

# Cholesterol Facts

## What Foods Influence my Blood Cholesterol Levels?

We are all interested in improving our health but there is still a great deal of confusion about the role of cholesterol in our diets and in our bodies. We know that having a high blood cholesterol level is bad for our heart, but how does dietary cholesterol affect blood cholesterol?

This fact sheet will explore well-proven strategies for lowering blood cholesterol levels to help improve the heart health of the nation.\*

## What is Cholesterol?

In the body - Cholesterol is a waxy substance that is essential within the body for the normal function of our cells. Cholesterol provides a major component of the sheaths (covers) that insulate our nerves, as well as being the starting point for many hormones. Cholesterol also plays a vital role in the way we digest fat. The liver produces most of the cholesterol in our bodies, although many tissues produce their own.

In food - Cholesterol appears exclusively in animal products and is found in a number of foods, such as shellfish, eggs, liver, kidney, meat, dairy products and poultry.

## Lowering Blood Cholesterol

Since the 1980s research has consistently shown that the amount of saturates in the diet is a major influence on blood cholesterol levels. The level of cholesterol in the diet is no longer considered a priority when trying to reduce blood cholesterol levels. The section in the next column on 'Foods to avoid when reducing blood cholesterol levels' gives examples of foods high in saturates.

## Foods to Help Lower Blood Cholesterol Levels

Evidence shows that some foods can actively lower blood cholesterol. However, keeping a healthy shape, weight and being physically active is just as important and will also influence your blood cholesterol in a positive way.

Eating a balanced diet plus the foods listed below may help to improve your blood cholesterol and general heart health:



### 1. Eat more:

- wholegrains and foods high in soluble fibre such as pulses, oats, fruits and vegetables
- oily fish such as salmon, mackerel, sardines.

### 2. Swap to healthier fats/oils, but use sparingly, such as rapeseed or olive oil.

3. If you are still struggling to lower your cholesterol level and/or have a strong family history of heart disease, you may want to consider a food fortified with Stanols/ Sterols such as spreads and yogurts (follow manufacturer's instructions).

## Foods to Avoid When Reducing Blood Cholesterol Levels

There are certain foods that are high in saturates to avoid, or limit, in your diet to help reduce your blood cholesterol levels.

These include:

- Pies and pastries
- Sausages
- Butter
- Ghee
- Lard / dripping
- Cakes and biscuits made with butter, lard or other saturated fat or hydrogenated vegetable oil
- Hard cheeses
- Cream



# Official Recommendation

In line with the most recent evidence available, the UK Food Standards Agency advises that cholesterol-containing foods, like eggs and shellfish, need not be restricted if you follow a healthy, balanced diet that is low in saturates and includes a good mixture of foods from all the major food groups.

Many cholesterol-containing foods are relatively low in saturates and contain other useful nutrients such as: protein, iron, zinc, vitamin D, vitamin E and calcium.

The British Dietetic Association advises that if you are eating a balanced diet, you only need to cut down on eggs, or other cholesterol-containing foods, if you have been told to do so by your GP or registered dietitian.

## Conclusion

Although there are many factors that affect blood cholesterol levels, the easiest way to reduce it in your diet is to cut down on foods high in saturates, keep to a healthy weight and shape and be physically active. Make sure your daily diet contains good levels of starchy carbohydrates, especially wholegrains, at least five portions of fruit and vegetables, low-fat dairy foods and lean cuts of meat and fish as well as eggs, nuts and pulses.

\*Reducing blood cholesterol is only one modifiable risk factor in reducing heart disease and needs to be considered in the context of other risk factors. Specialist dietary advice should be given to those with inherited disorders. For more information, please refer to the BDA fact sheets on:

- Eating for a Healthy Heart
- Getting the Balance Right
- Fat - Getting the Balance Right
- Omega-3 Fatty Acids - Fishing for Facts
- The Truth About Trans Fats
- Wholegrains - The Way To Go

**Eating for a Healthy Heart**

There are many simple changes you can make to your diet to help keep your heart healthy. A heart healthy diet works in a number of ways. For example, it may help reduce cholesterol levels and lower blood pressure. Here are some easy tips that can reduce your risk of heart disease.

**Enjoy a Variety of Fruit and Vegetables**

Fruit and vegetables are packed with vitamins, minerals and other substances that help protect your heart. They also help produce your own nitric oxide, which helps relax and widen your blood vessels. Aim to fit in at least five portions of these foods each day. If you find this difficult, try including a glass of pure juice each day, or eating fruit or vegetables for snacks.

**Focus on Fats**

While all types of fat are high in calories, some fats can also raise cholesterol levels. The main culprit is saturated fat and it's found in fatty meat, dairy products, cakes, pastries and palm oil. Easy ways to reduce your intake of this unhealthy fat include:

- Make the change to reduced-fat dairy products, e.g. semi-skimmed milk
- Use soft spreads made from vegetable oils such as rapeseed or olive oil, instead of butter, and use sparingly when choosing butter and use sparingly
- Trim the fat from meat and the skin from chicken
- Limit your intake of fried fast food, meat and spread bacon
- Look for meats which are low in saturated fat such as fish, lean meat, nuts, and seeds
- Go for sweets which are low in saturated fat such as fruit, forest, mints, low fat yogurt, vegetables and cereals

If you decide to make changes, begin slowly and try a few suggestions first. You could start by swapping on a piece of fruit at work, instead of biscuits or trying semi-skimmed milk in your drinks. By gradually introducing more changes, your diet will help to keep your heart healthy.

**Feast on Fish**

The healthy oil found in fish reduces the risk of a heart attack in general. Different ways of eating more fish isn't difficult; it can be as easy as having a salmon sandwich or a portion of cod fish in your diet once a week. Don't forget the canned versions!

- Salmon
- Herring
- Sardines
- Mackerel
- Pilchard
- Trout
- Kippers
- Tuna (fresh tuna only)

**General Tips for a Healthy Diet**

- Go for a Mediterranean-style diet, for example, wholegrain cereals, olive oil, fruit and vegetables
- Watch out for trans-fats, your cholesterol levels, foods, egg hard margarine
- Skip the salt (see over)
- Keep your alcohol in check
- Stay Weight Wise (visit [www.bda.co.uk](http://www.bda.co.uk))
- Aim to be active
- Avoid smoking

**Food Facts - Fat - Getting the Balance Right**

How much should I eat?

To get the most benefit adults and children over 12 are advised to eat 2 portions of fish per week (a portion is about 140g cooked), one of which should be oily. This is equal to about 45mg EPA/DHA per day.

Younger children will need less:

- 18 months to three years: a third of a portion
- four to six years: half a portion
- seven to 11 years: two thirds of a portion

**Food Facts - Omega-3 Fatty Acids - Fishing for Facts**

**Introduction**

We have all heard that eating fish regularly, especially oily fish which is rich in omega-3 fatty acids, can help to keep us healthy. Evidence for this has come from studies among populations where fish forms a regular part of the diet. For example the Inuit people (Eskimos) and the Japanese eat more fish than we do in the UK and other western societies and for them heart disease is much less common.

**Benefits of eating oily fish include:**

- Lower risk of heart and blood vessel disease
- Maintenance of healthy joints
- Healthy development of your baby

**Where do the benefits come from?**

The benefits are thought to come from the omega-3 fatty acids, docosahexaenoic acid (DHA) and eicosapentaenoic acid (EPA). You can make these fatty acids in your body from a parent essential fatty acid - Alpha Linolenic Acid (ALA), found mainly in green leafy vegetables, nuts, seeds and their oils - but this can be a slow process. To get the maximum benefit, we should try to include oily fish which has high levels of pre-formed DHA and EPA.

**Which fish are oily?**

Fish/seafood high in omega-3 fatty acids include:

- Tuna (fresh)
- Salmon
- Herring
- Mackerel
- Pilchard
- Trout (Rainbow)
- Dogfish
- Shrimp
- Crab

Don't forget canned fish counts as well but some brands of tuna may have the omega-3 oils removed during processing so check the labels.

**What about safety?**

There has recently been much publicity about chemicals that may be harmful in some types of fish. For most of us there is no risk from eating up to 4 portions weekly. However, if you are pregnant or breastfeeding, or likely to become pregnant you should stick to a maximum of two portions weekly.

Shark, swordfish and Marlin may contain concentrated sources of mercury and so should be avoided by women who are pregnant, breastfeeding or planning a baby, and all children under 16 years.

**Supplements**

There are currently no UK recommendations for supplement use but the following guidelines may be useful:

- Check labels for DHA/EPA content
- Stick to the amount in 2-4 portions of fish (450-900mg EPA/DHA)
- Choose an appropriate supplement
- Recommended for children
- Seek advice from a Dietitian if in doubt

**Conclusions**

The health benefits of increased oily fish consumption outweigh the risks from pollutants. Most of us should try to eat more fish, bearing in mind the advice aimed at women of child-bearing age and children under 16.

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**Wholegrains - The Way To Go...**

**What are wholegrains?**

A huge variety of cereal crops are grown for food throughout the world including wheat, rice, barley, oats and maize. Grains are the seeds or cereal plants. Wholegrains consist of the fibre-rich outer layer (the bran), the nutrient-packed inner area (the germ) and the starchy part (the endosperm). Processing or milling the grain are often referred to as 'whitening' or 'refining' wholegrains. Keeping a whole grain together with its bran and germ helps to control snacking.

**How can I increase my intake of wholegrains?**

- When choosing foods from the starchy food group, replace refined cereal foods with wholegrain varieties. Wheat, oats, barley, rice and maize are the most commonly available cereals which can be eaten as wholegrains.
- To find them, look for the word 'whole' before the name of the cereal e.g. whole wheat, whole oat, whole rice.
- Aim to get at least half your starchy carbohydrates as wholegrains or around two to three servings a day.

**Why are wholegrains so healthy?**

Fibre alone cannot account for all the health-promoting properties of wholegrains. It seems to be the 'complete package' of nutrients working together in wholegrains which offers protection, rather than any one nutrient in isolation. Research suggests that the risk of both heart disease and type 2 diabetes may be up to 30% lower in people who regularly eat wholegrain as part of a low-fat diet and healthy lifestyle. The benefit is even greater than that seen with refined cereals and vegetables.

Some forms of cancer of the digestive tract may be lower with higher intakes of wholegrains. The fibre in wholegrains not only moves food along more quickly, but also seems to be in contact with the lining of the friendly gut bacteria, providing a food source for them and producing substances considered to be protective for the gut wall.

Wholegrains may also help in maintaining a healthy body weight over time. Wholegrain tends to be low in fat but rich in carbohydrate, often with a low glycemic index (GI) (see table). This means the blood which is slow to rise and fall means the body provides a slow release of sugar into the blood which, together with fibre content, may help keep you feeling fuller for longer, helping to control snacking.

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This Food Fact sheet is a public service of The British Dietetic Association intended for information only. It is not a substitute for proper medical diagnosis or dietary advice given by a Registered Dietitian (RD). To check that your dietitian is Registered visit [www.hpc-uk.org](http://www.hpc-uk.org). Other Food Fact sheets are available from [www.bda.co.uk](http://www.bda.co.uk).

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