

Patient information from the BMJ Group

High cholesterol

You need cholesterol to stay healthy. In fact, your body makes a lot of its own cholesterol. But having too much of the wrong kind of cholesterol can increase your risk of heart disease or a stroke.

What is high cholesterol?

There are two kinds of cholesterol in your blood. Having a healthy cholesterol level means you don't have too much overall. It also means you have the right balance between the two types.

LDL cholesterol, or bad cholesterol, can build up in your blood vessels and cause blockages. This increases your risk of heart problems. The other type of cholesterol is called HDL, or good cholesterol. It helps to reduce the amount of bad cholesterol in your blood.

Doctors measure the amount of cholesterol in your blood using millimoles per litre, or mmol/l. For most people, the goal is to have a total amount of cholesterol (good and bad) under 5 mmol/l. Your amount of bad cholesterol should be under 3 mmol/l. Your doctor may suggest you try for an even lower level of cholesterol if you're at a high risk of heart problems or a stroke.

It's healthier to have at least 1 mmol/l of good cholesterol.

What are the symptoms?

High cholesterol doesn't cause any symptoms by itself. But the balance of cholesterol in your blood is important. Along with lots of other factors, your cholesterol level affects your chances of getting serious health problems such as heart disease.

A blood test can tell you your levels of good and bad cholesterol. You can have a cholesterol test done by a doctor or nurse or at a pharmacy. You may be asked not to eat anything and only drink clear liquids for 12 hours or so before your test. You'll usually need at least two tests to make sure the results are accurate. You may have other tests at the same time as your cholesterol check, such as tests for high blood pressure or diabetes.

You can get kits that test your cholesterol at home. But they may not be as accurate as a test done by a professional.

What treatments work?

There are several ways to help keep a healthy balance of cholesterol in your blood. You can change what you eat or make other changes to your lifestyle, or you can take medicines. Deciding what treatment you need is complicated. It won't just depend on the result of your cholesterol test. Your doctor will also need to know whether there are any

High cholesterol

other things that increase your risk of heart disease or a stroke. These could include having diabetes or high blood pressure, being a smoker, being overweight, or having a family history of heart disease or strokes.

Changing what you eat

The amount of fat you eat can affect your cholesterol level. This doesn't mean that all fat is bad. You just need to be careful about the types of fat you eat.

The less healthy kinds of fat are called saturated fats and trans fats. Saturated fats are found in meat and dairy products. Trans fats are found in some fast foods, biscuits and baked goods. In general, less healthy types of fat are solid at room temperature. Healthier types tend to be liquids, like olive oil and vegetable oil. These healthier types of fat are called polyunsaturated or monounsaturated fats.

There's some research to show that **eating less saturated and trans fats** can reduce your cholesterol level and cut your risk of a heart attack or stroke slightly. A low-fat diet involves lots of fruit and vegetables, lean cuts of meat and poultry, and fat-free or low-fat dairy products. You should also avoid sugary soft drinks, sweets, and baked goods. You'll need to stick to your diet for several years.

There's also some research to show that, for people who already have heart disease, a **Mediterranean diet** can lessen the risk of getting more heart problems. A Mediterranean diet means eating more fruit and vegetables, bread, pasta, potatoes, and olive oil, but eating less meat, butter, and cream.

Some doctors think that the fats found in oily fish, called **omega-3 fatty acids**, can be good for you. You can get fish oil supplements from a pharmacy, or simply eat more oily fish, such as salmon and mackerel. But there's not enough research to know whether or not eating oily fish affects your cholesterol level.

Medicines

Statins are the best drug treatment for high cholesterol. Statin drugs include atorvastatin (brand name Lipitor), rosuvastatin (Crestor), and simvastatin (Zocor).

Whether your doctor suggests statins will depend on your overall risk of heart disease or a stroke. One recent summary of the research found that statins might have little or no short-term benefit for people without heart disease. The higher your risk, the more likely statins are to help you. If your risk is lower, you and your doctor may decide that it's not worth starting drug treatment.

You can get a low dose of simvastatin from a pharmacist without a prescription. It's only recommended for people with a moderate risk of a heart attack. If your risk is higher, your doctor can prescribe a larger dose.

One study found that, if you take a statin for about five years, your chance of having a heart attack or a stroke falls by about one-third. It didn't matter what people's cholesterol level was to start with. But this study only included men, so we don't know whether statins help women in the same way.

High cholesterol

Statins may offer a bigger benefit if you already have heart disease. For people with heart disease, taking a statin for five years can reduce your chance of dying of a heart attack or stroke by between one-quarter and one-half. This benefit applies to men and women.

Statins can cause side effects, but they're rare. You'll have blood tests every so often to make sure treatment doesn't damage your liver. Some people who take statins get muscle pains or muscle damage. One study found this happened to less than 1 in 1,000 people. Tell your doctor if you notice any muscle pain or weakness.

Two other types of drug, called **fibrates** and **resins**, can also be used to treat high cholesterol. But for most people, these drugs aren't as good as statins. **Colesevelam** (Cholestagel) is another cholesterol drug. It's usually used together with a statin.

Ezetimibe (Ezetrol) is a newer drug that stops your body absorbing as much cholesterol from the food you eat. It's usually given together with a statin. It's sometimes used for people who have high cholesterol because of the genes they've inherited from their parents.

A type of vitamin B called **niacin** can be used to treat high cholesterol, but it's not used much any more. It can cause side effects, and other treatments work better. You can buy niacin from a pharmacy, but the doses used for high cholesterol are much higher than you get in most vitamin supplements. Talk to your doctor if you're interested in this treatment.

Things you can do to help yourself

Apart from the food you eat, there are several other things you can change to help reduce your cholesterol level and make you healthier.

If you smoke, try to give up. Stopping smoking can increase the amount of good cholesterol in your blood, which can lower your risk of a heart attack or stroke.

It's also a good idea to avoid drinking lots of alcohol. However, drinking in moderation is unlikely to do most people any harm.

Exercise doesn't help to get rid of cholesterol exactly, but it does reduce the amount of other harmful fats in your blood. Exercise can also make you healthier in general. So, if your doctor thinks you may be at risk of a heart attack or stroke, he or she may recommend that you take more exercise. Exercise can also help you stay at a healthy weight. Being overweight increases your risk of having high cholesterol.

What will happen to me?

If you have a high cholesterol level, lowering it is usually a good idea. Reducing your level of bad cholesterol can cut your risk of some serious health problems.

However, it's very difficult to say what's best for you in particular. Your risk of heart disease or a stroke depends on lots of things, not just your cholesterol level. If there's nothing wrong with you apart from a slightly high cholesterol level, your doctor might not be too

High cholesterol

worried. If you have high blood pressure as well as high cholesterol and a family history of heart disease, lowering your cholesterol may be very important. You'll need to talk to your doctor to decide what's best. You can also talk about whether changes to your diet and lifestyle are best, or whether you need drug treatment.

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