

ATRIAL FIBRILLATION ANSWERS

A Patient Education
Handbook on
Electrophysiology



ST. JUDE MEDICAL

**“MY LIFE
HAS TAKEN A TURN FOR
THE BETTER.”**

-Emie Bishop



Emie Bishop

Wife, Mother, Grandmother,
Skilled Needle Worker,
Arrhythmia Patient

“My episodes of atrial fibrillation (AF) kept me from fully enjoying what I was accustomed to doing. It was like having to push through a wall—there was a fatigue level that was always present. There were times that I would be teaching needlework classes and I was not able to teach the way I really wanted to teach. When the episode finally passed, the class had already ended.

After my procedure, life has improved because I do not worry about my AF any longer. I have had a complete return of my energy. I have been able to return to everything that I have wanted to do and am able to continue with my designing and needlework without any complications.

My life has taken a turn for the better. I feel like I’ve been given another hundred thousand miles or 10 year warranty.”

- ▶ **Like Emie**, many patients find relief from symptoms of an arrhythmia with a cardiac treatment plan. This brochure will provide an overview of the causes, diagnosis and treatment of various arrhythmias. As you read this please keep in mind that every patient is different and each treatment option carries specific risks and benefits. Not all treatment options are appropriate for every patient. All treatment results and outcomes are specific to the individual patient, and results may vary. With the advice of your physician and the information contained within this brochure, you can learn about your treatment options.

WHAT IS ATRIAL FIBRILLATION?

Atrial fibrillation (AF) is the most common type of abnormal heart rhythm and is found in approximately seven million people around the world. Atrial fibrillation is a very fast and disorganized heartbeat that occurs in the upper chambers of the heart (the atria). During AF, the atria may beat between 350 and 600 times per minute, making them appear to quiver (fibrillate) rather than beat. As a result, the heart loses its ability to pump efficiently.

WHAT ARE THE SYMPTOMS OF AF?

Common AF symptoms include:

- Racing, pounding heart
- Erratic pulse
- Feeling worn out, fatigued
- Shortness of breath
- Trouble with normal exercise and activities
- Chest pain or pressure
- Lightheadedness, dizziness and fainting

Yet many people who have AF do not experience these outward symptoms. Regardless, anyone with AF is at risk for one of its most dangerous side effects: stroke.

Because of the extremely fast beating of the atria, the heart's pumping action does not work properly and blood is not completely emptied from the heart's chambers. This can cause it to pool and develop blood clots. If a clot breaks free, it may result in a stroke. People who have atrial fibrillation are five times more likely to have a stroke than people who do not have AF.¹

CONTRIBUTING FACTORS FOR AF:

Causes for developing AF include:

- Existing heart disease, heart failure and congenital defects
- High blood pressure
- Diabetes, obesity and metabolic syndrome
- Hyperthyroidism
- Chronic lung disease
- High blood pressure
- Excessive alcohol and stimulant use
- Smoking and caffeine consumption
- Stress or illness
- Sleep apnea
- Prior open-heart surgery
- Use of certain medications

HOW WILL MY PHYSICIAN DETERMINE IF I HAVE ATRIAL FIBRILLATION?

The first step in diagnosing AF is a thorough medical history and physical exam. It is important to let your physician know about your symptoms and provide information on when they began, how long they last and what they feel like.

In addition, your physician may choose to use one or more tests. These may include:

ELECTROCARDIOGRAM (ECG OR EKG)

This is a basic test that typically takes place in your doctor's office. The test is pain free and consists of placing sticky patches on your wrists, ankles and chest to record your heart's electrical activity. The test provides the physician with timing and duration of your heartbeat.

HOLTER MONITOR

This device is a small portable electrocardiogram (ECG) monitor that you wear around your neck or in a pocket to automatically record your heart's activity. It records your heart rhythm as you go about your daily activities for 24 to 48 hours, and provides your doctor with information about changes in your heart rhythm over that period of time.

ELECTROPHYSIOLOGY STUDY (EP STUDY)

An electrophysiology study takes place in a lab or hospital and is performed by an electrophysiologist or EP. An EP is trained in heart rhythm disorders. The EP will access the heart through a blood vessel. A catheter will enter the vessel and be placed in your heart where diagnostic devices are used to evaluate your heart and determine how best to treat it. Treatment may consist of medication, medical procedure or an implanted device.

BLOOD TEST

Your doctor may conduct a blood test to rule out other conditions that may cause arrhythmias. For example, hyperthyroidism—overproduction of the thyroid hormone—and other chemical abnormalities in the blood may trigger atrial fibrillation (AF) episodes.

IMPLANTABLE CARDIAC MONITOR

An implantable cardiac monitor provides monitoring for up to three years giving your doctor information about changes in your heart rhythm during daily activities. An implantable cardiac monitor can capture valuable diagnostic information during atrial fibrillation and other cardiac arrhythmia episodes. This device allows physicians to diagnose the causes of arrhythmias and provide the appropriate patient care.



WHAT TREATMENT OPTIONS ARE AVAILABLE?

The primary goals of an AF treatment plan are to:

- Control your heart rate.
- Reduce your stroke risk.
- Control your symptoms by restoring a normal heart rhythm.
- Help you return to a healthy, active life.

Your physician will work with you to develop a treatment plan. The treatment prescribed will depend on the severity of your AF, your symptoms and your lifestyle. Treatment options can be placed in two categories: suppressive and curative. Suppressive therapies work to suppress, or control, symptoms; curative therapies are designed to eliminate the cause of the condition and have the potential to cure the disease.

SUPPRESSIVE THERAPIES

ARRHYTHMIA MEDICATION

While taking medication will not cure an arrhythmia, it may help control an irregular heart rate or restore and/or maintain a normal heart rhythm. For example:

- Antiarrhythmic medications such as beta blockers, when used as prescribed, can reduce episodes of tachycardia (fast heartbeat). They can also slow down your heart during an episode.
- If you have atrial fibrillation (AF), your doctor may prescribe blood-thinner medication to help reduce the risk of blood clots forming and causing a stroke.

ELECTRICAL CARDIOVERSION

Occasional episodes of AF can be treated electrically with a procedure called cardioversion. During the procedure, an electrical shock is delivered to your heart to stop AF and restore a normal heart rhythm. The procedure is performed at the hospital under anesthesia.

POTENTIALLY CURATIVE THERAPIES

CARDIAC ABLATION

The doctor will access the heart through a blood vessel. A catheter (a special long, steerable tube with wires) will enter the vessel and be placed in your heart where diagnostic devices will be used to determine the area of the heart that needs to be treated. The doctor will use the catheter to apply energy to the targeted heart tissue. This will isolate the area from the rest of the heart and prevent it from producing AF.

DEVICE PROCEDURE

Pacemakers (treat slow or irregular rhythms) or implantable cardioverter defibrillators (ICDs treat dangerously fast rhythms) have special features designed to help patients with AF. As with all AF management options, device-based therapy should be monitored on a regular basis by your doctor.

**AVAILABLE
TREATMENT
OPTIONS**

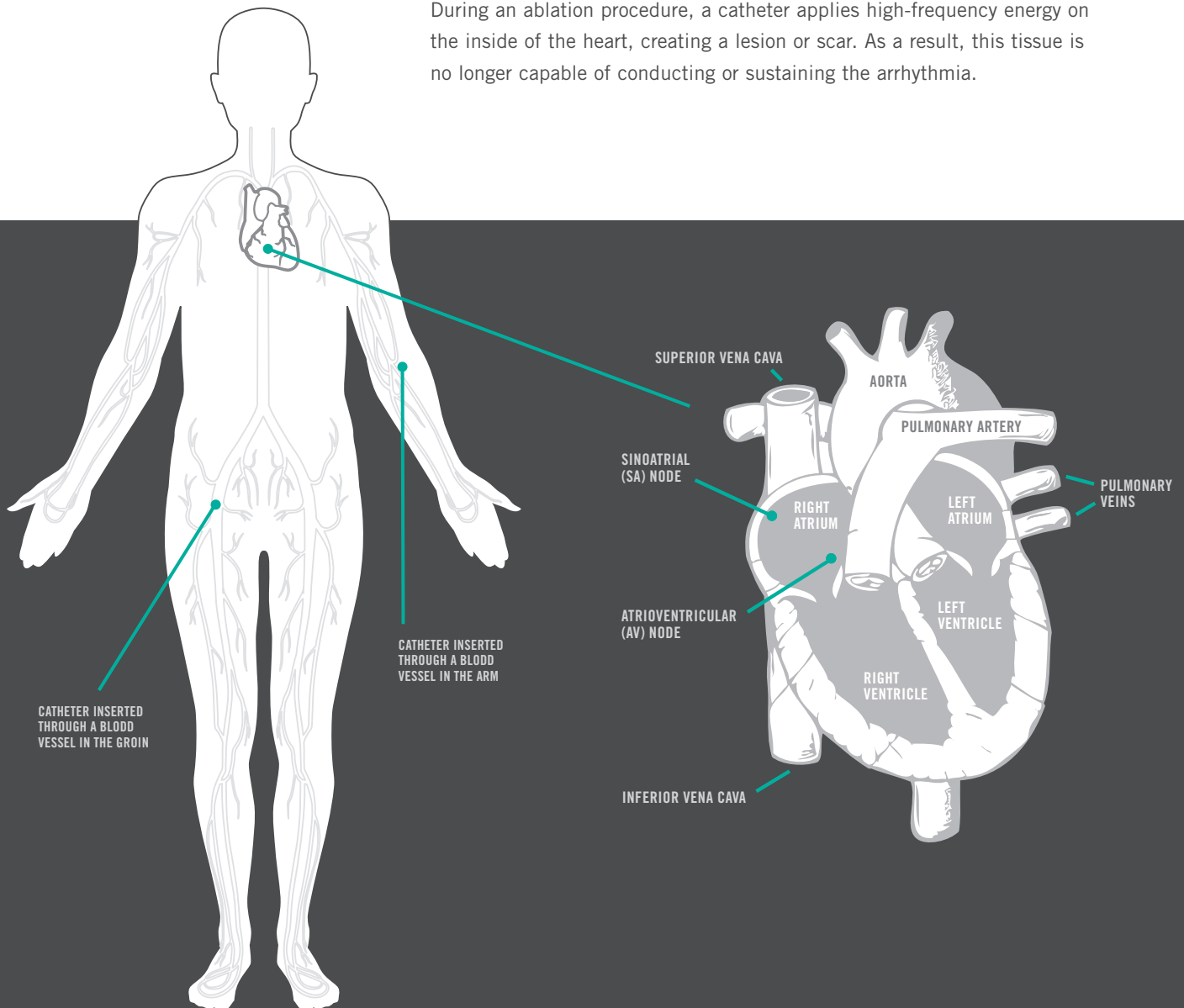
HOW CARDIAC ABLATION WORKS.

There are many different types of arrhythmias. One method available to diagnose and treat an arrhythmia is an electrophysiology study and ablation. An EP study can help determine the origin of a patient's arrhythmia and may indicate a patient's potential response to therapy. Precision and extreme accuracy in EP testing are crucial to providing arrhythmia patients with an accurate diagnosis.

During an EP study, a physician inserts several catheters, which are long, steerable tubes with wires and multiple electrodes, into the heart. These catheters are inserted into the heart via blood vessels in the arm or near the patient's groin. These catheters will collect electrical information from inside the heart and then display this data on several monitors for the EP team to see.

Once the arrhythmia is diagnosed, your physician will discuss whether you are a candidate for catheter ablation and what approach is right for you.

During an ablation procedure, a catheter applies high-frequency energy on the inside of the heart, creating a lesion or scar. As a result, this tissue is no longer capable of conducting or sustaining the arrhythmia.



CATHETER ABLATION RISKS

Because a cardiac ablation procedure requires your doctor to insert catheters into your body, there are risks, including:

- Swelling or bruising where the catheters were inserted
- Infection
- Damage to the heart or blood vessels
- Damage to your heart's electrical system; if this happens, your doctor may need to implant a pacemaker
- Side effects from the anesthesia, which can vary and depend on a number of health factors

Consult with your doctor about risks before you undergo your procedure.

WHAT ARE THE BENEFITS OF THE CATHETER ABLATION PROCEDURE?

- The procedure is minimally invasive.
- It may permanently interrupt the triggers of the heart arrhythmia; many patients require no further treatment.
- For some patients, it brings freedom from long-term use of blood-thinning medications.
- Recovery is relatively fast; most patients leave the hospital after one or two days and resume normal activities a few days after the procedure.

This information is intended as a general overview. Your experience may differ. Please talk with your physician for specifics regarding your case.*

IMMEDIATE RECOVERY AFTER CATHETER ABLATION

After your procedure, your medical team will move you to a recovery area. Depending on your condition, you may be able to go home the same day of your procedure, or you may need to stay in the hospital for a longer period. Your doctor may prescribe blood-thinning or other medication for a period of time after your procedure. Always remember that your doctor is your best source of information about what to expect during your immediate recovery process.

PATIENT RESOURCES

To learn more about AF, talk to your physician. Below are other resources you may find useful:

www.arrythmiaanswers.com

American Heart Association

www.americanheart.org

Heart Rhythm Society

www.hrsonline.org

Mayo Clinic

www.mayoclinic.org

FREQUENTLY ASKED QUESTIONS:

What are atria?

The atria are the two upper chambers of the heart. They are referred to as the left atrium and the right atrium.

What are ventricles?

The ventricles are the two lower chambers of the heart. They are referred to as the left ventricle and the right ventricle.

What are heart palpitations?

Heart palpitations are described as a pounding, racing or fluttering of the heart.

Is atrial fibrillation genetic?

AF can occasionally be genetic, meaning transmitted through the genes, and hence recurrent in a given family.

Is atrial fibrillation a prelude to a heart attack?

No; a heart attack is a sudden event in which a portion of the heart muscle stops working because it no longer receives blood, usually due to a blockage in the coronary artery, whereas AF is primarily an electrical or rhythm problem that causes the heart to beat too fast.

Can I die from atrial fibrillation?

Most episodes of AF are not life threatening, but AF is a progressive disease and tends to get more severe over time. The biggest danger from AF is the increased risk for heart disease and stroke, both leading causes of death in the United States.

What does an ECG record?

An ECG (sometimes called an EKG) records the heart's electrical activity.

Can atrial fibrillation go away by itself?

On occasion this does happen. In a process called spontaneous remission, the heart adjusts to whatever caused the AF and starts beating normally. This is very rare, however, and you should continue being supervised by your physician.

Is atrial fibrillation curable?

While today there is no cure for AF, many physicians are achieving improved success in the treatment of this disease. Because AF is easier to treat in its earlier stages, you should not wait to explore your treatment options.

TALKING ABOUT YOUR HEART ARRHYTHMIA TREATMENT

Receiving an arrhythmia diagnosis and learning about your treatment options can feel overwhelming. However, talking with your doctor and medical team is extremely important, especially as you learn about your doctor's recommended treatment. Always take time to prepare for your conversations with your doctor about your heart arrhythmia treatment.

Before you meet with your doctor:

- Write down questions to bring with you
- Gather your medical records to share
- Be ready to take notes to help you remember important points
- Consider bringing a friend or family member to your appointment or procedure

When you meet with your doctor, ask about:

- The severity of your condition
- The implications of your symptoms

What kind of treatment may be best for you

- What to expect during treatment

During your discussion, your doctor should give you:

- A clear explanation of your condition, diagnostic tests and treatment options, as well as the risks and benefits of treatments
- Referrals to appropriate specialists when necessary

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