

# Minneapolis Heart Institute Foundation implants its first world's smallest cardiac pacemaker

May 5 2014

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The Minneapolis Heart Institute Foundation (MHIF) announced today the first implant of the world's smallest pacemaker at the Minneapolis Heart Institute. The device was implanted as part of a global clinical trial and the procedure was the first of its kind in the Midwest.

One-tenth the size of a conventional [pacemaker](#), and comparable in size to a large vitamin, the Medtronic Micra Transcatheter Pacing System is delivered directly into the [heart](#) through a catheter inserted in the femoral vein. Once positioned, the pacemaker is securely attached to the heart wall and can be repositioned or retrieved if needed. The miniature device does not require the use of wires, known as "leads," to connect to the heart. Attached to the heart via small tines, the pacemaker delivers electrical impulses that pace the heart through an electrode at the end of the device.

"This miniaturized technology is designed to provide patients with the advanced pacing technology of traditional pacemakers via a minimally invasive approach," said MHIF researcher Dr. Charles Gornick, who implanted the pacemaker. "We are proud that MHIF was selected among an elite group of institutions to take part in this clinical trial. If positive, the results of the trial could potentially benefit many people globally who receive pacemakers each year." In contrast to current pacemaker implant procedures, the miniature pacemaker does not require a surgical incision in the chest and the creation of a "pocket" under the skin. This eliminates a potential source of complications, and any visible sign of the device.



"This miniaturized technology is designed to provide patients with the advanced pacing technology of traditional pacemakers via a minimally invasive approach," said MHIF researcher Dr. Charles Gornick, who implanted the pacemaker. "We are proud that MHIF was selected among an elite group of institutions to take part in this clinical trial. If positive, the results of the trial could potentially benefit many people globally who receive pacemakers each year." Credit: Gloria O'Connell, Allina Health

Provided by Minneapolis Heart Institute Foundation

Citation: Minneapolis Heart Institute Foundation implants its first world's smallest cardiac pacemaker (2014, May 5) retrieved 3 February 2024 from <https://medicalxpress.com/news/2014-05-minneapolis-heart-foundation-implants-world.html>

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