

Atrial fibrillation (AF) and stroke

Stroke Helpline: 0303 3033 100
or email: helpline@stroke.org.uk

Atrial fibrillation (AF) is a heart condition that causes an irregular heartbeat and raises your risk of a serious stroke. This guide is about reducing your risk of a stroke with AF.

What do I need to know about atrial fibrillation (AF)?

- Atrial fibrillation is a heart rhythm problem which raises your risk of a stroke.
- AF makes you five times more likely to have a stroke. If you're diagnosed with AF, you'll have an individual stroke risk assessment to make sure you get the right treatment and advice for you.
- Strokes due to AF tend to be more serious, with more damage to the brain and worse long-term effects. So if you have AF, you'll be offered any treatment you need to reduce your risk of a stroke.

Your heart, AF and stroke

How can AF cause a stroke?

Normally, blood flows into the heart, and gets fully pumped out every time the heart beats. But in AF, blood can pool inside the heart. A clot can form in the blood and then travel up to the brain, causing a stroke.

What happens to the heartbeat in atrial fibrillation?

Your heart is a powerful pump. Its job is to keep the blood constantly moving around your body, bringing vital oxygen to your cells and organs.

The heart is designed to contract (beat) regularly, pumping blood around the body. Your heart contracts when specialised 'pacemaker cells' in the heart send out electrical impulses. The pacemaker cells set the rhythm of your heartbeat. In AF, the electrical impulses that set your heartbeat are disrupted. The heartbeat can become irregular, and may be extremely fast.

Your heart has four chambers:

- Left and right atria.
- Left and right ventricles.

Specialised cells send electrical impulses to set your heartbeat. These cells are known as the pacemaker, or sinoatrial node. They can adapt to your body's oxygen needs, speeding up if you move around, or slowing down when you rest.

Who can get AF?

AF can happen to anyone, including people who are otherwise fit and well. It usually affects adults, and your risk goes up with age. It's more common in men, and people with conditions such as heart disease, diabetes, obesity, overactive thyroid, and high blood pressure. It's also more common in smokers.

How do I know I have it?

Atrial fibrillation often has no symptoms. Because of this, you might only find out you have AF during a routine medical check-up or after a stroke.

AF sometimes has symptoms including palpitations (feeling as if your heart is fluttering, thumping or skipping a beat), fatigue, feeling breathless or having chest pain.

If you are having symptoms or notice an abnormal pulse, contact your GP or stroke nurse. If you are having worrying symptoms such as chest pains, call **999**.

How is atrial fibrillation diagnosed?

Tests and checks to find out whether you have AF include:

- An electrocardiogram (ECG) tests the electrical activity of your heart. It's painless and usually takes less than 10 minutes. It may be done by your GP or in hospital. Because AF can come and go, you might be given a wearable device to track your heartbeat over 24 hours.
- An echocardiogram is a type of ultrasound that checks the heart's structure and function.
- Blood tests for conditions such as overactive thyroid.

There are different types of heart rhythm problem (arrhythmia), and atrial fibrillation is the most common. Around 1.4 million people in the UK have AF. It's a major risk factor for stroke, and around 20% of all strokes are caused by AF.

Reducing your risk of stroke with AF

If you have AF, your doctor will discuss with you whether you need treatment to reduce your risk of stroke. The main treatment is a blood thinning medication called an anticoagulant. You may also be offered treatment to help your heart beat more effectively. This can include medication or surgical procedures to restore heart rhythm.

Assessing your risk

Doctors assess your stroke risk using a scoring system called CHA2DS2-VASc. This can help you and your doctor to decide on your treatment together.

The CHA2DS2-VASc scale

| Factor | Score |
|--|-------|
| Congestive heart failure | 1 |
| High blood pressure | 1 |
| Age | |
| Over 75 | 2 |
| 65–74 | 1 |
| Under 65 | 0 |
| Diabetes | 1 |
| Previous stroke, transient ischaemic attack (TIA) or thromboembolism | 2 |
| Vascular disease | 1 |
| If you are female | 1 |

The CHA2DS2-VASc scoring system is a list of things that make you more at risk of stroke. If you have a score of two or more, your doctor will usually discuss the use of a blood-thinning (anticoagulant) medication to reduce your risk of stroke. If you have a score of zero or one you may not need any blood-thinning treatment, as the risk of treatment will outweigh the benefits.

Blood thinning medications to reduce your risk

Anticoagulant medications are the main treatment given to reduce your risk of stroke with atrial fibrillation. They reduce your risk of stroke by slowing down the clotting process, and making a clot less likely to form.

Anticoagulants: benefits and risks

Benefits: anticoagulants help to protect your brain by reducing your chance of a stroke. If you have already had a stroke or transient ischaemic attack (TIA or mini-stroke), anticoagulants for AF help you reduce your risk of another stroke while you continue your recovery.

Risks: because anticoagulants reduce clotting, this can make you bleed more than usual if you have an injury. It can also cause bleeding inside your body, including the digestive system and brain.

To help you decide on the right treatment, your doctor will discuss the risks and benefits of medication with you. This includes your individual health, and your stroke risk score.

Because your stroke risk can change over time, you should be regularly reassessed, and your treatment will be monitored at least once a year. You may have regular tests while you are taking certain types of anticoagulant.

Help and support with anticoagulants

Types of anticoagulant

Anticoagulants have changed in recent years. You may have heard of warfarin, but there are several other options available which are more commonly used. The main types of anticoagulant are below (brand names may vary).

- Apixaban.
- Dabigatran.
- Edoxaban.
- Rivaroxaban.
- Warfarin.

When you start a new long-term medication such as anticoagulants, you might need information and support. You'll be monitored when you first start taking the medication, and your dose and the type of medication could be changed until doctors find what works best for you.

We have full information about blood-thinning medication including practical tips and ways to get support in our guide 'Blood-thinning medication and stroke' stroke.org.uk/blood-thinning.

What else do I need to know?

- Always read the patient information leaflet that comes with your medication, and check with the pharmacist how and when to take the pills.
- If you feel unwell or have side-effects, don't stop taking your medication, as this can put you at risk of a stroke. Contact your GP or pharmacist for advice. You may be able to try a different type of medication, or have a medication review. If you're having stroke symptoms, or bleeding in your wee, poo or vomit, call **999**.
- Ask the GP or pharmacist about any other medications, including non-prescription treatments you are using such as herbal remedies.
- Carry an alert card, available from your GP or pharmacist.

What else can I do to reduce my risk of stroke?

There are many things you can do to lower your chances of having a stroke. These include:

- Managing any other medical conditions you have, for example high cholesterol or diabetes.
- Having treatment for high blood pressure.
- Stopping smoking.
- Limiting the amount of alcohol you drink.
- Following a healthy diet.
- Exercising regularly.

Look for information about healthy lifestyle changes in our guide 'How to reduce your risk of a stroke' and visit stroke.org.uk/reduce-my-risk.

Types of atrial fibrillation

AF has three categories, which depend on how long the symptoms last.

- Paroxysmal AF comes and goes, and episodes stop within seven days without treatment.
- Persistent AF lasts more than seven days and need treatment.
- Permanent or long-standing persistent AF means you have had continuous atrial fibrillation for a year or more.

What is 'lone AF'?

You might hear your condition described as "lone" AF. This term is sometimes used when you don't have any other risk factors or conditions causing your AF. However, this doesn't affect your treatment options, which will depend on you and your individual risk of stroke.

Atrial flutter

Atrial flutter is a similar condition to AF, and you can have both at the same time. With atrial flutter, your upper heart chambers (atria) beat very fast, but regularly. Your heart may beat up to 150 times a minute and this can cause similar symptoms to AF, such as shortness of breath and fatigue. It is diagnosed in the same way as AF, and can also increase your risk of stroke.

AF triggers

AF symptoms can be triggered by drinking alcohol. Some illegal drugs such as cocaine or amphetamines can trigger an episode of AF. Some people find that caffeine in drinks like coffee or soft drinks can give the feeling of a racing heart, but moderate amounts of caffeine don't cause AF.

Treating an irregular heartbeat

On top of treatment to reduce your stroke risk, you may have treatments to improve your heart rate and rhythm control.

Heart rate control

If your heart beats too fast (over 100bpm resting heart rate) you may need medication to slow your heart rate. The main type used is beta blockers, but an alternative is calcium channel blockers. If you can't use medication, you might be offered a heart pacemaker.

Heart rhythm control

If an irregular heart rhythm is causing symptoms, you may be offered electrical cardioversion treatment. This is a non-surgical therapy. It uses a controlled electric shock to restore a normal rhythm.

Irregular heartbeat can also be treated with medications, including beta blockers and flecainide.

Catheter ablation

If medication doesn't work, catheter ablation can be used to remove the heart cells which are causing the irregular electrical impulses. This procedure uses thin wires guided through a vein to locate the abnormal electrical activity in the heart. The cells are then destroyed using high-frequency radio waves.

Find your heart rate

If you want to check your heart rate, you can try a manual pulse check or use a mobile device like a fitness tracker. But these can't be relied on to diagnose AF, and you need medical checks to diagnose and monitor AF.

Manual pulse check

Wrist: while sitting down, press two fingers on the inside of the opposite wrist, next to the tendon under the thumb. You might have to try a few times to find your pulse.

Neck: gently press two fingers to the side of your Adam's apple, just below the jaw. To find your heart rate, either:

- Count your pulse for 60 seconds or
- Count your pulse for 30 seconds and multiply by two.

Using mobile technology

Many mobile devices like phones and watches now have the ability to check body functions like heart rate, blood pressure and blood oxygen levels. Using your mobile device to measure your heart rate can be a good way of spotting early signs of any problems.

There are some devices on the market that can take very accurate readings which can be used by your doctors. However, most standard mobile devices and apps don't give highly precise readings, and you will also need medical tests to get the full picture.

Understand your heart rate

- Normal heart rate: your pulse should feel regular. Most people have a resting heart rate between 60 and 100 beats per minute (bpm).
- Abnormal heart rate: your pulse may feel uneven, or skip a beat. Your resting heart rate could be over 120 bpm.

What is a stroke?

A stroke happens when the blood supply to part of your brain is cut off, killing brain cells. Around 85% of strokes are due to a clot (ischaemic stroke). Some strokes (around 15%) are caused by bleeding in or around the brain (haemorrhagic stroke).

For more information about stroke visit stroke.org.uk/what-is-stroke.

Spotting the signs of a stroke

FAST test



Face

Can the person smile?
Has their face fallen on one side?



Arms

Can the person raise both arms and keep them there?



Speech

Can the person speak clearly and understand what you say?
Is their speech slurred?



Time

If you see any of these three signs, it's time to call 999.

The FAST test helps to spot the three most common symptoms of stroke. But there are other signs that you should always take seriously. These include:

- Sudden weakness or numbness on one side of the body, including legs, hands or feet.
- Difficulty finding words or speaking in clear sentences.
- Sudden blurred vision or loss of sight in one or both eyes.
- Sudden memory loss or confusion, and dizziness or a sudden fall.
- A sudden, severe headache.

Stroke can happen to anyone, at any age. Every second counts. If you spot any of these signs of a stroke, don't wait. Call **999** straight away.

A transient ischaemic attack (TIA or mini-stroke) is the same as a stroke but the symptoms last for a short amount of time. In a TIA, a blood vessel in the brain gets blocked, but the blockage clears by itself. A TIA is a major warning sign of a stroke, and if you spot any signs of stroke or TIA you should call **999**.

Where to get help and information

From the Stroke Association

Helpline

Our Helpline offers information and support for anyone affected by stroke, including family, friends and carers.

Call us on **0303 3033 100**, from a textphone **18001 0303 3033 100**
Email helpline@stroke.org.uk.

Read our information

Get more information about stroke online at stroke.org.uk, or call the Helpline to ask for printed copies of our guides.

My Stroke Guide

The Stroke Association's online tool My Stroke Guide gives you free access to trusted advice, information and support 24/7. My Stroke Guide connects you to our online community, to find out how others manage their recovery.

Log on to mystrokeguide.com today.

Other sources of help and information

Arrhythmia Alliance

Website: heartrhythmalliance.org

Helpline: **01789 867 501**

Support people with all types of heart arrhythmias.

Atrial Fibrillation Association

Website: heartrhythmalliance.org

Tel: **01789 867 502**

Support people with AF, offering a range of leaflets on AF, treatments and types of medication, plus details of AF specialists.

British Heart Foundation

Website: bhf.org.uk

Heart Helpline: **0300 330 3311**

Provide information and support on heart issues, including a nurse-led helpline.

NHS

Website:

nhs.uk/conditions/atrial-fibrillation

Information about atrial fibrillation and the anticoagulant medications used to treat it.

About our information

We want to provide the best information for people affected by stroke. That's why we ask stroke survivors and their families, as well as medical experts, to help us put our publications together.

How did we do?

To tell us what you think of this guide, or to request a list of the sources we used to create it, email us at feedback@stroke.org.uk.

Accessible formats

Visit our website if you need this information in audio, large print or braille.

Always get individual advice

This guide contains general information about stroke. But if you have a problem, you should get individual advice from a professional such as a GP or pharmacist. Our Helpline can also help you find support. We work very hard to give you the latest facts, but some things change. We don't control the information provided by other organisations or websites.

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Every five minutes, stroke destroys lives. We need your support to help rebuild them. Donate or find out more at stroke.org.uk.

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