

## WHAT ARE STATINS ?



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## **What are statins?**

Statins are a group of medicines that lower blood cholesterol levels. They work in the liver to reduce the synthesis of blood cholesterol. There are at least five different statin medicines available in the UK. Their drug names always end in -statin. The recommended first choice of statin for most people is atorvastatin.

Atorvastatin is taken once daily. Atorvastatin is usually prescribed with directions to be taken at night, but it can be taken at any time of the day. With or without, food or a meal.

## **What are the benefits of statins?**

Statins reduce cholesterol levels in the blood. This contributes to the slowing, and in some people reversing, the build-up of cholesterol in the blood vessels that pump away from the heart to the rest of the body (the arteries).

Over time (usually a period of years) a build-up of cholesterol in the arteries can narrow and or harden the arteries. This can lead to partial or full blood clots in the arteries and cause cardiovascular events.

## **What is cardiovascular disease?**

Cardiovascular disease is a broad term that includes conditions and events that are associated with the blood vessels that take blood away from the heart (the arteries).

Examples of cardiovascular disease conditions or events are:

- heart attacks (myocardial infarction)
- transient ischaemic attacks (mini stroke)
- strokes (ischaemic strokes)
- poor blood flow in the arteries that take blood to the legs and feet (peripheral vascular disease)

The risk of cardiovascular disease increases with smoking, age, raised blood pressure, raised cholesterol, a family history of cardiovascular disease, and previous cardiovascular disease or events.

There is lots of evidence that Chronic Kidney Disease (CKD) is a risk factor for cardiovascular disease.

## **What is cholesterol and what are the different types of cholesterol?**

Cholesterol is a type of fat found in foods and synthesized in our bodies by the liver. Traditionally laboratory tests used to measure total blood cholesterol. It is now important to measure the individual components that make up total blood cholesterol.

We now know that it is important to reduce the levels of 'bad' cholesterol and increase the levels of 'good' cholesterol.

Good cholesterol is made up of:

- HDL cholesterol (high-density lipoprotein cholesterol)

Bad cholesterol is made up of:

- LDL cholesterol (low-density lipoprotein cholesterol)
- Triglycerides

Together these are called non-HDL cholesterol.

Adding these three components together gives a person's total cholesterol:

Total cholesterol = LDL cholesterol + triglycerides + HDL cholesterol

Current evidence tells us that it is important to reduce the levels of the bad (non-HDL) cholesterol and increase the levels of good (HDL) cholesterol.

Cholesterol can vary from day to day and can be higher in the time after eating a meal. However, as with many blood tests results, it is trends over time that are useful rather than a single result. Cholesterol can vary from day to day and can be higher in the time after eating a meal. However, as with many blood tests results, it is trends over time that are useful rather than a single result.

## **Why would I be prescribed statins?**

Statins reduce the risk of cardiovascular disease when taken for a long period of time. For many people statins are a long-term treatment (usually a period of years).

Chronic Kidney Disease (CKD) is a risk factor for a cardiovascular disease. National guidelines recommend patients with CKD stages 3a to 5 or those with raised protein in the urine (albuminuria) should be prescribed a statin.

Patients with CKD at earlier stages and those on kidney replacement therapy (including dialysis and kidney transplant) are likely to benefit from being prescribed a statin too.

My cholesterol and blood pressure are perfect; so I'm not sure why doctor is prescribing me statins?

For people with CKD without previous cardiovascular events prescribing a statin regardless of their cholesterol levels will help to reduce the risk of cardiovascular events in the future.

If after 2-3 months, your level of 'bad' cholesterol (non-HDL cholesterol) should have reduced by at least 40% from baseline (the level it was at before starting statin treatment). If your level has not reduced your doctor or specialist may increase your statin dose.

In some areas of the country, it may be that the non-HDL cholesterol or LDL cholesterol levels are used as the target to achieve a satisfactory level for reducing the risk of cardiovascular events:

- non-HDL cholesterol less than 2.5 mmol/L
- LDL cholesterol than 1.8 mmol/L

### **Can statins damage my kidneys?**

Rhabdomyolysis is a rare side effect of statins where the body's muscles can become inflamed and damaged. Severe rhabdomyolysis can lead to kidney damage. Speak to your doctor or pharmacist if you have muscle pain, tenderness or weakness that can't be explained – for example, pain that is not caused by physical work.

### **What if I cannot take a statin?**

Sometimes trying a different statin can be helpful. Other options include reducing the dose after temporarily stopping the statin or using an alternative medicine that can be prescribed for patients with Chronic Kidney Disease (CKD) too.

Are there any medicines or foods I need to be careful with or avoid if I am taking statins?

Statins can react unpredictably with certain other medicines and herbal remedies (known as interacting), potentially increasing the risk of serious side effects, such as muscle damage.

### **Medicines that can interact with statins include:**

certain antibiotics and antifungals

certain HIV medicines

ciclosporin – a medicine that suppresses the immune system and is used to treat a wide range of conditions, including psoriasis and rheumatoid arthritis.

verapamil and diltiazem – types of medicine called calcium channel blockers, which are used to treat various conditions affecting the heart and blood vessels

amiodarone – a medicine sometimes used to treat arrhythmia (irregular heartbeats)

fibrates – medicines that, like statins, help reduce cholesterol levels in the blood

roxadustat – a type of medicine that can increase the levels of haemoglobin for anaemia in CKD

If you are taking statins and need to take one of these medicines, you may be prescribed an alternative statin or your current statin at a lower dosage. In some cases, they may recommend that you temporarily stop taking your statin. Please speak to your health professional if you have any concerns or questions about your other medicines with statins.

Food and herbal remedies that can interact with some types of statins include:

Grapefruit juice can affect some statins and increase your risk of side effects. You may be advised to avoid it completely or only consume small quantities.

*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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