

Cardiovascular Risk Score (QRISK2)

You have recently had a blood test to measure your cholesterol levels.

It is known that high cholesterol levels can increase the risk of developing cardiovascular disease, such as heart attacks, stroke and peripheral vascular disease.

However, cholesterol is only one factor that can affect your risk of developing cardiovascular disease, therefore we use a tool called QRISK2 to calculate your chance of having a heart attack or stroke in the next 10 years. The higher the score, the greater your risk.

The other risk factors for cardiovascular disease include:

- Age
- Gender
- Ethnicity
- Blood pressure
- Body Mass Index (height, weight)
- Smoking
- Alcohol intake
- Medical reasons such as having diabetes, rheumatoid arthritis, chronic kidney disease.
- Family history of heart disease (in relatives under 60 years)

Some of these factors are influenced by our lifestyle choices.

What does the QRISK2 score mean?

Your personalised QRISK2 Score is included on the text message you have received.

Risk is the chance of something happening. The risk of developing cardiovascular disease is never zero and increases as we get older.

- **Low risk** = QRISK2 score of less than 10% - this means you have less than a one in ten chance of having a heart attack or stroke in the next 10 years
- **Moderate risk** = QRISK2 score of 10-20% - this means you have between a one to two in ten chance of having a heart attack or stroke in the next 10 years
- **High risk** = QRISK2 score of more than 20% - this means you have at least a two in ten chance of having a stroke or heart attack in the next 10 years.

If you have a QRISK over 10%, you could make some lifestyle changes to help reduce your risk and you could consider taking a medication called a statin.

The decision on whether to take a statin or not will depend on your personal attitude to risk and taking medication (please see the statin decision aid information).

It is important to remember that taking a statin is not a substitute for making lifestyle changes. Lifestyle changes will always bring the highest benefits to your health.

Should I Take a Statin?

This decision aid can help you if you are thinking about taking a statin. It is for people who do not already have heart disease and have not had a stroke. You can use it to help you to talk about your options with your healthcare professional (such as your doctor, pharmacist or nurse).

There are advantages and disadvantages to taking a statin, which this decision aid explains. It is important that you make a decision that is right for you.

You might want to think about:

- [What are heart disease and stroke?](#)
- [What is my risk of heart disease or stroke?](#)
- [What can I do to reduce my risk?](#)
- [How could a statin help?](#)
- [What does taking a statin involve?](#)
- [How much will a statin reduce my risk?](#)
- [What are the possible side effects of statins?](#)

Your healthcare professional can help with questions you may have.

What are heart disease and stroke

Heart disease includes heart attacks and angina. Heart attacks happen when the blood supply to the heart muscle is suddenly blocked. Angina is chest pain caused by reduced blood flow to the heart muscle. A stroke can happen when the blood supply to part of the brain is cut off. A short-lived cut in blood supply is called a transient ischaemic attack or TIA (often called a 'mini-stroke').

These blockages or reduced blood flow are often caused by a build-up of cholesterol in blood vessel walls.

Angina can make it difficult to do everyday things because the chest pain happens when your heart has to beat faster (such as when you climb stairs, lift things or when you are stressed).

Heart attacks and strokes need urgent treatment and can be life threatening. People who survive them are often left with long-term health problems and disability.

You can find out more from the section on [cardiovascular disease on the NHS website \(www.nhs.uk\)](#).

What is my risk of heart disease or stroke?

QRISK looks at things like your age, sex, height, weight, blood pressure and cholesterol level. The tool gives your risk as a percentage (%). The bigger the percentage the greater your risk. Whatever your risk is now, it will increase as you get older.

For example, if your risk is 20%, then in a crowd of 100 people with the same 20% risk as you, over the next 10 years we would expect that 20 of them would get heart disease or have a stroke and 80 would not. But we cannot say for sure what will happen to any specific person. Nor can we say when in the 10 years the heart disease or stroke might happen if it does.

Another way of thinking about this is to say that, if your risk is 20%, then out of 100 possible futures for you, 20 of them involve you getting heart disease or having a stroke at some point in the next 10 years and 80 do not. But we cannot say which of those futures will actually happen to you.

QRISK is a good guide but no estimate is perfect. It cannot take account of what other things might happen to you. So when you are thinking about your risk of heart disease or stroke in the next 10 years, you also need to think about your age and your health overall.

What can I do to reduce my risk?

Lifestyle Changes that can help reduce your risk of cardiovascular disease.

1. Stop smoking

More information for local stop smoking services can be found on the following link:

<https://www.nottinghamshire.gov.uk/care/health-and-wellbeing/stopping-smoking> Telephone 0115 772 2515

2. Keep active

People who exercise regularly have a lower risk of developing many long-term conditions, such as heart disease, type 2 diabetes, stroke, and some cancers.

Research shows that physical activity can also boost self-esteem, mood, sleep quality and energy, as well as reducing your risk of stress, clinical depression, dementia and Alzheimer's disease.

Physical guidelines for adults aged 19-64

<https://www.nhs.uk/live-well/exercise/exercise-guidelines/physical-activity-guidelines-for-adults-aged-19-to-64/>

Physical guidelines for older adults

<https://www.nhs.uk/live-well/exercise/exercise-guidelines/physical-activity-guidelines-older-adults/>

3. Eat a healthy balanced diet

Try to reduce the number of processed foods you eat, have more foods that contain good fats (such as oily fish, olive oil, avocado, nuts, eggs), eat less sugar, less carbohydrate (such as bread, potatoes, pasta, and rice), eat more vegetables and some fruit, less salt and keep well hydrated.

4. Maintain a healthy weight

<https://www.nhs.uk/live-well/healthy-weight/bmi-calculator/>

under 18.5	This is described as underweight
between 18.5 and 24.9	This is described as the 'healthy range'
between 25 and 29.9	This is described as overweight
between 30 and 39.9	This is described as obesity
40 or over	This is described as severe obesity

5. Reduce your alcohol intake

Aim for less than 14 units a week.

More information is available at: <https://www.nhs.uk/live-well/alcohol-advice/calculating-alcohol-units/>



Your Health Notts

Nottinghamshire's Integrated Wellbeing Service can help all residents of Nottinghamshire get more active, eat healthier, manage your weight, drink less alcohol and stop smoking. They offer realistic and practical support for people to make life long healthy behaviour changes.

You can find out more about these from the <https://www.nhs.uk/live-well/>

If you have high blood pressure (also called hypertension), you could think about taking medicines to lower this. This would also help reduce your risk of heart disease and stroke. Your healthcare professional can explain more and you can find out more about [hypertension on the NHS website](#).

How could a statin help?

Statin are medicines that lower the level of cholesterol in your blood. This makes it less likely you will get heart disease or have a stroke. They help stop the build-up of cholesterol in the blood vessel walls that can lead to reduced blood flow or blockages.

The most commonly used statin is called atorvastatin. Other statins include rosuvastatin and simvastatin.

You may prefer to see if you can reduce your risk of heart disease and stroke by making changes to your lifestyle on their own. They might bring your QRISK score down to a level you feel comfortable with. Or you could try them and also take a statin. A statin would bring your risk down further. But it is not possible to remove your risk of heart disease or stroke completely. It is your choice whether or not to make lifestyle changes, and whether or not to take a statin. But if you do not, your risk of heart disease and stroke will not reduce and may increase in the

What does taking a statin involve?

You would need to take a statin tablet every day for it to work. You would usually keep taking it long term (for many years). You can stop taking it whenever you want, but the benefits from it would also stop. You may have to pay a prescription charge.

You can find out more about <https://www.nhs.uk/nhs-services/prescriptions-and-pharmacies/>

If you decide to take a statin you will usually have a blood test before you start and again after 3 months. Your healthcare professional will talk to you about your treatment every year and you might have a blood test as part of that.




How much will a statin reduce my risk?

Taking a statin means you are less likely to get heart disease or have a stroke. The higher your risk to start with, the more likely you are to benefit. But some people who take a statin will still get these problems, and some people who take a statin would not have got them anyway. We cannot say for sure what will happen to any specific person.

The dose of the statin will also affect the size of the benefit. The diagram below shows the effect of a statin at the dose recommended by NICE for people with a QRISK score of 20%.



If 100 people take a statin, over 10 years on average:

-  about 80 people will not get heart disease or have a stroke, but would not even if they had not taken a statin
-  about 7 people will not get heart disease or have a stroke because they take a statin
-  about 13 people will get heart disease or have a stroke even though they take a statin

There are diagrams for other QRISK scores on [pages 8 to 11](#). You only need to look at the diagram for the QRISK score nearest to your own.

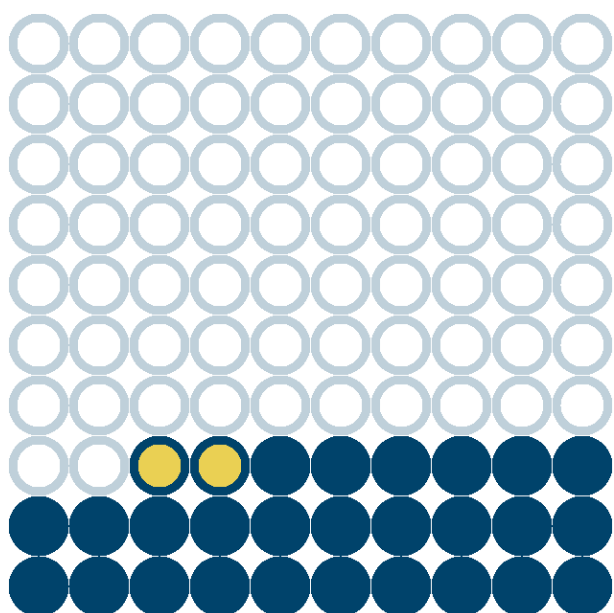
What are the possible side effects of statins?

Like all medicines, statins can cause side effects in some people, but not everyone gets problems. We cannot say for sure what will happen to any specific person.




If you get problems after starting your statin, talk to your healthcare professional. If one statin does not suit you, you could try another one, which might suit you better.

Muscle pain

Statins can cause muscle pain, but many people get muscle pain from time to time whether they take a statin or not. The diagram below shows the results from many large studies. Muscle pain caused by statins tends to happen in the first year of treatment.



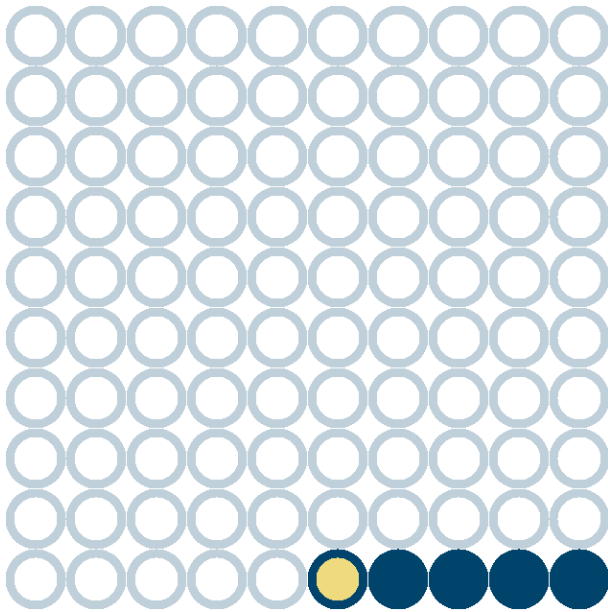
On average, for every 100 people who took a statin:

-  about 72 people did not get muscle pain
-  about 26 people got muscle pain but would have done if they had not taken a statin
-  about 2 people got muscle pain because they took a statin




More rarely, people can get severe muscle damage. This happens anyway to about 3 in 10,000 people who do not take statins (so 9,997 people do not get this). If all 10,000 people took a statin, on average an extra 3 people would get severe muscle damage and 9,994 would not get severe muscle damage.

Diabetes

If you do not have type 2 diabetes, taking a statin increases your chance of getting it. But statins do not cause diabetes in most people. The diagram below shows the average results of many large studies, most lasting about 4 or 5 years. The risk for you will depend on how likely you are to get type 2 diabetes anyway. Even if you do get diabetes, the statin will still reduce your risk of heart disease and stroke.



On average, for every 100 people who took a statin:

-  about 95 people did not get type 2 diabetes
-  about 4 people got type 2 diabetes but would have done if they had not taken a statin
-  about 1 person got type 2 diabetes because they took a statin

Other problems

Some people who take statins find they have problems including constipation, diarrhoea, or feeling sick. Other people have headaches or changes to their sleep patterns. These problems often get better after you have taken the statin for a while.

We cannot give precise figures on how many people get these problems, but although some people get them, many people do not. We also do not know how many people would have had those problems even if they had not taken a statin.

Other less common possible side effects are listed in the information that comes with the medicine. Because concerns have been raised in the past, NICE looked at whether statins might cause dementia. There is no good evidence that statins do this (but some people who take statins will get dementia, just as they would have done even if they had not taken a statin).

Making a decision

Talk to your healthcare professional about what you would like to do. It's your choice, and you should make a decision that you feel is right for you. Whatever you decide, you can change your mind later.

This decision aid is about your risk of heart disease or stroke in the next 10 years. You also need to think about your age, your health overall and what matters most to you over that time.

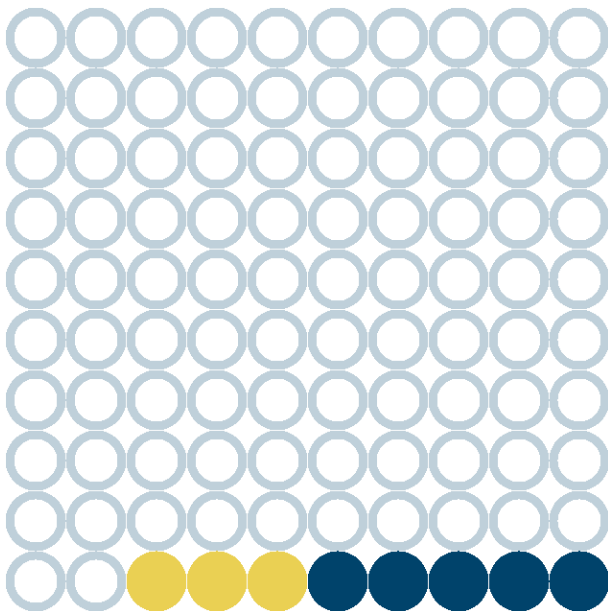
Things to check:

- Do you feel sure about the best choice for you?
- Do you know the benefits and risks of taking a statin or not taking one, and about making changes to your lifestyle?
- Are you clear about which benefits and risks matter most to you?
- Do you have enough support and advice to make a decision?

Effect of a statin on your risk of heart disease or stroke over the next 10 years

If your QRISK score is 8% over the next 10 years

On average, for every 100 people with this risk score who do not take a statin, over 10 years 8 people will get heart disease or have a stroke and 92 will not.



If 100 people take a statin, over 10 years on average:

- about 92 people will not get heart disease or have a stroke, but would not even if they had not taken a statin
- about 3 people will not get heart disease or have a stroke because they take a statin
- about 5 people will get heart disease or have a stroke even though they take a statin




We cannot say for sure what will happen to any specific person

If your QRISK score is 10% over the next 10 years

On average, for every 100 people with this risk score who do not take a statin, over 10 years 10 people will get heart disease or have a stroke and 90 will not.



If 100 people take a statin, over 10 years on average:

-  about 90 people will not get heart disease or have a stroke, but would not even if they had not taken a statin
-  about 4 people will not get heart disease or have a stroke because they take a statin
-  about 6 people will get heart disease or have a stroke even though they take a statin




We cannot say for sure what will happen to any specific person

If your QRISK score is 15% over the next 10 years

On average, for every 100 people with this risk score who do not take a statin, over 10 years 15 people will get heart disease or have a stroke and 85 will not.



If 100 people take a statin, over 10 years on average:

-  about 85 people will not get heart disease or have a stroke, but would not even if they had not taken a statin
-  about 5 people will not get heart disease or have a stroke because they take a statin
-  about 10 people will get heart disease or have a stroke even though they take a statin




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If your QRISK score is 20% over the next 10 years

On average, for every 100 people with this risk score who do not take a statin, over 10 years 20 people will get heart disease or have a stroke and 80 will not.



If 100 people take a statin, over 10 years on average:

-  about 80 people will not get heart disease or have a stroke, but would not even if they had not taken a statin
-  about 7 people will not get heart disease or have a stroke because they take a statin
-  about 13 people will get heart disease or have a stroke even though they take a statin




We cannot say for sure what will happen to any specific person

If your QRISK score is 25% over the next 10 years

On average, for every 100 people with this risk score who do not take a statin, over 10 years 25 people will get heart disease or have a stroke and 75 will not.



If 100 people take a statin, over 10 years on average:

-  about 75 people will not get heart disease or have a stroke, but would not even if they had not taken a statin
-  about 9 people will not get heart disease or have a stroke because they take a statin
-  about 16 people will get heart disease or have a stroke even though they take a statin




We cannot say for sure what will happen to any specific person

If your QRISK score is 30% over the next 10 years

On average, for every 100 people with this risk score who do not take a statin, over 10 years 30 people will get heart disease or have a stroke and 70 will not.



If 100 people take a statin, over 10 years on average:

-  about 70 people will not get heart disease or have a stroke, but would not even if they had not taken a statin
-  about 11 people will not get heart disease or have a stroke because they take a statin
-  about 19 people will get heart disease or have a stroke even though they take a statin




We cannot say for sure what will happen to any specific person

If your QRISK score is 35% over the next 10 years

On average, for every 100 people with this risk score who do not take a statin, over 10 years 35 people will get heart disease or have a stroke and 65 will not.



If 100 people take a statin, over 10 years on average:

-  about 65 people will not get heart disease or have a stroke, but would not even if they had not taken a statin
-  about 13 people will not get heart disease or have a stroke because they take a statin.
-  about 22 people will get heart disease or have a stroke even though they take a statin




We cannot say for sure what will happen to any specific person

If your QRISK score is 40% over the next 10 years

On average, for every 100 people with this risk score who do not take a statin, over 10 years 40 people will get heart disease or have a stroke and 60 will not.



If 100 people take a statin, over 10 years on average:

-  about 60 people will not get heart disease or have a stroke, but would not even if they had not taken a statin
-  about 15 people will not get heart disease or have a stroke because they take a statin
-  about 25 people will get heart disease or have a stroke even though they take a statin

We cannot say for sure what will happen to any specific person

Technical information about this decision aid

This decision aid supports implementation of [NICE's guidance on cardiovascular disease: risk assessment and reduction, including lipid modification](#). It was developed in line with the [NICE process guide for decision aids](#), with an oversight group that included clinical and patient experts. A wide range of stakeholders, including patient and professional groups, was invited to comment on an earlier draft.

The content is based on the best available evidence and the oversight group's experience and expertise. It is based on modelling the effect of high-intensity statins (that is, obtaining a 40% or greater reduction from baseline in non-HDL cholesterol) on the QRISK composite outcome using the data and methods in the guideline evidence review. Details of the modelling used are available in [appendix L of guideline evidence review C](#).

References

1. Cardiovascular disease: risk assessment and reduction, including lipid modification. NICE guideline CG181 [Evidence review C statins: efficacy and adverse effects](#) (2023)
2. [British National Formulary](#). Accessed February 2023
3. Légaré F, Kearing S, Clay K, Gagnon S, D'Amours D, Rousseau M, O'Connor A (2010) [Are you SURE? Assessing patient decisional conflict with a 4-item screening test](#). Canadian Family Physician 56:e308-e314

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