A patient’s guide to
living with atrial fibrillation
Information for patients and families
About this guide

We have prepared this guide to help you to:

- Learn about atrial fibrillation (AF)
- Manage atrial fibrillation and reduce the risk of stroke
- Find out about medicines and other treatment options

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This information is not intended as a substitute for professional medical care. Ask your healthcare provider about this information if you have questions.
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What makes a normal heartbeat?

The heart is a large muscle with four chambers. There are two top chambers (left and right) called the atria and two bottom chambers (left and right) called the ventricles. The right–sided chambers collect “used” blood and then pump the blood to the lungs. In the lungs, blood gets oxygen. The left sided chambers receive oxygen rich or “fresh” blood from your lungs. Then they pump the blood out to the rest of your body. Every part of your body–including tissues, organs and muscles–needs fresh blood to work well.

The heart muscle contracts (or pumps) because of signals it gets from your body's natural pacemaker. This is called the sinoatrial node (SA node). Your brain and the SA node work with each other to tell the heart how fast to beat. For example, your heart beats slower when you are resting and faster during exercise.

A regular heartbeat makes the sound “lub-dub”. The SA node sends electrical signals to the upper chambers. When electrical signals from the SA node reach the upper chambers, the upper chambers beat (“lub”). Signals make their way to the lower chambers through the atrioventricular node (AV node). This causes the lower chambers to beat (“dub”).
What is atrial fibrillation (AF)?

Atrial fibrillation (AF) is a common rhythm problem of the upper chambers of the heart (atria). A rhythm problem is called arrhythmia. When the upper chambers move too fast, the lower chambers of the heart (ventricles) also move faster and in an irregular way. With an irregular rhythm, the heart may not be able to pump blood to the body well. This is because the ventricles may not have enough time to fill properly between beats.

The picture below shows the difference between a normal heart rhythm and an AF rhythm.
AF patients have fast and disorganized electrical activity which causes abnormal heartbeats. The atria fibrillate or quiver much faster than usual. They also beat much faster than the ventricles:

<table>
<thead>
<tr>
<th></th>
<th><strong>Atria</strong> (upper chambers)</th>
<th><strong>Ventricles</strong> (lower chambers)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patients with a</td>
<td>50 to 100</td>
<td>50 to 100</td>
</tr>
<tr>
<td><strong>normal heart rhythm</strong></td>
<td>beats per minute</td>
<td>beats per minute</td>
</tr>
<tr>
<td><strong>Patients with AF</strong></td>
<td>350 to 500</td>
<td>80 to 200</td>
</tr>
<tr>
<td></td>
<td>beats per minute</td>
<td>beats per minute</td>
</tr>
</tbody>
</table>

During AF, the upper chambers of the heart do not fully contract in the normal way. This increases the risk of blood clots. If a blood clot forms, it could break free and travel through a blood vessel to the brain. A blood clot in the brain can cause a stroke. It can block the flow of blood to part of the brain.
What are common signs of a stroke?

- Weakness
- Trouble speaking
- Vision problems
- Headache
- Dizziness

If you have any of these signs, go to the emergency department right away or call 9-1-1

What is atrial flutter?

Atrial flutter is a condition related to AF, but the rhythm is more organized. Atrial flutter usually causes a rapid, regular heart rhythm. During atrial flutter the upper chambers or atria contract at a very fast rate (250 to 300 beats per minute) and the lower chambers or ventricles contract at 75 to 150 beats per minute.

Some patients have both AF and atrial flutter. But this is rare. When a person has both of these heart rhythms, one may be causing the other. For example, atrial flutter may be causing AF.

Some of the information in this booklet about treating AF also applies to atrial flutter.
What causes AF?

AF is the most common type of heart rhythm problem (arrhythmia). More than 350,000 Canadians have AF. About 1 out of every 25 Canadians over the age of 65 has AF. But people younger than 65 can also have AF. The risk of getting AF increases with age. Among people over the age of 80, about 1 out of 10 people lives with AF.

The root cause of AF is heart disease or another condition that leads to changes in the upper chambers and electrical changes in the heart. Some people develop AF without any known cause and without heart disease. This is called ‘lone AF’.

Your risk of getting AF is higher if you have:

- High blood pressure (hypertension)
- Coronary heart disease
- Valvular heart disease
- Thyroid disease
- Lung disease
- Recent open-heart surgery
- Another type of heart rhythm problem
- An abnormal heart structure

The risk is also higher if you:

- Are over 60 years old
- Have sleep apnea
- Drink too much alcohol (More than 2 drinks each day)
- Are obese
Certain factors may bring on an episode of AF, but do not directly cause AF. These factors, also called triggers, are still being studied. An example of a trigger may be too much caffeine or a stressful event. If you know your triggers, you should try to avoid them. This can improve your symptoms during AF. If you are not bothered by your symptoms during AF, then there is no need to avoid potential triggers.

**What are common symptoms of AF?**

Many people live with AF. If your AF is managed well with treatment, you can live a normal life. AF does not cause a heart attack or sudden cardiac death. Some people feel fine during AF, but others may have one or more of these symptoms:

- Feeling of a rapid heart rate or a feeling of skipped heartbeats
- Problems breathing (shortness of breath)
- Feeling dizzy or faint
- Feeling tired or not able to do daily activities
- Chest pain, tightness or pressure

**What are types of AF?**

1. **Paroxysmal AF** – These are episodes of AF that come and go. The AF usually stops on its own within 48 hours. Depending on the symptoms, these episodes can be reduced with treatment.

2. **Persistent AF** – These are episodes that last longer than 7 days and do not stop on their own. Usually, treatment is needed to help the heart return to a normal rhythm.

3. **Permanent AF** – This type of AF is chronic. Chronic means that the AF will usually last longer than 1 year. With chronic or permanent AF it may be hard to restore the heart back to a normal rhythm. Sometimes it is not possible to try to stop the AF episode altogether.
How is AF diagnosed?

Your healthcare team will look over your health history, do a physical exam and some tests. The results of the tests will show if you have AF.

An **electrocardiogram (ECG)** records your heartbeat and confirms if you have AF.

An EKG showing atrial fibrillation arrhythmia
Source: CardioNetworks. Used under Creative Commons Attribution-Share Alike license
Other tests that you may need

A Holter monitor is a special device that monitors your heart rhythm. You might be asked to wear the Holter for 24 to 48 hours.

An event recorder is like a Holter monitor but is worn for 2 weeks. Instead of recording all of your heartbeats, it only records the heart rhythm when you press the button during symptoms.

While not all tests may apply to you, other useful tests that can help in treatment of AF are:

- **Blood tests** show how well the thyroid, kidney and liver are working. Your blood may also be tested for electrolytes and hemoglobin levels. These test results can show what factors that play a part in your AF episodes. We may be able to treat or change these factors.

- **Nuclear stress test** can show if the blood flow to the heart muscle is normal.

- **Heart CT (or CAT) Scan** gives a detailed picture of the heart chambers and vessels.
• **Echocardiogram** (echo - ultrasound) uses sound waves to create a video picture of the heart beating. The picture shows the size and function of the heart chambers, heart valves and blood flow.

![Echocardiogram](source)

• **Sleep study** to tell if you have sleep apnea, a sleeping disorder. You will spend the night at a clinic or lab where your sleep will be monitored with special machines. A sleep specialist will meet with you later to discuss the results.

• **Chest x-ray** shows the basic heart and lung structures.
• **Electrophysiology study (EPS)** can show if you have other heart rhythm problems. Long wires called catheters are inserted and guided into the heart. These catheters transmit signals that tell us exactly where the problem is.
**How is AF treated?**

Treatment for AF is different for each patient. The treatment depends on your symptoms and how AF is affecting you. The most common goals of AF treatment are:

- To improve your symptoms
- To reduce your risk of stroke

It is important to keep your heart beating at a normal rate. If your heart rate is too fast and is not treated for a long time, the heart muscle can become weak.

There are two main types of treatment:

1. Treatments to slow down the heart rate or pulse (**rate control**)
2. Treatments to help the heart keep a regular rhythm (**rhythm control**)

**Rate control** medicines slow down the heart rate during AF. They do not stop AF from happening. This helps some people feel better and more able to do their usual activities.

Some patients may also need treatment with **rhythm control**. This can be a medicine or a procedure to help your heart return to a normal rhythm.
What are the different types of treatment?

There are many ways to treat AF. Treatment is different for every patient. Your symptoms during AF and the results of your tests will help show which choice of treatment is best for you.

1. Medicines you take every day

Some patients may need to take both rate control medicines and rhythm control medicines. Other patients only need one kind of medicine.

Rate control medicines help control the heart rate or pulse. There are 3 different types:

- Beta blockers, such as metoprolol and bisoprolol
- Calcium channel blockers, such as diltiazem and Tiazac
- Cardiac glycoside, such as digoxin

Rhythm control medicines are used to restore or keep a normal heart rhythm. They are also called anti-arrhythmic drugs. Examples of rhythm control medicines are disopyramide, flecainaide, propafenone, dronedarone, sotalol and amiodarone.

2. Medicines you take when you need them (also called Pill-in-the-Pocket)

This choice is only for patients who do not have AF often (for example, only once every few months). When they have AF symptoms, they take both rhythm control and rate control medicines. Taking these medicines during AF episodes can help bring their heartbeat back to normal. If your doctor prescribed Pill-in-the-Pocket for you, here are some benefits:

- You may not need to go to the emergency department as often because you are more able to control your abnormal heartbeats.
- If this treatment works, you may not need to take pills every day for AF. You may still need to take blood thinners.
3. Electrical cardioversion

If AF does not stop with medicines, you may be given an electrical shock. This is called a cardioversion.

- You will get medicine (sedation) that will keep you relaxed during the cardioversion.

- A machine called a defibrillator will send a brief electrical shock between two electrical pads on your chest and back. The electrical shock helps restore your heart to a normal rhythm.

- After the electrical shock, you may get rhythm control medicines. These medicines will help your heart stay in normal rhythm and prevent AF.

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4. Catheter ablation

If the other treatments do not work, or they cause too many side effects, you may need a catheter ablation.

For this procedure, a doctor puts long wires (catheters) through the veins in your groin or neck. They will guide the wires into your heart using an x-ray. The catheters burn or freeze the heart cells that are causing the AF. This is called ablation.

If you need catheter ablation therapy, your healthcare team will tell you more about it.

5. Blood thinners

Since AF increases your risk for stroke, almost everyone with AF needs blood thinners. These drugs are also called anticoagulants. The exact type of blood thinner depends on your risk factors for stroke. The risk factors for stroke are:

- Heart failure (congestive heart failure)
- High blood pressure (hypertension)
- Age over 65 years
- Diabetes
- Prior stroke or stroke warning (transient ischemic attack or TIA)

Some patients do not need to take a blood thinner. Others do. One common blood thinner is warfarin (Coumadin). Patients taking warfarin need their dose adjusted based on the results of a blood test called INR (International Normalized Ratio). Other blood thinners that do not need regular blood tests to adjust the dose are: apixaban (Eliquis), dabigatran (Pradaxa), rivaroxaban (Xarelto) and edoxaban (Lixiana).

Patients going for a cardioversion or ablation therapy need to be on blood thinners before and after the procedure. They need to take a strong blood thinner for about 1 month before and 1 to 3 months after the procedure. Some will need to take blood thinners for the rest of their life, if their risk of a stroke is high.

Your doctor or nurse practitioner will choose a blood thinner based on your individual needs. Talk to your healthcare team to find out more about the blood thinner that was prescribed for you.
Healthy lifestyle choices

1. Check your blood pressure regularly

High blood pressure can increase your risk for AF. See your family doctor regularly to check your blood pressure. High blood pressure (hypertension) is often controlled by diet, a healthy lifestyle (like regular exercise) and medicines. Check your blood pressure regularly to help your healthcare team know how to treat you.

2. Stop smoking

Smoking increases your risk for heart disease. If you are thinking about quitting, ask your healthcare team for help. There are programs to help you stop smoking, including nicotine replacement therapy.

3. Eat well

Use Canada’s Food Guide to help you eat well by planning healthy meals and choosing good habits.

Choose foods that are low in fat. The amount of fat in what you eat each day should be no more than 65 grams for women and 90 grams for men. A low fat diet helps lower cholesterol levels in your blood. Your doctor may also ask you to take drugs that lower cholesterol.

Some tips for healthy eating are:

- Eat more whole grains, fruits and vegetables
- Use very little salt. If your blood pressure is high, you may need to stop eating foods with salt.
If you are taking warfarin (Coumadin), you will have to be careful about eating foods that are high in vitamin K, such as green leafy vegetables. Warfarin gets in the way of how vitamin K works in your body. Also, changing how much foods high in Vitamin K you eat can change the amount of warfarin that you need. Ask your healthcare team which types of foods are high in Vitamin K, and how to keep the amount you eat steady.

4. Exercise regularly

Exercise helps you lose weight, control cholesterol, reduce blood pressure and reduce stress. Exercise is also good for the health of your heart, even if you have AF. Your exercise routine should depend on how you feel. Exercise is good for your health, but do not overdo it. Listen to your body.

If you take drugs for AF, your heart rate may not increase as much during exercise. This means that the drugs are doing a good job of slowing your heart rate.

5. Be careful with some medicines

Some over-the-counter drugs may make AF worse. Be careful with nasal sprays, cold and herbal pills. Always ask your healthcare team before taking these medicines.
Follow-up

If your AF is monitored and treated regularly, you can lower your risks and have fewer symptoms. The treatment can change over time and may depend on how you feel during AF. The key is for you and your healthcare teams to use the treatment that works best for you.
Where to find more information online:

- Afib Innovation Program:
  www.afibinnovationprogram.com

- American Heart Association Patient Information:
  www.americanheart.org/presenter.jhtml?identifier=4451

- Canadian Cardiovascular Society – Patient Education:

- Heart and Stroke Foundation:
  https://www.heartandstroke.ca/heart/conditions/atrial-fibrillation

- Heart Rhythm Society Patient Information:
  www.hrsonline.org/PatientInfo/HeartRhythmDisorders/AFib/
  index.cfm

- “Up to Date” Patient Information:
  www.uptodate.com/patients/content/topic.do?topicKey=~Q66z-
  KoLylHUj1&selectedTitle=1~150&source=search_result

- WedMD Patient Education Centre:
  www.webmd.com/heart-disease/atrial-fibrillation/atrial-
  fibrillation-overview
Atrial Fibrillation Clinic

St. Michael’s Hospital
7th Floor Donnelly Wing – Heart Health Unit
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Fax: (416) 864-5348

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