

**WORLD-FIRST DUAL-SITE CENTRE USES SOUND WAVES INSTEAD OF SCALPELS TO PERFORM SURGERY**  
*MRI-guided, focused ultrasound surgery centre opens in Toronto and Thunder Bay*

November 24, 2010 (Toronto, ON) – Sunnybrook Health Sciences Centre in partnership with Thunder Bay Regional Health Sciences Centre have launched a unique dual-site Centre that stands to revolutionize surgery through non-invasive treatments for complex health concerns including cancers.

“Congratulations to Sunnybrook and to their partners in Thunder Bay on yet another example of leadership in health care innovations. New technologies like this will not only put Ontario on the world stage as an innovator, but also will improve the quality of health services for patients,” says Deb Matthews, Minister of Health and Long-Term Care.

Teams of clinicians and scientists at both sites of the Centre are developing new treatments using MRI (magnetic resonance imaging)-guided, focused ultrasound. Patients with complex health concerns would benefit greatly from surgery but in many cases traditional operations pose high risks due to the delicate area where the intervention would occur.

With MRI-guided focused ultrasound therapy, many of these risks can be overcome by the simple fact that procedures are performed without ever making a surgical incision and without the use of needles.

In the Centre’s first patient trials for this new approach, teams have chosen to apply the procedure to uterine fibroids. Uterine fibroids are non-cancerous tumours that most often affect women in their 40s and early 50s. While most fibroids are asymptomatic, they can grow and cause heavy and painful menstruation, bloating, urinary frequency and urgency, constipation and painful sexual intercourse.

Current treatment options involve medical therapy with drugs, surgery, and embolization or shrinking the fibroid by blocking its blood flow. MRI-guided focused ultrasound therapy involves no significant discomfort and very little recovery time. Early results from these trials have shown the treatment to be safe and effective with no serious side effects. MRI-guided focused ultrasound therapy uses heat generated from high intensity ultrasound waves, focused to the target tissue and guided by MRI.

Dr. Kullervo Hynynen, director of imaging at Sunnybrook Research Institute pioneered the MRI-guided focused ultrasound technology that is at the core of the Centre’s work. He is a co-investigator on the fibroid trials in Toronto being led by Dr. Elizabeth David, an interventional radiologist at Sunnybrook. Dr. Laura Curiel leads the research at Thunder Bay Regional Research Institute with clinical leads Dr. Neety Panu, radiologist at Linda Buchan Centre, Thunder Bay Regional Health Sciences Centre, and Dr. Andrew Siren, obstetrician and gynecologist, Thunder Bay Regional Health Sciences Centre.

“These clinical trials are significant both in future treatment availability in Canada, and in informing our imminent work in the new year on non-invasive treatments for cancer patients,” says Dr. Hynynen, a Professor in the Department of Medical Biophysics at the University of Toronto.

The researchers will expand their new therapy team with trials with clinicians at Sunnybrook’s Odette Cancer Centre and at Thunder Bay Regional Health Sciences Centre, for the treatment of patients with bone metastases, recurrent breast tumours, head and neck tumours, and rectal tumours. Work will also involve using the technology in new research to increase the effectiveness of chemotherapy and to enhance the effects of radiation therapy.

“Partnerships are fundamental to the success of this pivotal study. It is the first in the combined history of Thunder Bay Regional Health Sciences Centre, Thunder Bay Regional Research Institute, Sunnybrook Health Sciences Centre and the Sunnybrook Research Institute. Our dual sites are shared, offering better access in both Northern Ontario and Southern Ontario, allowing more patients to receive improved care, much closer to home,” says Michael Power, CEO of Thunder Bay Regional Research Institute, Vice President Cancer and Diagnostic Services, TBRHSC, and Regional Vice President Cancer Care Ontario in the Northwest.

A number of industry and government partners have come together to make the dual-site Centre with Thunder Bay and Sunnybrook a reality. Funding from FedNor, Natural Sciences and Engineering Research Council of Canada - Discovery Grant for HIFU Guidance, the Ontario Ministry of Research and Innovation – ORF grant and Philips Healthcare have been fundamental to the success of this leading edge procedure. The technology being used is the Philips Healthcare Sonalleve and Ariel MRI-guided HIFU system. The MR-guided, focused ultrasound surgery centre at the Sunnybrook site is part of the Centre for Research in Image-Guided Therapeutics, funded by the Canada Foundation for Innovation.

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