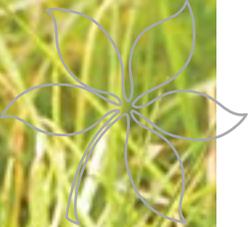


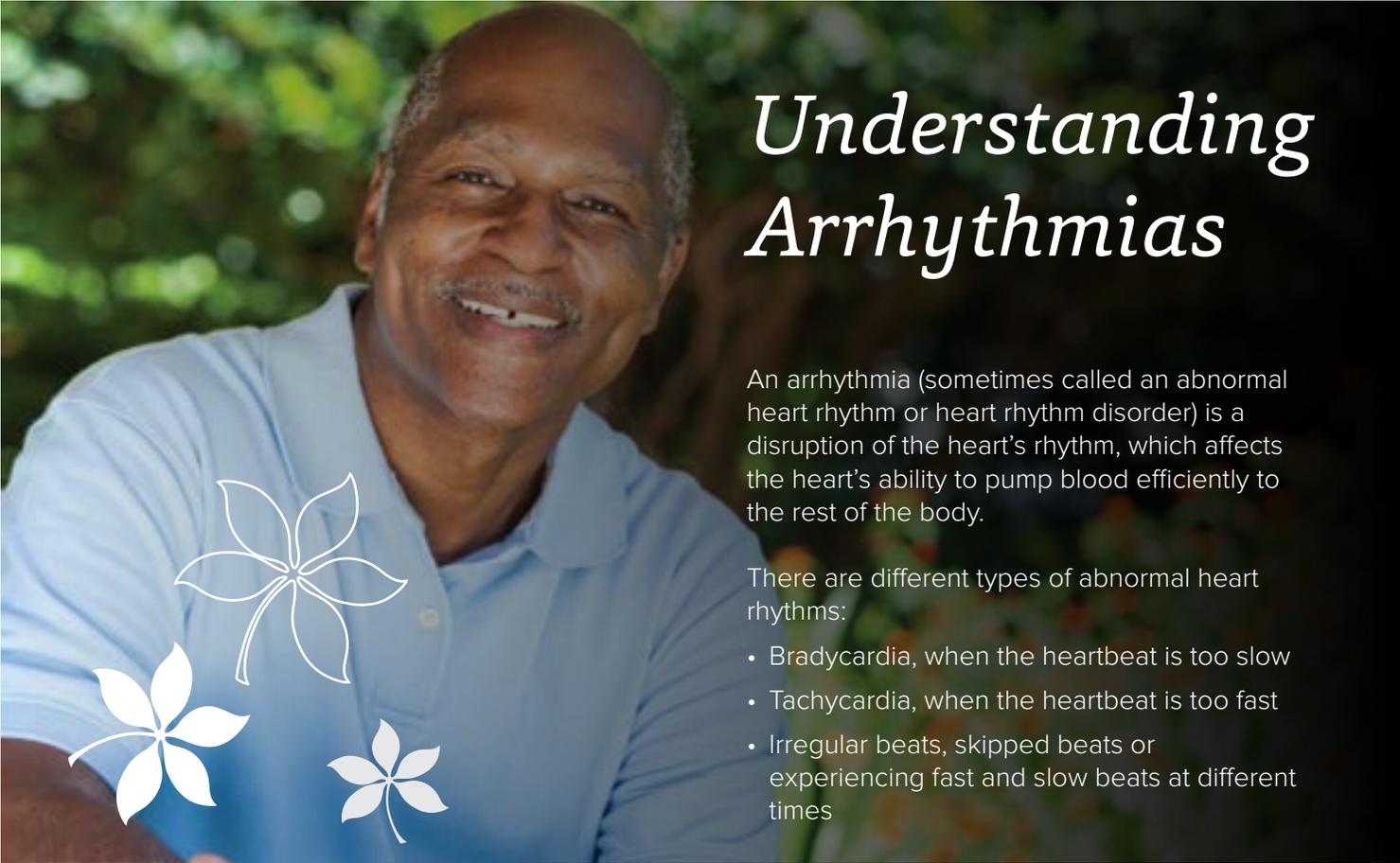
# Understanding Heart Rhythm Disorders



*The Ohio State University Heart and Vascular Center  
One of the nation's top programs treating heart rhythm disorders*



**THE OHIO STATE UNIVERSITY**  
WEXNER MEDICAL CENTER

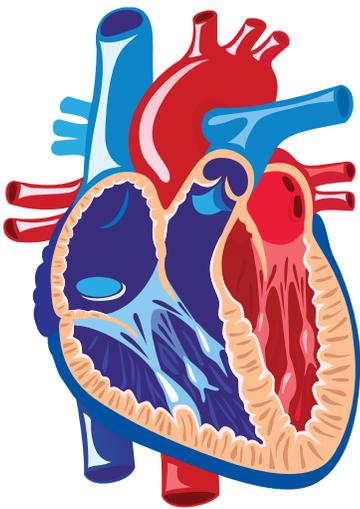


# Understanding Arrhythmias

An arrhythmia (sometimes called an abnormal heart rhythm or heart rhythm disorder) is a disruption of the heart's rhythm, which affects the heart's ability to pump blood efficiently to the rest of the body.

There are different types of abnormal heart rhythms:

- Bradycardia, when the heartbeat is too slow
- Tachycardia, when the heartbeat is too fast
- Irregular beats, skipped beats or experiencing fast and slow beats at different times



## How Arrhythmias Can Occur

Your brain sends a signal to your heart that sets your heart rhythm and tells the heart when to beat faster or slower. These electrical impulses coordinate your heartbeats, and when the impulses don't work properly, a heart arrhythmia can develop.

Some of the most common heart rhythm disorders include:

- **Atrial fibrillation (A-fib)**, a rapid and irregular heart rhythm that originates from the atria, the top heart chambers. A-fib is the most common heart rhythm problem, affecting 2.2 million Americans. The atria's rapid rate causes the bottom chambers of the heart, the ventricles, to also beat rapidly and irregularly.
- **Atrial arrhythmia**, resulting in a heartbeat that is too fast or too slow.
- **Ventricular arrhythmia**, which starts from the ventricle (the lower chamber where blood is pushed out of the heart) and takes over for the natural pacemaker.

Some arrhythmias are benign and don't cause problems or symptoms. Others may lead to life-threatening conditions such as stroke and heart failure.

## Causes

The most common cause of an abnormal heart rhythm is a problem with the electrical system of the heart, meaning the abnormal heart rhythm is not due to some other medical condition. In some patients, though, abnormal heart rhythms can be related to:

- Abnormal levels of potassium or other substances in the body
- Heart attack or a damaged heart muscle from a past heart attack
- Heart disease that is present at birth (congenital)
- Heart failure or an enlarged heart
- Untreated or poorly controlled sleep apnea, high blood pressure and/or diabetes
- Overactive thyroid gland
- Alcohol, caffeine or stimulant drugs
- Cigarette smoking (nicotine)



## Symptoms of Arrhythmia

The symptoms of arrhythmia may be mild or severe, and they may come and go. Sometimes, patients have an arrhythmia, but have no symptoms. Symptoms of arrhythmias include:

- Weakness
- Fatigue
- Rapid or irregular heartbeats
- Lightheadedness or fainting
- Shortness of breath
- Chest pain
- Loss of consciousness

## Why Is Arrhythmia a Problem?

The problem with arrhythmia is that the body may not receive enough blood because the heart cannot pump out an adequate amount with each beat. When the electrical signal is causing the heart to pump too fast, the heart does not get an adequate amount of blood in its chambers. When the electrical signal is causing the heart to pump too slowly or too irregularly, not enough blood is pumped out to the body from the heart.

## When to Seek Treatment or a Second Opinion

Because arrhythmias often do not cause symptoms, it's important to see your doctor for routine physicals. Detecting an arrhythmia early may help prevent a progression to serious complications in the future.

If you are having mild symptoms, see your doctor to determine whether you have a heart rhythm problem or another condition with similar symptoms.

Seek medical attention immediately for severe symptoms.

If an arrhythmia is affecting your quality of life and you have not been able to find help elsewhere, Ohio State's electrophysiologists — heart rhythm specialists — are experienced in diagnosing and treating the most complex heart rhythm problems. Our physicians welcome the chance to offer you a second opinion and explore new options for treatment.

## Ohio State Offers Nationally Renowned Care for Arrhythmias

With one of the top programs in the nation for treating heart rhythm disorders, The Ohio State University Wexner Medical Center offers complete care to treat arrhythmias, including:

- Medications to restore normal rhythm
- Device implants (such as pacemakers and defibrillators)
- Ablation procedures to eliminate abnormal rhythms
- Surgical procedures to remove leads or devices that are no longer working or needed

Our physicians pioneer minimally invasive procedures to improve the accuracy and precision of treatment.

We are the only hospital in central Ohio and one of the first centers in the world to use focal impulse and rotor modulation (FIRM) ablation. With FIRM, we precisely map the location of electrical impulses in the heart, which allows our specialists to eliminate the abnormal electrical waves and successfully manage atrial fibrillation (A-fib).

### Why Choose Ohio State?

- **Experience.** Our electrophysiology program for heart rhythm disorders is the largest in Ohio, and one of the top in the nation, with extensive experience managing a wide spectrum of heart rhythm problems.
- **Specialization.** We dedicated an entire floor at the Richard M. Ross Heart Hospital to the care of patients with heart rhythm disorders. Our electrophysiologists, nurses and other health professionals are experts in the care and management of heart rhythm disorders. In fact, we have more than 100 nurses dedicated to the care of patients with arrhythmias.
- **State-of-the-art equipment.** On the heart rhythm floor of the Ross Heart Hospital, we have six state-of-the-art invasive heart rhythm procedure laboratories equipped with sophisticated imaging and mapping technologies to identify and treat the source of an arrhythmia. Our magnetically directed robotic stereotaxis

system — the only one of its kind in central Ohio — accurately guides magnetically enabled devices inside the body to a problem area in the heart to produce clear images and deliver on-point therapy. A specially equipped cardiac operating room is staffed by an expert team that skillfully removes devices that are no longer working or needed.

- **Convenient outpatient locations.** For easy scheduling of routine outpatient care, we can see you on Ohio State's main campus and in several of our clinics throughout central Ohio.

### The Ohio State Richard M. Ross Heart Hospital

The Ross Heart Hospital is central Ohio's only hospital to earn a spot on the U.S. News & World Report list of the nation's best hospitals for cardiology and heart surgery.

The Ross Heart Hospital opened in 2004 as the nation's first comprehensive academic hospital dedicated to cardiovascular care. The 150-bed facility combines the latest technology with patient-focused care to create the best possible healing environment. Each floor is dedicated to a specific service. Our universal patient rooms adapt to changing medical needs so a patient can remain in the same private room for the entire hospitalization.

The Ross Heart Hospital is recognized a Magnet® hospital for nursing excellence by the American Nurses Credentialing Center. We were awarded the Beacon Award for Excellence in 2013 for having one of the best critical care units in the nation according to the American Association of Critical-Care Nurses.

### Contact Us

To meet with one of our experts about your heart rhythm disorder, call 614-293-ROSS (7677). Or visit [wexnermedical.osu.edu/heart](http://wexnermedical.osu.edu/heart) to learn more about Ohio State's services for heart rhythm problems.

