

Arrhythmia awareness *saves lives*

For most Americans, an arrhythmia is merely a passing nuisance. But for some, arrhythmias can be life threatening, leading to nearly 400,000 deaths in the U.S. each year.

The good news is, when detected in time, arrhythmias can be effectively treated; therefore, awareness is key.

That's why Hoag Heart and Vascular Institute is dedicating this year's Hoag Heart Month to raising awareness about arrhythmias and focusing on educating the community about the prevention, detection and treatment of this increasingly common heart condition.

What is an arrhythmia?

Medically speaking, an arrhythmia is any change from the normal sequences of electrical impulses in the heart. But to fully understand arrhythmias, one must first understand how the heart's electrical conduction system works. Small electrical currents activate the muscles of the heart to contract and pump blood. When the electrical impulse is transmitted normally, the heart beats at a regular pace. When the impulse is disrupted, an abnormal heartbeat results, called an arrhythmia.

Millions of people experience arrhythmias. In fact, almost everyone has had one. You may, from time to time, have felt your heart flutter, skip a beat or beat very fast – these are all signs of common arrhythmias. Most are harmless; however, there are a variety of arrhythmias that can pose a significant health threat. Therefore, it's crucial for individuals to be aware of the symptoms of potentially serious arrhythmias and seek out proper medical attention.

If you experience frequent heart palpitations, light-headedness, fainting or near-fainting spells, fatigue, chest pain, or shortness of breath, see your physician to

determine whether your symptoms are serious and require medical intervention.

One man's story

Bryan Shoemaker, a highly energetic real estate broker, experienced sudden light-headedness, which resulted in a brief fainting episode. His wife Lenore acted quickly, taking him to Hoag's emergency department.

"Having experienced two previous heart attacks, I knew this might mean trouble," says Bryan. And he was right. The fainting episode was the result of a serious arrhythmia.

Arrhythmias come in three forms: a slow heartbeat, a fast heartbeat and an irregular heartbeat. A fast heartbeat is the most dangerous because it can lead to fibrillation, where the heart quivers instead of contracts. Fibrillation can be life threatening because it can lead to sudden cardiac death.

"Sudden cardiac death is not a heart attack," explains Neala Hunter M.D., a Hoag-affiliated cardiologist board certified in electrophysiology (the study of heart rhythms). "A heart attack is the result of a plumbing problem caused by blocked arteries. Sudden cardiac death is the result of an electrical problem, where the heart abruptly, and without warning, stops functioning."

Bryan knows the difference, because he's experienced both. In fact, his previous heart attacks put him at greater risk for developing an arrhythmia.

Underlying medical conditions, such as coronary artery disease, can often lead to arrhythmias. An arrhythmia can also be developed from consuming too much alcohol, tobacco, illegal drugs, or over-the-counter supplements. And some people are simply born with an arrhythmia.

Implantable devices – when technology saves lives

There are many treatment options available to manage and even correct the various types of arrhythmia. Treatment options pursued depend on the health risk posed.



Bryan Shoemaker enjoying time with his beloved wife Lenore.

In the case of Bryan, his arrhythmia was treated with an implantable device known as an AICD (Automatic Implantable Cardioverter-Defibrillator). This complex little computer continually monitors heart rhythm and when it detects an arrhythmia, it administers a shock to the heart to restore a normal rhythm.

"An AICD is like having a paramedic implanted in your chest," explains Dr. Hunter. "It works 24-hours a day, seven days a week continually assessing and correcting heart rhythm. We frequently implant these highly sophisticated devices in patients who are at high risk, and the results can be life saving."

Such is the case for Bryan who has put his device to the test, not once, but twice since it was implanted.

"The first time, I was closing a sale, when I felt a sudden jolt within my chest," recalls Bryan. "I knew that my device had been activated and I immediately excused myself and went home."

Bryan's AICD showed that he had experienced an episode that required his heart to be shocked back into

a normal rhythm. And much to his surprise, at a recent checkup Bryan's AICD revealed that he had another episode while asleep.

"I didn't even feel it," he says. "But I can tell you, I have great peace of mind in knowing this amazing piece of technology is there to intervene day or night to save my life!"

At Hoag, life-saving results such as these are not unusual. Treatment procedures like Bryan's are performed in high volume at Hoag Heart and Vascular Institute, by a multidisciplinary team of physicians and nurses who are experts in the care of arrhythmia patients.

Ablative techniques for treating arrhythmia

In addition to state-of-the-art implantable devices, Hoag provides the full spectrum of leading-edge arrhythmia treatment options, including innovative ablative techniques that often times permanently eliminate arrhythmia.

Professional musician Judith Johnson had recurrent episodes of rapid heart rate. Despite medication therapy, Judith continued to have the disturbing episodes, often times her heart rate would exceed 200 beats per minute.

Her cardiologist referred her to Dr. Hunter, who specializes in electrophysiology, to determine if Judith would be a viable candidate for a minimally invasive procedure known as catheter ablation.

During the procedure, the electrophysiologist does a "mapping" of the heart's electric impulses, which is used to uncover the source of the abnormal heart rhythm. Once located, a pulse of painless radiofrequency energy is used to destroy the abnormal tissue, thereby correcting the arrhythmia.

"Most patients are able to take advantage of this non-surgical option," says Dr. Hunter, who performs a high volume of ablative procedures at Hoag. "The results of this highly successful technique are life-changing, since it eradicates the arrhythmia, thereby eliminating the symptoms."

Such was the case for Judith, who successfully underwent catheter ablation and celebrated just a few weeks later with a month-long vacation to England.

"It is such a relief to know that I can travel without the concern of having another frightening episode," says Judith with a smile. "Since the ablation, I no longer have to take medications, or worry about whether or not I might need immediate access to a hospital. It's hard to put into words what a difference this has made in my life!"

Mini-Maze ablation

Another ground-breaking procedure performed at Hoag, is the highly complex surgical option called Mini-Maze ablation. This procedure is used to treat the most common form of arrhythmia – atrial fibrillation – in patients who have been unsuccessful with other treatments.

"Prior to development of the Mini-Maze procedure, surgical ablation for atrial fibrillation was typically performed only if the patient was already undergoing open-heart surgery for another condition," explains Aidan Raney, M.D., medical director of cardiovascular surgery at Hoag. "Mini-Maze, however, is specifically focused on treating atrial fibrillation as a standalone condition, and now provides a cure for patients who do not respond well to other treatment options."

Performed on the beating heart, Mini-Maze employs video-assisted image guidance by which the surgeon navigates uniquely designed surgical instruments through small keyhole incisions on each side of the chest. The surgeon uses bipolar radiofrequency energy to isolate and ablate the arrhythmia.

Throughout the Mini-Maze procedure, the cardiovascular surgeon and the electrophysiologist work together to ensure the ablation is successful. "After Dr. Raney has isolated and ablated the area, the heart rhythm is evaluated to ensure that the source of atrial fibrillation has been eliminated," confirms Dr. Hunter.

Patient-centered care – the heart of our mission

Complementing its leading-edge treatment options, Hoag Heart and Vascular Institute also provides patient-care support programs to help arrhythmia patients conveniently manage their condition. One such program is Hoag Arrhythmia Center.

Located in Hoag Heart and Vascular Institute, the Arrhythmia Center provides ongoing education and monitoring support for patients with implantable devices, as well as for patients who have been outfitted with monitors to detect suspected arrhythmias.

Besides being the highest volume program in Orange County, a unique aspect of the center is its 24-hour, seven-day-a-week coverage. Because of its round-the-clock services, Hoag's highly skilled nursing staff is able to intervene and advise patients with potentially lethal arrhythmias to seek immediate medical treatment.

In addition to the Arrhythmia Center, Hoag also maintains a free community service for patients on anticoagulant medication therapy, the majority of which are arrhythmia patients.

Hoag Anticoagulation Clinic serves an important role as a liaison between patients and physicians to help to manage and monitor patients throughout the duration of their treatment. Services are provided free of charge to patients, however, physician referral is required.

Focused on heart health

As part of its mission to improve the heart health of our community, Hoag Heart and Vascular Institute remains committed to providing the latest in leading-edge diagnostic and treatment options for arrhythmia patients.

For more about arrhythmia, join us for two free community education presentations on January 23 "What is Arrhythmia?" and February 19 "Innovations in Arrhythmia Treatment." See page 8 for details.

On March 2, Hoag will present an interactive program and live Webcast presentation, "New Treatment for Atrial Fibrillation." See page 9 for details.

February is Hoag Heart Month

Building awareness about arrhythmia is the focus of this year's Hoag Heart Month – a time filled with various events to educate and inspire our community to take a more active role in their heart health.

Details about preventing, detecting and treating arrhythmia will be presented at various community education classes held throughout February.

"We encourage the community to join us by participating in Hoag Heart Month," says Susan Goldberg, R.N., M.S.N., vice president, cardiovascular services. "With community education initiatives and awareness programs such as Heart Month, we hope to better inform those at risk, as well as provide vital information about the latest treatment options available for arrhythmia, as well as other cardiovascular diseases."

For a complete schedule of Hoag Heart Month events, please see pages 8-9. You can register for classes by visiting www.hoaghospital.org, or by calling Hoag's Community Education Line at 800/514-HOAG (4624).

On the Cover

Professional musician Judith Johnson shares how her life was changed through a minimally invasive technique for treating arrhythmia.