

# Preventing Strokes with an Innovative Heart Device



Sandeep K. Jain, MD, director of the UPMC Heart and Vascular Institute's Center for Atrial Fibrillation, and the Watchman™ device

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*For those at risk of having a stroke related to atrial fibrillation who can't take blood thinners, an innovative heart procedure now offered at UPMC Passavant provides an effective alternative.*



Jeff Krackow, MD and Sandeep K. Jain, MD, UPMC Heart and Vascular Institute's Center for Atrial Fibrillation

Blood thinners save thousands of lives every year by reducing the risk of blood clots. They're widely prescribed to people with atrial fibrillation (AFib) — the most common type of heart arrhythmia. But these drugs come with certain risks, especially in older adults.

"Some people cannot safely take blood thinners over the long term. They have a higher chance of major bleeding from frequent falls or accidents," says Sandeep K. Jain, MD, director of the UPMC Heart and Vascular Institute's Center for Atrial Fibrillation and the UPMC Passavant electrophysiology laboratory.

Blood thinners prevent clots from forming by dissolving them before they can escape from the heart and cause a stroke. But

they can cause serious bleeding problems. "Even a minor injury can be life threatening," says Dr. Jain.

## AN INNOVATIVE SOLUTION

In people with AFib not caused by a heart valve problem, more than 90% of stroke-causing clots form in the left atrial appendage. In 2015, the Food and Drug Administration approved the use of the Watchman™ device — an implanted parachute-shaped device that permanently seals off the left atrial appendage to prevent clots from entering the bloodstream and causing strokes.

In 2016, UPMC became the first hospital in western Pennsylvania to offer the Watchman procedure. UPMC Passavant began offering the procedure in October 2019.

"This is cutting-edge care. Being able to offer it to our patients here in the North Hills community is a significant service," says Dr. Jain.

"It's equivalent to taking a blood thinner. Once the implant is in place and it heals over, clots from this area in the heart can no longer circulate. Most patients can stop taking blood-thinning medications, which markedly decreases their bleeding risk."

Doctors still recommend blood thinners as the first line of treatment for AFib. But for those people with AFib not caused by heart valve disease who can't take blood thinners, the Watchman is "a no brainer," says Dr. Jain.

### A PATIENT'S PERSPECTIVE



Robert Grealish, MD, patient

Robert Grealish has lived with AFib for more than 25 years. Like most AFib patients, he has relied on blood thinners to prevent blood clots and the risk of a stroke.

A few years ago, the West Deer resident experienced severe gastrointestinal (GI) bleeding due to his blood thinner medicine. Now 70 and with worsening arthritis, Robert has been unable to take nonsteroidal anti-inflammatory drugs (NSAIDs) to reduce pain and inflammation because of the risk of another GI bleed.

"Some days it's tough to get moving," says Robert, who enjoys woodworking, caring for bonsai plants, and playing

the guitar. "I don't like to sit around. I wanted to reclaim the better part of my day."

The retired family physician, who spent the last 15 years of his 40-year career working as a geriatrician at the Veterans Administration's long-term care facility in Aspinwall, understood the risk of discontinuing his blood thinner or taking NSAIDs while on a blood thinner. When his cardiologist, Dr. Jain, suggested the Watchman procedure, he took time to think it over.

"I wanted to be sure. I know there is risk involved in any medical procedure," says Robert. "But I thought it was a great idea. It made great sense."

When UPMC Passavant began offering the procedure, Robert opted to go ahead with the implant. "My arthritis was getting worse and I wanted to get off blood thinners," he says.

In November 2019, he became the second patient at UPMC Passavant to receive a Watchman implant from Dr. Jain, who had completed special training and performed dozens of procedures at UPMC Presbyterian. Assisting in the delicate procedure was Jeff Krackow, MD, a UPMC Passavant cardiologist specializing in echocardiography, who played a key role in guiding the device into position.

### HOW THE WATCHMAN WORKS

People with AFib have a five-fold increased risk of stroke. In a heart that functions normally, blood fills and then leaves the left atrial area with each heartbeat. With AFib, blood can pool in the left atrial appendage — described by Dr. Jain as a "blind alley" — causing blood cells to stick together and form a clot. When a blood clot escapes from the left atrial appendage, it can cut off the blood supply to the brain and cause a stroke.

The Watchman is designed to create a permanent barrier, closing off the appendage to keep clots from escaping.

At UPMC Passavant, the hour-long procedure is performed under general anesthesia in a specialized electrophysiology lab. Much like a stent procedure, the device — which is the size of a quarter — is inserted through a vein in the upper leg. Using special x-ray imaging and ultrasound, the device is guided through a catheter into the heart's left atrial appendage.

"It was very easy," says Robert, who went home after an overnight stay at UPMC Passavant. "It was simple and painless."

### FREEDOM FROM BLOOD THINNERS

It takes about 45 days for the heart tissue to grow over the Watchman device so the left atrial appendage is permanently sealed, says Dr. Jain. Additional ultrasound imaging of the heart is used to confirm the device is in place and the appendage sealed off.

Until then, patients must continue taking a blood thinner. Once that happens, patients can replace their primary blood thinner with aspirin and Plavix®. After six months, most patients take only a reduced dose of aspirin.

"I think it's a great procedure," says Robert. "I'm very grateful for this opportunity to reduce my risk of stroke and medicine intake."

In early 2020, Robert was relieved to be taken off his blood thinner. "I'm hoping I can start taking pain medicine to relieve my arthritis so I can move more easily. There are a lot of things I want to do." ■



Close-up of the Watchman™ device

## About the Watchman

- Minimally invasive, one-time procedure
- Reduces the risk of strokes originating in the left atrial appendage
- A permanent implant inserted through a narrow tube, or catheter
- Guided into place using special moving x-ray imaging (fluoroscopy) and ultrasound (transesophageal echocardiography)
- Eliminates the need for blood thinners in most patients

## Are You a Watchman Candidate?

The Watchman device isn't for everybody. Research shows it can effectively reduce the risk for blood clots in patients:

- Diagnosed with atrial fibrillation not caused by a heart valve problem
- With a history of major bleeding
- At high risk of falling or injury due to activity level or occupation
- Who need a safe alternative to long-term use of a blood thinner

Watchman™ is a trademark of Boston Scientific

# Treating Atrial Fibrillation

Atrial fibrillation (AFib) is the most common type of heart irregularity, affecting as many as 6 million Americans. At UPMC Passavant, which is part of the UPMC Heart and Vascular Institute and its Center for Atrial Fibrillation, a board-certified team of specialists uses the most advanced technology to detect, diagnose, and treat arrhythmias and other heart rhythm issues.

Dr. Jain, who directs the hospital's designated electrophysiology lab, says special mapping software allows specialists to map the heart, identify the source of the abnormal rhythm, and determine a plan for treatment.

"Each case of AFib is unique and requires customized treatment," says Dr. Jain. "We're pleased to offer patients the latest, cutting-edge care."

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*Sandeep K. Jain, MD*

The goal of AFib treatment is to normalize and control your heart rate, prevent blood clots, and decrease symptoms. Treatments offered at UPMC Passavant include:

**Medicines** to help control your heart rate or rhythm, or to prevent blood clots and reduce your stroke risk.

**Nonsurgical procedures** to restore a normal heart rhythm, including:

- **Cardioversion** — a low-energy electrical shock to reset your heart rhythm.



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- **Catheter ablation** — a minimally invasive, catheter-based procedure that destroys (ablates) a small amount of tissue causing the abnormal heart rhythm. Radiofrequency ablation uses radiofrequency energy to burn the heart tissue while cryoablation uses extreme cold to freeze and scar heart tissue.

**Implantable devices**, such as pacemakers and defibrillators, to help control how the heart beats.

**The Watchman device**, a small implant that reduces stroke risk by blocking off the left atrial appendage to prevent blood clots from escaping. This new treatment option offers an alternative to lifelong use of blood thinners for patients with AFib caused by factors unrelated to a valve disorder, such as high blood pressure or stress. ■

*The information in this article was provided by UPMC.*