

New device allows pacemaker patients to safely undergo MRIs

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For many, it's a medical conundrum: The very pacemaker keeping their heart in rhythm prevents them from undergoing an MRI to diagnose other ailments, because interaction between the two devices could prove deadly.

In fact, about 200,000 Americans a year have to forgo advanced [diagnostic imaging](#) for fear it could render their pacemakers inoperable. But Samantha Sorillo represents a new breed of [pacemaker](#) patients.

Diagnosed with a slow heartbeat at just 42 years old, the Hollywood physical therapist was implanted in January with Medtronic's Revo MRI SureScan -- the first and only device approved by the U.S. [Food and Drug Administration](#) for use in MRI settings.

The avid runner says the new technology made her feel better about having to wear a pacemaker for the rest of her life.

"I'm only 42. The chances of me needing an MRI are pretty good, and working in the [medical field](#), I knew that's a no-no," Sorillo said. "So this has given me [peace of mind](#) that, if anything happens, I can have an MRI."

Since gaining [FDA approval](#) last year, [Medtronic](#) officials say hospitals across the country have purchased the Revo, including 33 in Palm Beach, Broward and Miami-Dade counties. Among them: Memorial Regional Hospital in Hollywood, Broward Health Medical Center in Fort Lauderdale, Palm Beach Gardens Medical Center and Boca Raton Regional Hospital.

Sorillo's cardiologist, Dr. John Cogan of Memorial Regional Hospital, calls the Revo pacemaker "groundbreaking."

"MRIs are so much better (at diagnosing various conditions) that you'd really feel bad for patients

that they couldn't have it, so this makes you feel good they can get an MRI if they need one," Cogan said.

With the typical pacemaker, there's a high risk that an MRI's [magnetic energy](#) can make the implant malfunction or compromise the wiring on its leads. Though in [emergency situations](#) and under heavy scrutiny, some pacemaker patients have gotten MRIs done without incident, the risk is so high and the debate unsettled that the standard professional practice is to recommend against it, Cogan said. Until now.

"The line I would tell patients is, 'Pacemakers are all about allowing you to do things, they're not about limiting you from doing things,' " said Boca Raton Regional electrophysiologist E. Martin Kloosterman. "The only thing you can't do is get an MRI.' So that line has changed because of this.

"It's a significant advance in the delivery of patient care."

The technology comes at a time when both the number of pacemakers implanted and the number of MRI scans performed are rising with the aging of the U.S. population, various studies show.

And those who tend to benefit from MRIs the most are age 65 and older, since the scan offers the clearest picture of various cancers and brain disorders, Kloosterman said.

But it's not for everyone. Because the device is designed with two leads that connect to two chambers of the heart, people who need just one lead to correct a single-chamber problem, like atrial fibrillation -- among the most common of irregular heartbeats -- can't use the Revo, said Cogan, who estimates he implants the device in more than half of his patients who need a pacemaker. The device is covered under a patient's insurance, just as other pacemakers are.

For Kloosterman, "the question is why wouldn't I recommend it, not why would I?" he said. Other pacemakers may come with additional technology more suitable for a particular patient's needs, like sensors that monitor certain levels of activity, so the decision on which pacemaker offers the best fit is made on a case-by-case basis.

Sorillo, though, was a perfect candidate for an MRI-compatible device.

A chronic sufferer of fatigue, dizziness and shortness of breath, she tolerated the symptoms -- and the occasional ambulance ride -- for a couple of years after doctors told her she was suffering from anxiety attacks. But when she moved from New York to Broward County last year, Cogan did more extensive tests and eventually diagnosed her with bradycardia, or a slow heartbeat.

These days, Sorillo says she feels great. "I have energy. I'm no longer tired. I can actually sleep on my back," Sorillo said, adding that the MRI compatibility was "really, really the best part."

Though Medtronic is the first to develop the MRI compatibility technology, both Cogan and Kloosterman agree that it won't be long before other companies seek approval for competing devices that will be available in every hospital in the country.

"The industry in general is moving there," Kloosterman said. The next advance, he suggested: developing implantable defibrillators that can be used in MRI settings.

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