



# Victorian Heart Centre

## ATRIAL FIBRILLATION

A guide for patients

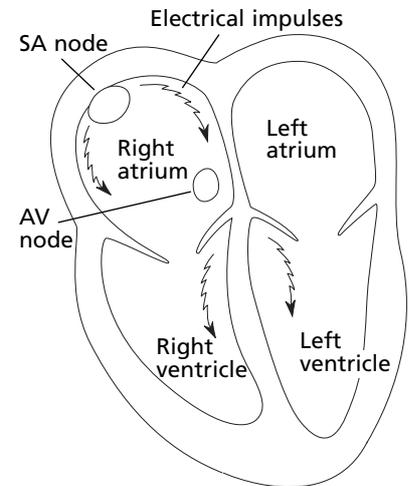


**A**trial fibrillation is an uncoordinated beating of both the left atrium and right atrium of the heart. For the heart to pump blood effectively and efficiently from the atria into the ventricles, both atria must have a normal rhythm.

To start each normal heartbeat, an electrical impulse is sent from the SA node in the right atrium to the rest of the heart, as shown in the illustration. The SA node is the natural pacemaker that coordinates the heart's contractions into a "sinus rhythm". When the impulses pass through the atria, they pass slowly through the AV node and then down other conduction fibres to the ventricles. This causes both the right and left ventricles to pump at the same rate as both the atria; this is called sinus rhythm.

If the electrical impulses from the SA node become chaotic, the result is atrial fibrillation (AF). The uncoordinated contractions cause poor blood flow from the atria to the ventricles, and pumping efficiency is reduced. The rhythm of the ventricles is also affected, so the pulse rate becomes fast and the heartbeat becomes irregular.

**RISKS OF AF:** The heart will not stop during AF. However, a risk of AF is that the disruptions to the normal pumping of blood can cause stagnant pools of blood to form in the atria. This can cause blood clots to form in the blood, and some clots may adhere to the walls of the atria. The clots can be swept into the brain, kidneys or other organs, leading to stroke and other debilitating or life-threatening conditions.



The SA node produces regular electrical impulses that coordinate contractions of the heart muscle so the heart beats as an efficient pump.

### Symptoms of AF

A person may have a rapid and irregular heartbeat, palpitations, dizziness, fatigue, lethargy, shortness of breath, and a general feeling of discomfort.

### Causes of AF

- excess alcohol or caffeine intake
- physical or psychological stress
- stimulant medications
- pericarditis (inflammation of the membrane around the heart)

- coronary artery disease
- heart valve disease
- heart muscle dysfunction
- overactive thyroid gland.

In some people, AF starts and stops for no apparent reason. AF can be present for some time before it is diagnosed.

AF becomes more common with increasing age:

- over 40 – about two people in 100
- over 65 – about six people in 100
- over 80 – about 10 people in 100.

### Diagnosis of AF

Tests to diagnose and investigate causes of AF may include:

- an electrocardiogram (ECG), including a portable ECG monitor
- X-ray examination of the chest and heart
- echocardiogram (ultrasound examination of the heart)
- blood tests
- electrophysiology (EP) studies
- coronary angiogram.

### Treatment of AF

#### Treatment with Medications

- To slow and control the heart rate (for example, digoxin, beta blockers or calcium channel blockers)
- To prevent clot formation (heparin, warfarin or other blood-thinning medications).

#### Treatment with Cardioversion

If the arrhythmia persists, your cardiologist may suggest cardioversion. This is the application of an electrical shock across the chest to revert the heart back into a normal sinus rhythm. This procedure is explained in "Cardioversion – a guide for patients", available from your cardiac nurse or doctor.

#### Treatment with a Pacemaker

To control AF, your cardiologist may recommend that a small electrical device known as a pacemaker be implanted. This procedure is explained in "Permanent pacemaker – a guide for patients", available from your ward nurse or doctor.

#### Surgical Treatment

In rare cases, the Maze operation may be recommended, typically in patients with persistent, troubling AF who are going to have heart surgery for other reasons.

Other types of minimally invasive surgery called catheter ablation can stop the errant impulses from the AV node from spreading to the rest of the heart.

#### TALK TO YOUR DOCTOR OR NURSE

This leaflet is intended to provide you with information and is not a substitute for professional advice. It does not contain all of the known facts about atrial fibrillation. There may be other side effects that are not listed in this leaflet.

If you are not certain about the benefits, risks and limitations of treatment, be sure to ask your doctor or nurse.

It is important that you have enough information about benefits and risks so you can make an informed decision about having treatment.