

# ESC Clinical Practice Guidelines for the Management of Atrial Fibrillation: What Patients Need to Know



# What are Clinical Practice Guidelines and what is this document?

Clinical Practice Guidelines provide recommendations on how to diagnose and treat patients based on medical and scientific evidence. They are mainly intended for healthcare professionals to ensure that patients receive appropriate care.

The 2024 European Society of Cardiology (ESC) Guidelines for the management of atrial fibrillation (AF) were written by a team of healthcare professionals and scientists, supported by two patient representatives.

This document is for patients, their families and caregivers. It provides a summary of the key parts of the guidelines. It has been developed so that you can take an active part in the care you receive for your AF and understand why you are receiving a range of different treatments. It does not cover every aspect of AF.

If you would like more detailed information, then please see the [main published guideline](#) or ask your healthcare team.

## How will this document help me?

This guideline places patients at the centre of care and encourages shared decision-making between healthcare professionals and patients. This document is intended to answer some questions that you may have and support you in conversations with your medical team. For example, we hope it will give you knowledge and confidence when discussing different treatment options and when to seek review or advice. Contributing to your own health care and managing risk factors is key to avoiding complications that may arise from AF.

If you are a healthcare professional, we recommend that you give this document to your patients and their caregivers, and share it with your colleagues. We hope this document will provide a way for patients to contribute to the care they receive. This could improve their response to treatment and help them to lead healthier, better lives.

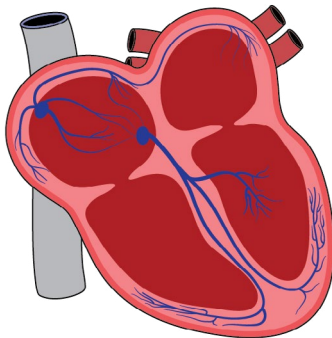


# What is AF and how can it affect me?

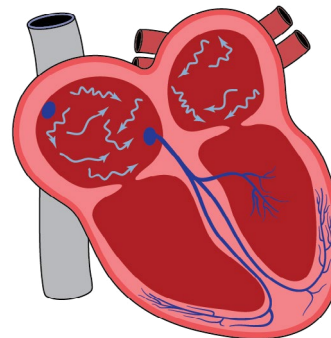
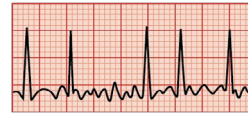
AF is a disorder of the heart rhythm where abnormal electrical signals in the top chambers of the heart (the atria) lead to an irregular and uneven heartbeat.

Patients with AF have an irregular heart rhythm

## Regular heart rhythm

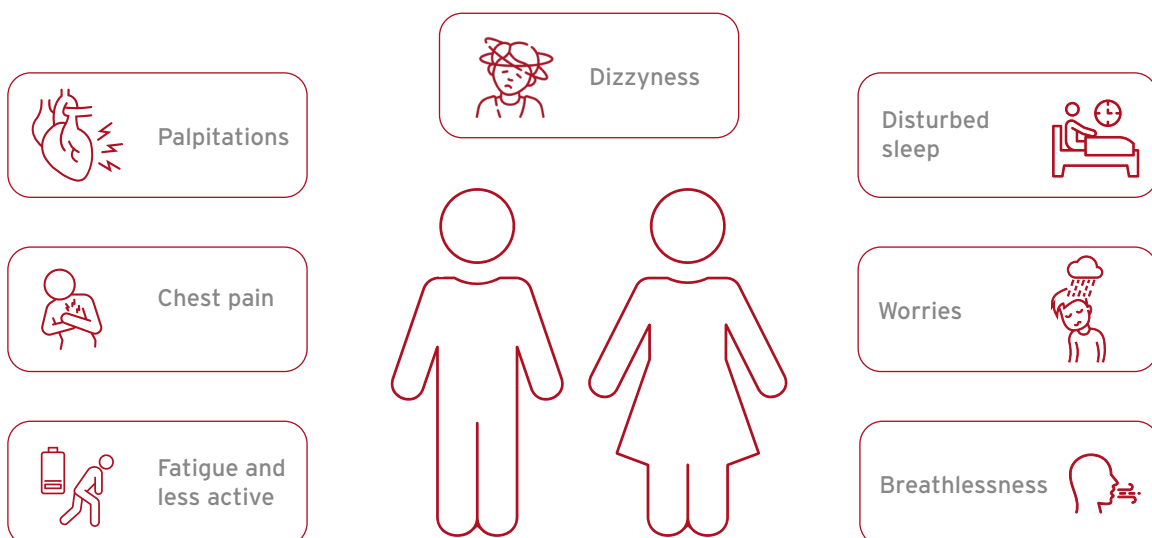


## Atrial fibrillation (AF)



AF is a common condition, but the effect it has on individual patients is varied. Some will have very few symptoms, whilst in others, AF can be disabling.

Common symptoms related to AF



AF can lead to several health problems, some of which are serious. For example, blood clots that develop in patients with AF may cause a stroke if they travel to the brain, or can impact on other body organs. In the longer term, patients can develop heart failure which causes breathlessness, as the heart cannot pump enough blood to cope with daily activity. AF is also associated with a higher chance of dying, being admitted to hospital for any reason and developing certain types of dementia.

If you would like more information on AF, what it is and the impact it has on patients, then visit the AFIB MATTERS website: [afibmatters.org](http://afibmatters.org)

# Learning to live with AF

It is important to remember that you can live a normal life and enjoy a full range of activities if your AF is well treated. However, when the diagnosis is established, you must accept your lifestyle may need to change. You have a chronic disease, and mentally and physically you will need to learn to live with it.

A psychological reaction can come weeks or months after the diagnosis, including sadness, anxiety, restlessness or depression. This is not unusual and it is important for you to be open about your thoughts and feelings. You may also need to make changes in your home or working conditions. It can be helpful to discuss questions and doubts with your family and healthcare team.

Changing your lifestyle is a great way for you to be in control of chronic diseases such as AF. There is an added benefit that these measures can make AF less likely to come back, improve the success of your treatments, and contribute to a long and healthy life. For example, you could:

- Keep fit with regular physical activity - a brisk walk half an hour each day and more intense exercise 2-3 times per week if you are able
- Keep your weight balanced and eat healthily. If you are overweight, you can think about going on a diet in combination with exercise
- Know your cholesterol levels and get treatment if needed
- Limit your alcohol consumption
- Avoid smoking and recreational drugs, which can increase the risk of AF, stroke or blood clots
- Avoid stress and get a good night's sleep
- Remember to take your prescribed medicines and ask your pharmacist or healthcare team to explain what each does and why they are important
- Join a structured educational programme about AF, offered by your healthcare team or patient support groups (for example: [afa-international.org](http://afa-international.org))



# ESC Guidelines recommend the use of the 'AF-CARE' approach for the overall management of AF



**Patient-centred management of atrial fibrillation (AF)**  
(summary of the 2024 European Society of Cardiology guidelines)

## **C** Comorbidity and risk factor management

➔ address other health conditions that cause and worsen AF, or affect the success of treatments

**Treat high blood pressure**  
(aim for less than 130/80)

**Medicines to control heart failure if needed**

**Regular exercise** (each day and build up gradually)

**General Health**  
Healthy eating  
Lower cholesterol  
Stop smoking  
Manage other conditions

**Better blood sugar control in diabetes**

**Lower intake of alcohol**  
(3 or less drinks per week)

**Weight loss if overweight**  
(aim to lose 10%)

## **A** Avoid stroke and thromboembolism

➔ lower the chance of blood clots related to AF, using blood thinners for those at risk

**Blood thinners for those at risk of developing a stroke or blood clot**

most patients will receive Apixaban, Dabigatran, Edoxaban or Rivaroxaban

some patients will get Warfarin or similar (needs a blood test to get the right dose)

**Points to remember**  
Continue even if back to normal rhythm  
Don't forget to take at right times  
Prevent bleeding with good blood pressure, less alcohol and avoiding certain drugs

## **R** Reduce symptoms by rate and rhythm control

➔ specific treatments to help manage AF, or switch to a normal heart rhythm

**Tablets to control heart rate**

**Medications to restore normal heart rhythm**

**Ablation procedures through the veins**

**Ablation procedures during heart surgery**

**Electrical impulse to the heart (cardioversion)**

**Medications to keep you in a normal heart rhythm**

**Ablation procedure using keyhole surgery**

**Other treatments, such as a pacemaker**

## **E** Evaluation and dynamic reassessment

➔ care that adapts to how your AF can change over time to better prevent complications

**Investigations, such as an electrical tracing (ECG), blood tests and a heart ultrasound scan**

**Ongoing follow-up by healthcare staff in the hospital or with your community team**

**Regular re-assessment of your risk factors for stroke or blood clots, and to prevent bleeding**

**Support and advice for when to seek attention and to help you live a good life with your AF**

# Key messages for the management of AF

The following are key messages from the [ESC Guidelines](#), which can help to improve the care you receive for your AF. We explain these in plain language below, along with some examples of where you can contribute to improve your own wellbeing.

## AF-CARE

To ensure that all patients with AF receive care that is centred around their individual needs, the ESC Guidelines recommend the use of the **AF-CARE** approach. This stands for:

- **C**omorbidity and risk factor management  
Address other health conditions that cause and worsen AF, or affect the success of treatments
- **A**void stroke and thromboembolism  
Lower the chance of blood clots related to AF, using blood thinners for those at risk
- **R**educe symptoms by rate and rhythm control  
Specific treatments to help manage AF, or switch to a normal heart rhythm
- **E**valuation and dynamic reassessment  
Care that adapts to how your AF can change over time to better prevent complications

## Shared care

You should expect to be involved in the decisions made, including what treatments you receive. This should involve a broad range of healthcare staff including nurses, pharmacists and specialist doctors, led by your general practitioner or cardiologist.

## Equal care

You should also receive the best care regardless of your gender, race, culture, sexuality, social factors or any disability.

## Education

You should receive information and education about AF, the treatments you may receive, and the possible benefits and side effects. This aims to help you make informed decisions about your care. As well as information and leaflets provided by your healthcare team, you can also access [afibmatters.org](https://www.afibmatters.org).

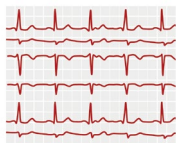
## Diagnosis

A diagnosis of AF may be suspected from your symptoms or when your pulse is felt to be irregular. The diagnosis is confirmed by reviewing an electrical tracing of your heart (electrocardiogram or ECG). If your AF is intermittent (comes and goes), the ECG recording may need to be done over a day or more. It can also be captured by implanted recorders and pacemakers. Digital devices, such as smart watches, fitness trackers and blood pressure meters are a new way to identify AF, although an electrical tracing may still be needed to confirm AF before you receive treatment.

## Initial evaluation

At the initial consultation, your healthcare team will review your history and confirm the diagnosis of AF. They will assess you for any risk factors that contribute to your AF, that affect your risk of developing blood clots, or have an impact on your treatments. Investigations for AF will vary according to each individual, but will usually include:

- An ECG (heart tracing) over 10 seconds, or longer if needed
- Blood tests to check for kidney and liver problems, diabetes, abnormal blood salts, low blood count and the function of your thyroid gland
- Images of the heart where this will impact your treatment - most commonly using an ultrasound scan of the heart (echocardiogram) to look at how the heart is pumping
- More detailed imaging of the heart may be required for certain patients



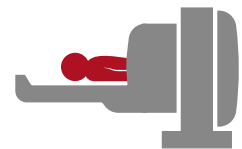
**Electrocardiogram (ECG)** checks the electrical activity of the heart



**Blood tests** can check for other health conditions



**Echocardiogram (echo)** is an ultrasound of the heart that shows how well it is working



**Scanners** may be used if detailed images of the heart are needed

## Other health conditions and risk factors

These are aspects of your lifestyle and medical history that can be addressed to improve your response to treatments. Managing these factors can also help to prevent future AF, lower the chance of heart attacks and strokes, and improve your overall well-being. These things can help:



### Lower blood pressure

Patients with AF should have tightly controlled blood pressure, with a target of less than 130/80 mmHg for most people. Unfortunately, this is often not achieved, which is partly why strokes, heart attacks, heart failure and dementia are so common in those with AF. Your healthcare team may need to start or increase medication if blood pressure remains high.



### Exercise

Most people with AF do not get enough exercise. Patients may be afraid to exercise and think this makes the condition worse, however, taking part in regular exercise is good for nearly all people with AF. You should gradually build up your exercise and discuss with your healthcare team what types of exercise are appropriate for you to create your own exercise programme.



### Weight loss

If you are overweight then it is worthwhile enrolling in a weight loss programme. You should aim to lose 10% of your body weight. You can receive guidance on this from most medical practitioners.



### Reduce alcohol

Even relatively small amounts of alcohol can increase the risk of AF returning. You should reduce your alcohol intake to 3 or less standard drinks per week. Binge drinking is a major risk factor for AF and should be avoided.



### Control diabetes

Having good control of your blood sugars is important for your AF treatment. Sticking to low-sugar foods can help if you are diabetic or have pre-diabetes. Many patients will need medications to help control their diabetes and finger-prick tests or newer devices can help you keep blood sugar well controlled.

## Your risk of blood clots

Blood clots can form in the chambers of the heart, dislodge and pass into the circulation causing a blockage to the blood supply. AF is a leading factor in the development of blood clots in the heart and elsewhere. One of the best-known consequences of this is when a blood clot goes to the brain causing a stroke. AF accounts for about a fifth of all known strokes, but also contributes to damage to the brain over time that can lead to dementia.

Identifying a stroke can sometimes be difficult if the symptoms are subtle, but 'FAST' is an easy way to remember the signs of a stroke: 'F' Face - can the person smile?; 'A' Arms - can the person lift both arms?; 'S' Speech - can the person speak normally? 'T' Time to act - if the answer to any of the questions is no, quick action is needed.

Your risk of a stroke will vary according to the number of **risk factors** you have. A member of the healthcare team will ask you about these to decide whether you should receive blood thinners (anticoagulants). If blood thinners are not required, then your risk should be reassessed regularly to see if this decision should change.

### Common risk factors for stroke in AF

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**Age** is a major risk factor for developing blood clots in AF. Age categories are used to make decisions on treatment, but in reality, the older you are, the more risk there is. Blood thinners are usually prescribed to patients with AF aged 65 years or older if they have other risk factors, or anyone aged 75 years or older.

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If you have already suffered a **stroke, mini-stroke or a blood clot** in one of your arteries then the risk for having another is much higher.

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**High blood pressure** stresses the heart and blood vessels, and makes it easier for blood clots to form. This is more likely if your blood pressure is 140 or more for the top value (systolic) or 90 or above for the bottom value (diastolic).

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If you have **heart failure**, your heart may not pump enough blood around the body and so can't deliver enough oxygen and nourishment. When your heart isn't pumping as well as it should, the likelihood of blood pooling and clotting is higher.

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If you have **diabetes** and your blood sugar levels are higher than normal, this extra sugar can damage the inner lining of your blood vessels. This damage makes blood vessels less flexible and more likely to get clogged. Diabetes is regarded as a risk factor even when treated with medications.

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If you have a **disease of the blood vessels** where blood cannot flow normally because the vessels are blocked, narrowed or damaged, this increases your risk of a blood clot. This applies to blood vessels supplying your heart, brain, kidneys, legs and elsewhere in your body.

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## Blood thinners (anticoagulants)

Blood thinners, also called anticoagulants, are medications that are prescribed to reduce the ability of the blood to clot. They are highly effective in preventing strokes in patients with AF and are recommended for all patients who have risk factors for developing blood clots.



## Choice of blood thinner

Most patients with AF should receive a direct oral anticoagulant (or DOAC), which includes the drugs, apixaban, dabigatran, edoxaban or rivaroxaban. The specific choice will often depend on local factors. DOACs require only occasional blood tests for kidney and liver function (around every 6 months).

Drugs like warfarin may be prescribed to certain patients, such as those with mechanical heart valves, severe forms of mitral valve disease, severe kidney disease and in pregnancy. These drugs require frequent blood tests (the international normalised ratio or INR) to make sure the correct dose is being received. Your healthcare team may suggest you switch from warfarin to the newer DOAC tablets for a number of reasons:

- Your choice, to benefit from a lower risk of bleeding
- To avoid interactions with foods and other drugs that are more common with warfarin
- When there is difficulty keeping to your INR target
- If you have a high risk of bleeding in the brain or suffer any major bleeding event

## Dose of blood thinner

If you are prescribed a DOAC to help prevent a stroke or blood clot, it should be taken at the standard dose to make sure you benefit from the treatment. Some blood thinners need to be taken twice a day.

Standard doses:

- Apixaban: 5 mg twice a day
- Dabigatran: 150 mg twice a day
- Edoxaban: 60 mg once a day
- Rivaroxaban: 20 mg once a day

Your pharmacist or medical practitioner will advise you to take a lower dose only under certain circumstances. If these change (for example, your kidney function improves), then your doctor will resume the standard dose.

If you are prescribed warfarin or a similar drug, your dose depends on your INR blood test. For most patients, this value should be between 2 and 3 for at least 70% of the time.

## Your risk of bleeding on blood thinners

When prescribing blood thinners, the pharmacist or medical practitioner should address any factors that will increase your risk of bleeding. This includes control of high blood pressure, advice to reduce your alcohol intake and avoiding other drugs that can cause bleeding.

It is rare that the risk of bleeding is sufficiently great to outweigh the benefits of blood thinners. You should be actively involved in these decisions and be informed of the risks and benefits. You will need to be aware of medications and over-the-counter drugs that can increase your risk of bleeding and discuss these with your pharmacist or healthcare team.

## Combining different heart tablets

A common group of tablets called antiplatelets (for example, aspirin and clopidogrel) are often used to prevent or treat heart attacks. Immediately after a heart attack or procedure on your blood vessels, you may need to take these drugs in addition to a blood thinner. The time you are on combined treatment will be kept as short as possible to avoid any problems with bleeding. After 12 months, most patients will receive the blood thinner alone and stop their aspirin or clopidogrel.

## Controlling your heart rate

Your heart rate can be fast and irregular in AF and you will likely need medicines to lower your heart rate. The common drugs used are beta-blockers or digoxin, which can be used in patients with or without heart failure. Diltiazem and verapamil are also very effective but cannot be used where the heart pump function is reduced. Some patients also have low heart rates with AF and will need to be monitored or have a pacemaker fitted.

## Restoring normal heart rhythm

This should be considered in all suitable patients, and your medical practitioner will discuss which methods are best for you as part of the joint decision-making process. The aim of treatment is to restore normal (sinus) rhythm and maintain this in the long-term. There are different approaches available, such as:

- Electrical cardioversion (electric impulse to the heart whilst you are made sleepy)
- Medications, either immediate or taken long-term
- Catheter ablation, a procedure to prevent electrical impulses that cause AF from reaching the heart
- Endoscopic ablation, similar to catheter ablation but using key-hole surgery
- Open surgery, usually for patients who are already undergoing surgery on their heart

The sections that follow go into these approaches in more detail.

## Keeping you safe when restoring normal heart rhythm

While restoring a normal heart rhythm may seem urgent, it can make very good sense to delay if you are not on blood thinners (used for at least 3 weeks before a procedure). In addition, medication to restore the heart rhythm can have side effects which will need to be taken into account to improve your safety.

## Cardioversion

If you are acutely unwell, then you may need the electrical approach which is quick and safe. This involves an electrical impulse applied to the heart through the chest wall. It is usually performed with medications to make you feel sleepy (sedatives) and the expected recovery time is rapid.

Otherwise, the choice of an electrical or medicine approach will be discussed with you, taking into account a range of factors specific to you and your local centre.

## Reasons for using long-term rhythm control

The main goal of treatment should be to reduce your symptoms from AF and to improve your quality of life. In some patients, there may also be a role for preferring normal heart rhythm in the long-term to prevent bad outcomes and increase a healthy lifespan.

## Successful or not

AF may return despite attempts to control it and episodes of AF can occur without any symptoms. There may also be changes in your heart that give you a higher chance of blood clots regardless of AF. For these reasons, it is essential that you continue your blood thinner in the long-term if you have risk factors for stroke. This is the case even if your treatment is initially successful and you are back in a normal heart rhythm.

## Catheter ablation

This procedure uses fine instruments that are passed through blood vessels to get into the heart and interrupt the electrical circuits which are responsible for AF. Some hospitals use a general anaesthetic and others use sedation only, so your length of stay in the hospital will vary. There are complications that can be associated with the procedure and these will be discussed by your cardiologist.

The success rate is dependent on a number of factors. Broadly speaking it is more effective for patients with recent or intermittent AF and these groups of patients can be referred for catheter ablation as the first rhythm treatment. For other patients, catheter ablation is recommended if you have already tried drugs to control AF, but they are no longer working, or you have developed side effects.

## Endoscopic ablation

These procedures require access to the heart from the outside, using small incisions in the chest wall. They need an experienced surgeon, so are not available in every centre that treats patients with AF. They are very effective at creating a barrier to the electrical activity that causes AF and can also be combined with catheter ablation. These approaches are recommended if catheter ablation has not been successful or in patients with persisting AF which has not responded to drug therapy. During the procedure, the surgeon will also block off an area of the heart where blood clots often form, although you will still need to take your blood thinners if you have any risk factors for stroke.

## AF and heart surgery

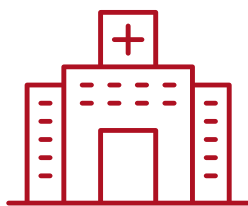
If you are undergoing open-heart surgery for another reason, your surgeon may be able to perform AF ablation at the same time. This is recommended only in hospitals that have an experienced team of surgeons. During the procedure, the surgeon will also block off an area of the heart where blood clots often form, although you will still need to take your blood thinners if you have any risk factors for stroke.

## Re-evaluating your situation

The way care is organised is different in every country and region. However, you should expect to receive follow-up by medical professionals, most often led by either a cardiologist or general practitioner. They might ask for advice or refer you for specific treatment (for example to a surgeon or stroke doctor). This follow-up can also be combined with advice or referral to other professionals, such as nurses, pharmacists, physiotherapists or dietitians. Some healthcare providers also have special clinics for patients with AF.

If you have been stable, and your symptoms are well controlled, you may be discharged from follow-up by the hospital. Your risk factors and need for blood thinners should continue to be under regular review by your community physician.

If you are troubled by your AF, then you should seek attention so that your treatment plan can be changed. If you suffer a black-out or are worried by chest pain, then seek emergency advice.



This guide for patients is a simplified version of the [ESC Clinical Practice Guidelines](#) for the management of atrial fibrillation.

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## Disclaimer

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