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Definition

Atrial fibrillation (AF) is a cardiac arrhythmia.

Watch the video by Sanofi, ***An overview of atrial fibrillation***, which covers the definition of AF, signs and symptoms, causes/risk factors, prognosis and complications, and contains the following chapters:

- Chapter 1: Introduction to Atrial Fibrillation (from 0:00)
- Chapter 2: Symptoms and consequences of AFib (from 4:55)
- Chapter 3: Comprehensive AFib management (from 7:16)

Note that some of the terminology used in this video may differ from that used in the UK; for example, EKG, an electrocardiogram, is usually referred to as ECG, and AFib is more commonly referred to as AF. Classifications of AF are covered in this video.

More background detail about the diagnosis, assessment and management of AF can be found by accessing the National Institute for Health and Care Excellence (NICE) national guideline [Atrial Fibrillation: diagnosis and management \[NG196\]](#)¹ and the NICE clinical knowledge summaries (CKS); Health topics A to Z: [Atrial Fibrillation](#)² which provide a summary of the current evidence base and practical guidance on AF.

We recommend that you work through the CPPE [Cardiac arrhythmias](#) e-learning programme. This programme provides you with an overview of the most common cardiac arrhythmias, and how they are identified and diagnosed in practice.

Section 1: An overview of cardiac arrhythmia

Section 2: Tachycardia and AF medicines optimisation

Section 3: Bradycardia and urgent treatment strategies

This programme aims to help you develop the therapeutic knowledge you need to support the clinical management of patients with cardiac arrhythmias.

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Causes/risk factors

Atrial fibrillation (AF) is commonly associated with hypertension, coronary artery disease, and myocardial infarction. There are multiple causes and risk factors for the development of AF, a list of these can be found by accessing the NICE clinical knowledge summaries (CKS); Health topics A to Z: [Atrial Fibrillation](#).²

The British Heart Foundation's [Atrial fibrillation](#) booklet contains a clear explanation of the possible causes and risk factors for the development of AF – this is a useful resource to share with people and their families.

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Prevalence and incidence

Atrial fibrillation (AF) is the most common sustained cardiac arrhythmia, with an estimated overall population prevalence in England of 2.5 percent.

It is estimated that in 2016, around 1.4 million people in England were living with AF. Of these 425,000 were estimated to be undiagnosed and untreated.

Prevalence was higher in men (2.9 percent) than in women (2.0 percent).²

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Pathophysiology (mechanism of disease)

The [2020 ESC Guidelines for the diagnosis and management of atrial fibrillation developed in collaboration with the European Association for Cardio-Thoracic Surgery \(EACTS\)](#) covers the pathophysiology of AF in

Section 4.2 *Mechanisms leading to atrial fibrillation*, which looks at remodelling of atrial structure, ion channel function and electrophysiological mechanisms of atrial fibrillation.

The *European Journal of Human Genetics*' [Atrial fibrillation: the role of common and rare genetic variants](#), describes the genetic basis of AF.

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Prognosis and complications

Those with AF have a considerably greater risk of mortality and are nearly twice as likely to die prematurely compared with people in sinus rhythm.² For more information about the prognosis for those with AF, access the 'What are the complications and prognosis?' section of the NICE CKS [Atrial fibrillation](#) resource, which summarises that:

- Stroke and thromboembolism are the main complications of AF.
- Heart failure is commonly associated with AF.
- Tachycardia-induced cardiomyopathy and critical cardiac ischaemia may result from the persistently elevated ventricular rate seen in uncontrolled AF.
- The mortality rate of people with AF appears to be correlated with the presence and severity of concomitant cardiovascular disease.
- A large meta-analysis carried out in 2016 describes the increased risks associated with AF (see reference 2 for details).
- AF is associated with a reduced quality of life, reduced exercise tolerance and impaired cognitive function.
- The risks from paroxysmal AF are thought to be like those from persistent or permanent AF.
- Anticoagulation treatment reduces the risk of stroke by about two-thirds.²

In the following video, we meet Eileen who talks about her experience of living with AF:

[Arrhythmia Alliance - AF and quality of life](#)



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Diagnosis/detection

Section 1, *An overview of cardiac arrhythmia*, of the CPPE [Cardiac arrhythmias](#) e-learning programme covers making a diagnosis of arrhythmias including history-taking examination and other investigations.

The 'diagnosis' section of the NICE CKS [Atrial fibrillation](#) covers when to suspect AF, diagnostic tests and differential diagnosis.²

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Treatment

In Section 1 of the CPPE **Cardiac arrhythmias** e-learning programme, the *An overview of atrial fibrillation* video, explains that the main pharmacological treatments for AF include rate control and rhythm control. Anticoagulation also needs to be considered.

Section 2, *Tachycardia and medicines optimisation in AF*, the programme covers evidence-based choices of anticoagulation, rate control and rhythm control.

The current management of AF is described in the NICE CKS [Atrial fibrillation](#) – refer to the 'Scenario: Management of AF' section.

For more learning specific to anticoagulation access the Northern Ireland Centre for Pharmacy Learning and Development (NICPLD) [Cardiovascular disease: anticoagulation](#) e-learning programme, which is available through the CPPE website. It is designed to equip you with the knowledge to deliver a safe and supportive service to patients who are prescribed anticoagulants including the newer oral anticoagulants.

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Patient support

Section 4, *Supporting patients*, of the CPPE [Cardiac arrhythmias](#) e-learning programme covers how to communicate with patients about arrhythmias and supporting patients to self-care.

Within this section there are links to the [Arrhythmia Alliance](#) and the [British Heart Foundation](#) websites, which contain information and support for those with AF.

NICE offers [Atrial fibrillation, Information for the public](#).

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Further resources

The 2018 European Heart Rhythm Association [Practical Guide on the use of non-vitamin K antagonist oral anticoagulants in patients with atrial fibrillation](#).

CPPE materials

The CPPE [Atrial fibrillation and arrhythmias](#) gateway page links to NICE guidance, consultation skills learning, and CHADSVASC and ORBIT bleeding risk score.

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External websites

CPPE is not responsible for the content of any non-CPPE websites mentioned on this page or for the accuracy of any information to be found there.

All web links were accessed on 23 May 2023.

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References

1. National Institute for Health and Care Excellence (NICE). NICE guideline NG196]: [Atrial Fibrillation: diagnosis and management](#). June 2021.
2. National Institute for Health and Care Excellence (NICE). Clinical knowledge summaries (CKS). Health topics A to Z: [Atrial fibrillation](#). March 2023.

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