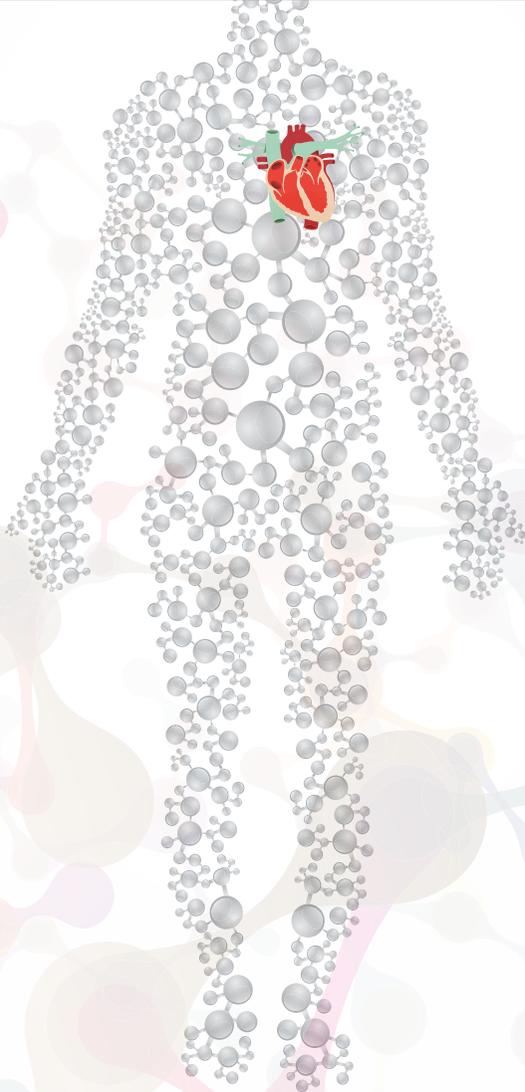


A Patient's Guide To

LIVING with Atrial Fibrillation (AFib)

CAUSES • RISK FACTORS • SYMPTOMS • DIAGNOSIS • TREATMENTS





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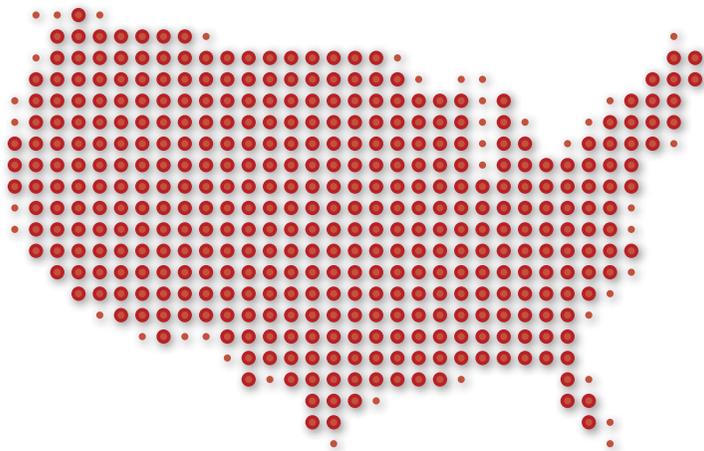
LIVING with Atrial Fibrillation (AFib)

Atrial fibrillation (also called AFib or AF), is the most common type of irregular heartbeat, or arrhythmia. An estimated 5 million Americans are currently living with AFib.¹ People with AFib have a higher risk of stroke, heart failure, dementia, other heart-related complications, and even death.

Getting an AFib diagnosis can be frightening, and even confusing, but you are not alone, and with proper treatment, you can significantly reduce these risks and live a healthy and active life.

AFib affects an estimated

5 MILLION
AMERICANS¹



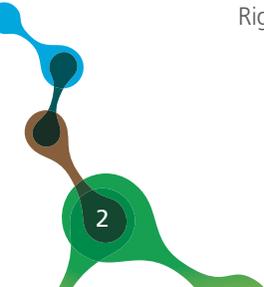
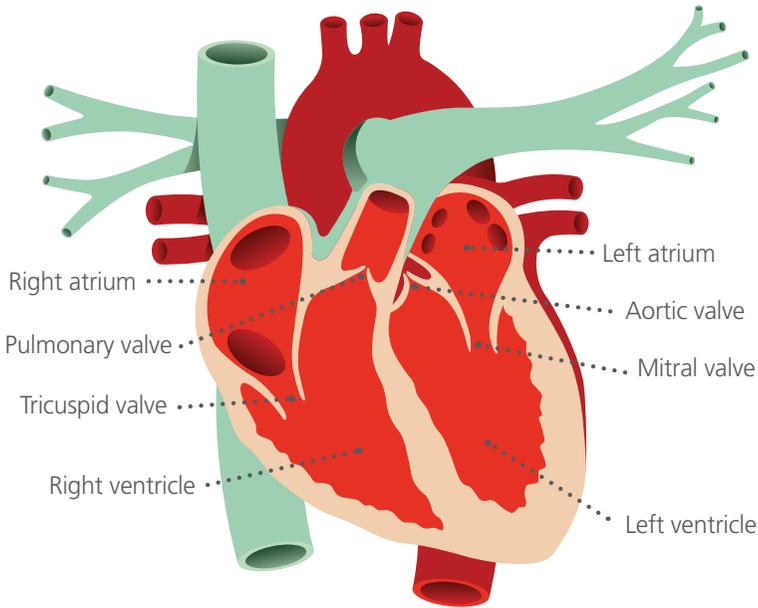
The Healthy Heart

The heart is a powerful muscle that pumps blood throughout the body. There are four chambers within the heart that contract and relax in a coordinated manner to pump the blood. In a healthy heart, the rate and rhythm of the heartbeat are controlled by an electrical system. A series of coordinated electrical signals start in a part of the heart called the sinus node. The signal, an electrical impulse, then spreads across the heart, and tells it when and where to contract—or squeeze. This synchronized heartbeat continuously circulates blood from the lungs, through the heart, and out to the rest of the body to deliver oxygen.

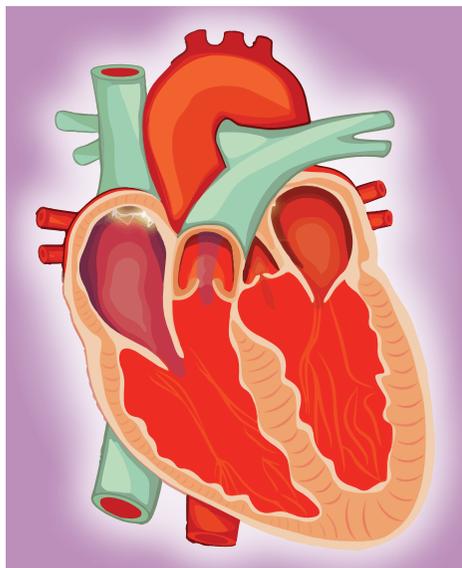
The heart beats, & goes through the pumping process, an average of **60–100 TIMES PER MINUTE**²



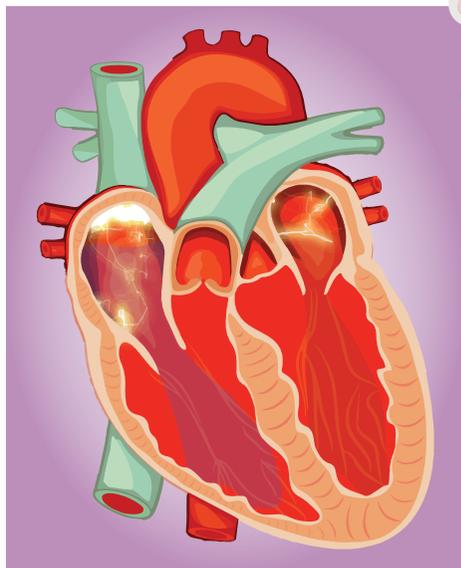
THE HUMAN HEART



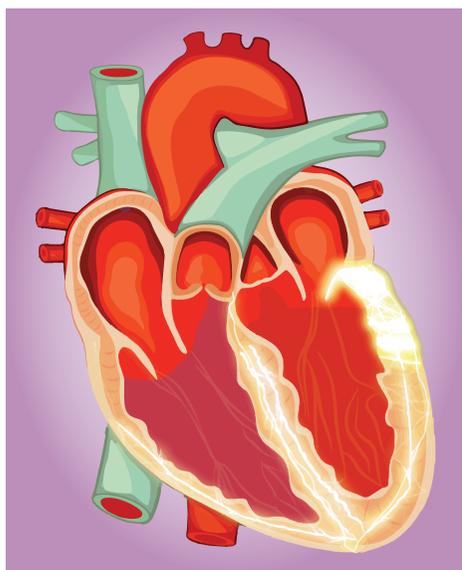
HEART'S ELECTRICAL SYSTEM



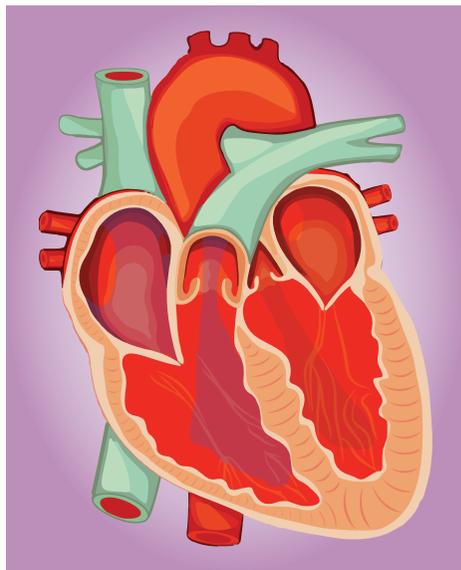
Electrical signal starts in the sinus node



The impulse spreads across both atria, causing them to contract and push blood into the ventricles



The impulse travels down to the ventricles, which then contract



Blood exits the heart and circulates through the body

Your Heart In AFib

In people with AFib, the electrical signals are abnormal and largely chaotic, and are often triggered by impulses from the pulmonary veins. The signals, or impulses, also don't travel in an organized fashion, causing the atria and ventricles to contract irregularly, often rapidly, and out of sync with each other. This can cause rapid quivering of the atria—also called fibrillation.

Episodes of AFib can be very frightening, and even disabling, although the episodes themselves are not usually life threatening.

However, when the heart beats very fast, this can overwork the ventricles, which are not able to pump enough blood to meet the body's oxygen needs. This can eventually lead to heart failure in some patients.

 During AFib episodes, some patient's hearts beats as many as **350 OR MORE TIMES PER MINUTE** ³

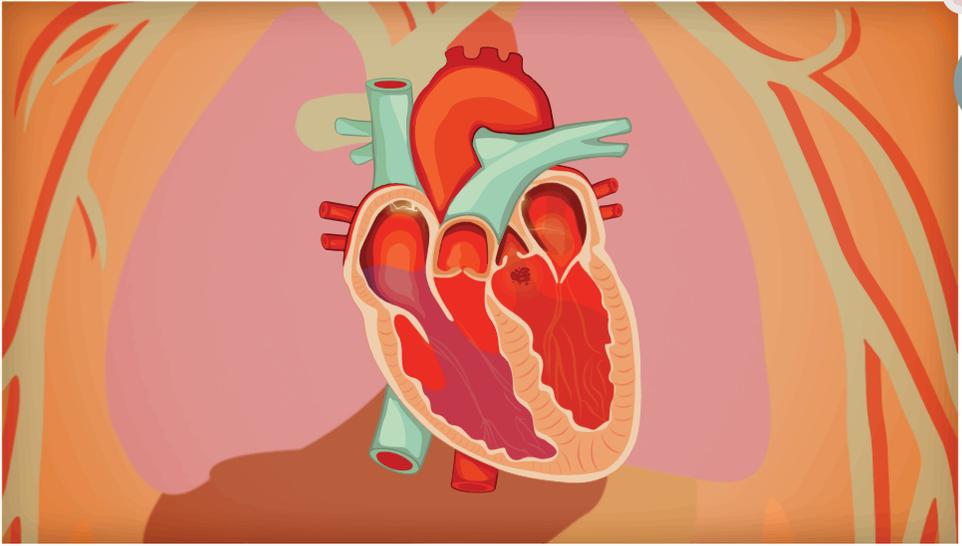


The irregular rhythm of the heart also causes the heart's chambers to squeeze ineffectively—affecting the way it flows through the heart and making it vulnerable for forming clots. If these clots travel from the heart, most go to the brain where they can block vital blood flow—resulting in an ischemic (obstructive) stroke that can be debilitating and deadly.

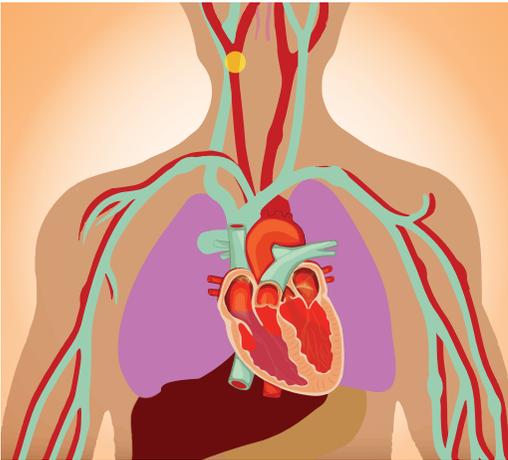
THOSE DIAGNOSED WITH AFIB ARE

5x MORE LIKELY TO HAVE A **STROKE**.⁴

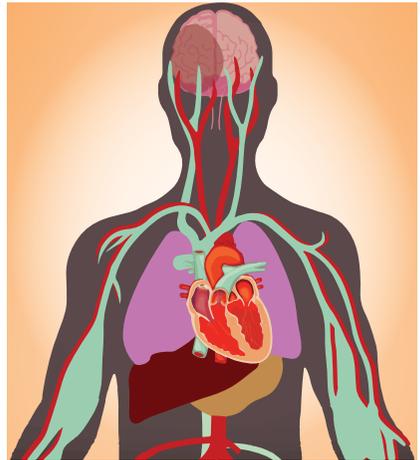




A blood clot can form in the heart



That clot can then be pumped out of the heart and travel through an artery to the brain

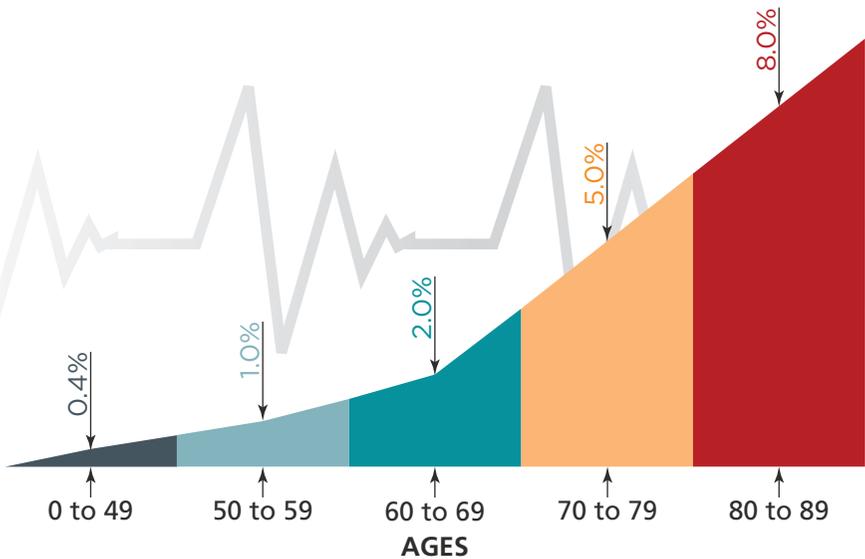


The clot can lodge in the brain, block blood flow, and cause a stroke

How Do You Get It?

AFib can be caused by an abnormality in the heart's physical structure, from heart surgery, from other diseases, and from exposure to stimulants. Sometimes the cause is unknown, although it is clear that it becomes more common as we age.

ATRIAL FIBRILLATION PREVALENCE BY AGE⁵



Causes & Risk Factors

- Age—increased risk especially after 60
- Heart disease including:
 - Valve problems
 - Congestive heart failure
 - Coronary artery disease
 - History of heart attack
 - Pericarditis—inflammation of the heart's lining
 - Sick sinus syndrome (a problem with the heart's natural pacemaker that controls rate and rhythm)
- Congenital heart defects or disease (those you are born with)
- Previous heart surgery
- High blood pressure

- Genetics—family history of AFib
- Exposure to stimulants like caffeine, tobacco, or certain medications
- Other diseases/conditions such as:
 - Thyroid or other metabolic problems
 - Diabetes
 - Chronic kidney disease
 - Lung disease
 - Sleep apnea
- Serious infection
- Drinking alcohol
- Extreme stress from pneumonia, other illness, or surgery

How Do You Know If You Have It?

Some people with AFib never experience symptoms, even when having AFib episodes. In others, the irregular rhythm and function of the heart is very noticeable. Over time, the rapid rates of the ventricles weaken the heart, causing additional symptoms.

Symptoms

- Irregular, pounding, or rapid heartbeats that some describe as a “flopping” or “fluttering” in the chest
- Dizziness or lightheadedness
- Fainting
- Breathlessness or difficulty breathing
- Weakness
- Fatigue
- Chest pain or pressure
- Difficulty exercising



How Is It Diagnosed?

Some people with AFib never experience symptoms, and are diagnosed when a health care professional detects an irregular heartbeat during a routine exam or during a visit for another health condition. Others are diagnosed because they experience symptoms that they report to their health care professional, or because their symptoms are so severe that they end up in the ER.

An irregular heartbeat that is detected while your health care professional listens to your heart with a stethoscope, or checks your pulse, could be a sign of AFib. If AFib is suspected, your health care professional will review your medical history and your signs and symptoms, and may do additional tests to confirm whether or not you have AFib. You may also be referred to a cardiologist or cardiac electrophysiologist—who specialize in the heart and irregular heartbeats—for further testing and for your treatment.

Diagnostic Tests



- **Electrocardiogram (EKG or ECG)**—the most common tool for diagnosing AFib, this test records the heart's electrical patterns with electrodes attached to the arms and chest.





- **Holter monitor or ECG event recorder**—electrodes on the chest record the heart’s activity, but on a portable monitor. This allows your health care professional to get information over a long period of time (up to a month), which is especially valuable for AFib patients whose episodes come and go.



- **Stress test**—this test involves monitoring your heart while you exercise because some abnormal heart rhythms are triggered when your heart is working harder and beating fast.



- **Chemical stress test**—this test is used when a traditional stress test cannot be done. A small amount of chemical is injected through an IV line and into your body. Depending on which chemical is used, your heart will beat faster and/or the blood vessels near your heart will open wider. You will be hooked up to a heart monitor during this time which will help to identify any irregular heart rhythms.



- **Echocardiogram (echo)**—this test uses ultrasound waves to create a moving picture of the heart as it beats. The echo can show the size and shape of the heart, how well it’s pumping, its rate and rhythm, and any structural problems or the presence of clots. Usually the transducer, the instrument that sends the sound waves to the heart, is placed on the chest. In some cases, the transducer is guided on a thin tube down the throat in order to get a better image (called a transesophageal echo).



- **Chest X-ray**—these x-rays give pictures of your heart and lungs to detect problems and look for other conditions that might explain your symptoms.



- **Blood tests**—used to find other potential causes of the irregular rhythm, such as a thyroid problem or an imbalance in the body’s electrolytes. Electrolytes are minerals that are necessary for normal body function and levels that are too high or too low can affect the electrical impulses in your heart.

Types Of AFib

AFib episodes may happen infrequently, or they may happen often and become a long-term problem that requires treatment. AFib is often classified, and treated, based on how often the episodes occur:

- **Paroxysmal (or intermittent) AFib** is when episodes stop spontaneously, but don't last more than 7 days
- **Persistent AFib** is when episodes last longer than 7 days
- **Longstanding persistent AFib** lasts continuously for more than a year
- **Permanent AFib** is when episodes last longer than 7 days and where a decision has been made not to stop it

How Is It Treated?

Not all people with AFib need treatment because their AFib will go back to a normal heartbeat on its own.

For those who need treatment, the goals are to restore the heartbeat back to its normal rhythm or control its rate, and to prevent strokes by preventing blood clots from forming. The type of treatment that is best for you will depend on how long you have had AFib, how severe your symptoms are, and what caused it. Be sure to talk with your health care professional to learn about which treatment is right for you, and to understand the benefits and risks of the treatment options.

Rate Control

Treatment for rate control keeps the heart from beating too fast, but doesn't aim to restore a normal rhythm. This can help reduce symptoms, and usually can be accomplished with medications including beta blockers and calcium channel blockers.

Rhythm Control

Controlling the heart's rhythm allows the heart's four chambers to work efficiently to pump blood. Restoring a normal rhythm becomes less likely the longer a person has AFib. However, in some it can be accomplished with rhythm control medications, also known as drug cardioversion or chemical cardioversion. These medications can have serious

side effects and may require heart monitoring. Rhythm control medications are not effective for all patients and may take over a year to achieve a normal rhythm.

Procedures are sometimes necessary to achieve rhythm control and include:

- **Electrical cardioversion** where a controlled shock to the chest restores the normal rhythm
- **Catheter ablation** where radio frequency (heat) or cryo (freezing) energy is used to strategically destroy tissue and prevent the abnormal electrical impulses from spreading



Some people may need a pacemaker after having certain kinds of ablation. A pacemaker is a small, implanted device that monitors the heart's rhythm and sends electrical signals to regulate it.

- **Maze or mini-maze surgery** where radio frequency or cryo energy, and sometimes incisions, are used to strategically destroy tissue and prevent the abnormal electrical impulses from spreading

Stroke Prevention

Because the heart beats irregularly during AFib, it affects the way blood flows through the heart and makes it vulnerable for forming clots. Such clots can travel from the heart to the brain where they can block vital blood flow—resulting in a stroke that can be debilitating or deadly.

The risk of stroke in a person with AFib is 500% higher than in someone without the disease, so treatment to reduce stroke risk is essential. Anticoagulants, also called blood thinners, interfere with the body's clotting mechanisms, and reduce the risk of stroke. There are now a number of oral anticoagulants available that work in different ways with different benefits and risks, allowing the healthcare professional and patient to choose the right drug for them.

Fatal bleeding while on an anticoagulant is rare, and for most AFib patients, the benefit of preventing AFib caused strokes outweighs the increased risk of bleeding. In most cases, things like frailty, age, and risk of falls should not be barriers to anticoagulation. However, some individuals may not need an anticoagulant because their risk of stroke is so low, or because their risk of bleeding as a side effect of the anticoagulant is too high.

Living With AFib

If you've been diagnosed with AFib, being a proactive member of your health care team is critical in effectively managing your condition:

- Partner with your healthcare professional in making treatment decisions. This can be confusing and overwhelming so never hesitate to ask questions and get the information you need.
- Keep all your medical appointments and take your medications as directed. Don't stop or switch any medications without talking with your health care professional.
- Discuss your diet and any over-the-counter medications that could interfere with your treatment.
- Continue to exercise with the guidance of your health care professional. AFib can cause increased fatigue but it does not have to eliminate your activities.
- Be sure to report any changes in your health or symptoms.

Getting an AFib diagnosis can be frightening and even confusing but it is a manageable condition. You can expect to live a healthy and active life by partnering with your healthcare professional and finding the treatment plan that is right for you.



For more information on AFib, watch the “Living with Atrial Fibrillation” and “Preventing Stroke from Atrial Fibrillation” films available on the Alliance for Aging Research YouTube Channel.

Additional Resources

Learn More About AFib

- The Mayo Clinic shares important information about atrial fibrillation at www.mayoclinic.org/diseases-conditions/atrial-fibrillation/basics/treatment/con-20027014.
- The National Heart Lung and Blood Institute of the National Institutes of Health provides a guide to understanding atrial fibrillation at www.nhlbi.nih.gov/health/health-topics/topics/af.
- The non-profit StopAFib.org offers resources for newly-diagnosed patients at their Get Started Learning About Afib Guide at www.stopafib.org/newsitem.cfm/NEWSID/277

Find a Specialist

- The Heart Rhythm Society provides a specialist finder at www.hrsonline.org/Find-a-Specialist#axzz3BisgQRYF that connects you to health care professionals around the world who specialize in treating atrial fibrillation.

Connect with Other AFib Patients

- StopAFib.org is a patient-to-patient resource to help you control your atrial fibrillation so it doesn't rule your life. Their discussion forum at <http://forum.stopafib.org> connects you directly to patients.

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