

# Why you need protection against AF-related stroke if you have atrial fibrillation

*Susan Mayor was paid in her capacity as a medical writer for her time to research and write this article for Boehringer Ingelheim. This article has been reviewed by Boehringer Ingelheim to ensure compliance with the UK ABPI regulations.*



Your heartbeat is the most fundamental rhythm in your life, signalling the regular pumping of your heart as it propels blood carrying oxygen and nutrients to the rest of your body. We take the regular beating completely for granted, never giving it a second thought until the elegant control process goes wrong, when the consequences can be the devastating disability, loss of independence and even death caused by AF-related stroke.

Atrial fibrillation (commonly abbreviated to AF) is the most common sustained heart rhythm abnormality, with recent figures suggesting that it affects around two in every 100 people<sup>1</sup>. It is more common in older people, with one in four adults over the age of 40 developing the arrhythmia during their lifetime<sup>2</sup>. If you or a friend or family member has AF you are far from alone, with an estimated 4.5 million people with AF in Europe<sup>3</sup>.

## What are the risk factors for AF?

**Your risk of having AF is increased with the following factors<sup>1</sup>:**

- > Older age
- > Family history of AF
- > Having heart failure, high blood pressure, or other cardiovascular disease
- > Having diabetes
- > Thyroid disorders
- > Excessive alcohol intake

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**What goes wrong in AF?** The normal control of heart rhythm, masterminded by an area of the heart called the sinoatrial node, is disrupted causing rapid and irregular electrical signals instead of the regular steady signals in a healthy heart. This causes the upper two chambers of the heart to quiver rather than contract in a co-ordinated way, reducing their efficiency in pumping blood to the lower chambers and potentially causing blood to pool, and so increasing the risk of blood clots forming<sup>4</sup>.

Some people with AF have quite noticeable symptoms, such as feeling light headed or dizzy, fatigue, palpitations, shortness of breath or feeling weak, but others have no symptoms<sup>4,5</sup>.

**Paul Jaworski, a 57-year-old retired policeman describes what his AF felt like:**

“ I would get a racing heart and then as time went on I could feel it was irregular. However, I would sit down and it would go away. It never really became a complete nuisance for me and it was very intermittent. I was probably having something like six attacks a year. I find it hard to describe but it was a very strange sensation when I did have an episode – a bit like there being a hamster inside your chest. ”



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## AF increases the risk of AF-related stroke

One of the major problems associated with AF is that it greatly increases a person's risk of stroke, particularly ischaemic stroke in which a blood clot blocks the normal blood flow to the brain<sup>1,6</sup>. This blockage starves the brain of vital oxygen leading to stroke and its potentially devastating consequences including brain damage and physical disability. In people with AF admitted to hospital with a first ischaemic stroke, 60% become disabled and 20% die<sup>7</sup>.

**Trudie Lobban, founder and Chief Executive Officer of the Atrial Fibrillation Association, is concerned at the low awareness of the link between AF and stroke:**

“ If you ask people what is the leading cause of stroke, they just don't know that AF is a major cause. The two conditions go hand-in-hand. ”

Trudie thinks it's very important that people are made aware of the link, so they can receive treatment to reduce their AF-related stroke risk at the same time as any treatment needed to correct their abnormal heart rhythm.

You might wonder how a condition that disrupts normal heart rhythm affects the brain. Blood vessels can carry a blood clot forming in the heart up to the brain, triggering a stroke if the clot blocks a blood vessel there.

The bad news is that having AF puts you at a five-fold higher risk of stroke<sup>1</sup> and that strokes associated with AF tend to be severe leading to an increased risk of disability or death<sup>8</sup>. The impact is enormous, with 3 million people worldwide suffering AF-related strokes each year<sup>8,9</sup>.

The good news is that the incidence of AF-related strokes can be reduced with effective anticoagulant therapy – drugs that reduce the tendency of the blood to clot and so lowering the risk of stroke.

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## How do you know if you will benefit from anticoagulant therapy to reduce your risk of AF-related stroke?

If you have AF, your doctor will assess your risk of stroke using a scoring system called CHA<sub>2</sub>DS<sub>2</sub>-VASc - which scores 1 point for: age 65-74, congestive heart failure, high blood pressure, diabetes, vascular disease, and being female, and 2 points for: age 75 and over and previous stroke/ mini-stroke or thromboembolism (blood clot blocking a blood vessel)<sup>1,10</sup>.

European guidelines developed by leading AF doctors recommend that anyone with a score of 1 or over should be considered for oral anticoagulant treatment with the exception of women aged < 65 and who have lone AF because their score of 1 is due to their gender. Anticoagulant treatment is recommended for all AF patients with a score of 2 or higher except where this is contraindicated<sup>1,11</sup>.

“Prevention of AF-related stroke is key in providing good care to people with AF,” says Trudie Lobban. “It’s what doctors say and what the guidelines recommend.” She points out that the first step is to improve the early diagnosis of AF, with many people taking several years to finally be diagnosed.

“The burden of AF-related stroke is considerable,” warns Professor John Camm, Professor of Clinical Cardiology at St George’s University of London and Chair of the European Society of Cardiology (ESC) AF guideline update committee. “Diagnosing AF before complications occur is a priority,” he says.



The ESC recommends opportunistic screening of people aged 65 or over by checking their pulse followed by an ECG if any abnormalities in pulse rate are detected<sup>1</sup>. An ECG is a simple, painless test that records the electrical activity of your heart by attaching sticky patches on your chest to a recording device.

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## Reducing your risk of AF-related stroke: making decisions on treatment

Following assessment and if you are considered at risk of AF-related stroke, your doctor may recommend anticoagulant therapy. One type of anticoagulants are the vitamin K antagonists, such as warfarin, which reduce the risk of stroke in people with AF by approximately two-thirds<sup>12</sup>. These medicines have been around for 60 years. They work by blocking vitamin K, which is involved in blood clotting. More recently, newer treatments called novel oral anticoagulants, such as dabigatran etexilate, apixaban and rivaroxaban have been developed, which have been shown to effectively reduce the risk of AF-related stroke, as well as reducing some of the complications associated with vitamin K antagonists<sup>1, 13, 14, 15, 16</sup>.

The good thing about the development of novel oral anticoagulants is that it offers a choice. But where there is a choice there are decisions to be made - and these hinge on weighing up the advantages and disadvantages of the different types of treatments in discussion with your doctor.

Vitamin K antagonists have been used for stroke prevention in AF for decades. They need regular anticoagulant blood testing because they interact with certain foods and other drugs<sup>10</sup> which some people can find challenging to cope with.

The ESC, a medical organisation whose mission is to reduce the burden of cardiovascular disease in Europe, has published guidelines for physicians to support decisions on anticoagulant treatments. The latest guidelines include information on clinical trials with novel oral anticoagulants which have shown that they offer similar or better efficacy, safety and convenience compared to vitamin K antagonists<sup>1, 14-17</sup>. They do not require regular anticoagulant blood monitoring, do not interact with food and have fewer interactions with commonly used medicines.

Paul Jaworski describes his experience after a bad attack of AF: "I was on my computer and I suddenly started getting all the symptoms of a stroke. It felt like sparks going off in my head and then the whole right side of my body went numb and my speech went. I got downstairs and my wife knew something was wrong immediately and called an ambulance."

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Paul was taken to hospital and told he had suffered a mini-stroke.

“ I was very lucky because by the time I got there I had already started to recover. Knowing the risk of stroke associated with AF and how these strokes are often more debilitating, I do feel very lucky and it still haunts me to this day. ”

He has since been put on an anticoagulant to try to reduce his risk of stroke.



### Finding out more

If you are concerned about whether you might have AF, or have been diagnosed with AF and want to know more about protecting yourself against stroke, then speak to your doctor. If you want to check out whether or not you have AF, ask them to check your pulse and then refer you for further tests if they find any abnormality. If you have been diagnosed with AF, ask about your risk of stroke and whether anticoagulant therapy is an option that would be appropriate to reduce your risk.

Organisations for AF patients and their families, such as the Atrial Fibrillation Association and Anticoagulation Europe provide a wide range of resources to support people with AF and their families. They include patients' stories, information about AF and stroke, facts about anticoagulants and an NHS decision making aid to help you find out more about treatment options and share in making decisions with your doctor.

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