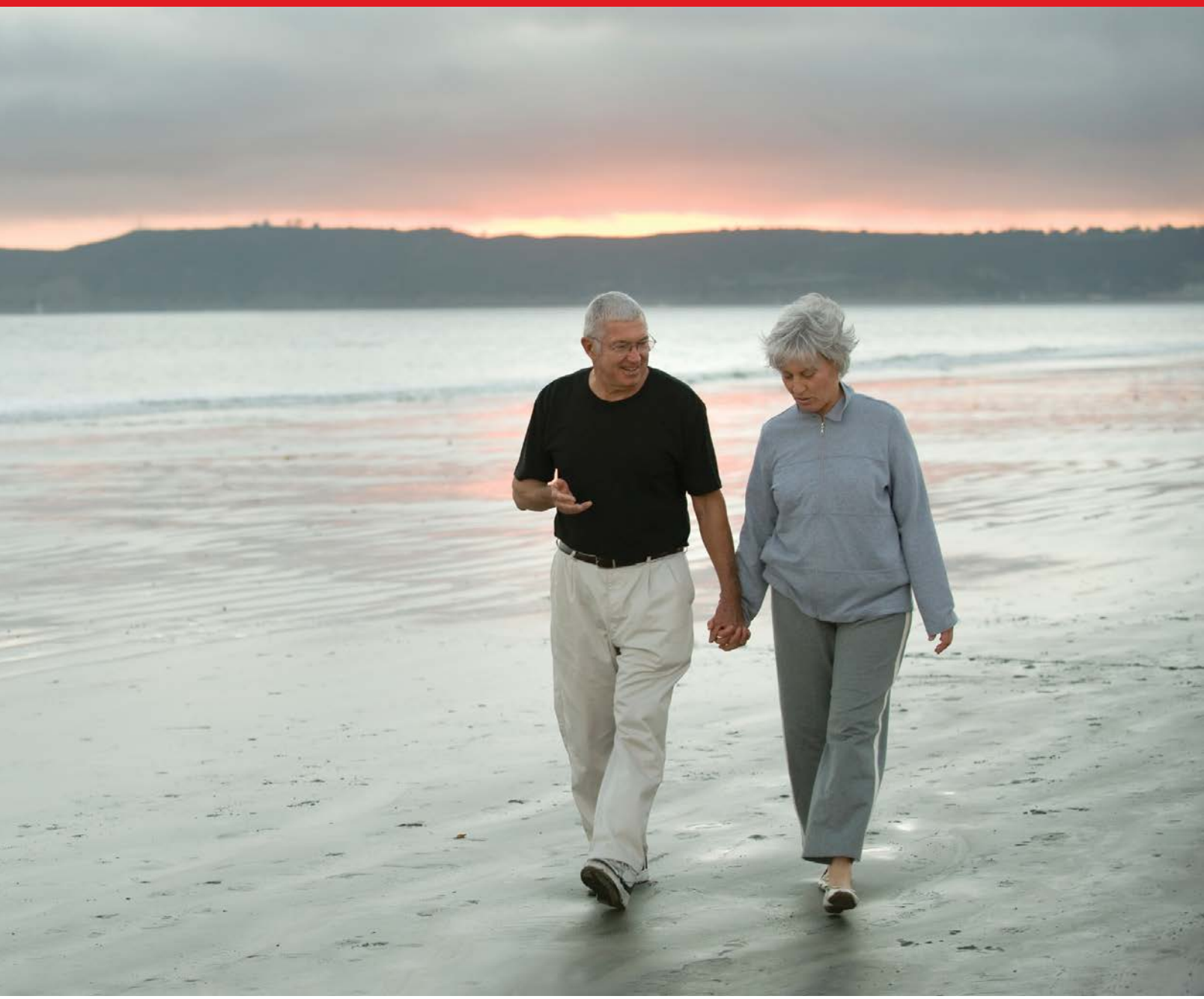
A PATIENT'S GUIDE TO

Complicated Atrial Fibrillation



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Introduction

Atrial fibrillation (also known as AFib or AF) is a common heart condition, particularly among older people. It's estimated that AF affects 2.7 million Americans. About 11 percent of people over the age of 80 have it. Often, AF is accompanied by other conditions, such as stroke or heart failure, making the management of AF more complicated. When AF is accompanied by another condition that affects AF, it is called complicated AF. Complicated AF is very common and more difficult to treat.

In this guide, you will learn about AF and its complications, the symptoms of AF, how AF is treated, and how you can manage AF to live a healthy life.

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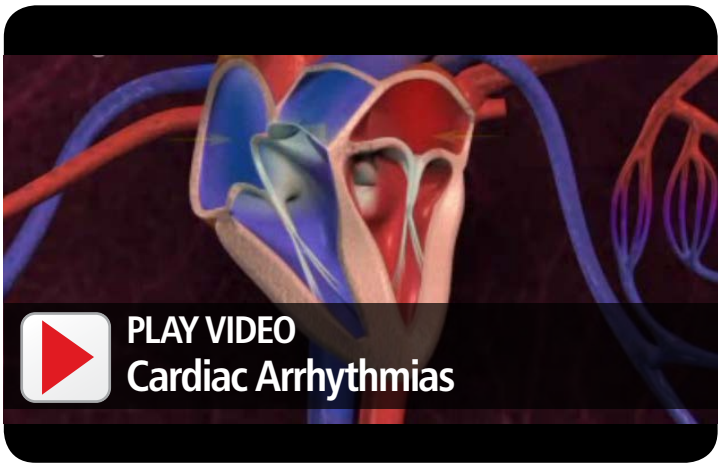
What is Atrial Fibrillation?

AF is a type of cardiac **arrhythmia**, a condition in which the heart doesn't beat the way it should. In AF, the heart's upper chambers, called the **atria**, beat chaotically and out of sync with the heart's lower chambers, the **ventricles**. The result is usually a rapid heartbeat that affects how blood flows through the body.

AF is the most common type of arrhythmia in the United States, but it is not a life-threatening condition. However, AF increases the risk of **stroke** or **heart failure** in some patients. For this reason, AF should be treated. Fortunately, there are several effective treatments for AF that help reduce the risk of stroke, heart failure, and other complications.



Causes of AF

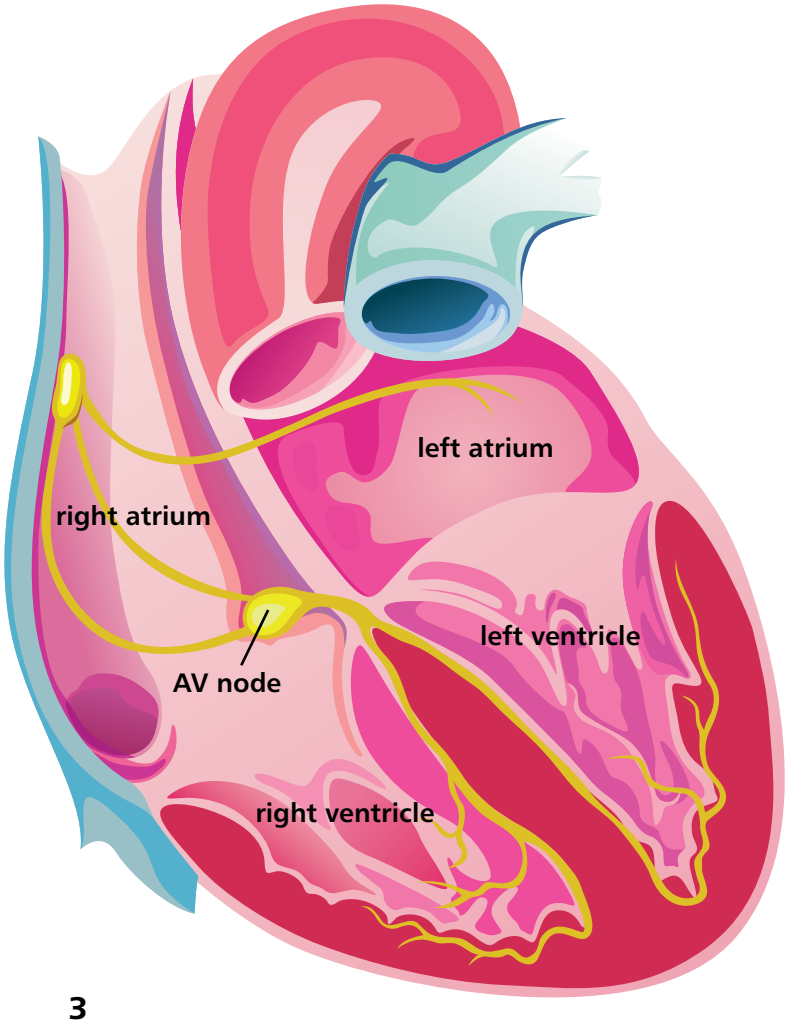
In the typical heart, there are electrical signals sent in an organized way from the atria to the ventricle by crossing a connection called the atrioventricular or **AV node**. AF is caused by tiny electrical signals in the atria beating irregularly or chaotically. The AV node gets overloaded with all these electrical signals, which cause irregular beats in the ventricles as well, but not as rapidly as in the atria. As a result, a heart with AF will typically beat anywhere from 100 to 175 beats per minute, whereas a healthy heart will beat 60 to 100 times per minute.

Many factors can cause the signals to go haywire. These range from **congenital** (i.e., at birth) heart defects to previous heart conditions, from **sleep apnea** to exposure to stimulants (whether medications, caffeine, tobacco or alcohol). They can also include:

- High blood pressure
- Valvular heart disease
- Overactive thyroid gland
- Acute or chronic lung disease
- Recent heart surgery
- Inflammation of the heart muscle (myocarditis) or the lining of the heart (pericarditis)

For some people, AF has no clear cause.

AF is considered **complicated** when a person has AF and a complicating medical factor, such as cardiovascular disease. This means that AF is itself a risk factor for a more serious condition, such as heart failure or stroke.



Symptoms

For some people, AF has no symptoms at all. Others have symptoms, which can include:

- Mild fatigue or weakness
- Difficulty breathing or shortness of breath
- Palpitations (a sense of racing or uncomfortable "flopping" of the heart)
- Lower blood pressure
- Lightheadedness
- Confusion
- Chest pain

AF comes and goes for some people, seeming to stop on its own. For others, AF is a chronic condition in which the heart rhythm is always abnormal.

Risk Factors

A number of conditions increase the risk for AF. These include:

- **Age:** The older you get, the greater your risk of getting AF.
- **Heart disease:** Any type of heart disease, including valve conditions and previous heart attacks or heart surgery, raises your risk for AF.
- **High blood pressure:** Uncontrolled **hypertension** (high blood pressure) increases the risk for AF, too. That's one more reason to keep your blood pressure in a healthy range.
- **Other chronic conditions:** Thyroid problems, sleep apnea and other medical problems can increase the risk for AF.
- **Alcohol:** Drinking alcohol can trigger an episode of AF in some people, and binge drinkers (i.e., five drinks in two hours for men, four in two hours for women) may be at higher risk.
- **Family history:** If members of your family have AF, you may be at higher risk.

Take a short quiz on what you've learned so far.
Click here to begin…

Treatment for AF

AF itself isn't a life-threatening condition. But AF can play a role in heart failure and stroke, which is why it's important to treat it. If your AF is caused by an underlying event, your doctor will likely treat the cause to see if that controls AF.

The goals of treating AF are resetting the heart's rhythm, controlling the heart rate and preventing blood clots.

Resetting the Heart's Rhythm

Cardioversion is a procedure designed to restore your heart rate and rhythm. Your doctor may prescribe it for you. There are two ways to do it:

- **Medication:** A medication called an anti-arrhythmic may be used to help restore your heart's normal rhythm. The medication may be intravenous (IV) or oral, depending on what your doctor thinks is best for you.
- **Electrical cardioversion:** In this very brief procedure, paddles or patches are placed on your chest. An electrical charge is sent to your heart through these contacts. The charge stops your heart's activity for a moment, allowing your heart to "reset" to its normal rhythm. You will be sedated through the procedure, so you won't feel the shock.

Very often, an anti-arrhythmic medication is prescribed following cardioversion to prevent future occurrences of AF. The most commonly prescribed include amiodarone, dronedarone, propafenone, sotalol, dofetilide and flecainide. While these medications can help maintain a normal heart rhythm, they have side effects. Most common among these are nausea, dizziness and fatigue. Typically, anticoagulation is also prescribed for a limited time after a cardioversion even if the rhythm has returned to normal.

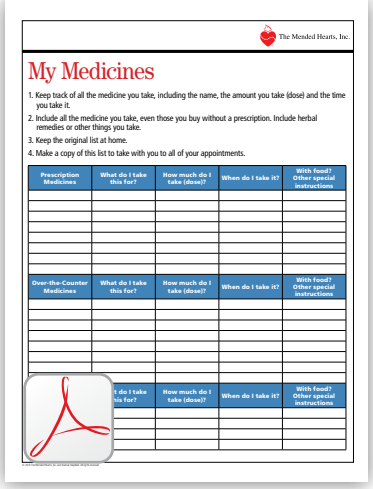
Controlling Your Heart Rate

When cardioversion doesn't create a normal heart rhythm, your doctor may seek to control your heart rate. There are two ways to do this:

- **Medication:** Calcium-channel blockers, beta-blockers and digitalis can be used to slow heart rate to a goal set by your doctor and you. Sometimes an ACE inhibitor is also prescribed to help control blood pressure and reduce the risk of complications.
- **Atrioventricular (AV) node ablation:** If the medications don't work or produce difficult side effects, this procedure may be an option. In AV node ablation, radiofrequency energy is applied to the AV node through a catheter to destroy this small area of tissue. Then a pacemaker is implanted to regulate the rhythm of the ventricles.

My Medicines

Click here to download and print this helpful tool for tracking your medications.



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My Medicines

1. Keep track of all the medicine you take, including the name, the amount you take (dose) and the time you take it.
2. Include all the medicine you take, even those you buy without a prescription. Include herbal remedies or other things you take.
3. Keep the original list at home.
4. Make a copy of this list to take with you to all of your appointments.

Prescription Medicines	What do I take this for?	How much do I take (dose)?	When do I take it?	With food? Other special instructions

Over-the-Counter Medicines	What do I take this for?	How much do I take (dose)?	When do I take it?	With food? Other special instructions

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Preventing Blood Clots

Due to the chaotic electrical signals in the heart's upper chambers, the atria, blood does not move through as well, and stagnates in the "corners." Stagnant blood is prone to form small clots. Blood clots are dangerous because they can lead to more serious conditions, such as stroke. The blood clots escape the atria and move into the pumping chamber of the heart, where they might be pumped out into the rest of the body and become lodged in an artery of the brain, or elsewhere. Because the risk for blood clots is so high in people with AF or who are undergoing procedures to treat AF, doctors often prescribe **anticoagulant** (blood-thinning) medications.

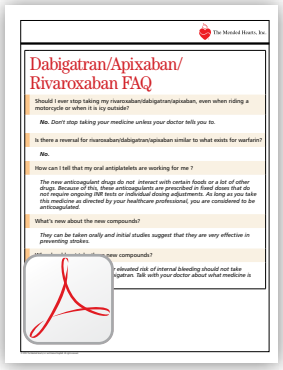
Anticoagulants

Blood thinners work on chemical reactions in your body to slow the time it takes to form blood clots. They do not break up blood clots that are already formed, however. The best known of the anticoagulants are heparin and warfarin, both of which have long been in use. Heparin must be given intravenously and is administered in a hospital setting for several days. It requires frequent blood tests to make sure it is working properly. Before heparin therapy concludes, warfarin is usually introduced and given orally. Warfarin therapy also requires regular blood tests to see how the blood is clotting. If warfarin causes the blood to thin too much, or it is causing bleeding, your doctor may need to reverse it. Warfarin also requires a special diet.

A newer generation of medications, such as dabigatran, apixaban and rivaroxaban, also works to slow your blood's clotting action. Dabigatran, apixaban and rivaroxaban are prescribed primarily for people who have AF without heart valve disease. Unlike warfarin, dabigatran, apixaban and rivaroxaban do not require regular blood testing, and early research indicates there may be a lower risk of bleeding and stroke.

Unlike warfarin, dabigatran, apixaban and rivaroxaban cannot be reversed. But in initial studies, dabigatran, apixaban and rivaroxaban have been shown to be very effective or more effective in preventing strokes. These drugs have also been shown to have similar or lower rates of bleeding than warfarin in real world studies. People with kidney disease or an elevated risk of internal bleeding should not take these newer medications or warfarin, however. If your doctor thinks an anticoagulant medication is right for you, talk with your doctor about your options.

Everyone taking anticoagulant medications should be mindful of the risks associated with them. Because they slow the ability for the blood to clot, they can cause severe bleeding in case of injury or during surgery or pregnancy. That said, the benefits of taking anticoagulants outweigh the risks involved for many patients.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Dabigatran/Apixaban/
Rivaroxaban FAQ

Should I ever stop taking my rivaroxaban/dabigatran/apixaban, even when riding a motorcycle or when it is icy outside?

No. Don't stop taking your medicine unless your doctor tells you to.

Is there a reversal for rivaroxaban/dabigatran/apixaban similar to what exists for warfarin?

No.

How can I tell that my oral antiplatelets are working for me ?

The new anticoagulant drugs do not interact with certain foods or a lot of other drugs. Because of this, these anticoagulants are prescribed in fixed doses that do not require ongoing INR tests or individual dosing adjustments. As long as you take this medicine as directed by your healthcare professional, you are considered to be anticoagulated.

What's new about the new compounds?

They can be taken orally and initial studies suggest that they are very effective in preventing strokes.

Dabigatran/Apixaban/ Rivaroxaban FAQ
Click here to download and print.

Benefits of Anticoagulants

Blood thinners are very effective drugs. They can:

- **Stop clots from getting bigger**
- **Stop clots (or pieces of clots) from travelling to your brain**
- **Stop other clots from forming**
- **Limit your risk of complications from blood clots, such as stroke**

Talk with your doctor about all the medications you take, including over-the-counter (OTC) medicines, vitamins and herbal supplements, because some of these can cause interactions with anticoagulants. And be sure to tell your doctor about any side effects you may have from the anticoagulants you are taking.

Keep in mind that there is a risk of bleeding with this type of medication, so if you're prescribed an anticoagulant, be careful to avoid injury, and go to the emergency room immediately if you are seriously injured. Call your doctor if you notice any bleeding or bruising. But don't stop taking your medicine unless your doctor tells you to, even if you're taking part in potentially risky behavior, such as riding a motorcycle or going out in icy conditions.

Antiplatelet Medicines

Another type of antithrombotic therapy is **antiplatelet** medications, which include aspirin, other non-steroidal drugs (such a ibuprofen and naproxen sodium), and clopidogrel, among others. Antiplatelet medications work by preventing a type of blood cell called a platelet from sticking to each other at the site of a potential blood clot. This stops the clot from forming and helps lower the risk of heart attack or stroke, particularly in patients who have already had one or the other, and in those who have certain cardiovascular conditions.

Antiplatelets also carry the risk of excessive bleeding and have side effects, much like anticoagulants. Talk with your doctor to weigh the risks and benefits of taking an antiplatelet medication.

Diet and Exercise

It's really important that you take care of your heart if you have AF. Your doctor may prescribe a heart-healthy diet, especially one that is low in sodium intake. A typical heart-healthy diet may include:

- **Eating more fruits and vegetables:** Try to eat four to five servings of fruits and vegetables each day, unless you are prescribed warfarin therapy. Talk with your doctor about what you can eat, if this is the case.
- **Eating more whole-grain foods:** These are rich in fiber and low in saturated fat and cholesterol. Whole-grain foods include whole-wheat bread, rye bread, brown rice and whole-grain cereal.
- **Using more olive, canola or safflower oil as your main kitchen fat:** Try to use fat sparingly in cooking, and when you do, reach for these oils.
- **Choosing chicken, fish and beans:** Skinless poultry, fish and vegetable protein are typically lower in saturated fat than beef, lamb and pork.
- **Limiting sodium:** Eat less than 1,500 mg per day.
- **Reading food labels carefully:** Keep an eye on the serving size.

Physical activity, including exercise, should be part of your routine, as well. Your doctor will guide you on the frequency and type of exercise you should be doing. In general, you want to get at least 30 minutes of exercise most days of the week.

Alcohol and Caffeine

Alcohol and caffeine can trigger AF episodes, so people with AF may need to eliminate alcohol and caffeine from their diet. Talk with your doctor about this. Also, be aware of the potential stimulant content in over-the-counter (OTC) medications and nutritional supplements, as these can also trigger AF episodes or interact with anti-arrhythmic medications.

Smoking

Smoking is terrible for your health in general. But for people with AF, it's even worse. Nicotine is a known cardiac stimulant that can make AF worse, and smoking is a known risk factor for cardiovascular disease. If you smoke, make plans to quit now. Talk with your doctor about medications and other techniques that can help you quit.

Complications: Stroke, Heart Failure and AF

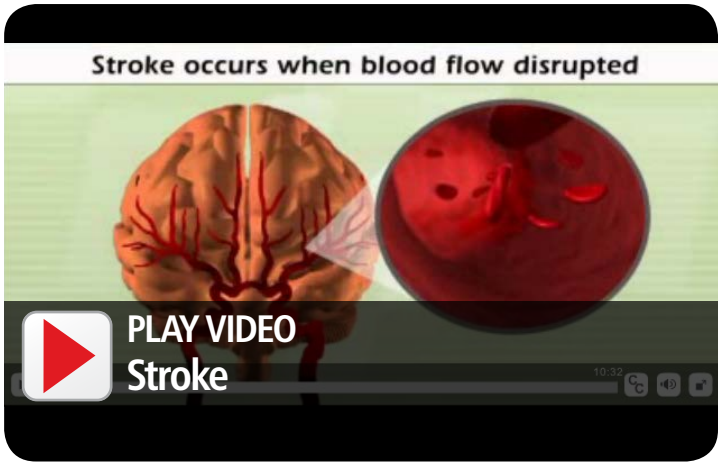
Left untreated, AF increases the risk for stroke and heart failure, among other **cardiovascular** conditions. In fact, people with AF are 5 to 7 times more likely to have a stroke than are those who don't have AF.

In the heart, AF may cause some blood to pool in the atria, where it can form clots. If a blood clot leaves the heart and enters the blood stream, it can move to the brain, where it can block an artery and cause a stroke. People who have already had a stroke are at even greater risk for another one if they have AF.

The Warning Signs of Stroke

It's vitally important to be aware of stroke's warning signs if you have AF. These are:

- **Sudden numbness or weakness of the face, arm or leg, especially on one side of the body**
- **Sudden confusion, or trouble speaking or understanding**
- **Sudden trouble seeing in one or both eyes**
- **Sudden trouble walking, dizziness or loss of balance or coordination**
- **Sudden, severe headaches with no known cause**



If you have one or more of these warning signs, call 9-1-1 immediately so an ambulance can be sent. With stroke, time is of the essence. Take note of the time when symptoms first appeared, and tell the doctor. A clot-busting drug can be given to reduce long-term disability for the most common type of stroke, but only if it's given within three hours of the start of symptoms.

Your risk of stroke depends on several factors, including age, the presence of complications (such as high blood pressure or diabetes) and a history of heart failure or previous stroke. Keep in mind that the medications your doctor prescribes for you, such as anticoagulants and antiplatelets, can greatly reduce the risk of stroke.

Another problem with untreated AF is that it can lead to heart failure, a condition in which the heart can't pump enough blood for the body's needs.

AF: Complicating Factors

In addition to the complications that AF can cause, there are conditions that can make AF more of a challenge to treat. These can include:

- **AF and uncontrolled hypertension:** Hypertension (high blood pressure) is a major risk factor for AF. If it isn't controlled, hypertension can cause changes to the heart that can trigger AF. This is why controlling hypertension (through a healthy diet, exercise, and medication if your doctor prescribes it) is so important, both to those at risk for AF and to those who already have it.
- **AF and diabetes:** Diabetes can raise the risk of getting AF by as much as 40 percent, according to one study. Although scientists aren't sure why this is, one possible reason is the inflammation related to diabetes may in turn trigger AF. Other research has demonstrated that when AF and diabetes occur together, the risk of death can increase by as much as 61 percent.
- **AF and obesity:** Over time, obesity adds to the strain placed on the heart, which can in turn lead to a weakened heart condition. One study showed a 50 percent increase in the risk of getting AF among those who are obese. Losing weight reduces the risk of getting AF and potential complications.
- **AF and stress:** Left uncontrolled, stress increases the risk of getting AF. When stress and AF occur together, the combination can make AF worse.

- **AF and sleep apnea:** Obstructive sleep apnea is a condition in which air flow pauses or decreases while the patient breathes during sleep, because the airway has become narrowed, blocked, or floppy. At least one in 15 American adults has OSA, and people with AF are more likely to have OSA than those who don't have AF. OSA can make AF worse in patients who have both. Scientists aren't sure exactly how the two conditions affect each other, but there is strong evidence that OSA and AF are interconnected.
- **Medication contraindications:** The medications often used to treat AF and other common chronic conditions can sometimes affect each other, both in how effective each one is and in the possible side effects each one can cause. For example, some beta blockers and calcium channel blockers used to treat AF can make heart failure worse, and several types of medicine can interfere with warfarin. Work closely with your doctor to manage your medications so that they are most effective for you.

Managing AF

For these reasons, it's imperative to treat AF and to manage it effectively. How you manage AF will depend on several factors, including your heart's condition, your age, your stroke risk and the severity of your AF symptoms.

As discussed earlier, you should eat a heart-healthy diet and get plenty of exercise, as your doctor directs. You should also take your medications exactly as directed by your doctor. Be sure to get prescriptions filled before they run out. Talk with your doctor about any OTC medications you take or plan to take. And never stop taking your medication unless your doctor tells you to.

Stress is a part of life, but too much stress can aggravate your AF. If stress is a problem for you, look for ways to reduce the stress in your life. Practice meditation or prayer. Take a yoga class. Enjoy a hobby. Of course, physical activity is a great stress reducer, as well.

Conclusion

AF is a serious heart condition, but it can be treated and managed very effectively. In this guide, you learned about the risk factors and symptoms of AF, how AF is treated, and how you can manage AF by living a healthy life. By attending regular doctor's appointments and following your doctor's instructions, you can live a full, active life with AF. Feel free to review this guide any time to help you better understand AF.

You've made great progress! Take a short quiz on what you've learned. Click here to begin…

Glossary

Anticoagulants: Medicines that slow the formation of blood clots in the body.

Antiplatelets: Medicines that keep blood cells called platelets from sticking together.

Arrhythmia: A condition in which the heart doesn't beat the way it should.

Atria: The heart's upper chambers.

Atrial Fibrillation: A type of cardiac arrhythmia in which the heart's upper chambers beat chaotically and out of rhythm with the heart's lower chambers.

AV node: The tissue connecting the atria to the ventricles.

Atrioventricular (AV) node ablation: A procedure in which radiofrequency energy is applied to the AV node in order to destroy it. A pacemaker is implanted to take its place.

Cardiovascular: Affecting the heart and blood vessels.

Cardioversion: A procedure using medication or electrical shock to restore the heart's rate and rhythm.

Congenital: Present at birth.

Heart failure: A condition in which the heart isn't able to pump all the blood the body needs.

Hypertension: High blood pressure.

Sleep apnea: A condition in which the breathing is interrupted during sleep, often repeatedly.

Stroke: A "brain attack," which occurs when blood flow to the brain becomes blocked.

Ventricles: The heart's lower chambers.

Your Comments and Suggestions are Needed!

And now, please tell us what you think about this workbook! We need your suggestions to make sure that this has everything you need to know about complicated AF. Go to our online survey **www.surveymonkey.com/s/afib_patient** and answer just a few questions. It will only take a few minutes of your time. Thank you for your help!