Live Well

with Atrial Fibrillation

Irish Heart Foundation

Produced by the Irish Heart Foundation

This booklet is one of the publications in our patient information series.

The Irish Heart Foundation is the national charity fighting heart disease and stroke. More people in Ireland die from this disease than from any other cause of death. We work to bring hope, relief and a better future to families in Ireland.

We support pioneering medical research, campaign for improved patient care and provide vital patient support and information.

In hospitals, schools and workplaces, we support, educate and train people to save lives. As a charity we depend on your ongoing support – through your donations or by giving your time as a volunteer or on a training course.

For more information or to donate, visit our website: www.irishheart.ie

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Irish Heart Foundation

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Introduction

This booklet has information about atrial fibrillation (AF) to help you understand and manage your condition. We have written it for people with AF, a heart condition that is often described as an irregular heartbeat or arrhythmia. It adds to the information that you have already from your doctor. It does not replace the advice of your doctor, consultant or nurse.

The booklet explains what happens to your heart in AF, its causes, signs and symptoms, potential complications of AF and how to live a normal life with AF. AF is a condition a lot of people have and this information tells you what you can expect if you have been diagnosed with AF and how you can maintain your quality of life.

Although AF is generally not life-threatening, it is a serious condition and can lead to serious complications such as other heart problems and stroke. By knowing about its possible complications, you can find out how to lower your chances of them happening to you.

What is Atrial Fibrillation?

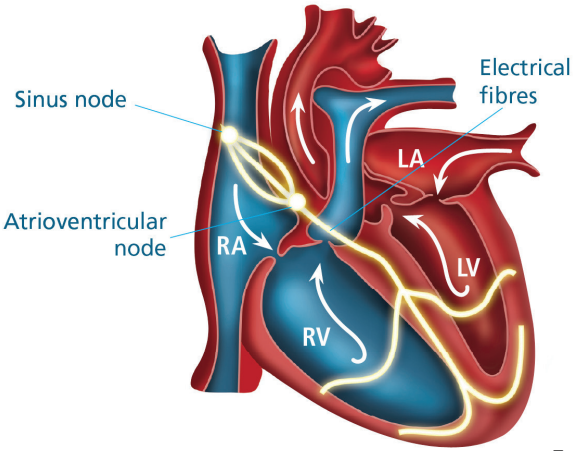
Atrial fibrillation or AF is the name for the particular type of irregular heartbeat that you have. An irregular heartbeat is often called an arrhythmia. With AF your heart beats in a disorganised and irregular way which can lead to a range of symptoms and potential complications. AF is the most common type of arrhythmia. It affects almost seven million people in Europe and the US.

How your heart and heartbeat work

To understand atrial fibrillation (AF), you first need to know a little bit about how your heart works.

RA - Right Atrium
RV - Right Ventricle
LA - Left Atrium
LV - Left Ventricle

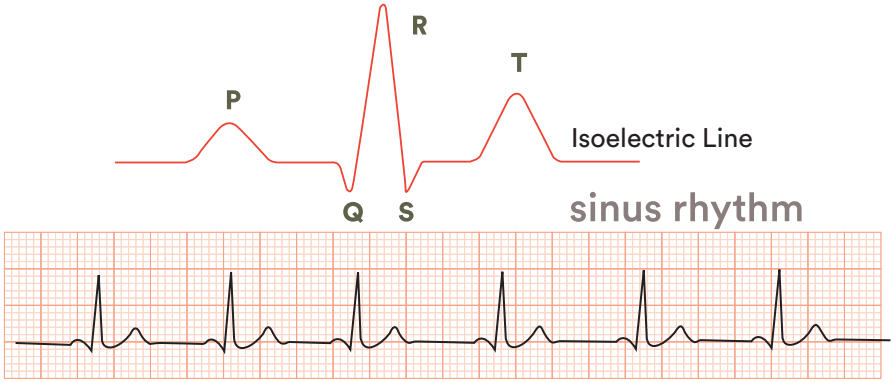
Your heart is a muscle, about the size of a clenched fist. The job of the heart is to pump blood around the body; it works every second of every day. The heart pumps because of its 'electrical' system which starts the heartbeat. The heartbeat starts in the top right section of the heart, called the atrium, and moves across the heart. Normally, one electrical wave is generated for each single heartbeat.



Heart rate and heart rhythm are the different ways the heart works to make heartbeats.

Heart rate is the number of heartbeats in one minute. The normal heart rate is between 60 and 100 beats in one minute, although each person's heart rate is slightly different.

Heart rhythm is how regular the pattern of your heartbeat is. Normal regular heart rhythm is known as sinus rhythm.



Normal heart rhythm or sinus rhythm

Both heart rate and heart rhythm need to be regular for your heart to work in the best way. The picture above shows a normal regular heart rate and heart rhythm, with a regularly spaced and regularly timed pattern.

Any change to this regular heart rate or heart rhythm is called an arrhythmia or irregular heart rhythm, shown in the picture below.

Atrial Fibrillation (AF)

How do I know that I have AF?

What are the symptoms of AF?

Some people have no symptoms of AF and are only diagnosed at a routine check-up with their doctor. Other people feel their irregular heartbeat straight away through a range of symptoms such as:

- Palpitations
- Tiredness or weakness
- Difficulty exercising
- Dizziness, light-headedness or fainting
- Chest pain
- Discomfort or difficulty breathing
- Shortness of breath

Palpitations are an uncomfortably sudden and sharp sensation of the heartbeat, generally on the left side of your chest. Palpitations are the most common symptom of AF. You will probably feel them as a fast and irregular heartbeat.

Not everyone with AF episodes has the same symptoms and, some people have no symptoms at all.

Regularly checking your pulse can help detect atrial fibrillation.

Find out more information by visiting our website at **www.irishheart.ie** or by phone on **01 668 5001**

What causes AF?

The causes of AF are not always clear but your chances of developing AF can go up if you have one or more of these medical conditions, high blood pressure, diabetes and heart disease. AF can affect adults of any age, but it is more common as people get older.

There are many risk factors that mean you are more likely to develop AF. The risk factors for AF include:

- Increasing age
- Coronary heart disease
- Disease of heart valves
- Heart failure
- High blood pressure
- Overactive thyroid gland
- Lung infections, such as pneumonia
- Pulmonary embolism (blood clots)
- Heart or lung surgery
- Alcohol abuse*

* Alcohol abuse, such as drinking large amounts of alcohol over a long time, is a major factor in people developing AF. Even young people can get AF after binge-drinking occasions.

Tests used to diagnose AF

To diagnose that you have AF, your doctor will look at your medical history and give you a medical examination. This examination will include an ECG and ultrasound examination (echocardiogram) of your heart. You may need other tests to help diagnose your AF.

ECG

The ECG test measures the rhythm and electrical activity of your heart. Small sticky pads are put on your body that are connected to wires that link up to the ECG machine. The machine reads and records the electrical signals from your heart on paper. An ECG is painless and usually takes about five minutes.

Echocardiogram

An echocardiogram is also called an echo and is an ultrasound scan of your heart. It can detect if the problem is in your heart valves or the muscles of your heart.

24 hour ECG recording (Holter Monitor)

This can be used when the standard ECG doesn't pick up an irregular heartbeat. You wear a small recording machine for 24 hours or longer, usually around your waist. The machine measures the ECG during the day and overnight.

Exercise ECG

Sometimes exercise triggers arrhythmias. An exercise ECG can record the rhythm of your heart when your heart is under more pressure. It takes the ECG recording while you are exercising, either on a treadmill or an exercise bike.

Cardiac event recorders

If you do not get symptoms very often your doctor may suggest using a small electronic device called a cardiac event recorder. This records your heart rate and rhythm over a longer time. There is also an implantable loop recorder which is put under your skin for several months or a couple of years. This records electrical activity of your heart over a longer time.

EP study

An electrophysiological (EP) study, EPS or electrophysiological test can discover specific types of heart rhythm. If you need an EP study your cardiologist will refer you to a cardiac electrophysiologist. You will need to have a local anaesthetic to have this test and it takes two or three hours.

Coronary angiogram

A coronary angiogram or angiography is a test to see if your coronary arteries, which supply blood to the heart, are flowing freely. Your angiogram shows your doctor if there are any narrowings in the vessels, where they are and how tight they are. You will need a local anaesthetic to have this test.

Other tests, including a blood pressure check and blood tests to measure how well your kidneys and thyroid gland are working, will usually be carried out as well.

What are the types of AF?

There are three types of AF. It is important for you to know which type of AF you have so that you can understand your condition and learn how to manage it. However, the type of AF you have is not fixed. If you have paroxysmal or persistent AF this can become a permanent type over time.

1

Paroxysmal AF

These episodes usually last for hours or days. The episodes come and go on their own, and do not usually last longer than one week.

2

Persistent AF

These episodes last longer than one week and do not go away on their own. You will need medical treatment to bring back your normal regular rhythm.

3

Permanent AF

Your irregular heartbeat does not return to normal rhythm and medical treatment cannot return the heart to normal rhythm.

What complications can AF cause?

Although AF is not generally life-threatening; it is a serious condition and can lead to you getting serious complications such as other heart problems and stroke. By knowing about the possible complications and working closely with your doctor, you can find out how to lower your chances of them happening to you. Speak to your doctor if you have questions or concerns about any of the complications of AF.

Stroke

In AF your heart beats in an irregular way, and this can cause blood clots to form in your heart. These clots may then be pumped around your body. Clots that lodge in your brain can cause a stroke.

A stroke is a brain attack. It happens when a blood vessel, which is carrying oxygen and nutrients to the brain, bursts or is blocked by a clot. This causes an interruption of the blood supply to part of your brain. This can damage or destroy brain cells which will affect your body functions.

People with AF are five times more at risk of having a stroke than people without AF. You can reduce the risk by treating any other risk factors, such as high blood pressure, heart valve problems and coronary artery disease, and making sure you take your blood thinner tablets (if they have been prescribed) regularly and follow a healthy balanced lifestyle.

Long-term damage to the heart

Your heart can be damaged over time by having an uncontrolled heart rate for weeks or months like in AF. It reduces the heart's ability to pump as well as it needs to. This can lead to long-term complications, such as heart failure and other heart conditions.

Heart failure means that your heart is not working properly as a pump to deliver oxygen-rich blood to the body to meet its needs. You could get swollen ankles and a build up of fluid in your lungs causing breathlessness. Even if you have been diagnosed with heart failure, it is important to know your heart is not about to stop! Your symptoms will improve with the right treatment. Most people with this condition live active and comfortable lives.

Increased chance of going to hospital

Having AF means you will probably need to go to hospital more often. Between 50 to 66 percent of people with AF need to go to hospital because of their AF.

How do I manage my AF?

It is important to understand how to best manage your AF to avoid complications. If you do this then you:

- Reduce your chance of having a stroke.
- Reduce the impact of AF on your life such as the symptoms, return of symptoms, or the quality of life.
- Reduce your risk of hospital admissions and illness from long-term heart weakness.

What are the treatments for AF?

There are several medicine and non-medicinal options available to help you manage your AF. There are two main strategies to control your irregular heartbeat: rate control or rhythm control. Some people may also be prescribed anti-thrombotic medication known as blood thinners. Ask your doctor if you would like to know about any of these management options on the next page.

Medicines

To manage your AF it is important to regularly take the medicines your doctor has given to you. You need to keep taking your medication even if your symptoms go away. This is because the medicines do not just reduce your symptoms and how often they might return, but also they improve your quality of life and reduce your risk of having long-term complications.

Heart rate control

Heart rate control involves using medicines or surgical procedures to slow down your heart rate by slowing the speed at which electrical impulses move in the heart. Medicines that manage the heart rate include: digoxin, betablockers, calcium channel blockers and some newer treatments such as dronedarone.

Heart rhythm control

Heart rhythm control involves using medicines or other techniques to change your abnormal heart rhythm back into normal rhythm. Medicines commonly used for this are called anti-arrhythmic agents. They stabilise the electrical activity of your heart to stop AF episodes happening. Medicines that try and regulate the rhythm of the heart include: amiodarone, flecainide, sotalol and newer treatments such as dronedarone.

Preventing clots and stroke

Atrial fibrillation increases your chance of developing blood clots, which can lead to stroke and other serious problems. Some people will need to take medications to control their heart rate and heart rhythm, and to prevent blood clots.

The atrial fibrillation treatment that is most appropriate for you will depend on how long you've had atrial fibrillation, how severe your symptoms are and the underlying cause of your atrial fibrillation.

Generally, the treatment goals for atrial fibrillation are to:

- Reset your heart rhythm or control your heart rate
- Prevent blood clots

If these clots travel through your bloodstream to your brain then this will cause a stroke. AF-related strokes are often more serious than other strokes.

This is because the large clots which form in your heart can cause more damage resulting in more disability. To reduce the risk of stroke an anticoagulant (blood thinner) medicine is often prescribed.

Until recently there was only one commonly prescribed anticoagulant, warfarin. Warfarin is a very effective medication, dramatically reducing the risk of stroke. Warfarin requires regular monitoring as its effectiveness can vary due to a person's lifestyle, diet, general health and other prescribed medications. Monitoring involves a blood test to check International Normalised Ratio (INR) levels. The result determines the dose of warfarin.

In recent years other anticoagulants have been developed. These are the direct oral anticoagulants (DOACs), and include:

- Apixaban (Eliquis)
- Dabigatran (Pradaxa)
- Edoxaban (Lixiana)
- Rivaroxaban (Xarelto)

The DOACs are as effective as warfarin in preventing an AF-related stroke. Unlike warfarin, the DOACs do not require frequent blood tests as they are unaffected by diet and interact less with other medications. It is however important to monitor your kidney function from time to time as occasionally the dose will need adjusting. It is therefore important to discuss these medications with your doctor before deciding the best option for you.

Other treatment options

There are also several other treatments for AF. Your doctor may discuss these with you. These treatments include:

Catheter ablation

Ablation is a surgical procedure that tries to find and remove the main cause of your AF. This is also called cardiac catheter ablation, radiofrequency ablation, cardiac ablation, or simply, ablation.

Ablation catheters are narrow, flexible wires, which are inserted into a blood vessel, often at the top of your leg or your neck. This wire is moved into place in your heart to correct the structural problems in your heart that cause an arrhythmia.

Electrical impulses are sent through the wire to destroy heart muscle tissue that is causing the arrhythmia or irregular heartbeat. As ablation causes little or no pain, you are usually mildly sedated with local anaesthetic.

Cardioversion

Cardioversion is a procedure that tries to reset your heart back into its regular rhythm.

Electrical cardioversion

Electrical cardioversion is a short procedure where an electrical impulse is given to your heart to change an abnormal heart rhythm back to a normal rhythm. The electrical impulse is given through your chest wall to your heart through special electrodes or paddles that are placed on your chest and back.

Cardioversion disrupts the abnormal electrical activity in your heart and restores a normal heartbeat. This split second interruption of the abnormal beat allows your heart's electrical system to regain control and restore a normal heartbeat, without damaging your heart. You will need to be put to sleep for a few minutes so you won't feel any pain during this procedure.

Chemical cardioversion

Chemical cardioversion uses medicines to bring back your heart's normal rhythm. These medicines work to lower the number of abnormal heart rhythms and to help bring back a normal rhythm. Your doctor may start your anti-arrhythmia medicine as an outpatient, or they may send you to hospital to give you an intravenous (IV) or oral anti-arrhythmia medication while your heart rhythm is closely observed.

Pacemaker

A pacemaker is a small device that is put in your chest to help control abnormal heart rhythms. A pacemaker uses electrical pulses to prompt your heart to beat at a normal rate if it is going too slowly.

A biventricular pacemaker can help the pumping function of your heart at particular times.

Implantable Cardiovertor Defibrillator or ICD

If you have heart failure or other heart rhythm problems as well as AF, your doctor may give you a special sort of pacemaker called an ICD. This device will monitor your heart and give your heart a small electrical shock to stop rhythm disturbances.

Which treatment is best for me?

Every person's treatment for AF is different and individual for that person. You may have several different options to choose from, and your doctor will explain the benefits and possible side effects of each of them to you before you make a decision.

Because of the different AF treatments available, your doctor may change your treatment a number of times until the best option is found for you. Be patient – it is for your own benefit.

Don't stop taking your medication just because your symptoms stop. Remember you are also taking tablets to reduce your chance of return of symptoms and of developing long-term complications of AF.

Side effects

As with most medicines, you may have some side effects from the tablets you are taking for your AF. Some side effects are mild and stop soon after you start taking the tablets for the first time. Other side effects may last longer and be more difficult for you. If you are worried about your medicines or their side effects, talk to your doctor or pharmacist.

When should I go to see my doctor?

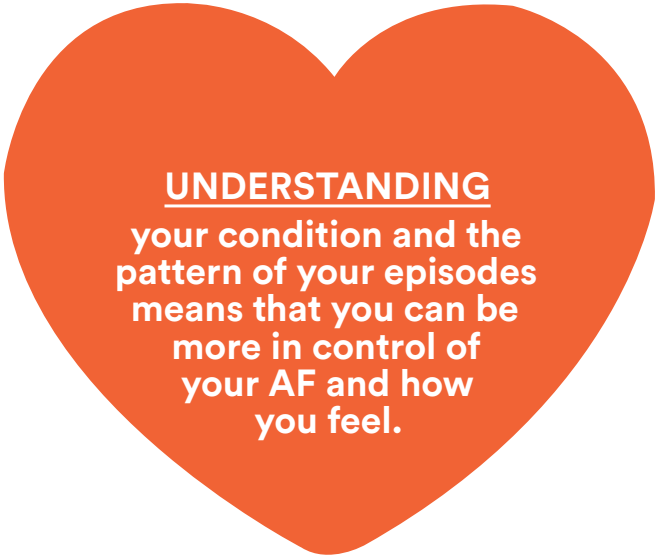
It is important that you go and see your doctor if:

- You have noticeable weakness or tiredness, dizziness, fainting or loss of consciousness, difficulty breathing or chest pain.
- Your AF episodes last longer than usual.
- You feel unwell.
- You have episodes of bleeding, which sometimes happen with anticoagulants such as warfarin.
- You are worried about side effects from your medicines.

Living with your AF

Get to know your AF
Sometimes you will find a clear cause for your episode, such as stress. At other times, you can have an episode for no obvious reason.

Keep a diary (see page 20) and see if you notice any particular causes of your episodes so that you can find ways to avoid them.



Can I make any lifestyle changes that may help with my AF?

- Be active. Check with your doctor or nurse what a safe and reasonable level of activity or exercise is for you before you start.
- Ask your doctor, nurse or pharmacist for advice on what types of food to eat. You should do this especially if you take anticoagulant tablets by mouth, as some food and drink can affect the way your tablets work.
- Avoid stimulants such as caffeine, like in coffee, alcohol, and nicotine from smoking. These can trigger an irregular heart rate.
- Have your blood pressure and cholesterol monitored regularly, and keep them under control.
- Reduce stress and find ways to manage or control any stress you cannot avoid.
- Be aware that some over-the-counter medicines and herbal remedies (like St John's Wort) have things in them that can make your AF worse. Always get the advice of your doctor or pharmacist before taking them.
- Go for regular check-ups. They will help you maintain your quality of life.

Diary for your AF symptoms and triggers

Use this diary to keep a note of your symptoms, and any triggers that you find can cause an AF episode so you can avoid them in the future. Show this to your doctor at your next appointment.

Date/Time	Symptoms	How long your symptoms last	Triggers of your AF, like too much exercise	Action you took, if any

Questions for your doctor or nurse

Keep a note here of questions about your AF or your health that you would like to ask your doctor or nurse when you next see them.

An explanation of medical terms used in this booklet

Ablation
In atrial fibrillation (AF), ablation is a surgical procedure that tries to find and remove the main cause of your AF.

Anti-arrhythmic medicines
Medicines that regulate the rhythm of your heart.

Anticoagulants and antiplatelet drugs
Medicines that thin your blood and help stop blood clots forming.

Anti-thrombotics
Drugs that you can take to lower your risk of forming blood clots.

Arrhythmia
An irregular heart rhythm or irregular heart rate.

Atrial fibrillation (AF)
A completely abnormal irregular heartbeat where the upper chambers of your heart beat in an uncoordinated manner.

Atrium
The upper section or chamber of your heart.

Cardioversion
A procedure that tries to 'reset' your heart back into its regular rhythm.

Coronary heart disease
Heart problems caused by narrowed heart arteries. When arteries are narrowed, less blood and oxygen reaches your heart muscle.

ECG
An ECG test measures the rhythm and electrical activity of your heart. Small sticky pads are put on your body connected to wires that link up to the ECG machine. The machine reads and records the electrical signals from your heart on paper.

Echocardiogram
This test uses ultrasound to view moving images of your heart.

Heart failure
A condition where your heart is not able to work hard enough as a pump to deliver oxygen-rich blood to the body and does not meet the body's needs.

Heart rate
A measure of the number of your heartbeats in one minute.

Heart rhythm
How regular the pattern of your heartbeat is.

Palpitations
An uncomfortably sudden and sharp sensation of the heartbeat, generally on the left side of your chest. You probably feel it as a fast and irregular heartbeat.

Paroxysmal AF
An irregular heartbeat that happens only occasionally.

Permanent AF
An irregular heartbeat that does not return to normal even if you take medication.

Persistent AF
An irregular heartbeat that lasts for more than one week and returns to normal only when you take medication.

Pulmonary embolism
A blood clot in your lung.

Sinus rhythm
The normal rhythm of your heart.

More information

Useful websites:

www.irishheart.ie
www.stroke.ie
www.bhf.org.uk
www.heart.org

Other Irish Heart Foundation publications:

- Step by step through stroke, a guide for those affected by stroke and their carers
- What is a stroke and how to treat a stoke
- Preventing a stroke
- Stroke Rehabilitation
- Step by step through heart failure
- Food Shopping Card - A User Guide
- Irish Heart Foundation Food Diary
- Step by step through heart medicines
- Step by step through inherited heart disease, familial hypercholesterolaemia
- Step by step through heart surgery
- Step by step through angina
- AF and you, information for people living with atrial fibrillation
- Step by step through cardiac catheterization and angioplasty
- Step by step through heart attack
- Manage your stress
- Time to cut down on salt
- Manage your blood pressure
- A healthy cholesterol
- Healthy eating
- Be active
- Quit smoking
- Lose weight

Irish Heart Foundation

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