

Cholesterol.

The good and the bad.

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Cholesterol looks and feels like soft wax and is just one of a whole group of compounds called sterols, all of which are essential to life. We take in cholesterol through the foods we eat but we also manufacture it within our livers. It is a necessary chemical of life, helping us to make hormones and metabolic products. However, if we have too much in our blood then the excess begins to line our arteries leading to arteriosclerosis and blockage.

Amazingly we have known about cholesterol for over 150 years when it was first identified in human blood and found within 'fatty' arteries, but its role in causing disease is a relatively recent discovery. Most people are now aware of the fact that the amount of cholesterol in our blood stream influences our health and that too much can increase our chances of a heart attack or stroke in the long term. This association can help to explain why some countries have much more cardiovascular disease than others and, unfortunately, the UK sits at the top of the table - just like our average cholesterol levels.

But cholesterol isn't the whole story - it is one part of a jigsaw puzzle and needs to be looked at within the context of other risk factors such as tobacco smoking and raised blood pressure. If these are also present, then the risks of health problems can significantly increase.

Over 60% of the British population has a higher than recommended cholesterol level. Some people make too much, thanks to their genetics, but the majority of people have the ability to significantly improve their levels by modifying their lifestyles.

The most important factors are diet and exercise. It is well proven that even a small change in our levels can make a big improvement to our chances of avoiding cardiovascular disease. Experts know that each 1% reduction in blood cholesterol levels produces a 2% reduction in coronary heart disease.

Good Cholesterol and Bad Cholesterol

The story is more complex than just measuring the total cholesterol (i.e. the total amount of all cholesterol in the blood). Doctors have known for some time that the relative amounts of different types of cholesterol are also very important when determining if something needs to be done. In very simple terms, there is a good cholesterol and a bad type.

The Good Cholesterol - HDL

HDL (high density lipoprotein) cholesterol is called 'good' cholesterol as it contains a relatively small amount of cholesterol itself and seems to carry away harmful fatty deposits from our artery linings back to the liver for excretion. Many scientific studies have shown that it creates a protective effect and doctors are now beginning to understand that this cholesterol is more important than first thought. For some time, doctors wondered why some heart attack patients seemed to have normal cholesterol levels and recent evidence has shown that these individuals frequently have low HDL levels.

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The Bad Cholesterol - LDL

LDL (low density lipoprotein) cholesterol accounts for most (70%) of the cholesterol in our blood. In simple terms, it causes cholesterol to stick to the tissues of our body, including the lining of our arteries where it may actually begin to deposit. If this process continues then the arterial lining can thicken and affect the flow of blood or provide a surface for a blood clot to form. The fat in our arteries is mainly comprised of the harmful LDL cholesterol.

Triglycerides

These are another type of blood fat which are measured, because if they are raised they are thought to make the LDL cholesterol more harmful. These fats may have quite a different pattern from cholesterol. Some people may have normal levels of cholesterol but very high levels of triglycerides and vice versa. However, doctors generally agree that there is usually an association between triglycerides and raised cholesterol. A low level of triglycerides is desirable.

Being overweight and drinking too much alcohol can push up triglyceride levels. If you already have heart disease or have suffered a stroke, mini-stroke or heart attack, then it is even more crucial to ensure that your blood cholesterol levels are in the ideal ranges.

Can we improve our cholesterol levels?

The good news is that it is definitely possible to change our blood cholesterol levels and that this needn't be too difficult. Firstly, nearly all of us consume far too much fat in our diet - particularly saturated fat - and have grown used to this, so we don't notice it. Unfortunately, too much fat and especially saturated fat can increase cholesterol, particularly LDL cholesterol.

Saturated fats are found in dairy products, animal fats, palm kernel and coconut oils, 'shortening' and lard.

Ideally, less than 10% of our daily calories should be in the form of saturated fats. The average person consumes much more than this in the UK. Switching saturated fats to mono-unsaturated fats such as olive oil can actually lower total cholesterol whilst preserving the important HDL cholesterol. Regular physical exercise can also help by lowering total cholesterol and LDL cholesterol and increasing HDL cholesterol - even at moderate exercise levels - but it has to be consistent.

There is plenty of evidence that certain food types, namely soluble fibre (and in particular oat bran), can significantly reduce cholesterol levels. Investigations regarding oat bran have been conducted all over the world on both animals and humans and the results consistently show the significant effect oat bran has on lowering blood cholesterol levels. This is one of the reasons we strongly advise a diet high in fibre, particularly soluble fibre. We also know that the vitamin Niacin can help to reduce cholesterol. It is virtually impossible to develop coronary heart disease if your cholesterol level is below 3.8 mmol/L.

Studies show that it is possible to stop and even to reverse the build up of fatty deposits within artery walls so it's not too late. People can indeed lower their cholesterol levels and actually widen their narrowed coronary arteries by improving their diet and taking a more healthy approach to life.