

# Heart expert sees pacemaker as cardiac management milestone

June 11 2014, by Nancy Owano

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Credit: Medtronic

(Medical Xpress)—The BBC reported Monday that the world's smallest pacemaker, the Micra Transcatheter Pacing System, was fitted for the first time in England. The pacemaker is one-tenth the size of traditional models. The procedure took place at Southampton General Hospital in the UK. The Southampton venue has become the first in the UK to fit a patient with the pacemaker. Prof John Morgan, consultant cardiologist, said this marked a milestone for cardiac rhythm management in the UK.

"In addition to the advantages of the device's size and wireless technology, the procedure reduces the risk of infection and extended recovery time associated with traditional, more invasive surgical pacemaker implants."

The BBC said the device used was 26mm long (one inch), weighing 2g (0.07 ounces). "At 26mm long and weighing 2g, the Micra TPS used in Southampton can claim to be the world's smallest [pacemaker](#)," said the report. Continuing its work in advanced pacing technology and device miniaturization, Medtronic had issued an announcement about the product in December last year, at the time as its being the first in-human implant, in a patient in Linz, Austria.

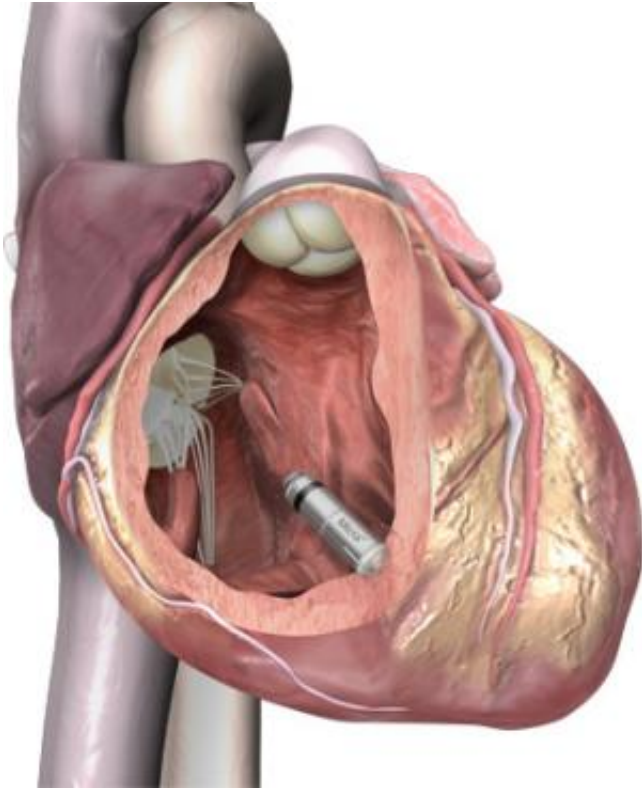
In a press release in April, Mark Phelps, Medtronic senior program director, diagnostics and [monitoring](#), commented on Medtronic's advance. "Our goal isn't to make the world's smallest pacemaker; it is to make life easier for patients."

The BBC this month explained how traditional pacemakers use electrical impulses to regulate the beating of the heart; they are inserted under the skin and connected to the heart via a lead. "The lead carries electrical signals to correct slow or irregular heartbeats, but they can require replacement due to broken or dislodged wires."

Medtronic's explanation in the December announcement was that the new device is delivered directly in the heart through a catheter inserted in the femoral vein. Once positioned, the pacemaker is securely attached to the heart wall; there is no need for wires. The Southampton procedure is part of a global clinical trial. Southampton General is known for a number of specialist services based there, ranging from neurosciences and oncology to cardiology.

"While pacemakers have saved countless thousands of lives over the past

seven decades since the first devices were implanted, one of the major drawbacks has been complications related to the pacing lead that is put in to deliver [electrical impulses](#) to the [heart](#)," said Prof. Morgan.



Credit: Medtronic

In May, the Minneapolis Heart Institute Foundation made news, also announcing the implant of the world's smallest pacemaker. The device was implanted by Dr. Charles Gornick at Abbott Northwestern Hospital as part of the global pivotal clinical trial and the procedure was said to be the first of its kind in the Midwest. "This miniaturized technology is designed to provide patients with the advanced pacing technology of traditional pacemakers via a minimally invasive approach," said Dr. Gornick.

**More information:**

- [newsroom.medtronic.com/phoenix ... wsarticle&id=1883208](http://newsroom.medtronic.com/phoenix...wsarticle&id=1883208)
- [www.mplsheart.org/wp-content/u ... ease-050114-1219.pdf](http://www.mplsheart.org/wp-content/u...ease-050114-1219.pdf)
- [www.uhs.nhs.uk/AboutTheTrust/N ... llest-pacemaker.aspx](http://www.uhs.nhs.uk/AboutTheTrust/N...llest-pacemaker.aspx)

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