about fats – and eat the right ones!

The Heart Foundation recommends that you lower your total fat intake. Remember that the type of fat you take in is also important.

Eat more unsaturated fat, for example:

- Vegetable oils like sunflower oil, olive oil and canola oil
- Soft-tub margarines
- Avocados
- Almonds, pecans, hazelnuts and peanuts

Eat fewer saturated fats, for example:

- Brick margarine and butter
- Full-cream dairy products (milk, yoghurt)
- Full-fat cheese
- Fatty cuts of meat and poultry (chicken, duck and turkey) with the skin on

## 4. Choose more wholegrain, high-fibre foods

Wholegrain foods are rich sources of carbohydrates, minerals (selenium, zinc, magnesium and copper) and vitamins B and E. They are low in fat, cholesterol-free and high in antioxidants. The nutrients in wholegrains have many health benefits and can help to protect you against or manage chronic diseases.

Good sources of wholegrain include:

- Oats and oat bran
- Legumes (beans, peas and lentils)
- Wholegrain breads and pastas



- Raw fruit and vegetables
- Brown and wild rice
- Popcorn (popped in a pot or the microwave; not the ready-made kind)

## Lifestyle changes that could help to lower cholesterol

### 1. **Start exercising**

Physical activity reduces the risk of heart disease because it's associated with lowered concentrations of triglycerides and higher levels of high-density lipoprotein cholesterol (good cholesterol). Guidelines recommend at least 30 minutes of physical activity, on most days of the week, to reduce the risk of cardiovascular disease. If you want to lose weight, you'll need to do 60 minutes of physical activity on most days of the week.

### 2. **Drink alcohol in moderation**

Research has shown that a moderate alcohol intake can reduce the risk of coronary heart disease by increasing high-density lipoprotein cholesterol (the good cholesterol) and improving clotting. The reality is that the rate of disability and death is highest among heavy drinkers, so it's best to drink in moderation or not drink alcohol at all.