Cholesterol - and what you can do about it

British Heart Foundation

Information for South Asians

Cholesterol - and what you can do about it

Beating Heart Disease Together
About this booklet

People who have a high level of cholesterol in their blood have a greater risk of developing coronary heart disease. South Asians living in the UK – Indians, Bangladeshis, Pakistanis and Sri-Lankans – have a higher risk of getting coronary heart disease than the rest of the UK population. So if you are of South Asian origin it is particularly important that you control your cholesterol level.

This booklet explains:

- what cholesterol is
- how your cholesterol level is measured
- why cholesterol increases the risk of coronary heart disease
- what causes high cholesterol levels
- how physical activity and healthy eating can help you to control your cholesterol level
- how medicines can help
- why it’s especially important for people with high cholesterol levels also to control their blood pressure and not smoke, and
- what familial hyperlipidaemia, or FH, is.

The information in this booklet is not a substitute for the advice your doctor may give you based on his or her knowledge of your condition.

This booklet is available in Bengali, Gujarati, Hindi, Punjabi and Urdu. This English version has been produced to help relatives, carers and health professionals who do not read these languages.
WHAT IS CHOLESTEROL, AND WHAT ARE BLOOD LIPIDS?

‘Blood lipids’ is the name for all the fatty substances in the blood, including cholesterol and triglycerides.

**Cholesterol**

Cholesterol is a fatty substance found in the blood. It is mainly made in the body. The liver makes it mostly from the saturated fats in the food you eat.

Cholesterol plays a vital role in how every cell works, throughout the body. But too much cholesterol in the blood can increase your risk of getting coronary heart disease (heart attacks and angina).

There are two main types of cholesterol:

- **LDL** is a ‘bad’ type of cholesterol
- **HDL** is a ‘good’ type of cholesterol because it removes the bad LDL cholesterol from the bloodstream.

**Triglycerides**

Triglycerides are another type of fatty substance in the blood. They are found in foods such as dairy products, meat and cooking oils. They can also be produced in the body. People who are very overweight, eat a lot of fatty and sugary foods, or drink too much alcohol are more likely to have a high triglyceride level.
**Cholesterol, triglycerides and the risk of coronary heart disease and stroke**

People who have a **high total cholesterol level** have a higher risk of coronary heart disease than people with lower levels. The risk is particularly high if you have a high level of LDL cholesterol and a low level of HDL cholesterol (the good cholesterol).

People with a **high triglyceride level** have a greater risk of coronary heart disease and stroke than people with lower levels.

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**Blood lipids**

Blood lipids include **cholesterol** and **triglycerides**. Some types are ‘bad’, but one type (HDL) is ‘good’:

- **Cholesterol**
  - LDL – ‘Bad’
  - HDL – ‘Good’

- **Triglycerides**
  - ‘Bad’
How is blood cholesterol measured?

Measuring your blood cholesterol involves a simple blood test.

The test can be done in two ways. Either a blood sample is taken with a syringe and needle and sent to a laboratory for analysis. Or a finger prick (capillary sample) is taken and analysed on a desktop analyser.

If you are having your triglyceride level measured, you will be asked not to eat anything, and to drink only clear fluids, for 12 hours before you have the test.

Your targets

Cholesterol and triglycerides are measured in units called ‘millimols per litre’ of blood – or ‘mmol/l’ for short. People who are at high risk of, or who already have, heart disease or disease of the circulation should aim for:

- a **total cholesterol level** under 4 mmol/l
- an **LDL cholesterol level** under 2 mmol/l
- an **HDL cholesterol level** above 1 mmol/l, and
- a **triglyceride level** under 1.7 mmol/l.
How does cholesterol increase the risk of coronary heart disease?

Coronary heart disease is caused when the coronary arteries (the arteries that supply the heart muscle with oxygen-containing blood) become narrowed by a gradual build-up of fatty material within their walls. This condition is called **atherosclerosis**, and the fatty substance is called **atheroma**. This is what causes angina (chest pain) and heart attacks.

Atheroma develops when the level of the ‘bad’ LDL cholesterol in the blood is too high. On the other hand, HDL cholesterol is ‘good’ because it removes excess cholesterol from the circulation, and helps to protect against coronary heart disease.

**The aim is to have:**

- a low total cholesterol level
- a low level of LDL cholesterol, and
- a high level of HDL cholesterol.

**Eating a healthy diet can help to improve your cholesterol levels.**

The most important thing is to reduce the total amount of fat in your diet, especially saturated fat (**animal fat**). We explain which foods are high in fat and saturated fat on pages 16-17.
When does a high blood cholesterol level matter?

It is very important to control your cholesterol level. This is because having a high cholesterol level is one of the most important risk factors for coronary heart disease. (A risk factor is something that increases the risk of getting the disease.) The other major risk factors are:

- having diabetes
- having high blood pressure
- smoking
- not being physically active enough
- being overweight or obese
- being of South Asian origin, and
- having a family history of premature coronary heart disease. (This means if a close blood relative of yours developed coronary heart disease before the age of 55 for a man, or 65 for a woman.)

Your overall risk of having a heart attack is much greater if you have a high cholesterol level as well as one or more of the other major risk factors listed above. The more risk factors you have, the higher your risk of having a heart attack.
The most common cause of high blood cholesterol levels in people in the UK is eating too much fat, especially saturated fat.

However, some people have high blood cholesterol levels even though they have a healthy diet.

Some people have high cholesterol levels as a result of an underactive thyroid gland, long-term kidney problems, or drinking too much alcohol. Also, about 1 in 500 people have high cholesterol levels because of the inherited condition familial hyperlipidaemia (see page 27).

The three main things you can do to help control your cholesterol are:

- Eat healthily, and in particular reduce the total amount of fat in your diet – especially saturated fat (animal fat) – see page 13.
- Be physically active – see page 21.
- Take your cholesterol-lowering medicines if your doctor has prescribed them for you – see page 22.
Eating a healthy diet can help reduce your cholesterol levels by over 10%. However, some people find that healthy eating can have a greater effect on their cholesterol level than other people.

**Choosing healthier fats**

Foods containing fat are made up of a combination of saturated fats, monounsaturated fats and polyunsaturated fats. On pages 16-17 we give examples of which foods contain all these different types of fats.

To help improve your cholesterol level you need to do the following.

- **The most important thing is to cut right down on saturated fats** and replace them with monounsaturated fats and polyunsaturated fats.
- **Reduce the total amount of fat you eat** – especially if you are overweight. (This is because fat is also very high in calories.)
  
  For example:
  
  - Cut down on foods such as crisps and biscuits and avoid foods like samosas, bhajias or parathas which are usually fried. Replace them with healthier alternatives such as fruit or vegetables.
  
  - Many traditional dishes are high in fat, so avoid adding too much ghee or oil when cooking.
  
  - Instead of frying foods, try other cooking methods like grilling or baking, or microwave, steam or poach your food.
  
  - At mealtimes, cut down on the amount of fatty foods you eat and instead fill up with starchy foods such as bread, chappati, rice or pasta – particularly the wholegrain versions of these foods.
- Pre-prepared foods such as samosas, pakoras or sweets such as halwa, gulab jamon and barfi may also contain hidden fats, so try to avoid these.
- Avoid Indian snacks such as chevda, sev or ganthiya as these are often high in fat.
- Swap paneer for lower fat cheese such as curd cheese.
- Use semi-skimmed or skimmed milk instead of full-fat milk.

- **Cut down on foods containing trans fats.** Trans fats are found naturally in very small amounts in foods such as dairy foods and meat. Trans fats are also formed when vegetable oils are partly ‘hydrogenated’ and used to make hard margarines and processed foods such as cakes, biscuits and pastries. Foods that have ‘hydrogenated oils’ or ‘hydrogenated fat’ in the list of ingredients are likely to contain trans fats.

- **Eat oily fish regularly.** Oily fish provide the richest source of a particular type of omega-3 polyunsaturated fat that can help to lower blood triglyceride levels, help prevent the blood from clotting, and help to regulate the heart rhythm. Oily fish includes, for example, herring, mackerel, pilchards, sardines, salmon, trout and fresh tuna. Aim to have 2 portions of fish a week. One of these portions should be oily fish. If you have had a heart attack, aim to have 2 or 3 portions of oily fish a week, to help protect your heart. (1 portion of oily fish = 100 grams or 4 ounces of fish, or half a medium can of fish.)
If you don’t like oily fish, you can get omega-3 fats from vegetable sources such as flaxseed oil and rapeseed oil, and from some nuts and seeds such as walnuts and flax seeds. However, we do not yet know for certain if the omega-3 fats in these foods bring exactly the same benefits as the omega-3 fats from oily fish.

Or, you might want to take omega-3 supplements instead. It is important that you discuss taking supplements with your doctor or nurse first, so that he or she can make sure that they don’t interfere with any other drugs you are taking such as warfarin.
Choosing healthier fats

To help reduce your cholesterol level, you need to cut down on saturated fats and trans fats and replace them with monounsaturated and polyunsaturated fats. Omega-3 fats are good for your heart too.

Which foods are these fats found In?

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<td><strong>Monounsaturated fats</strong></td>
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<td><strong>Found in:</strong></td>
<td><strong>Found in:</strong></td>
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<tr>
<td>– olive oil and rapeseed oil</td>
<td>– corn oil, sunflower oil and soya oil</td>
</tr>
<tr>
<td>– avocado</td>
<td>– nuts and seeds (walnuts, pine nuts, sesame seeds and sunflower seeds)</td>
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<tr>
<td>– nuts and seeds (almonds, cashews, hazelnuts, peanuts and pistachios).</td>
<td>Some margarines and spreads are made from polyunsaturated fats.</td>
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<tr>
<td>SATURATED FATS</td>
<td>TRANS FATS</td>
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<tr>
<td><strong>Found in:</strong></td>
<td><strong>Found in:</strong></td>
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<tr>
<td>– ghee</td>
<td>– pastries</td>
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<tr>
<td>– coconut oil and palm oil</td>
<td>– cakes</td>
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<tr>
<td>– butter</td>
<td>– biscuits</td>
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<tr>
<td>– hard cheese</td>
<td>– crackers</td>
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<tr>
<td>– fatty meat</td>
<td>– hard margarines.</td>
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<tr>
<td>– meat products</td>
<td>Foods that have 'hydrogenated oils' or 'hydrogenated fat' or 'hydrgenated fat' in the list of ingredients are likely to contain trans fats.</td>
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<tr>
<td>– biscuits</td>
<td></td>
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<tr>
<td>– cakes</td>
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<td>– cream</td>
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<tr>
<td>– lard</td>
<td></td>
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<td>– dripping</td>
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<tr>
<td>– suet.</td>
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</table>
Other ways to improve your cholesterol levels

Eating a high-fibre diet

Eating foods that are high in ‘soluble fibre’ – such as lentils, dhal, pulses, nuts, porridge, beans, fruits and vegetables – can help lower cholesterol. A high-fibre diet also helps to fill you up – making you less likely to snack on fattening foods.

What about the cholesterol found in foods?

The cholesterol found in some foods – for example eggs, liver and kidneys, and some types of seafood such as prawns – does not usually make a great contribution to the level of cholesterol in your blood. If you need to reduce your cholesterol level, it is much more important that you eat foods that are low in saturated fat.
Doing regular physical activity – for example, brisk walking or cycling – for 30 minutes a day on at least five days a week can help improve your cholesterol level.

You can do the 30 minutes all in one go, or in shorter bouts of at least 10 minutes at a time. Being active can increase the level of HDL cholesterol (the ‘good’ cholesterol). It can also help lower your blood pressure, help you to maintain a healthy weight and reduce your risk of getting diabetes.

To get the most benefit, you need to be active enough to make you feel warm and slightly out of breath but still able to have a conversation. It’s important to build up gradually the amount of activity that you do.

Here are some examples of how you can start to include physical activity in your daily routine.

- Walk rather than using the car.
- Get off the bus or train a stop early and walk the rest of the way.
- Climb the stairs rather than using the lift.

For more about how to get more active, see our booklet *Looking after your heart* (see page 30).
Will I need to take cholesterol-lowering medicine?

Whether you need to take cholesterol-lowering drugs or not depends not just on your cholesterol levels, but also on your overall risk of coronary heart disease.

Doctors prescribe cholesterol-lowering medicines for people who are at greatest overall risk of suffering from coronary heart disease. So your doctor is likely to prescribe cholesterol-lowering drugs, such as statins:

- if you have diabetes
- if you have high blood cholesterol levels, particularly if you also have other risk factors – for example, if you have high blood pressure or you smoke
- if you have already had a heart attack or stroke
- if you have angina or peripheral arterial disease, or
- if you have had bypass surgery or angioplasty.

The higher your risk of coronary heart disease, the more likely it is that your doctor will recommend cholesterol-lowering drugs.

We explain more about the different types of cholesterol-lowering medicines on page 24.
How can medicines help?

**Statins** are the main type of drugs used to reduce cholesterol levels. If statins are not suitable for you, you may be given a different drug such as **ezetimibe**.

### Statins

Examples: simvastatin, pravastatin, rosvastatin, atorvastatin and fluvastatin.

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<th>What do they do?</th>
<th>Possible unwanted effects</th>
<th>Other information</th>
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| Statins can reduce total cholesterol levels by more than 20%, and LDL levels by more than 30%. Overall, they can reduce the risk of having a heart attack or stroke by about a quarter. | • Feeling sick or being sick  
• Diarrhoea  
• Headaches | Tell your doctor if you have any unexpected muscle pains, tenderness or weakness. |
| Statins can help to stabilise the atheroma (the build-up of fatty deposits) within the lining of the arteries and so reduce your risk of a heart attack or stroke. | A rare side effect of statins is inflammation of the muscles (myositis). | You may have a blood test before you start statins to check how well your liver is working. This test will be repeated regularly to make sure the statins are not affecting your liver. |

**Ezetimibe** is another drug that is used to reduce cholesterol levels. It prevents the intestine from absorbing cholesterol. Possible unwanted effects of ezetimibe include headaches, pain in the abdomen and diarrhoea.
As well as following the advice in this booklet for reducing your cholesterol level, there are other things you can do to reduce your risk of coronary heart disease.

- If you smoke, stop smoking.
- If you have high blood pressure, control it.
- Eat more fruit and vegetables. Aim to have at least 5 portions of a variety of fruit and vegetables every day.
- Keep to a healthy weight for your height.
- Cut down on salt.
- If you drink alcohol, drink it in moderation.

For more information, see our booklet *Looking after your heart* (see page 30).
What is familial hyperlipidaemia?

About 1 in 500 people in the UK have inherited a high blood cholesterol level due to a condition called familial hyperlipidaemia or FH. This condition is also sometimes called familial hypercholesterolaemia.

In people with FH, the way LDL cholesterol is removed from the blood circulation works only about half as effectively as normal. This means that their blood cholesterol level roughly doubles. So an adult with FH may have a cholesterol level of between 8 and 12 mmol/l, and sometimes much higher. Children and young women may have lower levels, but the level is usually above 6.7 mmol/l in children.

Having FH greatly increases the risk of getting coronary heart disease.

How is FH passed on?

FH is almost always inherited from a parent. (‘Familial’ means running in the family.) If you have FH, your brothers and sisters and your own children will each have an even (50/50) chance of having FH too.

If you have been told you have FH, it is important to ask other members of your family to talk to their doctor about this, and to have their blood cholesterol levels measured. Many people with FH are not obese and may not have any other risk factors for coronary heart disease. If you are related to someone with FH, don’t put off asking for a blood cholesterol test just because you feel you are fit and well at the moment.

Anyone with FH who has a child should find out as early as possible if their child has inherited FH. It is important to find out at least by the time the child is five because even at this age, healthy eating is important. As the child gets older, it is particularly important that he or she does not start to smoke.
What are the signs of FH?
If a child has a blood cholesterol higher than 6.7 mmol/l and has normal triglyceride levels, it is almost certain that he or she has FH.

If an adult has a total cholesterol over 7.5 mmol/l or has an LDL cholesterol above 4.9 mmol/l, along with a strong family history of coronary heart disease, as well as certain physical signs such as hard lumps in the tendons at the back of the ankles, they are likely to have FH.

Treatment for FH
The treatment for FH is very similar to the treatment used for other more common types of high blood cholesterol described on pages 10 to 24. FH is very unlikely to respond to diet alone, and many people will need to take cholesterol-lowering drugs as well as keeping to a healthy diet.

For more information
For more information on familial hyperlipidaemia (FH), contact:

Heart UK
7 North Road
Maidenhead
Berkshire SL6 1PE.
Helpline: 0845 450 5988
Website: www.heartuk.org.uk
Email: ask@heartuk.org.uk
For up-to-date information on coronary heart disease, the British Heart Foundation (BHF) and its services.

Heart Helpline
0300 330 3311
For information and support on anything relating to heart health. This service is available in English only.

Booklets
The following booklets are available in Bengali, Gujarati, Hindi, Punjabi and Urdu:

- Blood pressure – and how to control it
- Cholesterol – and what you can do about it
- Diabetes – and how it affects your heart
- Heart failure
- Living with angina and heart disease
- Looking after your heart
- Taking medicines for your heart

The following booklets are available in English only:

- Eating for your heart
- Healthy meals, healthy heart
- Physical activity and your heart
- Smoking and your heart
- So you want to lose weight … for good
**DVDS**

The following DVDs are available in Urdu, Hindi, Gujarati, Punjabi and Bengali. They are free, but a donation of £5 per DVD would be welcome.

- Living to prevent heart disease
- Get fit, keep fit – prevent heart disease
- Cardiac surgery
- Cardiac rehabilitation
- Affairs of the heart

**MAGAZINES**

*Heart & soul* is a glossy lifestyle magazine aimed at the South Asian community. This free magazine is packed full of information on leading a healthy lifestyle and features celebrities talking about their own health, delicious recipies and real-life stories. To receive your free copy call 0870 600 6566.

*Heart health* is a free magazine, produced by the BHF especially for people with heart conditions. The magazine, which comes out six times a year, includes updates on treatment, medicines and research and looks at issues related to living with heart conditions, like healthy eating and physical activity. It also features articles on topics such as travel, insurance and benefits. To subscribe to this free magazine, call 0300 330 3300 or go to [bhf.org.uk/hearthealthmag](http://bhf.org.uk/hearthealthmag)

**HOW TO ORDER**

The British Heart Foundation also produces other educational materials that may be of interest. To find out about these, to order a *Heart health catalogue*, or to order publications, please call the BHF Orderline on 0870 600 6566, go to [bhf.org.uk/publications](http://bhf.org.uk/publications) or email [orderline@bhf.org.uk](mailto:orderline@bhf.org.uk). You can download many of our publications from [bhf.org.uk/publications](http://bhf.org.uk/publications)

Our publications are free of charge, but we would welcome a donation.
**Technical Terms**

atheroma  Fatty deposits that can build up within the walls of the arteries.

atherosclerosis  The build-up of fatty deposits within the walls of the arteries.

cholesterol  A fatty substance mainly made in the body by the liver.

coronary heart disease  When the walls of the arteries become narrowed by a gradual build-up of fatty deposits called atheroma.

familial hypercholesterolaemia  Another term for ‘familial hyperlipidaemia’.

familial hyperlipidaemia or FH  An inherited condition in which the blood cholesterol level is very high.

HDL  The ‘good’ type of cholesterol.

hypertension  High blood pressure.

LDL  The ‘bad’ type of cholesterol.

lipids  Fatty substances in the blood.

mmol/l  Millimols per litre. Unit used for measuring cholesterol and other fats in the blood.

omega-3 fat  A type of polyunsaturated fat found in certain types of fish.

triglycerides  A type of fatty substance found in the blood.
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- Dr Sandy Gupta.

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**HAVE YOUR SAY**

We would welcome your comments to help us produce the best information for you. Why not let us know what you think? Contact us through our website at bhf.org.uk/contact. Or, write to us at the address on the back cover.
The British Heart Foundation is the nation’s heart charity, saving lives through pioneering research, patient care and information. We rely on donations to continue our vital work. If you would like to make a donation to the British Heart Foundation, please ring our donation hotline on 0300 330 3322 or contact us through our website at bhf.org.uk/donate or send it to us at the address below.

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