

KIDNEYMATTERS

Information from the National Kidney Federation - supporting kidney patients, their friends & family

CHOLESTEROL AND KIDNEY DISEASE

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HELPLINE 0800 169 0936

What is cholesterol?

Cholesterol is a fatty substance, one of several different types of fat found in the body. It has several very important functions, and is carried around in the blood. If blood vessels are damaged, cholesterol can be deposited, eventually causing narrowing to the blood vessels. This is more likely to occur if the blood level of cholesterol is high.

Does the cholesterol level matter if I have kidney disease?

Yes, most definitely. People with kidney disease are more likely to have problems with narrowings in their blood vessels than otherwise healthy people, so that the cholesterol is very important. This applies even with minor abnormalities in the kidneys, when there is chronic kidney disease.

Problems with blood vessels in people with kidney disease may differ slightly from those in people with normal kidneys, because abnormalities with the minerals calcium and phosphate, and in vitamin D, may contribute to blood vessel disease. However, cholesterol remains an important factor.

How can someone with kidney disease help keep their blood vessels normal?

There is much more to keeping blood vessels healthy than just looking at the cholesterol level.

Attention needs to be paid to several areas:-

1. Stop smoking if you smoke. Smoking is more dangerous than having a slightly high cholesterol, and can cause cancers as well as accelerate disease of the blood vessels.
2. Lose weight, if you are overweight.
3. Take regular exercise and eat a healthy, balanced diet.
4. Make sure the blood pressure is controlled.

5. Control diabetes as well as possible, if you are diabetic.
6. Ask your doctor if you would benefit from taking a small dose of aspirin each day to thin the blood slightly.

What causes a high cholesterol level?

The cholesterol level depends on several factors. If someone has a high cholesterol level, other family members may also have high cholesterol levels. Some kidney conditions are associated with a high cholesterol, for example nephrotic syndrome (for more information on nephrotic syndrome in adults please call helpline), and after transplantation, partly due to the drugs used.

Diet also has a large effect on cholesterol levels. A diet high in fat and cholesterol may lead to a high cholesterol level. Someone who is very ill and malnourished may have an unusually low cholesterol level.

What is the ideal cholesterol level?

Research shows that low cholesterol levels are beneficial and the medical advice about ideal cholesterol levels is changing in line with ongoing research. The Renal Association in the UK has recommended (in 2010) that people with kidney disease who are at risk of disease in their blood vessels should have a total cholesterol level of less than 4.0 mmol/l.

Cholesterol is carried around the body in several different forms and as well as measuring the total cholesterol level, laboratories also measure other forms of cholesterol within the total level. One of those is HDL (high density lipoprotein) cholesterol, which includes cholesterol coming out of tissues and being taken back to the liver for 'recycling'. A higher level of HDL cholesterol is therefore a good thing.

LDL (low density lipoprotein) cholesterol is the fraction which is most strongly associated with cholesterol being laid down in blood vessels.

The Renal Association guideline says that the level of LDL cholesterol should be less than 2.0 mmol/l. These 'ideal' levels of cholesterol are quite low and not achievable in everyone; a reduction from the initial level of 25% for total cholesterol and 30% for LDL are recommended to be adequate by the Renal Association.

The Renal Association recommendations were made in 2010, the target levels given above are different from those in previous recommendations and differ from those in some other guidelines and will undoubtedly change in the future. So, if someone does have cholesterol levels just above these rather strict targets, they should discuss with their doctors the benefits of having lower cholesterol levels in their individual case.

What is the best diet for reducing cholesterol?

Changing the diet can have a powerful impact on blood cholesterol levels. The aim with diet is to reduce the intake of harmful fats, and to maintain a balanced diet with the right amounts of protein, carbohydrate, and fresh fruits and vegetables. The best diet varies in detail from person to person, and if a few obvious measures with diet do not reduce high cholesterol levels, it is often advisable to speak to a renal dietitian.

Foods that are high in cholesterol include dairy products, eggs, and the fatty parts of red meat. Many processed foods can contain a lot of cholesterol and the data on the labels should be checked. The type of fats that increase blood cholesterol levels are often called 'saturated fats', while 'unsaturated fats' (which include olive oil) may be less harmful. It is not just foods containing meat that may be high in fat, biscuits for example may be high. There is a free app which reads bar codes and can help to make healthier choices which is available on <http://www.foodswitch.co.uk/>

What drugs are used to reduce cholesterol?

If diet and losing weight do not bring the blood cholesterol down to acceptable levels, drugs may be used.

The type of drug most often used has an effect on the liver, reducing the production of cholesterol. The drugs are called 'statins'. There are several different drugs in the statin class, all with names ending in -statin. There are slight differences between the different statins, and the prescribing doctor will advise one that should suit someone best.

In many parts of the country there is a preferred statin drug, usually the most cost-effective, but if this does not suit someone an alternative may be used. All the statin drugs have side effects. Some people feel generally unwell with nausea or sickness, and may have to stop the drug if this persists. Statins can cause aches and pains in the muscles, this is a serious side effect and should be reported to a doctor immediately.

There are several other types of drug that may either be added to a statin, or used if a statin is not tolerated. These affect either the absorption of cholesterol from the food, or the way it is handled in the body.

All drugs used to treat cholesterol require monitoring with blood tests, and the doses may need to be increased over time to maintain a target blood level of cholesterol. The drugs are not a substitute for eating a low fat diet or losing weight or stopping smoking. It is important to keep up measures across all fronts to combat blood vessel disease.

Who should have drugs to lower cholesterol levels?

In people with kidney disease, statins are prescribed to those who have a risk of 20% (2 out of 10) or more of a heart attack or stroke over the next 10 years. This includes anyone who has already had a heart attack or stroke; otherwise the risk is estimated from age, sex, cholesterol and blood pressure levels and whether the person has diabetes. National guidelines on the treatment of cholesterol advice treating cholesterol with CKD staged 3 and 4. In more mild kidney disease doctors may estimate the risk of heart attacks and strokes and depending on this calculation, may consider whether a statin would be helpful.

This advice is based on the experience of senior kidney specialists as although statins have been proven to reduce the risk of heart attacks and strokes in people with kidney disease, those with severe kidney disease (including transplants) were not included in any of the research.

When researchers have looked at the effect of statins in people who are treated on dialysis, the benefit is less clear. Kidney doctors now often do not start statins once dialysis has started and sometimes even stop them. There is however, a clear benefit with chronic kidney disease, patients not on dialysis and in people with transplanted kidneys.

The National Kidney Federation cannot accept responsibility for information provided. The above is for guidance only. Patients are advised to seek further information from their own doctor.

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The NKF - the largest Kidney Patient charity in the UK

A federation of more than fifty patient charities, supporting kidney patients & carers

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