

Cholesterol

Cholesterol is one of the things many of us have heard of but may not fully understand. After reading this fact sheet, you should know what cholesterol is and how you can improve your diet to help reduce the level in your blood if it is too high.

Cholesterol is found naturally within the body in the structure of cell walls. It is also used to produce steroid hormones, vitamin D and to manufacture bile acids which help the digestion and absorption of dietary fat in the gut.

Cholesterol is carried around the body in the blood on proteins known as high density (HDL) and low density (LDL) lipoproteins, or 'good' and 'bad' cholesterol respectively. HDL cholesterol is beneficial to the body but LDL cholesterol can cause blood vessels to become narrowed or blocked. High LDL levels can increase the risk of heart attacks, Myocardial Infraction (MI), chest pain (angina), narrowing of the blood vessels (peripheral artery disease) and stroke – collectively known as cardiovascular disease (CVD).

Two out of three adults in the UK have LDL cholesterol levels which are too high and CVD is major public health problem.

However, high LDL cholesterol is only one of the risk factors for CVD. Other factors such as smoking, being overweight, having high blood pressure, diabetes, poor fitness and a strong family history are all important in determining your risk of CVD.

Your chances of having CVD are increased when several of these risk factors occur together.

One cause of high LDL cholesterol is a diet high in saturated fat.

Recently eaten saturated fat is converted into blood cholesterol by the liver.



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, pastries, savoury snacks, chocolate; butter ghee and lard coconut milk/cream, coconut oil and palm oil.	<p>Polyunsaturated fat – Sunflower, soya, corn or safflower oil/soft spreads/margarines, oily fish and fish oil.</p> <p>Monounsaturated fat Olive and rapeseed oil, avocado, nuts.</p>

Saturated fat also reduces the rate of removal of cholesterol from the body.

The maximum recommended amount for saturated fat intake is no more than 20g per day for a woman and no more than 30g per day for a man. Most people in the UK eat about 20% more than this. Small changes to your diet can make a big difference.

Foods to help lower blood cholesterol

Once you have mastered the art of reducing saturated fat in your diet you may like to think about some of the foods that can actively lower 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

“ Cutting down on saturated fat in the diet and partially replacing some of it with unsaturated fats is an effective way of reducing blood cholesterol. ”

like a sponge and carries it out of the body where it cannot do any damage.

Oats and oat bran, fruit and vegetables, vegetable proteins such as nuts, beans, and pulses including peas, soya, lentils and chickpeas all contain soluble fibre. So try to include these foods regularly in your diet. 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 towards this total.

“ **Cutting down on saturated fat in the diet is much more helpful than reducing dietary cholesterol** ”

Plant stanols or sterols are plant extracts that, when eaten, inhibit the absorption of cholesterol in the gut thus reducing the amount of dietary cholesterol absorbed.

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 yogurts from brands including Benecol®, Flora pro.activ, Minicol or several 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 GP or a registered dietitian. Cutting down on saturated fat in the diet is much more helpful than reducing dietary cholesterol.

Summary

Effective ways to reduce your blood cholesterol levels include cutting down on saturated fat and eating plenty of fruit and vegetables and cholesterol-lowering foods such as, oats, beans and pulses. Keeping to a healthy weight and shape and being physically active can also help.

To reduce your risk of heart disease it can also be useful to include more oil-rich fish in your diet, watch your salt and alcohol intakes and make sure your diet contains plenty of starchy carbohydrates such as bread, rice, pasta and cereals – especially wholegrain varieties.

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- **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.
 - **Choose** healthier snacks such as fresh or dried fruit or a handful of nuts rather than crisps or other savoury snacks cooked in oil.
 - **Be smart** about cooking and spreading with fats – grill, dry fry or choose vegetable oils, margarines and low fat spreads with a low saturated fat content - such as olive, sunflower, soya or rapeseed (often called blended vegetable) oil. Avoid lard, dripping, ghee, cream and butter.
 - **Look for** lean cuts of meat and mince – check labels and trim off the fat. Cut down on fatty meat products such as sausages, burgers, pate, salami, meat pies and pasties.
 - **Avoid** creamy or cheesy sauces. Look for tomato or vegetable based sauces instead.
 - **Choose** more poultry like skinless chicken and turkey and fish (especially oily fish such as salmon, mackerel, sardines), or choose vegetarian options like lentils, chick peas and soya.
 - **Buy lower fat** dairy foods such as 1% milk, reduced fat cheddar and low fat yoghurt instead of full fat varieties. Grating cheese or using a strong flavoured variety often means you need to use less.

cut out and keep

Other Food Fact Sheets on similar topics such as Salt and Health, Trans Fats and Omega 3 can be downloaded at www.bda.uk.com/foodfacts See also Heart UK - The Cholesterol Charity www.heartuk.org.uk and The British Heart Foundation - www.bhf.org.uk

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The information sources used to develop this fact sheet are available at www.bda.uk.com/foodfacts
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