

## Atrial Fibrillation

- [Who is at Risk for Atrial Fibrillation \(AF or AFib\)?](#)
- [What are the Symptoms of Atrial Fibrillation \(AFib or AF\)?](#)
- [Are there different types of AFib?](#)
- [How are heart attack symptoms different from AFib symptoms?](#)
- [Treatment and Prevention of Atrial Fibrillation](#)
- [Treatment Guidelines of Atrial Fibrillation \(AFib or AF\)](#)
- [Treatment Options of Atrial Fibrillation \(AFib or AF\)](#)
- [Atrial Fibrillation Medications](#)
- [Non-surgical Procedures for Atrial Fibrillation \(AFib or AF\)](#)
- [Surgical Procedures for Atrial Fibrillation \(AFib or AF\)](#)
- [Prevention Strategies for Atrial Fibrillation \(AFib or AF\)](#)
- [AFib Resources For Patients and Professionals](#)

## Atrial Fibrillation

### What is atrial fibrillation?

Atrial fibrillation (also called AFib or AF) is a quivering or irregular heartbeat (arrhythmia) that can lead to blood clots, stroke, heart failure and other heart-related complications. At least 2.7 million Americans are living with AFib.

### What is Atrial Fibrillation (AFib or AF)?



Atrial fibrillation (also called AFib or AF) is a quivering or irregular heartbeat (arrhythmia) that can lead to blood clots, stroke, heart failure and other heart-related complications. At least 2.7 million Americans are living with AFib.

Here's how patients have described their experience:

*"My heart flip-flops, skips beats, and feels like it's banging against my chest wall, especially if I'm carrying stuff up my stairs or bending down."*

*"I was nauseated, light-headed, and weak. I had a really fast heartbeat and felt like I was gasping for air."*

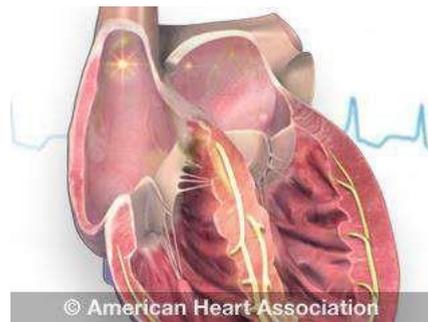
*“I had no symptoms at all. I discovered my AF at a regular check-up. I’m glad we found it early.”*

### **What happens during AFib?**

Normally, your heart contracts and relaxes to a regular beat. In atrial fibrillation, the upper chambers of the heart (the atria) beat irregularly (quiver) instead of beating effectively to move blood into the ventricles.

If a clot breaks off, enters the bloodstream and lodges in an artery leading to the brain, a stroke results. About 15–20 percent of people who have strokes have this heart arrhythmia. This clot risk is why patients with this condition are put on \*blood thinners.

Even though untreated atrial fibrillation doubles the risk of heart-related deaths and is associated with a 5-fold increased risk for stroke, many patients are unaware that AFib is a serious condition.



[Watch an animation of atrial fibrillation.](#)

According to the 2009 “Out of Sync” survey:

- Only 33% of AF patients think atrial fibrillation is a serious condition
- Less than half of AF patients believe they have an increased risk for stroke or heart-related hospitalizations or death

### **AFib Treatment Saves Lives & Lowers Risks**

If you or someone you love has atrial fibrillation, learn more about what AFib is, why treatment can save lives, and what you can do to reach your goals, lower your risks and live a healthy life.

If you think you may have atrial fibrillation, here are your most important steps:

1. Know the [symptoms](#)
2. Get the right [treatment](#)
3. [Reduce risks](#) for stroke and heart failure

We’re here to help you live your healthiest life!

## **Why Atrial Fibrillation (AF or AFib) Matters**



What are the consequences of atrial fibrillation (AFib)?

Although atrial fibrillation can feel weird and frightening, an “attack of AFib” usually doesn’t have harmful consequences by itself. The real danger is the increased [risk for stroke](#). Even when symptoms are not noticeable, AFib can increase a person’s risks for stroke and related heart problems.

#### **What causes atrial fibrillation?**

Sometimes the cause of AFib is unknown. Other times, it is the result of damage to the heart’s electrical system from other conditions, such as longstanding, uncontrolled [high blood pressure](#) or coronary artery disease. AFib is also the most common complication after [heart surgery](#).

[View an animation of atrial fibrillation.](#)

Usually, the most serious risk from AFib is that it can lead to other medical problems, including:

- [Stroke](#)
- [Heart failure](#)
- Chronic fatigue
- Additional heart rhythm problems
- Inconsistent blood supply

Learn about the important connection between [atrial fibrillation, high blood pressure and stroke](#).

#### **How does AFib lead to stroke?**

- **The heartbeat seems to quiver (or fibrillate) in an erratic way.** The upper chambers (the atria) of the heart do not produce an effective, regular contraction, but contract irregularly.
- **The contraction fails.** Imagine wringing out a sponge. Without a good squeeze, water will still be left in the sponge. In the same way, when a heart contraction is either too fast or too uneven, it doesn’t completely squeeze the blood from the atria into the next chamber.
- **Blood pools in the atria.** Blood not completely pumped out of the atria can remain and may pool there.
- **Risks of clotting go up.** When blood has the opportunity to pool, it also has the

opportunity to clot.

- **Clots can travel and cause blockages.** If a blood clot forms in the atria, it can be pumped out of the heart to the brain, blocking off the blood supply to an artery in the brain, causing a stroke. This type of stroke is called an embolic stroke or some doctors call it a cardioembolic stroke.

#### How does AFib lead to heart failure?

Heart failure means the heart isn't pumping enough blood to meet the body's needs. AFib can lead to heart failure because the heart is beating so fast that it never properly fills up with blood to pump out to the body.

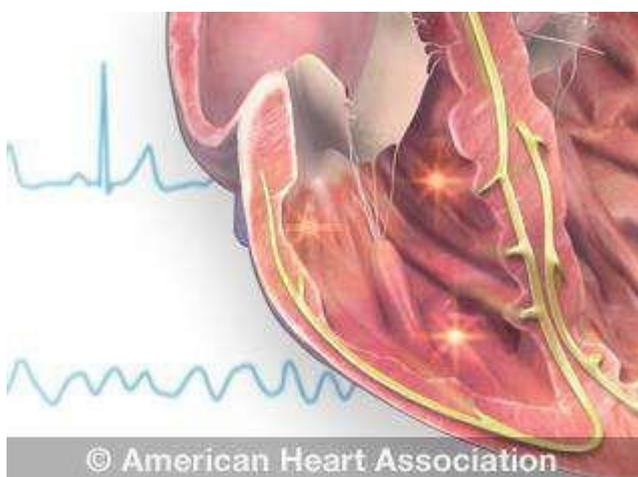
As a result, when the heart doesn't efficiently pump the blood forward with strong contractions, symptoms develop because:

- **Blood can "back up" in the pulmonary veins** (the vessels that return oxygen-rich blood from the lungs to the heart.) which can cause fluid to back up into the lungs.
- **When AFib causes heart failure, fluid in the lungs can cause fatigue and shortness of breath.** Oxygen-rich blood is not being delivered to the body and brain, causing physical and mental fatigue and reduced stamina. Fluid also can build up in the feet, ankles, and legs, causing heart-failure related weight gain.

#### How does AFib lead to additional heart rhythm problems?

**Basic answer:** The heart's electrical system stops working properly, and fails to keep the heart chambers in rhythm.

**Thorough answer:** Every heartbeat is controlled by the heart's electrical system. To understand why atrial fibrillation is a problem, it is helpful to understand the normal patterns of the heart's electrical system.



[View an animation of a normal heartbeat.](#)

#### The heart's normal electrical pattern:

- **The current travels from top to bottom.** The heartbeat starts at the top of the heart and – like an electrical wave – the current travels to the lower parts of the heart, signaling the tissue to contract.
- **The sinoatrial (SA) node starts the contraction in the top of the heart.** The right atrium (one of the two types of chambers of the heart) houses a group of cells called the sinoatrial node. In healthy adults, the SA node fires off between 60-100 heartbeats per minute.

The electrical wave moves through the atria to “gatekeeper node.”

- **The atrioventricular (AV) node regulates the timing for the lower portion of the heart.**  
The AV node serves as a “gatekeeper” for all of the electrical pulses going through the atria (top sections) to the ventricles (bottom sections). The electrical pulses are delayed at the AV node before they are allowed to move into the ventricles. The delay gives the ventricles extra time to finish filling with blood before contracting.
- **The ventricles contract and pump blood out to the lungs and the body.**

#### Electrical problems in atrial fibrillation:

- **In AFib, the SA node may not start the contraction.** Instead, the contraction might start randomly in other areas of the atria or even in the pulmonary veins.
- **In AFib, the electrical current doesn’t flow in an organized top-to-bottom fashion.** Instead, contractions are rapid and disorganized.
- **In AFib, the AV node often can’t regulate the chaotic current.** It does its best to protect the ventricle from extra electrical impulses, but it can’t stop all of them. As a consequence, the ventricle beats more often than it should – giving rise to the noticeable symptoms of breathlessness and fatigue.
- **When the beat is off, the blood supply can be unpredictable.** So, even though the ventricles may be beating faster than normal, they aren’t beating as fast as the atria. Thus, the atria and ventricles no longer beat in a coordinated way. This creates a fast and irregular heart rhythm. In AFib, the ventricles may beat 100 to 175 times a minute, in contrast to the normal rate of 60 to 100 beats a minute.

The amount of blood pumped out of the ventricles to the body is based on the randomness of the atrial beats.

The body may get rapid, small amounts of blood and occasional larger amounts of blood. The amount will depend on how much blood has flowed from the atria to the ventricles with each beat.

#### Can AFib simply go away?

Yes, rarely “spontaneous remission” does happen; it simply goes away. However, it is still something you and your healthcare provider will want to monitor for because some people live with AFib and do not feel the symptoms. However, the risks are still present.

Overall, most of the risks, symptoms and consequences of AFib are related to how fast the heart is beating and how often rhythm disturbances occur.

AFib may be brief, with symptoms that come and go. It is possible to have an atrial fibrillation episode that resolves on its own. Or, the condition may be persistent and require treatment. Sometimes AFib is permanent, and medicines or other treatments can’t restore a normal heart rhythm.

But for all the reasons listed above, it is important to work with your healthcare provider to determine your [treatment](#) needs, and to understand your treatment [options](#). It is also important to maintain a [heart-healthy lifestyle](#) and reduce your overall risks as much as possible.

## High Blood Pressure, AFib and Your Risk of Stroke

Learn How to Monitor Your Blood Pressure at Home

If you're monitoring your own blood pressure at home it's important to know the correct process. This is especially important when your doctor has recommended that you regularly monitor your blood pressure.

[Learn the correct way to check your blood pressure](#)

Play without Auto-Play Play Video Text



What do blood pressure and the rhythm of your heart have to do with stroke risk? Plenty. Consider this: About three out of four people who have a [stroke](#) for the first time have high blood pressure. And an irregular atrial heart rhythm — a condition called [atrial fibrillation](#) — is present in about one out of five strokes.

Stroke is a leading cause of death in America. It happens when a blood vessel that supplies blood to the brain is blocked or bursts. Nearly 800,000 Americans suffer a stroke each year.

High blood pressure is the chief culprit, and atrial fibrillation isn't far behind. Yet there's good news — you can easily do something about them. Your best defense is to avoid these heart conditions through a [heart-healthy lifestyle](#). But even if you're living with atrial fibrillation or high blood pressure, there's still a lot you can do to lower your risk of [stroke](#).

### **The Stroke Connection**

The brain needs blood and oxygen. When that doesn't happen and that crucial nourishment can't reach the brain — either because of a clogged artery or a burst vessel — brain cells start to die.

For people with high blood pressure, the force of blood pushing against the arteries as the heart pumps blood is too high. That causes gradual damage to the arteries, including those to the brain. A weakened blood vessel may rupture in or near the brain, or diseased arteries may become blocked by a clot or plaque buildup.

Then there's atrial fibrillation. That's when stroke risk increases because the rapid heartbeat allows blood to pool in the heart, which can cause clots to form and travel to the brain.

High blood pressure is generally considered the most common controllable risk factor for stroke, but atrial fibrillation is the most powerful, said Ralph L. Sacco, M.D., professor and chairman of

neurology at the Miller School of Medicine at the University of Miami and past president of the American Heart Association. “Somebody with high blood pressure has almost twice the risk of stroke than somebody without high blood pressure,” he said. “But someone with atrial fibrillation has more than five times the risk of stroke.”

“Because high blood pressure is so frequent, affecting tens of millions of people, it has a bigger impact on the number of strokes attributed to it,” Dr. Sacco said. “But atrial fibrillation is a more potent risk factor.”

The two risk factors are also related to each other: High blood pressure is a risk factor for atrial fibrillation. Middle-aged men and women with high blood pressure are at increased risk for atrial fibrillation later in life. “Then it becomes a double whammy, where you have high blood pressure as well as atrial fibrillation increasing your stroke risk,” Dr. Sacco said.

### How to Reduce Stroke Risk

Stroke is not inevitable, even if you are among the millions with high blood pressure or atrial fibrillation. Preventing or controlling high blood pressure and atrial fibrillation can greatly lower your chances of having a stroke. Here’s how:

- [D o n ’ t smoke.](#)
- Get regular [physical activity.](#)
- [Maintain a healthy weight.](#)
- Limit [alcohol](#) to no more than two drinks a day for men or one drink a day for women.
- Eat a [healthy diet](#) that is high in fruits, vegetables, and whole grains, include low-fat dairy products and limit salt, saturated fat, trans fat and cholesterol.
- [Monitor your blood pressure](#) and work to keep it at your goal.
- Take your medication as prescribed if you have [high blood pressure](#) or [atrial fibrillation.](#)

Stroke prevention is often the focus of doctor-patient conversations in atrial fibrillation, Dr. Sacco said. But for people with high blood pressure, “busy physicians don’t always rank discussions about preventing stroke as high as we’d like,” he said. “We have so many very effective medicines to treat high blood pressure and atrial fibrillation. If more patients with high blood pressure and atrial fibrillation are properly treated, we’re optimistic the number of projected strokes will go down.”

## Who is at Risk for Atrial Fibrillation (AF or AFib)?



**Are you at risk for atrial fibrillation? (AFib or AF)**

Any person, ranging from children to adults, can develop atrial fibrillation. Because the likelihood of AFib increases with age and people are living longer today, medical researchers predict the number of AFib cases will rise dramatically over the next few years. Even though AFib clearly increases the risks of heart-related death and stroke, many patients do not fully recognize the potentially serious consequences.

Who is at higher risk?

Typically people who have one or more of the following conditions are at higher risk for AFib:

- **Advanced age:** The number of adults developing AFib increases markedly with older age. [Atrial fibrillation in children](#) is rare, but it can and does happen.
- **High blood pressure:** Longstanding, uncontrolled high blood pressure can increase your risk for AFib.
- **Underlying heart disease:** Anyone with heart disease, including [valve problems](#), [hypertrophic cardiomyopathy](#), [acute coronary syndrome](#), [Wolff-Parkinson-White \(WPW\) syndrome](#) and history of [heart attack](#). Additionally, atrial fibrillation is the most common complication after heart surgery.
- **Drinking alcohol:** Binge drinking (having five drinks in two hours for men, or four drinks for women) may put you at higher risk for AFib.
- **Family history:** Having a family member with AFib increases your chances of being diagnosed.
- **Sleep apnea:** Although sleep apnea isn't proven to cause AFib, studies show a strong link between obstructive sleep apnea and AFib. Often, treating the apnea can improve AFib.
- **Athletes:** AFib is common in athletes and can be triggered by a rapid heart rate called a supraventricular tachycardia (SVT).
- **Other chronic conditions:** Others at risk are people with thyroid problems (specifically hyperthyroidism), diabetes, asthma and other chronic medical problems.

## What are the Symptoms of Atrial Fibrillation (AFib or AF)?



The most common symptom: a quivering or fluttering heartbeat

Atrial fibrillation (AFib) is the most common type of irregular heartbeat. The abnormal firing of electrical impulses causes the atria (the top chambers in the heart) to quiver (or fibrillate). View an [animation of atrial fibrillation](#).

### Additional common symptoms of atrial fibrillation

Sometimes people with AFib have no symptoms and their condition is only detectable upon physical examination. Still, others may experience one or more of the following symptoms:

- General fatigue
- Rapid and irregular heartbeat
- Fluttering or “thumping” in the chest
- Dizziness
- Shortness of breath and anxiety
- Weakness
- Faintness or confusion
- Fatigue when exercising
- Sweating
- \*[Chest pain](#) or pressure

**\*Chest pain or pressure is a medical emergency. You may be having a heart attack. Call 911 immediately.**



[Track your AFib symptoms \(PDF\)](#)

### Are there different types of AFib?

The symptoms are generally the same; however the duration of the AFib and underlying reasons for the condition help medical practitioners classify the type of AFib problems.

- **Paroxysmal fibrillation** is when the heart returns to a normal rhythm on its own, or with intervention, within 7 days of its start. People who have this type of AFib may have episodes only a few times a year or their symptoms may occur every day. These symptoms are very unpredictable and often can turn into a permanent form of atrial fibrillation.
- **Persistent AFib** is defined as an irregular rhythm that lasts for longer than 7 days. This type of atrial fibrillation will not return to normal sinus rhythm on its own and will require some form of treatment.
- **Long-standing AFib** is when the heart is consistently in an irregular rhythm that lasts longer than 12 months.
- **Permanent AFib** occurs when the condition lasts indefinitely and the patient and doctor have decided not to continue further attempts to restore normal rhythm.
- **Nonvalvular AFib** is atrial fibrillation not caused by a heart valve issue.

Over a period of time, paroxysmal fibrillation may become more frequent and longer lasting, sometimes leading to permanent or chronic AFib. All types of AFib can increase your risk of [stroke](#). Even if you have no symptoms at all, **you are nearly 5 times more likely to have a stroke than someone who doesn't have atrial fibrillation.**

### How are heart attack symptoms different from AFib symptoms?

Fluttering and palpitations are key symptoms of AFib and is the key difference, but many heart problems have similar warning signs. If you think you may be having a heart attack, DON'T DELAY. Get emergency help by calling 911 immediately. A [heart attack](#) is a blockage of blood flow to the heart, often caused by a clot or build-up of plaque lodging in the coronary artery (a blood vessel that carries blood to part of the heart muscle). A heart attack can damage or destroy part of your heart muscle. Some heart attacks are sudden and intense — where no one doubts what's happening. But most heart attacks start slowly, with mild pain or discomfort. Often people affected aren't sure what's wrong and wait too long before getting help.

People living with AFib should know the symptoms of a stroke

As stated earlier, having atrial fibrillation can put you at an increased risk for [stroke](#). Here are the warning signs that you should be aware of:

### ***Heart Attack Warning Signs***

#### ***Chest Discomfort***

Most heart attacks involve discomfort in the center of the chest that lasts more than a few minutes, or that goes away and comes back. It can feel like uncomfortable pressure, squeezing, fullness or pain.

#### ***Discomfort in Other Areas of the Upper Body***

Symptoms can include pain or discomfort in one or both arms, the back, neck, jaw or stomach.

#### ***Shortness of Breath***

With or without chest discomfort.

#### ***Other Signs***

May include breaking out in a cold sweat, nausea or lightheadedness.

### ***Stroke Warning Signs***

#### ***Spot a stroke F.A.S.T.:***

- **Face Drooping:** Does one side of the face droop or is it numb? Ask the person to smile.
- **Arm Weakness :** Is one arm weak or numb? Ask the person to raise both arms. Does one arm drift downward?
- **Speech Difficulty:** Is speech slurred, are they unable to speak, or are they hard to understand? Ask the person to repeat a simple sentence, like "the sky is blue." Is the sentence repeated correctly?
- **Time to call 911:** If the person shows any of these symptoms, even if the symptoms go away, call 911 and get them to the hospital immediately.

## Treatment and Prevention of Atrial Fibrillation



### Know your treatment goals

The treatment goals of atrial fibrillation (AF or AFib) start with a proper diagnosis through an in-depth examination from a physician. The exam usually includes questions about your history and often an EKG or ECG. Some patients may need a thorough electrophysiology study. [Read about treatment options for AFib.](#)

### Prevention and Risk Reduction

Although no one is able to absolutely guarantee that a stroke or a clot can be preventable, there are ways to reduce risks for developing these problems.

After a patient is diagnosed with atrial fibrillation, the ideal goals may include:

- Restoring the heart to a normal rhythm (called rhythm control)
- Reducing an overly high heart rate (called rate control)
- Preventing blood clots (called prevention of thromboembolism such as stroke)
- Managing risk factors for [stroke](#)
- Preventing additional heart rhythm problems
- Preventing [heart failure](#)

### Getting Back on Beat

Avoiding atrial fibrillation and subsequently lowering your stroke risk can be as simple as foregoing your morning cup of coffee. In other words, some AFib cases are only as strong as their underlying cause. If hyperthyroidism is the cause of AFib, treating the thyroid condition may be enough to make AFib go away.

Doctors can use a variety of different medications to help control the heart rate during atrial fibrillation.

"These medications, such as beta blockers and calcium channel blockers, work on the AV node," says Dr. Andrea Russo of University of Pennsylvania Health System. "They slow the heart rate and may help improve symptoms. However, they do not 'cure' the rhythm abnormality, and patients still require medication to prevent strokes while remaining in atrial fibrillation."

[Learn more about the treatment guidelines for AFib.](#)

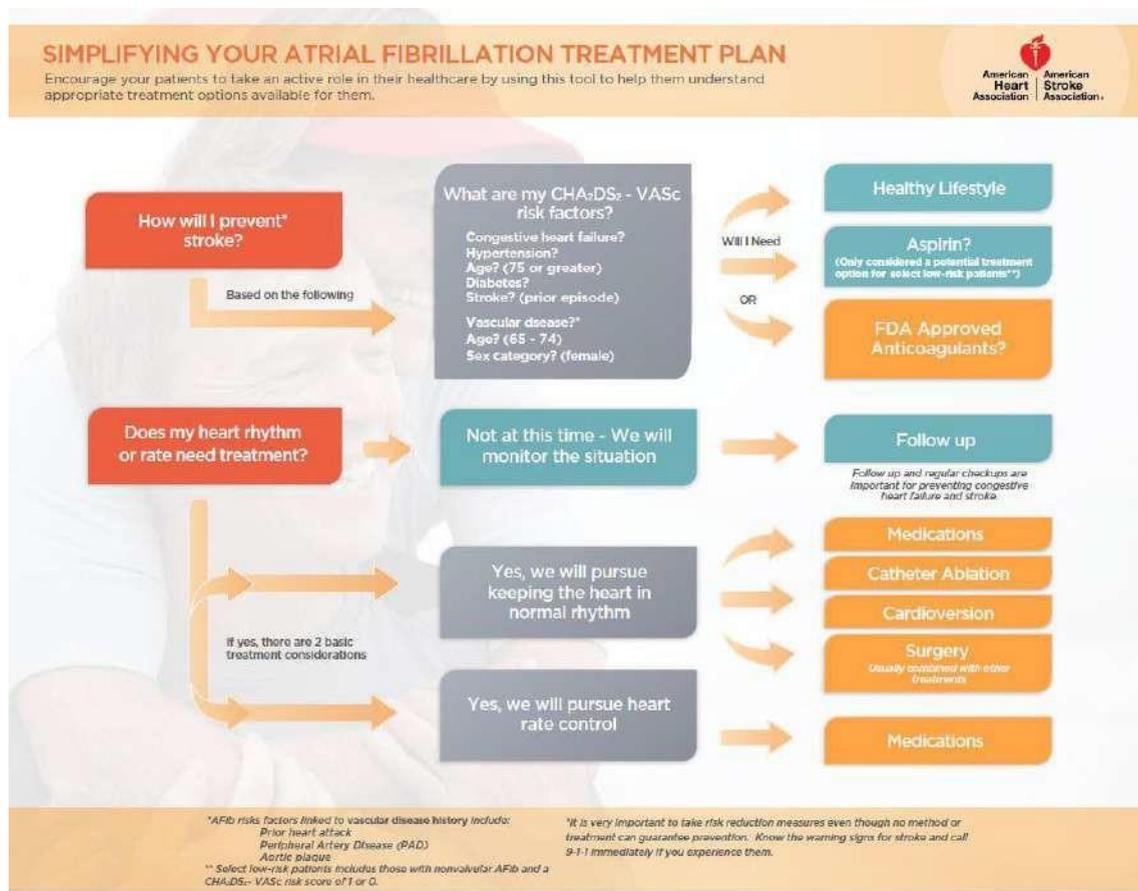
## Treatment Guidelines of Atrial Fibrillation (AFib or AF)

### What are the treatment guidelines for atrial fibrillation?

Medical guidelines are written by a panel of experts to document the science that helps healthcare providers choose the right treatments. The guidelines spell out what is proven most helpful to the greatest number of people. Although the guidelines for atrial fibrillation are about 170 pages long, there are some basic decisions outlined in the treatment guidelines that every AFib patient should understand.

### How will I prevent stroke?

- Depending on your risk, you will likely either need some type of antithrombotic medication (such as warfarin, one of the new direct-acting oral anticoagulants or DOACs – dabigatran, apixaban, rivoraxaban or edoxaban) or maybe aspirin.
- **Do I need anticoagulant therapy?**
- Are there additional lifestyle modifications important for stroke prevention? What is my CHA<sub>2</sub>DS<sub>2</sub>-VASc risk?
  - Congestive heart failure
  - Hypertension
  - Age (75 or greater)
  - Diabetes
  - Stroke (prior episode)
  - Vascular disease (prior heart attack, peripheral artery disease or aortic plaque)
  - Age 65-74
  - Sex (female)
- **Are there options to control my heart rate and this irregular heart rhythm?**  
Based on your past medical history and risk for having a future stroke, there are several options for you and your healthcare provider to discuss in order to manage your AFib.



[Print our simplified treatment guidelines chart \(PDF\)](#)

[Try our interactive CHA<sub>2</sub>DS<sub>2</sub>- VASc risk calculator \(PDF\)](#)

## Treatment Options of Atrial Fibrillation (AFib or AF)

The severity, any other underlying medical issues you might have, and the length of the AF condition will determine the best treatment options for you. In addition to knowing your goals, you will want to discuss your treatment options and take an active role in your plan.

This downloadable sheet, [Partnering in Your Treatment \(PDF\)](#), can help you discuss your goals and options with your healthcare provider.

Treatment options may include one or more of the following:

- [Medications](#)
- [Nonsurgical procedures](#)
- [Surgical procedures](#)

**AFib: Partnering in Your Treatment**  
Bring this sheet with you to your appointment and discuss the following with your doctor.

**How serious is my AFib?**  
In what ways does AFib increase my health risks?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
Do I have other health concerns that may increase my risks?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**What are my medication options?**  
Should I be taking a medication for AFib?  
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\_\_\_\_\_  
\_\_\_\_\_  
What should I expect from it?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
What will happen if I don't take it?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
Notes: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Are there other treatment options?**  
What are my other possible options?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
When should they be considered?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Do I need to make lifestyle changes?**  
Should I change any of the following to reduce my risks?  
 Eating habits?  
 Physical activity?  
 A plan to stop smoking?  
 My weight?  
 Other: \_\_\_\_\_  
Notes: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**What are my treatment goals?**  
With my treatment plan, what should I expect to see?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
We will know we are making progress when...  
\_\_\_\_\_  
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### Clinical Trials

Clinical trials are scientific studies that determine if a possible new medical advance can help people and whether it has harmful side effects. Find answers to common questions about clinical trials in our [Guide to Understanding Clinical Trials](#).

## Atrial Fibrillation Medications

**Understand medications and why they are helpful. Medications can be a commitment for life and health!**

Medications, for most patients, are the most helpful form of treatment. However, many studies show that patients often stop taking medications because of side effects or their own belief that

they no longer need it. Discontinuing medications can be very dangerous!



If you have been prescribed heart medications, taking and tracking your medications is one of the best things you can do for your health.

Hear more from [Dr. Clyde Yancy](#)([link opens in new window](#)).

Tell your healthcare provider about all your other drugs and supplements, including over-the-counter medications and vitamins.

[Download our printable medication log \(PDF\)](#) to track your medicines. [Also available in Spanish \(PDF\)](#).

### **Medications for atrial fibrillation (AF or AFib)**

Medications are often prescribed to prevent and treat blood clots which can lead to a stroke. Additional drugs may be prescribed to control heart rate and rhythm in the AFib patient. These medications may also be used in conjunction with other treatments. The heart rhythm can be more difficult to control. The longer you have untreated AFib, the less likely it is that normal rhythm can be reestablished.

Medication options may include \*blood thinners, rate controllers, and rhythm controllers. Lists included here are not intended to be comprehensive, and we encourage you to revisit our page often to keep up with the newest in AFib medication options.

### **Preventing clots with medication (antiplatelets and anticoagulants)**

Drugs such as blood thinners are given to patients to prevent blood clot formation or to treat an existing blood clot. Examples include:

- Warfarin
- Other FDA approved anticoagulants such as dabigatran, rivaroxaban, edoxaban and apixaban (Direct-acting oral anticoagulants or DOACs)
- Aspirin (in rarer cases)

### **Overview of side effects**

**Antiplatelets (aspirin)** can increase your risk of bleeding. Even though aspirin can be purchased over the counter, it is important that you do not take more than the dose prescribed by your doctor. Report any of the symptoms stated below to your healthcare provider.

**Anticoagulants** increase risk of bleeding. If you are prescribed warfarin, there is a monthly blood test that is necessary to monitor and achieve optimal dosing. [Read our patient's guide to taking warfarin.](#)

The newer oral anticoagulants — DOACs — (dabigatran, rivaroxaban, edoxaban and apixaban) do not require the monthly blood test, but care must be taken to take them as directed so that you receive the maximum benefit for stroke prevention. [Download our sheet: What are Direct-Acting Oral Anticoagulants \(DOACs\)? \(PDF\)](#)

#### **Important precautions when taking anti-clotting medications**

- Call your healthcare provider right away if you have any unusual bleeding or bruising
- If you forget to take your daily anticoagulant dose, **don't** take an extra one to catch up! Follow your healthcare provider's directions about what to do if you miss a dose.

Always talk to your healthcare provider about switching from one anticoagulant to another (including changing to a generic version). Even small variations in the amount of the dose of a medication can cause problems.

- Always tell your doctor, dentist and pharmacist that you take one of these medicines. This is especially important before you start taking a new medication or have any procedure that can cause bleeding.
- If you are taking warfarin, discuss any new medications with your healthcare providers. Many drugs change the effects of these agents on the body. Even vitamins (and some foods) could change the effect.

It is also wise to take extra care with contact sports or any other situation that might risk unnecessary trauma. Here are some things to watch for or report to your physician:

- If you have an accident of any kind
- If you often find bruises or blood blisters
- If you feel sick, weak, faint or dizzy
- If you think you are pregnant
- If you notice red, dark brown or black urine or stools
- If you bleed more with periods
- Bleeding gums
- Bad headache or stomach ache that won't go away

#### **Heart rate controlling medications**

- **Beta blockers.** These are drugs used to slow the heart rate. Most people can function and feel better if their heart rate is controlled. Read more about [beta blockers](#).
  - Some examples may include:
    - Atenolol
    - Bisoprolol
    - Carvedilol
    - Metoprolol
    - Nadolol
    - Propranolol
    - Timolol
- **Calcium channel blockers.** These medications have multiple effects on the heart. They are used to slow the heart rate in patients with AFib and to reduce the strength of the muscle cell's contraction.
  - Some examples are:
    - Diltiazem

- Verapamil
- **Digoxin.** This medication slows the rate at which electrical currents are conducted from the atria to the ventricle.

### Heart rhythm controlling medications

Once your heart rate is under control, the next management consideration is usually treating the abnormal heart rhythm with medications to restore the heart rhythm to normal (also known as chemical/pharmacological cardioversion). Significant side effects may occur, and your healthcare provider will most likely want to monitor progress closely.

- Sodium channel blockers which help the heart's rhythm by slowing the heart's ability to conduct electricity.
  - Examples may include:
    - Flecainide (Tambocor®)
    - Propafenone (Rythmol®)
    - Quinidine (Various)
- Potassium channel blockers help the heart's rhythm by slowing down the electrical signals that cause AFib.
  - Examples may include:
    - Amiodarone (Cordarone® or Pacerone®)
    - Sotalol (Betapace®)
    - Dofetilide

Treatment options for AF also include [non-surgical](#) and [surgical](#) approaches. You and your healthcare provider will need to discuss the best options for you.

## Non-surgical Procedures for Atrial Fibrillation (AFib or AF)

### Electrical cardioversion– the rhythm reset

[Electrical cardioversion](#) is a procedure in which a patient receives an electrical shock on the outside of the chest (while under mild anesthesia) using either paddles or patches. The shock can be used to “reset” the heart to a normal rhythm. The procedure is similar to defibrillation, but uses much lower levels of electricity.

### The decision to use electrical cardioversion

Your provider may recommend a [transesophageal echocardiography \(TEE\)](#) as a first step. The TEE procedure involves swallowing a small ultrasound device that allows the healthcare team to view the inside your heart atria for blood clots.

If you already have clots in the atria, you will need protection from increasing your stroke risk. For this reason, your healthcare provider may recommend that you take a \*blood thinner before having an electrical cardioversion procedure. Electrical cardioversion often successfully restores regular heart rhythm, but for some patients their atrial fibrillation may return. In many instances, anti-arrhythmia medications are needed indefinitely to keep the heart's rhythm and rate in the best range.

### Radiofrequency ablation or catheter ablation

[Ablation](#) is used for cardiac arrhythmias when long-term medications or electrical cardioversion are either not preferred or were not effective. Before ablation surgery, electrical mapping of the heart is performed. An electrically sensitive catheter is used to map the heart muscle and the origins of the “extra” electrical activity throughout the heart. The map tells the physician which areas of the heart are creating problematic electric signals that interfere with the proper rhythm.

### How is an ablation performed?

A catheter (thin, flexible tube) is inserted into the patient's blood vessels and is gently guided to the heart. The physician carefully destroys malfunctioning tissue using the catheter to deliver energy (such as radiofrequency, laser or cryotherapy) to scar the problematic areas. The scarred areas will no longer send abnormal signals. If successful, the heart will return to a normal rhythm. But in some cases, atrial fibrillation may return. Sometimes the ablation procedure may need to be tried multiple times. This minimally invasive procedure usually has a short recovery period. Patients are generally placed on a short course of anti-arrhythmic drugs while the procedure takes full effect.

### Common types of ablation for AF include:

- **Pulmonary vein isolation ablation (PVI ablation or PVA).** In some AF patients, fibrillation is triggered by extra electrical currents in the pulmonary veins. During this procedure, the catheter tip is used to destroy the tissue that is sending the extra currents and, in most cases, normal heart rhythm returns.
- **AV node ablation with pacemakers.** In other AF patients, the trigger for their AF occurs in the AV node (the place where the electrical signals pass from the atria to the ventricles). The catheter is placed near the AV node and a small area of tissue is destroyed. A pacemaker is then implanted to restore and maintain the heart's normal rhythm.

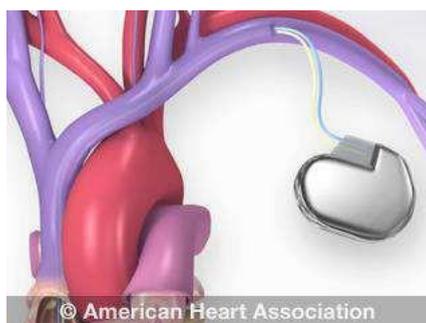
### Downloadable Patient Information Sheets:

[What is echocardiography? \(PDF\)](#)[What are electrophysiologic tests? \(PDF\)](#)

## Surgical Procedures for Atrial Fibrillation (AFib or AF)

### Pacemakers

A pacemaker is a small electrical device implanted in the body with wires going to the heart to regulate the heartbeat. It is implanted under the skin near the collarbone and sends out an electrical signal to keep a steady contracting rhythm in the heart. Some pacemakers sense when the heartbeat is too fast or too slow and fire impulses that help the heart return to the proper rhythm and speed.



[Watch an animation of a pacemaker.](#)

Learn more about [living with your pacemaker](#) and read about [devices that may interfere with your pacemaker](#).

Watch a [short video](#)([link opens in new window](#)) about pacemakers and airport security.

Downloadable patient information sheet: [What is a pacemaker? \(PDF\)](#)

### Open-heart maze procedure

Maze heart surgery is a complex procedure in which a surgeon creates small cuts in the upper part of your heart. The cuts are then stitched together and scar tissue forms. The scars interfere with the transmission of electrical impulses that can cause AFib. Normal heartbeat is then restored.

## Prevention Strategies for Atrial Fibrillation (AFib or AF)

### What can I do to prevent (reduce my risk for) atrial fibrillation (AFib)?

To reduce your risk for the onset of AFib, maintaining a heart-healthy lifestyle is always your best option. If you have been diagnosed with AFib, take medications if they are prescribed for you, and get proper [treatment](#) and management of your condition so you can reduce the risk of AFib's harmful consequences.

[View an animation of atrial fibrillation.](#)

What can I do to reduce my risk of complications associated with atrial fibrillation?

- Get regular [physical activity](#)
- Eat a [heart-healthy diet](#), low in salt, saturated fats, trans fats, and cholesterol
- Manage [high blood pressure](#)
- Avoid excessive amounts of [alcohol](#) and [caffeine](#)
- [D o n't smoke](#)
- [Control cholesterol](#)
- Maintain a [healthy weight](#)



[Download a printable activity log \(PDF\)](#)

All of these goals aide in the prevention of (reducing the risk for) heart disease, and will help keep your circulatory system in the best condition.

Other underlying conditions may need treatment because they can contribute to the onset of AFib:

- High blood pressure (hypertension)
- Sleep apnea
- Thyroid disease (hyperthyroidism)
- [Diabetes](#)
- Chronic lung disease
- Other heart conditions ([heart attack](#), [heart valve disease](#), or [heart failure](#))
- Family history
- Obesity

### What can I do to prevent (reduce my risk for) stroke?

The risk of stroke in the AFib patient is as much as 5 times greater than that of the person without the heart disease.

### Get treated

The treatment of AFib is imperative for the prevention of (reducing the risk for) stroke.

### Know your additional risk factors

Some other examples of stroke risk factors are:

- History of [high blood pressure](#)
- Increased age
- Previous [stroke](#) or [transient ischemic attack](#)([link opens in new window](#)) (TIA)
- [Diabetes](#)
- [Heart disease](#)
- Family history
- Obesity
- [Smoking](#)

### Commit to a heart-healthy lifestyle

The good news is that up to 80 percent of strokes *can* be prevented. You can control your risk factors by changing your lifestyle and by treating your medical conditions as instructed.

Download our patient information sheets on how to [live a heart-healthy lifestyle](#).

## AFib Resources For Patients and Professionals

- [AFib Can Happen to Anyone Infographic](#)
- [Are You at Risk for AFib Checklist \(PDF\)](#)
- [My AFib Experience Webinar](#) - Is there more you can do for your AFib patients? Watch our on-demand webinar.
- [Partnering in Your Treatment \(PDF\)](#)



- [How well are your medications lowering your stroke risks?](#)
- [CHA2DS2 VASc Risk Calculator](#)
- [Guidelines for Treating AFib \(PDF\)](#)
- [Medication Tracker \(PDF\)](#) | [Spanish \(PDF\)](#)FAQs about AFib (PDF)
- [What is Atrial Fibrillation? \(PDF\)](#)
- [What are Direct-Acting Oral Anticoagulants \(DOACs\)? \(PDF\)](#)

## Printable Information Sheets on AFib

- [AFib: Partnering in Your Treatment Plan \(PDF\)](#)
- [Understanding the Medical Treatment Guidelines \(PDF\)](#)
- [FAQs about AFib \(PDF\)](#)
- [AFib Symptom Tracker \(PDF\)](#)
- [Medication Tracker \(PDF\)](#)
- [Medication Tracker \(Spanish\) \(PDF\)](#)
- [What Is Atrial Fibrillation? \(PDF\)](#)
- [What Is Atrial Fibrillation? Spanish \(PDF\)](#)
- [What Are Direct-Acting Oral Anticoagulants \(DOACs\)? \(PDF\)](#)
- [What Are Heart Disease and Stroke? \(PDF\)](#)
- [What Are Heart Disease and Stroke? \(Spanish\) \(PDF\)](#)
- [Let's Talk about Risk Factors for Stroke \(PDF\)](#)
- [Risk Factors for Stroke \(Spanish\) \(PDF\)](#)
- [Stroke, TIA and Warning Signs \(PDF\)](#)