



Robotic Mapping of Arrhythmias

The Arrhythmia Center offers patients the latest in robotic treatment of arrhythmia using **The Sensei® Robotic Catheter System**.

The **Sensei®** system is a very specialized tool used for catheter-based mapping within the chambers of a patient's heart. It allows for more precise and stable catheter manipulation during complex cardiac procedures performed to diagnose patients suffering from abnormal heart rhythms.

Englewood Hospital was the first facility in New Jersey to offer this technology.

Possible benefits of the **Sensei®** system include:

- Increased accuracy
- Less collateral tissue damage
- Reduced amount of radiation
- Shorter procedure times



*Grant Simons, MD, FACC, Director, Cardiac Electrophysiology, at the controls of the **Sensei®** system during an atrial fibrillation ablation procedure*

Treatment for Arrhythmias

The most important aspect of any initial evaluation is to determine the significance of the arrhythmia and the need for any type of intervention.

Many patients with arrhythmias require no treatment, and some will be able to benefit from lifestyle changes or medication.

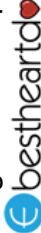
Sometimes more invasive treatments are helpful, which include the following:

- **Catheter Ablation:** Uses radio waves to eliminate the areas of the heart that are creating the abnormal rhythms. This method cures most arrhythmias in 95% of cases.
- **Cardioversion:** An electrical shock is applied to the chest, under sedation. After cardioversion, drugs may be prescribed to prevent the arrhythmia from recurring.
- **Pacemaker Implantation:** A simple operation implants an artificial pacemaker. Electrical impulses travel from the device to the heart to maintain the proper heart rate.
- **Implantable Cardioverter Defibrillator (ICD):** These devices can correct life-threatening ventricular arrhythmias. The defibrillator, surgically placed inside the patient's chest, monitors the heart's rhythm and quickly identifies serious arrhythmias. It immediately disrupts a deadly arrhythmia by delivering an electrical shock.

The Arrhythmia Center



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The Arrhythmia Center

Nearly everyone, at some point in their lives, has felt their heart flutter or skip a beat. Sometimes it beats too fast or too slowly. This is called “arrhythmia”—an abnormal heart rhythm—caused by a disturbance in the heart’s electrical system.

When arrhythmia becomes a concern, ask your doctor about The Arrhythmia Center at Englewood Hospital and Medical Center. Our highly-skilled experts offer patients the best option for accurate diagnosis and successful treatment.

World-Class Facilities

At Englewood Hospital’s Arrhythmia Center, we use advanced computer mapping systems to see real-time images of the electrical activity within a patient’s heart. These new mapping technologies include phased-array intracardiac ultrasound and both contact and non-contact mapping, all of which improve the efficacy of diagnosis and safety of subsequent treatment. This information is used to pinpoint the location of normal and abnormal heartbeats—information vital to treating arrhythmias.

Our Arrhythmia Center is one of the few centers that treat atrial fibrillation with catheter-based procedures—those that utilize long flexible wires placed within the heart in an attempt to stop the arrhythmia at its source. In many cases, this technology cures this troublesome arrhythmia. We also are one of the few centers in the tri-state area to use cryoablation for the treatment of certain arrhythmias. We also provide the latest implantable devices for those patients who need them.

About Arrhythmias

There are many types of arrhythmias, classified by where they occur in the heart (atria or ventricles) and by what happens to the heart’s rhythm. While some are merely a nuisance, others can be life-threatening. Only a doctor can determine which type of arrhythmia you may have.

Below are just a few of the many types of arrhythmias we treat:

- **Atrial fibrillation:** The most common type of arrhythmia in adults, affecting some 2 million Americans. A form of SVT, A-Fib occurs when electrical signals cause the heart’s upper chambers to rapidly contract and quiver, up to 600 times per minute. If left untreated, it may lead to stroke or other complications.
- **Supraventricular tachycardia (SVT), paroxysmal atrial tachycardia (PAT):** A rapid heart rhythm which arises from a site in the atria. In paroxysmal tachycardia, repeated periods of very fast rates (up to 200 beats per minute) begin and end suddenly.
- **Ventricular tachycardia:** During ventricular tachycardia, the heart beats rapidly due to electrical impulses arising from the ventricles (rather than from the atria). Prolonged ventricular tachycardia (more than 30 seconds) is dangerous; it can lead to cardiac arrest, particularly in patients with underlying heart disease.
- **Bradycardia:** Is indicated by a slow heartbeat.

What Causes Arrhythmias?

Arrhythmias can be caused by outside influences, such as stress, exercise, medication, and caffeine. However, they can also be the result of abnormalities in the structure or function of the heart. It takes an expert to tell the difference, and early diagnosis can help prevent serious problems.

Only a professional can determine if your arrhythmia poses a risk to your health.

Diagnostic Procedures

One or more of the following tests may be performed to determine the cause of your arrhythmia symptoms. Our staff is highly skilled at performing these tests and they can answer any questions you may have.

- Electrophysiology study
- Microvolt T-Wave Alternans testing
- Electrocardiogram (ECG or EKG)
- Holter monitor
- Cardiac event monitor
- Exercise stress (treadmill) test
- Tilt table testing

Your doctor may recommend an electrophysiology (EP) study. EP testing is a highly accurate and safe means of mapping the heart’s electrical system to identify the cause of an arrhythmia. This test is invasive and involves the insertion of thin, flexible wires called catheters into your heart. The catheters are placed in a vein or artery in your leg and then, guided by real-time imaging, advanced to the heart. Your doctor then stimulates your heart to evaluate the cause of the arrhythmia.