This is one of the booklets in the Heart Information Series. For a complete list of booklets, see page 37.

We welcome your comments on this booklet. Please fill in the feedback form on page 49.

We update this booklet regularly. However, you may find more recent information on our website bhh.org.uk
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About this booklet

This booklet is for people with a high blood cholesterol level, and for their family and friends. It explains:

- what cholesterol, lipoproteins and blood lipids are
- the role of cholesterol in coronary heart disease
- when a high blood cholesterol level matters
- what causes high blood cholesterol
- why smoking, physical inactivity and high blood pressure are important
- how blood cholesterol is measured
- how physical activity and healthy eating can help, and
- how medication can help.

It also gives information about the drugs that are used to treat high blood cholesterol levels, and about familial hyperlipidaemia (FH).

This booklet is not a substitute for the advice your doctor, dietitian or cardiologist (heart specialist) may give you based on his or her knowledge of your condition.
What are cholesterol, lipoprotein and blood lipids?

Cholesterol

Cholesterol is a fatty substance which is mainly made in the body. The liver makes it from the saturated fats in food. Very little cholesterol is found in foods, except for eggs, liver, kidneys, and seafood such as prawns, all of which do contain some cholesterol.

Cholesterol plays a vital role in how every cell wall works, throughout the body. It is also the material which the body uses to make other vital chemicals. However, too much cholesterol in the blood can increase your risk of getting coronary heart disease.

Cholesterol has a special 'transport system' for reaching all the cells which need it. It uses the blood circulation as its 'road system' and is carried on 'vehicles' made up of proteins. These combinations of cholesterol and proteins are called lipoproteins.

Lipoproteins.

There are two main forms of lipoproteins,

- Low density lipoproteins (LDL), which carry cholesterol from the liver to the cells,
High-density lipoproteins (HDL), which return the extra cholesterol that isn't needed to the liver.

**Blood Lipids**

You may also have heard the term "blood lipids." This is a name for all the fatty substances in the blood, including HDL cholesterol, LDL cholesterol and triglycerides.

If you have high levels of both triglycerides and blood cholesterol, you run a greater risk of coronary heart disease. The risk is particularly high if you also have a low level of HDL cholesterol and a high level of LDL cholesterol. (See the illustration on the next page.) A high level of triglycerides also increases the risk of coronary heart disease and stroke.
How cholesterol is carried around the body

Your body produces more cholesterol if:
+ you eat a diet that has a lot of saturated fat, or
+ you have an inherited tendency to have a high cholesterol level.

HDL cholesterol

HDL returns the extra cholesterol, which is not needed, to the liver.

LDL cholesterol

The amount of cholesterol removed from the blood circulation is regulated by the cells which need cholesterol. In people with familial hypercholesterolaemia (see page 30), the cholesterol is removed at a much slower rate.

If there is a high level of cholesterol in the blood, the artery walls take up too much LDL. The risk of this happening is greater if you smoke or have high blood pressure.