

Atrial Fibrillation

Atrial fibrillation (AF) is an abnormal, yet common, heart rhythm. To understand AF, it is helpful to know more about the heart.

The Heart

The heart is a muscular organ about the size of a closed fist. The heart has 4 chambers. The 2 upper, thin-walled chambers are the right atrium and left atrium. The 2 larger, more powerful chambers are the right ventricle and left ventricle. As the heart contracts, it pumps oxygen-rich blood through the body. For the heart to do its work, it needs a “spark” or electrical impulse to “start” a heartbeat.

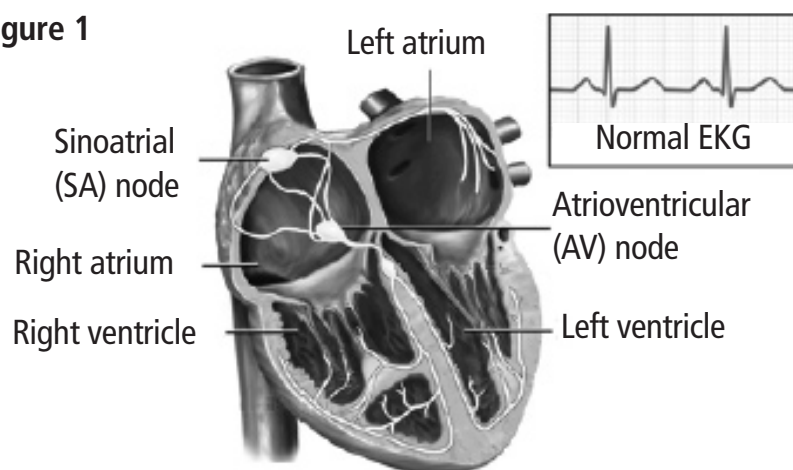
The sinoatrial (SA) node, the heart’s natural pacemaker, is found in the right atrium. The sinoatrial node generates this electrical spark (See Figure 1).

From there, the impulse:

- Travels through the upper chambers (atria)
- Pauses at the atrioventricular (AV) node
- Moves along a standard path within the ventricles

The sinoatrial node is the heart’s natural pacemaker.

Figure 1



This electrical circuit makes the heart contract and pump blood to the body. When the circuit follows this standard path it is called normal sinus rhythm. Normal sinus rhythm is the most efficient heart rhythm.

Atrial Fibrillation

When AF first develops, it may come and go. Most often, if AF is not treated, it will be a life-long problem. The chance of developing atrial fibrillation increases with age.

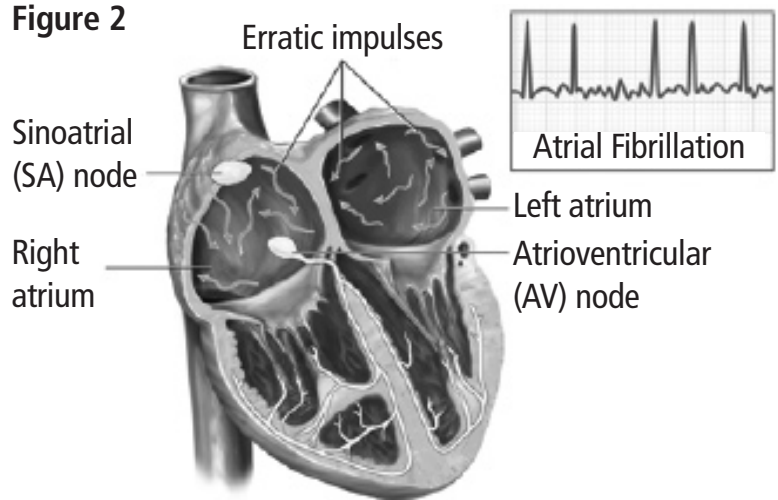
In AF, the sinoatrial node is no longer the pacemaker for the heart. Instead, rapid extra impulses in the left atrium cause the:

- Atria to quiver
- Ventricles to contract in an irregular fashion (See Figure 2)

AF can :

- Cause an irregular heartbeat (pulse), which can be fast, normal or slow
- Limit the heart's pumping ability
- Decrease the blood flow to the body

Figure 2



When the body does not obtain the blood it needs, the heart works harder. Over time, a fast heart rate can weaken the heart's ventricles. This can cause more health problems. Blood clots can form in the heart and can lead to stroke.

Causes of AF

- High blood pressure (hypertension)
- Heart problems, such as valve disease or coronary artery disease
- Lung disease
- Other diseases, as in thyroid problems
- Alcohol, tobacco and caffeine intake
- Family history of AF
- Slow heartbeat due to SA node problems
- Recent heart surgery

Symptoms of AF

Sometimes there are no symptoms of AF, or they may come and go. Common symptoms include:

- Palpitations (feeling that the heart is fluttering)
- Anxiety
- Feeling dizzy or faint
- Shortness of breath
- Tiring easily with activity
- Swelling in the ankles and feet

These symptoms also may be a sign of other problems. To see if AF is present, it is important to record the heart rhythm when symptoms occur. That is why your doctor may order a portable heart monitor for you to wear at home.

Your doctor may perform tests to check for heart disease or problems that cause atrial fibrillation. These include an echocardiogram, nuclear imaging tests, heart angiogram, exercise stress test and electrophysiology studies. These tests will be explained to you in detail.

Treatment for AF

The first step is to control heart rate and prevent blood clots and stroke. This is done with medicines to:

Control Heart Rate

- Beta blockers
- Calcium channel blockers
- Digoxin

Prevent Stroke

- Warfarin (Coumadin®)
- Aspirin

In many patients, treatments to restore the normal heart rhythm may be suggested:

- Anti-arrhythmic medications
- Cardioversion
- Catheter ablation
- Surgical ablation and the Maze procedure

Your doctor will discuss the options that are best for you, based on your history and test results.

Detailed information about the tests and treatments for AF are available from your doctor and nurse and include:

Booklets

- Warfarin
- Low Molecular Weight Heparins
- Cardioversion
- Beta Adrenergic Blocking Agents

Videos

- Coumadin® Treatment and You
- Stroke: Reducing the Risk
- Lovenox®

Health Information Resources

For more information, visit one of Northwestern Memorial Hospital's Health Learning Centers. These state-of-the-art health libraries are located on the third floor of the Galter Pavilion and on the first floor of the Prentice Women's Hospital. Health information professionals are available to help you find the information you need and provide you with personalized support at no charge. You may contact the Health Learning Centers by calling 312-926-LINK (5465) or by sending an e-mail to hlc@nmh.org.

For additional information about Northwestern Memorial Hospital, please visit our Web site at www.nmh.org.

Para asistencia en español, por favor llamar a el departamento de representantes para pacientes al 312-926-3112.

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