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## AHS first in the West to offer MRI-compatible defibrillator

*New technology may expand diagnostic options for cardiac patients*

CALGARY – In a western Canadian first, a medical team at Foothills Medical Centre (FMC) has implanted a special defibrillator that enables patients with irregular heart rhythms to undergo magnetic resonance imaging (MRI) scans.

Implantable defibrillators are placed under the skin and correct life-threatening, irregular heart rhythms. However, MRI scanners cause traditional defibrillators to malfunction, meaning thousands of Albertans cannot use an important diagnostic tool necessary for diagnosing a range of conditions, including back and joint problems, strokes, and certain cancers.

FMC is one of 55 sites – and Calgary one of two Canadian cities – participating in a two-year international study using the new MRI-compatible implantable cardioverter-defibrillator (MRI-ICD).

“Every year, about 800 Albertans require an implantable defibrillator due to electrical problems in their heart,” says Dr. Vikas Kuriachan, an Alberta Health Services (AHS) cardiac electrophysiologist, whose team performed the milestone procedure in late August.

“This new device will allow patients with defibrillators to have MRI scans and improve the level of care we can offer them.”

Over the next two years, local researchers will be providing MRI-ICDs to patients with irregular heart rhythms who have a high probability of needing an MRI: patients who are young or middle-aged; patients with spine, joint or neurological problems; and patients with a history of cancer or other problems that may require an MRI for diagnosis.


Some patients in the study will be randomly selected to undergo a routine MRI scan and will have their MRI-ICDs checked to ensure the devices continue to operate as they should.

Dr. Todd Anderson, Director of Libin Cardiovascular Institute of Alberta and Department Head of Cardiac Sciences, says he believes one day all implantable defibrillators will be MRI compatible.

“This will be a tremendous step forward in the level of care we are able to provide patients who require defibrillators,” says Dr. Anderson. “Libin, its physicians and researchers are known for pioneering new and innovative technologies, and this is just one more example of that work.”

The implant procedure for an MRI-ICD is very similar to a traditional ICD implant. The device is placed under the skin, near the collarbone, and with the guidance of X-rays, wires are placed into blood vessels going into the heart. The entire procedure takes between one and two hours.

The defibrillator delivers a small electrical shock to the heart whenever there is a risk of cardiac arrest from an abnormal heart rhythm.

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Brian McComb became the second patient in Canada, and first in the West, to receive the MRI-ICD after discovering he suffered from congestive heart failure.

The 78-year-old Calgary man says he's excited to be on the leading edge of medical technology.

"After the procedure, I was up and walking within 24 hours. Now I want to focus on spending time with my grandkids," says McComb. "If my heart stops, it gives me a lot of peace of mind to know I have the MRI-ICD in my chest."

- 30 -

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**About Alberta Health Services**

*Alberta Health Services is the provincial health authority responsible for planning and delivering health supports and services for more than four million adults and children living in Alberta. Its mission is to provide a patient-focused, quality health system that is accessible and sustainable for all Albertans.*

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**About the Libin Cardiovascular Institute of Alberta**

*The Libin Cardiovascular Institute of Alberta co-ordinates cardiovascular science research, education and patient care as an entity of both Alberta Health Services (Calgary) and the University of Calgary. It provides education and training of health-care professionals and offers world-class treatment using new technologies and access to cardiac services. There are more than 150 basic research, clinicians, and clinical research members who serve two million people in southern Alberta, Saskatchewan, and eastern British Columbia. The institute is committed to developing outstanding cardiovascular health promotion and disease prevention programs by translating innovative research into novel health-care solutions. For more information, visit [LibinInstitute.org](http://LibinInstitute.org) and @LibinInstitute on Twitter.*

**B-roll of teams working in a catheterization laboratory is available here:**

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