

Atrial fibrillation and medicines to reduce your risk of stroke

Atrial fibrillation and stroke

Atrial fibrillation (AF) is a condition that affects the heart, causing it to beat irregularly and too fast. When this happens, blood does not flow properly through the heart and the rest of the body. This means that people with AF may be at increased risk of blood clots. Blood clots can block blood vessels. A stroke can happen if a blood vessel in the brain is blocked by a clot. This is the most common type of stroke, called an **ischaemic stroke**. Without a good blood supply, brain cells can be damaged or destroyed because they do not receive enough oxygen (which is carried by the blood). A stroke can affect many different body functions, depending on the part of the brain that is involved.

The symptoms of stroke can include:

- Numbness
- Weakness or lack of movement on one side of the body
- Slurred speech
- Difficulty finding words or understanding speech
- Problems with vision
- Confusion.

Sometimes a stroke is so severe it can kill the person straight away. Blood clots that result from AF can also sometimes cause problems by blocking blood vessels in other parts of the body. Depending on where in the body that happens, different organs might be seriously damaged because they do not receive enough oxygen.

Treatment options to reduce your risk of having a stroke

Medicines called '**anticoagulants**' can be used to reduce a person's risk of having an ischaemic stroke caused by their AF. Anticoagulants reduce the clotting ability of the blood (sometimes called 'thinning the blood'). This reduces the risk of a blood vessel in the brain, and elsewhere in the body, becoming blocked by a clot. Treatment with an anticoagulant is usually long term.

You can choose whether to take an anticoagulant or not. If you decide to take one, you will then need to decide which one you want to use. Your doctor will give you information and support you in making this decision.

If you choose to take an anticoagulant, you can choose warfarin or one of the non-vitamin K antagonists such as apixaban, dabigatran, rivaroxaban or edoxaban. Warfarin has been used for many years to reduce the risk of stroke in people with AF. It belongs to a group of drugs called vitamin K antagonists. Apixaban, dabigatran, rivaroxaban and edoxaban work in a different way from warfarin, and they are often referred to as non-vitamin K antagonists, or NOACs for short.

A table answering some common questions about these different anticoagulants is included at the end of this leaflet on pages 5 -7.

Risk of major internal bleeding

Making the blood take longer to clot reduces the risk of having an ischaemic stroke. But blood clots are also the body's way of stopping the bleeding if you have an injury.

Although anticoagulants can reduce your risk of ischaemic stroke, they also increase the risk of bleeding because they thin the blood. Bleeding such as nose bleeds and bruising can occur more easily. Major (serious, excessive) internal bleeding is possible if someone is having an operation.

Major bleeding is most dangerous if it happens in the brain. This can cause another type of stroke called a haemorrhagic stroke. Bleeding can also happen elsewhere in the body, such as in the gut. Major bleeding outside of the brain usually needs to be treated with a blood transfusion. Sometimes major bleeding can be fatal, especially if it happens inside the brain or if it is not treated straight away.

Deciding on your treatment

All the different anticoagulants reduce your risk of having an ischaemic stroke caused by your AF, but they also increase the risk that you will have major bleeding, which might even include a haemorrhagic stroke. Each treatment also has advantages and disadvantages that need to be considered. This leaflet is intended to give you information about these advantages and disadvantages to help you and your health professional make the best choice for you.

Not all of the treatment options may be suitable or possible for you. It will depend on your particular circumstances and other medical conditions that you may have, for example if you have certain types of kidney problems.

There is a lot of information to think about before you decide whether to take an anticoagulant or not, and if so, which one you want to use.

If you have just been diagnosed with AF you will need to make a decision soon (preferably within a few days), but most people do not have to make a decision immediately.

Treatment with an anticoagulant is usually long term, so it is important that you are happy with your choice. Once you have made a choice, you can change your mind later if you wish or if your situation changes. Your risk of having a stroke and having major bleeding can also change over time, so your healthcare professional will review your risk once a year. If you decide not to take an anticoagulant now, you should think about this decision again then.

What does National Institute for Health and Care Excellence (NICE) recommend?

NICE recommends that most people with AF should think about taking an anticoagulant, taking into account how likely it is that they might have an ischaemic stroke and how likely it is that they might have major bleeding. NICE recommend that healthcare professionals use risk scores to estimate your risk of stroke (called the CHA₂DS₂-VASc) and risk of bleeding (called the HAS-BLED). The risk scores are based on factors such as your age and

whether you have other medical conditions. The higher the score, the more likely it is that you will have either a stroke or major bleeding. However, it is important to remember that:

- No one can tell what will happen to an individual person.
- Even if your scores on either system are low or zero, you might still have an ischaemic stroke or major bleeding.
- If your scores are high it does not mean that you will definitely have an ischaemic stroke or major bleeding.
- Taking an anticoagulant will save some people from having an ischaemic stroke caused by their AF, but some people will still have a stroke even though they take the anticoagulant.
- Although taking an anticoagulant increases the risk of major bleeding, this will not happen to many people taking this medicine; some people will have major bleeding even if they don't take an anticoagulant.

Please ask your healthcare professional to record your risk scores below:

My CHA₂DS₂-VASc (risk of stroke) score is	
My HAS-BLED (risk of bleeding) score is	

The tables on the following page help to explain some of the benefits and risks of taking an anticoagulant, in relation to your stroke and bleeding risks scores.

Note: It is not possible to tell what will happen to an individual person.

Table A

Shows the risk of AF-related ischaemic stroke over 1 year in a group of 1000 people with AF, depending on their CHA₂DS₂-VASc score, and how taking anticoagulant treatment can reduce the stroke risk.

Table B

Shows the risk of major bleeding over 1 year in a group of 1000 people with AF, depending on their HAS-BLED score, and how taking an anticoagulant can increase the major bleeding risk.

Only look at the section of the table that applies to your CHA₂DS₂-VASc and HAS-BLED scores - your healthcare professional will tick the relevant box for your individual scores. You may want to discuss this table further with your healthcare professional or ask them to talk through what it means for you.

TABLE A: The risk of an AF-related **ischaemic stroke** over 1 year in a group of 1,000 people with AF

CHA ₂ DS ₂ -VASc score		No treatment	Anticoagulant
<input type="checkbox"/>	1	<ul style="list-style-type: none"> 6 people would have a stroke 994 people would not have a stroke 	<ul style="list-style-type: none"> 4 people will be saved from a stroke 994 people would not have a stroke 2 people will still have a stroke
<input type="checkbox"/>	2	<ul style="list-style-type: none"> 25 people would have a stroke 975 people would not have a stroke 	<ul style="list-style-type: none"> 17 people will be saved from a stroke 975 people would not have a stroke 8 people will still have a stroke
<input type="checkbox"/>	3	<ul style="list-style-type: none"> 37 people would have a stroke 963 people would not have a stroke 	<ul style="list-style-type: none"> 25 people will be saved from a stroke 963 people would not have a stroke 12 people will still have a stroke
<input type="checkbox"/>	4	<ul style="list-style-type: none"> 55 people would have a stroke 945 people would not have a stroke 	<ul style="list-style-type: none"> 38 people will be saved from a stroke 945 people would not have a stroke 17 people will still have a stroke
<input type="checkbox"/>	5	<ul style="list-style-type: none"> 84 people would have a stroke 916 people would not have a stroke 	<ul style="list-style-type: none"> 57 people will be saved from a stroke 916 people would not have a stroke 27 people will still have a stroke

TABLE B: The risk of **major bleeding** over 1 year in a group of 1,000 people with AF

HAS-BLED score		No treatment	Anticoagulant
<input type="checkbox"/>	0	There is very little good information on the risk of major bleeding in people with AF and a HAS-BLED score of 0, so we are unable to give numbers of patients here. The risk is likely to be low, whether the person takes an anticoagulant or not.	
<input type="checkbox"/>	1	<ul style="list-style-type: none"> 3 people would have major bleeding 997 people would not have major bleeding 	<ul style="list-style-type: none"> An extra 4 people will have major bleeding 993 people would not have major bleeding 3 people will still have major bleeding
<input type="checkbox"/>	2	<ul style="list-style-type: none"> 7 people would have major bleeding 993 people would not have major bleeding 	<ul style="list-style-type: none"> An extra 12 people will have major bleeding 981 people would not have major bleeding 7 people will still have major bleeding
<input type="checkbox"/>	3	<ul style="list-style-type: none"> 9 people would have major bleeding 991 people would not have major bleeding 	<ul style="list-style-type: none"> An extra 15 people will have major bleeding 976 people would not have major bleeding 9 people will still have major bleeding
<input type="checkbox"/>	4	<ul style="list-style-type: none"> 13 people would have major bleeding 987 people would not have major bleeding 	<ul style="list-style-type: none"> An extra 21 people will have major bleeding 966 people would not have major bleeding 13 people will still have major bleeding

Common questions on the differences in the anticoagulant treatment options

Question	Treatment options		
	Not taking anything	Taking warfarin	Taking a NOAC (apixaban, dabigatran, rivaroxaban or edoxaban)
1. What does the option involve?	You will not take any anticoagulant treatment.	You will take 1 or more tablets once a day, usually in the evening. The dose will be adjusted depending on blood test results (see question 5) and you will have written instructions about how many tablets to take. Treatment is normally long term.	You will take 1 apixaban tablet twice a day, or 1 dabigatran capsule twice a day, or 1 rivaroxaban or 1 edoxaban tablet once a day. You will stay on the same dose all the time. Treatment is normally long term.
2. Will it reduce my risk of having a stroke?	See table A on page 4 showing the risk of having an AF-related ischaemic stroke over 1 year in a group of 1000 people with AF, depending on their CHA ₂ DS ₂ -VASc score, with and without anticoagulant treatment.		
3. Will it increase my risk of having major bleeding?	See table B on page 4 which shows the risk of major bleeding over 1 year in a group of 1000 people with AF, depending on their HAS-BLED score, with and without anticoagulant treatment.		
4. What are the other main side effects?	This question does not apply to this option.	Warfarin can cause side effects but not everybody gets them. The most common side effect is bleeding, including bruising and nose bleeds. For more information about warfarin, see the manufacturers' patient information leaflets that can be found at medicines.org.uk	NOACs can cause side effects but not everybody gets them. The most common side effect of all NOACs is bleeding, including bruising and nose bleeds. For more information, see the manufacturer's patient information leaflets for apixaban, dabigatran and rivaroxaban and edoxaban that can found at medicines.org.uk
5. Will I need any regular blood tests?	This question does not apply to this option.	Yes. For the first few weeks or months, you will need frequent blood tests. After that, most people need to have these tests every 1–2 months. Some people will need blood tests more or less often than this, and some people are able to test their blood themselves.	Yes. You will need a blood test before you start treatment to check how well your liver and kidneys are working, and then usually once every year, but not more often than that unless you have certain other medical conditions such as liver or kidney problems.

Question	Treatment options		
	Not taking anything	Taking warfarin	Taking a NOAC (apixaban, dabigatran, rivaroxaban or edoxaban)
6. What happens if I forget to take a dose?	This question does not apply to this option.	You should take warfarin as prescribed at the same time of day, every day. If you think you may have missed a dose or have taken an extra dose by mistake you should follow the instructions in the information booklet you will be given, or contact the health professional who monitors your warfarin for advice.	It is important to take the NOAC as prescribed – once a day (rivaroxaban or edoxaban) or twice a day (apixaban or dabigatran). The protective effect of the NOAC on the risk of stroke may fade 12– 24 hours after you take a dose. If you think you may have missed a dose or have taken an extra dose by mistake you should follow the instructions in the information leaflet you will be given or contact your health professional for advice.
7. Will I have to change what I eat or drink?	This question does not apply to this option.	Ask your health professional’s advice before making any major changes to what you eat, especially foods rich in vitamin K (such as green leafy vegetables). Major changes in what you eat may affect how your body responds to warfarin. Avoid drinking cranberry juice. If you drink alcohol you should follow national guidelines on how much is safe to drink, and never binge drink. Written information will be given to you.	No, there is no need to change what you eat or drink.
8. Will the medicine interact with other medicines I take?	This question does not apply to this option.	Both warfarin and NOACs can interact with several medicines, including medicines bought over the counter and herbal medicines. It is very important to ask the advice of your health professional before starting or stopping any medicines.	

Question	Treatment options		
	Not taking anything	Taking warfarin	Taking a NOAC (apixaban, dabigatran, rivaroxaban or edoxaban)
9. What happens if I need non-urgent surgery, including dental surgery?	This question does not apply to this option.	It is important to tell anyone treating you, including your dentist, that you are taking warfarin. Tell them well before your appointment and show them the alert card that you will be given. You would usually stop taking warfarin about 5 days before planned surgery, and start taking it again straight away afterwards. You would not usually need to stop taking warfarin before dental surgery, but your blood clotting would be tested to help decide.	It is important to tell anyone treating you, including your dentist, that you are taking a NOAC. Tell them well before your appointment and show them the alert card that you will be given. You would usually stop taking the NOAC for up to 48 hours before planned surgery or dental treatment, and start taking the NOAC again straight away after the surgery.
10. What happens if the effects need to be reversed in an emergency (for example, after an injury or before emergency surgery)?	This question does not apply to this option.	<p>Carry the alert card that you will be given to tell anyone who treats you that you are taking warfarin. If you have a serious injury or need urgent surgery, you are more likely to have major bleeding because you take warfarin.</p> <p>It may be necessary to try to reverse the effects of warfarin on blood clotting. The best ways to do this are well established, and it is easy for medical staff to check what effect the warfarin is having on your blood's ability to clot. However, it is not always possible to reverse the effects of warfarin on clotting quickly or easily.</p>	<p>Carry the alert card that you will be given to tell anyone who treats you that you are taking a NOAC. If you have a serious injury or need urgent surgery you are more likely to have major bleeding because you take a NOAC.</p> <p>It may be necessary to try to reverse the effects of the NOAC on blood clotting. The best ways to do this are not so well established, and it is difficult for medical staff to measure what effect the NOAC is having on your blood's ability to clot. It may not be possible to reverse the effects of the NOAC on clotting quickly or easily. However, the anticoagulant effect of NOACs fades rapidly, around 12–24 hours after the last intake.</p>