What Is AFib? Here’s Everything You Need to Know

by JEFFREY REDEKOPP

What Is Atrial Fibrillation?

Atrial fibrillation (AFib) is a heart rhythm disturbance that causes your heart to beat in an abnormal pattern. If you have AFib, you are familiar with the often-frightening feeling of a disorganized and racing pulse rate that seems to cause your heart to pump chaotically.

AFib is a common arrhythmia that falls into the grouping known as Supraventricular tachycardias. Supraventricular means that the abnormal electrical impulse happens above the ventricles, and tachycardia means that the speed of the heart rate caused by the disorganized signals is greater than 100 beats per minute.

AFib is currently the most clinically significant type of heart arrhythmia with the highest global prevalence. Recent estimates place the annual cost of medical care for people with AFib in the US at between $16 to $26 billion.

According to data gathered by the American Heart Association as of 2010, 33.5 million men and 12.6 million women worldwide suffer from some form of AFib.

People who suffer from AFib have a higher incidence of mortality. The death rate connected with AFib is higher for women than for men.

If you are living with AFib, it’s crucial for you to understand the causes, types, adverse signs and symptoms, treatment options, and prognosis for the condition. Knowing this information will help you make wise medical decisions and informed lifestyle choices to help ensure the best possible quality of life.

Is AFib Considered a Type of Heart Disease?

AFib, like other heart arrhythmias, is a type of heart disease. AFib is serious because it interferes with the heart’s ability to function at a healthy level.

The primary cause for concern with AFib is due to its connection with stroke because of the increased likelihood of blood clot formation due to the inadequate emptying of the heart chambers.

AFib also has the potential to lead to another problematic heart condition called congestive heart failure, which reduces the heart muscle’s pumping capacity. Other heart rhythm issues can arise because of the presence of AFib.

Causes of AF

AFib is the result of the two upper chambers of the heart, called and left and right atria, receiving random electrical stimuli from many areas in addition to the sinus (SA) node, which is its naturally designed pacemaker.

AFib originates from structural defects in the heart muscle such as incorrectly formed heart valves and other defects present from birth. Sick sinus syndrome is another physical flaw that produces an interruption in the proper functioning of the heart's internal pacemaker.

Although medical science has not entirely determined the reasons behind the development of AFib, research has uncovered conditions linked to AFib that include:

- Cardiomyopathy – a weakening of the heart muscle due to a congenital disability or drug use
- Certain types of lung disease that lead to low oxygen content in the blood
- Coronary artery disease – a buildup of fatty substances called plaque in the heart' s arteries
- Excessive alcohol intake
- High blood pressure
- History of heart attack
- History of heart surgery
- Hormonal disorders
- Hyperthyroidism – an overactive thyroid
- Inflammation of the atria
- Left ventricular hypertrophy – a thickening of the inside wall of the left ventricle
- Myocarditis – an inflammation of the heart muscle
- Metabolic imbalances
- Overuse of stimulants such as caffeine, medications, or tobacco
- Physical stress from illness or surgery
- Pericarditis – an inflammation of the membrane that covers the outside of the heart
- Pulmonary embolism – a blood clot located in the lungs
- Rheumatic heart disease – heart valve damage sustained from rheumatic fever
- Sleep apnea
- Viral infections

Conditions such as advanced age, family history of AFib, obesity, or chronic ailments like diabetes or kidney disease can lead to an increased risk of developing AFib. Certain types of AFib also carry a higher likelihood of developing heart failure or experiencing a stroke.

Triggers For AFib

If you have AFib, specific factors increase the likelihood of having an episode.

Fatigue is a significant contributor to AFib. Excessive tiredness makes your heart work harder to maintain your body's normal physiologic function and is more prone to slip into a bout of AFib.

Some individuals have gone into AFib because of exposure to high water temperatures during a hot shower or when relaxing in a hot tub. Conversely, exposure to cold such as rapidly drinking a glass of ice water or eating a frozen treat can produce the same result.

Psychological stressors including work-related or personal life anxieties are also known to trigger AFib.

Next page: the different types of AFib explained, what happens when your heart goes into AFib and the symptoms of AFib.

Types of AFib

Variations of AFib fall into five separate categories depending on how often they occur.

- **Lone AFib** occurs in people under 60 years of age with no known conditions connected to the disease. Lone AFib can have no symptoms and often appears during a standard physical exam. When symptoms

do happen, they can disappear in a few minutes and not return for days, months, or years.

- **Paroxysmal AFib** starts spontaneously and can resolve on its own without medical treatment. Episodes can last from seconds to days. Symptoms are often more significant than with other variations of AFib.
- **Persistent AFib** can also begin without warning but continues for at least a week and doesn't always stop by itself. Medical treatment is often necessary to halt the occurrence.
- **Long-standing persistent AFib** lasts for one year or longer without resolution. This type is often linked to damage to the heart's structure, and is difficult to manage, and can require interventional procedures because medications are not sufficient.
- **Permanent AFib** happens when treatment for long-standing persistent AFib fails to convert the arrhythmia back to normal. People with this variety are in AFib at all times and experience a decreased quality of life due to severe symptoms and are at an elevated risk for a critical cardiac event.

Is Atrial Flutter a Type of AFib?

Atrial flutter, although not technically a form of AFib, is often grouped in with AFib because the atria beat faster than usual and cause a rapid heart rate. The difference between the two is that in atrial flutter the atrial contractions are regular instead of irregular.

Atrial flutter produces two to four atrial contractions for every ventricular contraction. Many physicians view atrial flutter as less problematic than AFib because flutter waves are more likely than fibrillation waves to convert back to a normal rhythm in most people, and the risk of blood clot formation is lower than with AFib.

What Happens When the Heart Goes into AFib

AFib occurs because the atria, located at the top of the heart, receive many electrical signals from areas of heart and lungs other than those from the SA node. Because of the sheer volume of these added impulses, the atria lose their carefully coordinated connection with the ventricles.

Specialized heart cells can automatically initiate an electrical signal, as can specific areas of lung tissue. Put these two together, each firing at different times, and you have a rapid, and irregularly beating bundle of muscle that doesn't move enough blood so that the rest of the body does not receive enough of the nutrients that it contains.

The periodic, random signals the atria receive can cause them to contract rapidly in an unsynchronized fashion. Many, but not all the impulses received at the atrial level travel down below to the ventricles to signal them to pump.

The excessive signals passed from the atria to the ventricles produce a resting heart rate in the range of 100 to 175 beats per minute.

Over time, this consistently fast heart rate can lead to a weakened heart muscle, which is a condition known as congestive heart failure

Atrial fibrillation means that the atria are quivering (fibrillating) instead of fully contracting. The incomplete pumping prevents the atria from emptying their full volume of blood, which interferes with the body's regular circulation pattern.

When blood remains in the atria after an incomplete contraction, it begins to pool. Pooling leads to an increased chance of clots to form, which can then migrate to other places in the body and cause blockages that can elicit a stroke.

The lack of an adequate blood supply flowing to the rest of the body creates a variety of symptoms that are often serious.

Symptoms of AFib

AFib has a myriad of symptoms that can vary depending on the type you have. Individuals can experience mild to severe AFib symptoms, while some people have none, and the presence of the condition initially appears during a routine physician' s examination.

According to the American Heart Association, people with AFib that present with no symptoms has a fivefold increase in the risk of suffering a stroke than someone with no previous history of AFib.

The following symptoms commonly associated with AFib are:

- Abnormal sweating
- Anxiety
- Confusion
- Having difficulty with walking and balance
- Feeling like you are going to faint
- Pain, pressure, or tightness in the chest
- Unusual fatigue
- Shortness of breath
- An uncomfortable, tight sensation in the neck
- Dizziness
- A racing, irregular heart rate that is too fast to count when checking your pulse at your wrist
- Palpitations or a feeling of your heart pounding or fluttering
- Weakness at rest or with activity
- Having an uneasy feeling that is difficult to explain
- Some individuals wake up from sleep due to a bout of AF

AFib symptoms differ from those associated with a heart attack due to the presence of palpitations or fluttering sensations. If you experience chest pain with AFib, call 911 because it's possible that you are suffering a heart attack.

Because AFib also carries an elevated risk of stroke, it's important to know the warning signs, which are:

- Slurred or loss of speech
- Sudden changes in vision
- One-sided weakness or numbness, especially in an arm or the face

Next page: The treatment and management of AFib.

Treatment and Management of AFib

It's important to seek treatment for AFib to reduce your risk of stroke and congestive heart failure, but also because the presence of AFib can indicate previously undiagnosed signs of other forms of heart disease.

Your specific type of AFib, along with any other medical conditions you have, will determine the treatment plan your physician develops for you. Working with your healthcare team as an active partner will help you establish realistic goals and aid your providers in developing a protocol that best suits your situation.

The treatment plan for AFib focuses on three areas which are:

- Medications
- Nonsurgical interventions
- Surgical procedures

Medications

Medications are the first line of action for treating AFib. The goals for medication use are to manage both the heart rate and rhythm efficiently.

There are four separate groups of drugs currently recommended for controlling AFib, which are:

- Antiarrhythmics
- Beta-blockers
- Calcium channel blockers
- Digitalis

Antiarrhythmics

Antiarrhythmics help to convert AFib back into a regular rhythm so that the heart can resume healthy functioning. There are two distinct kinds of antiarrhythmics: sodium channel blockers and potassium channel blockers.

Some examples of frequently used antiarrhythmic drugs are Cordarone, Miltaq, Rythmol, Quinalan, Tambacor, and Tikosyn.

Beta-Blockers

Beta-blockers are like the restrictor plate on a racecar and keep the heart from pumping too fast.

Beta-blockers currently used for AFib include Lopressor, Tenormin, Toprol XL, Coreg, Betapace, Bystolic, Corgard, and Zebeta.

Calcium Channel Blockers

Calcium channel blockers limit the flow of calcium into heart muscle cells, which helps regulate heart rate by controlling pumping force.

The calcium channel blockers often prescribed for AFib are Cardizem CD, Norvasc, Procardia XL, Lotrel, Calan SR, Dilacor XR, and Verelan.

Digitalis

Digitalis is a drug that limits the speed of electrical impulse conduction between the atria and ventricles, which helps control heart rate and pumping strength. Digitalis is less effective than other drugs when you are exercising or experiencing emotional stress.

Digitek and Lanoxin are the two varieties of digitalis currently prescribed.

Nonsurgical Interventions

Nonsurgical interventions are the second line of treatment for managing AFib. These procedures occur in a clinic or hospital setting and help to reset the heart back into a regular rate and rhythm.

Electrical Cardioversion

Electrical cardioversion delivers a shock of electricity to the heart muscle to zap it back into a routine The patient receives a sedative to help them fall asleep.

Once asleep, a physician or other trained clinician places both paddles of a cardiac defibrillator on designated locations on the chest and delivers a rapid burst of electricity. The procedure is like cardiac defibrillation for ventricular tachycardia or ventricular ablation, except it uses a lower dose of energy.

Radiofrequency or Cardiac Ablation

Radiofrequency or cardiac ablation is a viable alternative if you have ongoing AFib that resists correction with medications or electrical cardioversion. Once you receive a sedative and are asleep, the physician threads a small thin wire called a catheter into a designated location in your neck, forearm, or groin that is then passed up to the heart.

The catheter will send electrical impulses to your heart that record electrical activity and help identify the areas of tissue causing the arrhythmia. Once discovered, the physician will send small doses of energy through the tip of the catheter to these areas that will scar or destroy the heart tissue, which will prevent it from causing further bouts of AFib.

Surgical Procedures

Two surgical options are commonly used to treat AFib when medications and nonsurgical interventions are unsuccessful.

- **Pacemakers** are electronic devices that are slightly larger than a silver dollar and have small wires that the surgeon places in specific areas of the heart to provide electrical stimulation to help it maintain appropriate speed and rhythm. The surgery takes place in the hospital, with a physician placing the pacemaker inside of an incision made in the skin on the upper left side of the chest.
- A **Maze procedure** is a more complicated open-heart option that a cardiac surgeon performs in a hospital operating room. The surgeon makes small incisions in the upper region of the heart that form scar tissue when they heal, which block blocks the conduction of electrical impulses causing the AF and restores a regular heart rate and rhythm.

Prognosis for People with AFib

AFib prognosis is dependent on several factors, such as the type you have and any other medical conditions that are contributing to the disease. According to the American Heart Association, timely and successful AFib treatment can limit the amount you experience.

Although individuals can’t die from an AFib episode, strokes due to AFib can result in death. If you have AFib, you also have a higher probability of developing congestive heart failure or other heart-related ailments.

It is critical for you to work with your healthcare team, especially your physician, to closely monitor your AFib and make positive changes such as lifestyle modifications. Doing as much as possible on your part will help prevent other problems that could arise from having AFib.

Make sure that you read the latest information about AFib management. Have a list of questions for you to ask when you see your physician or another healthcare provider, so you can find out about the latest developments in AFib care that can work well for you.

Many people worldwide can live long, healthy, active, and productive lives with AFib. Understanding your AFib risk factors, learning about AFib triggers, and making consistent healthy lifestyle choices will help you to live as well as possible with your AFib.