

Healthy potential seen for cardiac monitoring device



Mark Hoffman

The AfibAlert medical device, developed by Cardiac Advancements of Sussex, enables someone to determine whether the heart is in an atrial fibrillation in less than one minute.

By [Guy Boulton](#) of the Journal Sentinel
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An estimated 2.7 million people have atrial fibrillation. It is the most common type of arrhythmia, or abnormal heart rhythm.

The symptoms include an irregular or rapid heartbeat, palpitations, lightheadedness, extreme fatigue, shortness of breath and chest pain.

You could add worry to the list: Atrial fibrillation increases the risk of stroke roughly fivefold.

Cardiac Advancements LLC, a small company based in Sussex, has developed a device designed to reduce the anxiety that can accompany atrial fibrillation - and potentially lower health care costs.



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Aurora Health Care cardiologist Jasbir Sra (left), with Tom Gazzana of Cardiac Advancements, is among the physicians testing the medical device AfibAlert.

The AfibAlert - a small, handheld device - enables someone to determine with 94% accuracy whether his or her heart is in an atrial fibrillation in roughly 45 seconds.

The heart rate is recorded and can be downloaded to a computer, enabling cardiologists to track the frequency and severity of a patient's condition.

The device's potential drew such backers at the late George Dalton, co-founder of Fiserv Inc., and Tom Gazzana, who retired as corporate vice president of Children's Hospital and Health System in 2010 and who ran three health insurers in the course of his career.

The device itself was developed by Jack Lohman and his son, Timothy Lohman.

Jack Lohman built a successful cardiac monitoring company that is now part of Philips Healthcare, a unit of Royal Philips Electronics N.V.

Cardiac Advancements was founded in 2008 by three of his children - Timothy Lohman, Lori Watt and Sue Wendland.

The company has raised \$800,000 from outside investors in an initial private offering and is working to raise an additional \$1.5 million. This is in addition to an initial investment valued at \$2.4 million from the founders.

'Right kind of solution'

The company is in the initial stages of developing a marketing plan for the product. But several cardiologists who are testing the device see its potential.

"It is the right kind of solution for patients, because it's a lifetime solution and a-fib is a lifetime condition," said Hugh Calkins, a professor of cardiology at Johns Hopkins School of Medicine. "I'm very impressed by the device."

Cardiologists at Aurora Health Care, the University of Wisconsin School of Medicine and Public Health, Dean Health and the Texas Heart Hospital also are testing the device.

"The feedback I am getting is this makes sense," said Gazzana, the company's chief executive.

Gazzana knows that marketing the device will be the challenge.

One study estimated the cost of treating atrial fibrillation at \$6.6 billion in 2005. And the AfibAlert potentially could save health insurers money by preventing unnecessary visits to doctors or emergency departments and by preventing strokes.

Atrial fibrillation occurs when the electrical signals that control the heart's rate and rhythm go awry, causing the heart's two upper chambers - the "atria" - to contract very fast and irregularly.

That in turn results in the heart's upper and lower chambers not working in sync.

It is one of the most common and most complex cardiac problems, said Jasbir Sra, a cardiologist at Aurora Health Care who is testing Cardiac Advancements' device.

About one in 20 people will have atrial fibrillation after the age of 65, he said.

The condition sometimes can be successfully treated with medication or surgery. But most patients have atrial fibrillation for the rest of their lives and must be followed closely.

Easy to use device

A device that is easy to use and accessible for patients and that can send information to physicians would be helpful, Sra said. It also could be a useful tool in diagnosing atrial fibrillation and in determining if a treatment is effective.

An additional benefit, he noted, is it could give patients a bit more peace of mind.

"Rather than patients flooding into the clinic or the emergency department, a lot of them could be using these devices - and in a cost-effective fashion," Sra said.

Cardiac Advancements plans to sell the device for \$600 to \$800.

The monitors now used by cardiologists must be strapped to the patients' chest and typically are used for about three weeks.

"That's great, but what happens the next day?" said Calkins of Johns Hopkins, who has prescribed Cardiac Advancements' monitor for patients.

Those monitors basically work like portable electrocardiograms and are used by cardiac monitoring services such as the company founded by Jack Lohman.

Timothy Lohman and Sue Wendland grew up in that business.

Cardiac Advancements essentially is a holding company that includes three companies. Lechnologies Research Inc. is a maker of cardiac monitoring equipment. Lohman Technologies LLC holds six cardiac related patents. And Cardiostaff Corp. is a cardiac monitoring service in Austin bought in 2008.

Cardiac Advancements ended last year with about \$2.6 million in revenue, up from \$2.2 million in 2010. Revenue could top \$3 million this year.

Cardiostaff, which employs about 30 people, accounts for most of Cardiac Advancements' revenue.

"There really are two things going," Gazzana said.

The cardiac monitoring business is largely dominated by small companies. The plan is to grow Cardiostaff Corp. - what Gazzana refers to as the "bread-and-butter business" - through acquisitions.

That can be risky.

The key will be targeting the right companies, Gazzana said, and not doing "stupid deals."

Cardiostaff could generate immediate growth, and potentially revenue that could be used to develop and market the AfibAlert monitor.

The AfibAlert is sexier. But it still is in the earliest stages. And Gazzana is just as optimistic about Cardiostaff's growth prospects.

"They both have potential," he said.