



## Cholesterol

Cholesterol is a body fat, or lipid. It is an important part of a healthy body, being a building block for steroids such as the sex hormones, and the hormones of the adrenal cortex. It is also the basis of the body's manufacture of bile salts.

Cholesterol is mainly produced in the liver, and has a further use in forming cell membranes and other needed tissues.

Cholesterol is carried in the blood by special molecules called lipoproteins. The three main forms of lipoproteins are:

- **Low density lipoprotein (LDL).** This is often known as 'bad cholesterol' and is thought to promote arterial disease. It carries cholesterol from the liver to the cells and can cause harmful cholesterol build-up if there is too much to be used up by the cells.
- **High density lipoprotein (HDL).** This is often referred to as 'good cholesterol', and may oppose arterial disease. It takes cholesterol away from the cells and back to the liver, where it's either broken down or excreted.
- **Triglycerides.**

The amount of cholesterol present in the blood can range from 3.6 to 7.8 mmol/litre. A level above 6 mmol/litre is regarded as high, and is a risk factor for arterial disease. Government advice recommends a target cholesterol level of under 5, but on average men in England have a level of 5.5, and women a level of 5.6.

Evidence strongly indicates that high cholesterol levels can cause narrowing of the arteries (atherosclerosis), heart attacks, and strokes. The risk of coronary heart disease also rises as blood cholesterol levels increase. When other risk factors, (such as high blood pressure and cigarette smoking), are present, this risk increases even more.

In atherosclerosis, deposits of fatty substances, cholesterol, cellular waste products, calcium and other substances build up in the inner lining of an artery. This build up is called plaque, and it usually affects arteries of small and medium size. The flow of blood through these arteries is restricted as the inside diameter is reduced. Clotting of the blood, which often happens in the coronary arteries during a heart attack, is most likely to develop when arterial walls are roughened by such plaques.