

First Wi-Fi Pacemaker Debuts

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Editor's Note: This is a very nice development, as one of the greatest problems in medicine is catching health issues (like a heart situation) before they have a chance to hurt you. This is a novel application of wireless tech that has been used in various forms by Test Pilots and Astronauts, but has been too expensive to use in mainstream applications until recently. Out-patient care is already being revolutionized by telemedicine, and internalizing the technology will give patients and doctors extended freedom and ease of care, which should reduce costs. We'll eventually see athletes monitored for performance, from accelerometers and strain gauges implanted in prosthetic (and real) joints to skull monitors in boxers to ensure they aren't about to drop dead from a brain hemorrhage. ([Implantable microbots are the next step](#) [1], of course.)



NEW YORK (Reuters) - After relying on a pacemaker for 20 years, Carol Kasyjanski has become the first American recipient of a wireless pacemaker that allows her doctor to monitor her health from afar -- over the Internet.

When Kasyjanski heads to St. Francis Hospital in Roslyn, New York, for a routine check-up, about 90 percent of the work has already been done because her doctor logged into his computer and learned most of what he needed to know about his patient.

Three weeks ago Kasyjanski, 61, became the first person in the United States to be implanted with a pacemaker with a wireless home monitoring system that transmits critical information to her doctor via the Internet.

Kasyjanski, who has suffered from a severe heart condition for more than 20 years, says the device has given her renewed confidence and a new lease of life, because if her pacemaker were to malfunction or stop working, only immediate action would save her life.

"Years ago the problem was with my lead, it was nicked, and until I collapsed no one knew what the problem was, no tests would show what the problem was until I

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passed out," she told Reuters Television.

Dr. Steven Greenberg, the director of St. Francis' Arrhythmia and Pacemaker Center, said the new technology helps him better treat his patients and will likely become the new standard in pacemakers.

He said the server and the remote monitor communicate at least once a day to download all the relevant information and alert the doctor and patient if there is anything unusual.

"If there is anything abnormal, and we have a very intricate system set up, it will literally call the physician responsible at two in the morning if need be," he said.

The wireless pacemaker, made by St. Jude Medical Inc., received FDA approval in July.

"It is a tremendous convenience for the patient from even interacting with a telephone to call the doctor," he said.

"On a larger scale it enhances our ability to pick up and evaluate any problems with their pacemaker and certain other rhythm disorders that could be potentially dangerous or life threatening in ways we really could not do before."

Kasyjanski, an account clerk, said it was frightening initially to be the first American patient to be implanted with the device but her fears have slowly been replaced by a sense of relief, knowing that her heart is under constant surveillance.

"Deep down I feel like I have gotten another chance," she said. "Right now I feel like this is a new lease on life and I am here for my two children and my grandchildren and, God willing, I will be here for many more years to come."

There are more than 3 million people internationally with pacemakers and 600,000 more are implanted each year.

Greenberg said wireless technology was likely to become far more common in patient care, and give physicians time to focus more on their patients as opposed to routine tests.

"In the future, these pacemakers may be placed not just for people with slow heartbeats. We may be monitoring high blood pressure, we may be measuring glucose, we may be monitoring heart failure," he said,

"There are literally dozens of physiological parameters that now, with this wireless technology, we can leverage for the future of monitoring. So it is not just a rhythm monitor but a disease monitor."

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