

## Cholesterol

This fact sheet explains what cholesterol is and how you can improve your diet to help reduce the level in your blood if it is too high.

### What is cholesterol?

Cholesterol is a chemical building block found naturally within the cells in the body. It is needed to make steroid hormones and vitamin D as well as bile acids which help the gut digest and absorb dietary fat.

Your blood carries cholesterol around your body on proteins known as high density lipoproteins (HDL) or 'good cholesterol', and low density lipoproteins (LDL) – 'bad cholesterol'. Too much LDL cholesterol and too little HDL cholesterol in the blood are linked to a process which causes blood vessels to become narrowed or blocked. Raised LDL levels are a significant risk factor for heart attacks (myocardial infarction - MI), chest pain (angina), narrowing of the blood vessels in the legs (peripheral artery disease) and stroke – as a group these are called cardio vascular disease (CVD).

Six out of ten adults in the UK have LDL cholesterol levels which are too high and CVD is a major public health problem. However, raised LDL cholesterol is only one of the risk factors for CVD. Other factors such as smoking, high blood pressure, diabetes, being overweight, poor fitness or a strong family history of early heart disease all affect your risk. Your chances of having CVD are higher when you have more than one of these risk factors.

### Saturated fat

One cause of raised LDL cholesterol is a diet high in saturated fat (see box on the right). When you eat saturated fat it is converted into blood cholesterol by the liver. Saturated fat also slows down how quickly cholesterol is removed from your body. Cutting down on saturated fat in the diet and replacing it with unsaturated fats is an effective way of reducing blood cholesterol.

The maximum recommended amount for saturated fat intake is no more than 20g per day for women and no more than 30g per day for men. Most people in the UK eat about 20% more than this. Small changes to your



Types and main sources of dietary fats

Saturated fat ('bad')	Unsaturated fat ('good')
Full-fat dairy products; meat and meat products such as pasties, sausages and pies; biscuits, cakes and pastries; savoury snacks; chocolate; butter, ghee and lard; coconut milk/cream; and coconut and palm oils.	<p><b>Polyunsaturated fat</b> – Sunflower, soya, corn or safflower oil/soft spreads/margarines; oily fish; and fish oil.</p> <p><b>Monounsaturated fat</b> – Olive and rapeseed oil, avocado, nuts.</p>

diet can make a big difference to your overall blood lipid (fat) levels.

### Top tips for reducing saturated fat

Look for hidden saturated fat in cakes, biscuits, pastries and ready meals. Compare labels and choose products that are lower in saturated fat. Foods are high in saturated fat if they contain more than 5g of saturates per 100g. Foods containing 1.5g or less per 100g are low in saturated fat. Some foods promoted as low in fat are often high in sugar. A high sugar intake from refined carbohydrates can also affect blood lipid levels by lowering HDL – the good cholesterol. Such foods are low-fat or diet yoghurts and sugary breakfast cereals.

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Eat less	Smart swap
Cream or cheese sauces	Tomato or vegetable based sauces.
Fatty meat products such as sausages, burgers, pate, salami, meat pies and pasties	Lean cuts of meat and mince – check labels and trim off the fat; chicken and turkey with the skin removed; fish especially oily fish like salmon, mackerel and sardines; and vegetarian options like lentils, chick peas and soya.
Crisps and savoury snacks cooked in oil	Fresh or dried fruit or a handful of nuts and seeds.
Full-fat milk, cheese, cream and yoghurt	Lower fat dairy foods such as 1% milk, reduced fat cheddar and low-fat yoghurt; grating cheese/using a strong flavoured variety means you need to use less.
Lard, dripping, ghee and butter	Grill or dry fry; use vegetable oils, margarines and low fat spreads with a low saturated fat content like olive, sunflower, soya or rapeseed (often called blended vegetable) oil.

## Foods to help lower blood cholesterol

Some foods can actively lower your blood cholesterol: **Soluble fibre** is a type of dietary fibre which dissolves in water in the gut to form a gel. This in turn soaks up cholesterol like a sponge and carries it out of the body where it cannot do any damage.

Oats and oat bran; linseeds (flaxseeds); barley; fruit and vegetables; and vegetable proteins all contain soluble fibre. Vegetable proteins are non-meat sources such as nuts; beans; and pulses which include peas, soya, lentils and chickpeas. Try to include these foods regularly in your diet as a source of lower fat protein in recipes. Aim to eat at least five different portions of fruit

and vegetables each day. Fresh, frozen, juice or smoothies, canned and dried fruit and vegetables all count.

**Plant stanols or sterols** are plant extracts that occur naturally in foods like wholegrains, fruits, vegetables and nuts. Eating stanols and sterols stops the gut absorbing cholesterol.

Adding just 2g of these to your diet each day can reduce LDL cholesterol by 10-15%. You can get this amount from fortified

foods such as mini drinks, spreads, milks and yoghurts from both branded and supermarket own label products. Follow guidelines on the packet to get the correct dose needed. A diet with plenty of soluble fibre, vegetable protein and stanols or sterols can reduce LDL cholesterol by up to 25%.

## Dietary cholesterol – don't get confused!

Although some foods contain cholesterol – such as shellfish, eggs and offal – this has much less effect on our blood cholesterol than the cholesterol we make in our body ourselves in response to a high saturated fat diet. Many cholesterol containing foods are relatively low in saturated fat and contain other useful vitamins and minerals. Only cut down on these foods if you have been advised to by your doctor or a dietitian. Cutting down on saturated fat in the diet is much more helpful than reducing dietary cholesterol.

## Summary

Reduce your blood cholesterol by cutting down on saturated fat, eating plenty of fruit, vegetables and cholesterol-lowering foods like oats, beans and pulses. Keeping to a healthy weight and shape and being physically active can also help. Cut your risk of heart disease by eating more oil-rich fish; starchy carbohydrates such as bread, rice, pasta and cereals – especially wholegrain varieties; and having less salt and alcohol.

**Further information:** Food Fact Sheets on other topics including Eating for a Healthy Heart and Fat are available at [www.bda.uk.com/foodfacts](http://www.bda.uk.com/foodfacts)

**Useful links:** HEART UK - The Cholesterol Charity [www.heartuk.org.uk](http://www.heartuk.org.uk)

The British Heart Foundation [www.bhf.org.uk](http://www.bhf.org.uk)

