

Atrial Fibrillation

WITH EVERY BEAT OF YOUR HEART



More than 2 million Americans suffer from atrial fibrillation, a disorder that causes an irregular heart rhythm in the atria — the two upper chambers of the heart. Atrial fibrillation is most common in individuals over the age of 60. Symptoms vary, but typically include palpitations, lightheadedness, shortness of breath and fatigue. The palpitations can be quite strong and frightening for some patients. Most seriously, atrial fibrillation patients have a significantly increased risk of stroke, more than seven times that of the general population.

Healthy Living magazine gathered together four Eisenhower Medical Center physicians to discuss the symptoms of atrial fibrillation and the latest options for treatment. The participants were Board Certified Cardiothoracic Surgeon S. N. Mitraka, MD, and Board Certified Cardiologists/Electrophysiologists Leon Feldman, MD, and Andrew Rubin, MD, Co-Directors of the Cardiac Arrhythmia Program at Eisenhower Smilow Heart Center. Philip Shaver, MD, Board Certified Cardiologist, moderated the roundtable.

DR. SHAVER: We have two major goals in atrial fibrillation treatment — we want to alleviate symptoms and we want to prevent and reduce the risk of stroke. Today, we have brought together electrophysiologists, who treat atrial fibrillation by trying to restore the heart's normal rhythm, and a cardiac surgeon who can tell us about some of the latest surgical options. Andy, how is atrial fibrillation different from a normal heart rhythm?

DR. RUBIN: Atrial fibrillation is a chaotic rhythm. A patient's pulse will typically feel like Morse Code, with a disruption of the normal, orderly beats. Eighty percent of atrial fibrillation patients have some degree of symptoms, usually palpitations, which can feel like a fluttering beat or sometimes like a pounding, racing heartbeat. They can have shortness of breath and light-headedness. For some patients it can be quite debilitating, but others may have no symptoms at all.

DR. SHAVER: Let's clarify that not all palpitations are atrial fibrillation; they could be something benign.

DR. FELDMAN: Yes, it's the episodes that last for more than one to two days that require evaluation and treatment by a physician as possibly being atrial fibrillation.

[PHOTO dir="assets/news/story/shaver.jpg" align="left" caption="Philip Shaver, MD" width="300"]

DR. SHAVER: Do we know what causes atrial fibrillation?

DR. FELDMAN: We don't really know except that it seems to be linked to aging. By the time people reach the age of 80, about ten percent will have atrial fibrillation. It's distinctly rare in patients under 40, and we see a steady increase as people enter their 50s, 60s and 70s. There are other risk factors we can identify, but they tend to be in the minority of patients. People with thyroid problems can have atrial fibrillation. High blood pressure, sleep apnea or severe snoring can put people at risk. Certain conditions can put people at risk—people with heart failure, or people with coronary artery disease. However, many patients actually have no discernible risk factors—other than age—when they come to see us.

DR. SHAVER: We said we want to alleviate symptoms. When a patient has palpitations or dizziness or shortness of breath, the first thing we have to do is decrease their heart rate. How do we go about that?

DR. RUBIN: The traditional way to reduce heart rate is through one of several different medications, most commonly beta blockers or calcium blockers, which are available either in a pill form or intravenously. There are also mechanical ways to permanently control the speed of the atrial fibrillation without the use of medications.

DR. SHAVER: Leon, what do we mean by rhythm control, as opposed to rate control with atrial fibrillation?

DR. FELDMAN: Rate control is simply controlling the heart rate and letting the atrial fibrillation occur or not. With rhythm control, we apply drugs or initiate procedures in an effort to maintain the normal rhythm that most patients were born with.

[PHOTO dir="assets/news/story/rubin.jpg" align="right" caption="Andrew Rubin, MD" width="300"]

DR. SHAVER: Electrocadioversion is a good example of a procedure that might be used. Can you tell us a bit more about that option?

DR. RUBIN: In electrocadioversion, patches are applied to the patient's chest and back, and a current of energy is used to resynchronize the heart back to normal rhythm. Patients are completely asleep for approximately 30 seconds and then are awake and fully alert immediately afterward. This is often the first step in rhythm control if medications haven't worked or if medications are being considered to maintain a normal rhythm.

DR. SHAVER: How effective are the current medications at preventing recurrent atrial fibrillation, for instance after a patient has had electrocadioversion?

DR. RUBIN: There are many medications available, but overall their success rate at maintaining a normal rhythm is only about 50 percent. **DR. FELDMAN:** It does appear that drugs we commonly use in high-risk cardiac patients, such as statins for lowering cholesterol and ACE inhibitors [primarily used in treatment of hypertension and congestive heart failure], can lead to a lesser incidence of atrial fibrillation. Certainly they are worth considering in addition to the standard anti-rhythm drugs. "Radiofrequency ablation is a technique that has been employed for about 25 years, where small catheters are placed into the heart and a small amount of energy or heat is applied in order to modify the electrical system. We have been doing it at Eisenhower for more than two years with a very good success rate."
—Leon Feldman, MD

DR. SHAVER: We know that atrial fibrillation increases the risk of strokes. Therefore, many patients are permanently put on blood thinners, like Coumadin®. Why do they need to be on anticoagulants for atrial fibrillation?

DR. RUBIN: With atrial fibrillation, the upper chambers of the heart are not beating effectively. So the blood will pool and can clot.

DR. SHAVER: Are there any new anticoagulant medications being developed?

DR. FELDMAN: Yes, Eisenhower is participating in the Aristotle study, an international clinical trial, which is testing a new oral anticoagulant that will be easier to take than the drugs we currently use—it has no food interactions, no drug interactions and less follow up testing.

[PHOTO dir="assets/news/story/feldman.jpg" align="left" caption="Leon Feldman, MD" width="300"]

DR. SHAVER: How about aspirin?

DR. FELDMAN: Aspirin has minimal benefit, and then only for a small population of low risk patients.

DR. SHAVER: Some patients who have had ablation may hope to discontinue taking the anticoagulant. Is that a reasonable expectation?

DR. FELDMAN: It is not recommended that people discontinue Coumadin for at least six months after an ablation and that would only apply to patients who are younger, have normal heart strength, no prior heart attack, no hypertension and who did not have long-standing persistent atrial fibrillation.

DR. SHAVER: How about lifestyle? What about alcohol and caffeine?

DR. RUBIN: In a fair number of patients it is important, but not all patients. Some patients can have alcohol and caffeine and not have atrial fibrillation, but other patients may be extremely sensitive.

DR. SHAVER: Let's talk about some other forms of treatment and therapy. Leon, can you explain the concept of radiofrequency ablation? **DR. FELDMAN:** Radiofrequency ablation is a technique that has been employed for about 25 years, where small catheters are placed into the heart and a small amount of energy or heat is applied in order to modify the electrical system. It's been used to treat a variety of arrhythmias and more recently it has been used effectively for the treatment of atrial fibrillation. We have been doing it at Eisenhower for more than two years with a very good success rate.

[PHOTO dir="assets/news/story/mitruka.jpg" align="right" caption="S.N. Mitruka, MD" width="300"]

DR. SHAVER: Surindra, can you tell us a little bit about surgical options?

DR. MITRUKA: We do ablations in patients who are having open heart surgery that are also in atrial fibrillation, and those are called concomitant procedures. We do what is called the maze procedure, in which we cut into the interior of the heart and create lines of scar tissue that act as a physical barrier against the impulses of atrial fibrillation.

DR. SHAVER: You also perform a modified maze procedure from the outside of the heart.

DR. MITRUKA: Yes, this is a minimally invasive approach. When atrial fibrillation is not accompanied by other organic heart disease that will require an intervention, but the patient is having symptoms or complications related to the atrial fibrillation, or has been unsuccessfully cardioverted, we perform a modified maze procedure. Through three small incisions on each side of the chest, less than five millimeters each, we create a lesion around the left side of the heart, completely isolating the area where we know 80 percent of the impulses in chronic atrial fibrillation occur. The success rate with that procedure is over 80 percent. We have the added benefit of direct access to the left atrial appendage, the main area where blood can pool and form clots when atrial fibrillation is present. So, the risk of stroke in those patients goes down tremendously.

DR. SHAVER: How long does it take for someone to be out of atrial fibrillation post-treatment?

DR. MITRUKA: It's important to understand that it isn't the lesion itself that stops the impulse; it's the healed injury that creates the scar that subsequently sets up that barrier. How long does it take the heart to scar? No one really knows, but six to nine months is probably reasonable.

DR. SHAVER: When do you recommend surgery versus catheter ablation?

DR. RUBIN: If you have someone who really can't take an anticoagulant, or needs to be on the drug for as short a time as possible, surgery would be recommended.

DR. SHAVER: In patients with longstanding atrial fibrillation and a very large left atrium, surgical ablation appears to be preferable. This is an evolving field with many advances in the past few years. The day may not be too far off when this is the first option rather than medical therapy.