



## **Education**

### **Atrial Fibrillation**

#### **What is atrial fibrillation?**

Atrial fibrillation is a heart rhythm disturbance. It causes an irregular and sometimes very fast heartbeat.

#### **How does it occur?**

An electrical impulse within your heart causes it to pump. Normally, this impulse starts in the right upper chamber of the heart (the right atrium). It then moves along a pathway to the lower chambers of the heart (the ventricles).

In atrial fibrillation, the upper part of your heart beats faster than the rest of your heart. The atrial muscles quiver. The electrical impulses do not all reach the lower chambers of the heart. This makes the heart beat irregularly. This irregularity can affect the ability of the heart to pump enough blood to your brain and other organs. It can also make the heart beat very fast.

Common causes of atrial fibrillation are:

- heart disease, including coronary artery disease, heart enlargement due to many years of high blood pressure, and heart failure from other causes
- damage to the mitral valve (located between the upper and lower left heart chambers) usually due to rheumatic fever, or mitral valve prolapse, a malfunction of the valve.

Other causes of atrial fibrillation include:

- an overactive thyroid gland
- pneumonia
- chronic lung disease
- heavy drinking of alcohol
- some medications, such as theophylline.

Sometimes no cause for the fibrillation can be found.

#### **What are the symptoms?**

The most common symptoms are:

- irregular heartbeat
  - fast heart rate
  - dizziness and lightheadedness
  - heart palpitations that feel like a sudden pounding, fluttering, or racing sensation in the chest
  - weakness
  - fatigue
  - shortness of breath.
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Some people may have chest pain. When atrial fibrillation affects the pumping of your heart, your blood pressure may fall and you may feel lightheaded or faint.

Occasionally, the first symptom is a stroke, caused by a blood clot that formed in the fibrillating atrium and traveled to the brain.

Some people have no symptoms.

### **How is it diagnosed?**

Your health care provider will ask about your symptoms and examine you. The diagnosis can be confirmed with an electrocardiogram (ECG). An ECG measures the electrical activity of your heart. It will show a special pattern for atrial fibrillation. Your provider will use your medical history, physical exam, and blood tests to look for a treatable cause of the abnormal heartbeat.

A helpful additional test is an echocardiogram. This test uses sound waves to make images of your heart. It is a way to check for structural problems, such as an abnormal mitral valve, which might be causing fibrillations.

### **How is it treated?**

Initial treatment depends on:

- the severity of your symptoms
- the cause of the fibrillation
- your history of heart problems or stroke.

Usually your doctor will prescribe an anticoagulant (blood thinner) medicine. Thinning the blood is very important to prevent strokes in people with atrial fibrillation.

If your symptoms are mild, you may be given medicine by mouth or through a vein before your doctor tries to convert the rhythm to normal. For most people, medicine can keep the heart from beating too fast.

If a medical problem is causing atrial fibrillation, treating the problem usually causes the rhythm to go back to normal. If the heartbeat does not go back to normal, you may need to take medicine for a long time to control your heart rate. Avoid using stimulants such as caffeine and alcohol.

If the medicine does not convert the heart rhythm to normal within a day or so or if fibrillation causes severe symptoms, you may be treated with cardioversion (electrical shock). First, you will be given an anesthetic to keep you from feeling pain. The electrical shock quickly causes your heart to begin beating normally again.

Your provider might also suggest a procedure called radiofrequency ablation to keep your heart from going back into atrial fibrillation. In this procedure, catheters are put into a vein in your groin and passed into your heart. Radio waves are sent through the catheter into the abnormal pathway to block it. Your heart forms a small scar and that blocks abnormal electrical pathways in the heart. This helps stop abnormal heart rhythms.

### **What are the complications?**

The most serious complication of atrial fibrillation is a stroke caused by a blood clot in the brain. When the flow of blood slows down in the fibrillating atrium, the blood may form a clot. Clots may then travel in the bloodstream to the brain, where they can block blood flow to a part of the brain and cause a stroke.

If you continue to have atrial fibrillation, you may be at a greater risk for stroke. In this case you will need to take an anticoagulant (blood thinner) to reduce the risk of clot formation and stroke.

### **How can I take care of myself?**

- Take your medicines as prescribed.
- If you take anticoagulants, keep appointments for follow-up blood tests.

Contact your health care provider right away if you have any new symptoms or symptoms that come back, such as falling or fainting. You may need a pacemaker to control these symptoms.

### **How do I prevent atrial fibrillation?**

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It can be prevented by keeping your heart as healthy as possible. Eat a healthy diet, stay fit with the right kind of exercise for you, do not smoke, and limit your use of alcohol. If you have any form of heart disease or high blood pressure, follow your health care provider's advice closely.

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