



# The Dove Clinic for Integrated Medicine

## Managing cholesterol levels

### What is cholesterol?

Cholesterol is a fatty substance known as a lipid and is vital for the normal functioning of the body. It is mainly made by the liver but can also be found in some foods we eat. Cholesterol is carried in the blood by proteins, and when the two combine they are called lipoproteins. There are harmful and protective lipoproteins known as LDL and HDL, sometimes known as “bad” and “good” cholesterol.

- **Low-density lipoprotein (LDL):** LDL carries cholesterol from your liver to the cells that need it. If there is too much cholesterol for the cells to use, it can build up in the artery walls, leading to disease of the arteries. For this reason, LDL cholesterol is known as "bad cholesterol".
- **High-density lipoprotein (HDL):** HDL carries cholesterol away from the cells and back to the liver, where it is either broken down or passed out of the body as a waste product. For this reason, it is referred to as "good cholesterol" and higher levels are better.

The amount of cholesterol in the blood (both LDL and HDL) can be measured with a blood test. The recommended cholesterol levels in the blood vary between healthy adults and those at higher risk. Those at higher risk include people with a family history of cardiovascular disease or stroke, those who have diabetes, or are overweight, or smoke, or do not exercise regularly.

Cholesterol has got a bad name for itself, but it is in fact essential for many bodily processes. For example, cholesterol is a precursor for the production of all steroid hormones. This includes the sex hormones (androgens, oestrogens, and progestins) as well as the mineralocorticoids e.g. aldosterone, and the glucocorticoids e.g. cortisol and adrenaline. It is also needed in the synthesis of Vitamin D.

### How high is too high?

Again, this is a controversial area with some differences of opinion within the medical community. The UK government recommends that total cholesterol levels for healthy adults should be 5mmol/L or less, with levels of LDL being 3mmol/L or less. Adults at high risk are defined as those with existing heart disease, high blood pressure (hypertension), diabetes or those with a family history of early heart disease. Those at high risk should have a total cholesterol level of 4mmol/L or less, with levels of LDL being 2mmol/L or less.

According to NHS Choices, two out of three UK adults have a total cholesterol level of 5mmol/L or above. On average, men in England have a cholesterol level of 5.5mmol/L and women have a level of 5.6mmol/L. However, risk of cardiovascular disease and stroke does not solely depend on cholesterol levels, and these numbers must be looked at alongside other risk factors such as smoking, weight, family history, exercise etc.

## How can I lower my cholesterol levels without medication?

There are many diet and lifestyle changes you can make to help lower your cholesterol levels naturally without the use of medication. Your GP should give you the opportunity to try and do this before putting you on medication.

The main steps you can follow are:

- Increase the amount of **soluble fibre** in your diet. This helps eliminate excess cholesterol from the body. **Oats** are a very good source of soluble fibre and they contain beta glucans which are proven to help reduce cholesterol. Eating porridge oats, and using oat milk are two good ways to increase oat consumption.
- Increase the amount of **beans and legumes** in your diet. Lentils, chickpeas, and all pulses are helpful because they too contain soluble fibre.
- Increase consumption of fruits and vegetables up to **at least five portions per day**. Only about 25% of all adults reach this target – make sure you are one of them!
- Reduce (ideally eliminate) **sugary foods and snacks**, these contain empty calories and have no nutritional value. Highly refined carbohydrates are sugary foods and these can contribute to high cholesterol. Switch to wholegrain bread, brown rice and pasta.
- Cut down on **saturated fats** and eat more **unsaturated fats**. Saturated fats are those found in animal products like meat and dairy, whereas unsaturated fats are those found in oily fish, nuts, seeds, avocados, olive oil and all nut and seed oils. Use olive oil for salads and only for cooking at low temperatures. For cooking at high temperatures use butter or coconut oil/butter.
- You may also need to reduce the total amount of fat in your diet. Try steaming, poaching, boiling or grilling, instead of roasting or frying. Choose lean cuts of meat where possible.
- Take **regular exercise**. You must find a type of exercise you enjoy, and as long as it gets your heart rate going then it is doing you some good. Ideally we should all be doing about 30 minutes exercise five days a week, or fewer longer sessions. Adults should exercise for at least 150 minutes per week. See <http://www.nhs.uk/change4life/pages/get-going-every-day.aspx> for more information and ideas.

## Misconceptions about cholesterol in foods

Some foods contain cholesterol. This type of cholesterol is called dietary cholesterol. Foods such as kidneys, eggs and prawns are higher in dietary cholesterol than other foods. However, the cholesterol found in food has much less effect on the level of cholesterol in your blood than the amount of saturated fat that you eat. It is fine to eat an egg every day if you want to, it won't affect your cholesterol levels as long as you are eating lots of fibre-rich foods as well.

## What are the problems associated with statin use?

Statins are the class of drug most commonly used to lower cholesterol. There are lots of different types of statins available, but they all work on the same principle. They work by blocking a specific enzyme pathway that produces cholesterol in the body. In doing so they also block production of an important substance called CoQ10. If you are taking statin medication it may be a good idea to supplement with CoQ10 alongside, in order to minimise the side effects. CoQ10 is an essential part of the energy production pathway and two of the more common side effects of statin use are low energy and muscle/joint pain. For more about the side effects of statins see:

<http://www.nhs.uk/Conditions/Cholesterol-lowering-medicines-statins/Pages/Side-effects.aspx>

### **Alternatives to statins**

Many people look for nutritional supplements to help lower their cholesterol rather than going onto statins. Red yeast rice has been shown to lower cholesterol in a small-scale randomised placebo controlled study with the results published in the *Scandinavian Cardiovascular Journal* in 2010. Patients taking the red yeast rice experienced a significant reduction (23%) of LDL cholesterol and a 15% reduction in total cholesterol compared to placebo after 16 weeks of treatment.

### **The French Paradox and new thinking about cholesterol**

It is often said that the French eat more saturated fat than the British, generally drink and smoke more, do less exercise, but have one tenth of the rate of heart disease than we do. Why is this? Perhaps saturated fat and cholesterol are not linked after all, and perhaps high cholesterol does not cause heart disease? Whatever we choose to believe, it has been proven time and again that following a Mediterranean Diet is a primary prevention for heart disease. This means plenty of fresh fruit and vegetables, lots of olive oil and nuts (unsalted).

There is a growing number of medical researchers and clinicians from both the US and the UK who do not see high cholesterol as a problem or as a precursor to heart disease. For more on this see the documentary *Statin Nation*:

<http://www.statination.net/home/>

### **Further reading and resources:**

Bogsrud M, Ose L, Langslet G *et al.* (2010) HypoCol (red yeast rice) lowers plasma cholesterol – a randomized placebo controlled study. *Scandinavian Cardiovascular Journal* ; 44:197-200

<http://www.nhs.uk/livewell/healthyhearts/pages/cholesterol.aspx>

Kendrick M. (2007) *The Great Cholesterol Con: The Truth About What Causes Heart Disease and How to Avoid it.* John Blake Publishing Ltd, London:England

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