

## Osler-led FIRST study aims to minimize damage in heart attack patients

A new study will examine a non-invasive therapy that triggers the body's own defence mechanisms to protect heart attack patients against heart damage.

The FIRST Study ? Field Implementation of the autoRIC Device in STEMI (ST-segment Acute Myocardial Infarction) ? is the first of its kind anywhere in the world. Led by William Osler Health System, the study brings together teams from across the health care industry, including Peel Regional Paramedic Services, Halton Regional Paramedic Services, Trillium Health Partners and the Sunnybrook Centre for Prehospital Medicine, with support from Rescu and the Li Ka Shing Knowledge Institute at St. Michael's Hospital. The non-invasive autoRIC device used in the study has been developed by CellAegis Devices in Toronto who specializes in medical devices for heart conditions.

In Canada, there are more than 70,000 heart attacks each year, resulting in more than 14,000 deaths. The FIRST study aims to reduce the long-term effects of heart attacks by reducing the amount of permanent damage they cause, since larger heart attacks lead to worse patient outcomes including heart failure.

?We are extremely excited to take part in the first North American study exploring the technique known as ?remote ischemic conditioning' prior to coronary intervention to reduce heart muscle damage as a result of a heart attack,? said Dr. Sheldon Cheskes from Sunnybrook Centre for Prehospital Medicine, the principal investigator for the study. ?This study has the potential to truly impact outcomes through the use of a simple, inexpensive technique that can be applied either in the emergency department or prehospital (ambulance) care field.?

Supported by the Health Technology Exchange (HTX)-led Resources for Evaluating, Adopting and Capitalizing on Innovative Healthcare Technology (REACH) funding program, this real-world study will evaluate the clinical and economic benefit of this novel therapy in the Halton-Peel region. Patients experiencing a heart attack will be treated with the autoRIC device either in the ambulance or in the emergency departments of Brampton Civic Hospital or Trillium Healthcare Partners. This treatment will be added to standard treatment for heart attacks. The benefit of the autoRIC device treatment will be assessed by comparing the clinical outcomes ? including hospital readmissions and future heart attacks ? of treated patients with those of untreated heart attack patients. ?REACH is an innovative program, which leverages multiple levels of health care delivery, technology and business in a way that has not been possible up to now,? said Rocky Ganske, CEO of CellAegis Devices Inc. ?It is very exciting for me to see that the CellAegis autoRIC device, which started with ground-breaking research in Toronto and was developed and manufactured in Ontario, will now be utilized in clinical practise to improve outcomes in patients experiencing heart attacks. Healthier patients also stay out of the hospital longer, and we expect the autoRIC device treatment to decrease the overall cost of health care delivery in Ontario.

CellAegis is proud to be involved with the dedicated group of individuals in the FIRST Study.?

Ultimately, the study could result in this innovative technique being adopted by health care professionals across Canada and around the world.

?At Osler, our research program is establishing itself as an evaluation platform where new technologies and approaches to the delivery of innovative care in our community can be rigorously assessed,? Osler's Chief of Research Dr. Ronald Heslegrave observed. ?The FIRST Study will allow us to gather evidence to evaluate the value of the autoRIC device in real-world conditions and support its potential adoption by the health care system. The support provided by the REACH program allowed multiple EMS services, multiple hospital providers and industry to collaborate in this joint venture to find innovative approaches to deliver better heart health to our community and the province.?

?We are thrilled to be working with motivated healthcare delivery organizations that are taking the lead on utilizing innovative medical technologies within their institutions,? commented Shahira Bhimani, vice-president of Innovation Services, HTX. ?As these organizations strategize on their high priority needs and generate an outcome-driven plan to pilot and/or procure innovative healthcare solutions, the system not only shifts towards a pull-technology model, but also allows ground-breaking solutions to be more easily accessed by Ontarians.?