



Axilum Robotics announces the installation of a new robotic system for Transcranial Magnetic Stimulation in Calgary, Canada

Strasbourg, May 25th, 2016 - Axilum Robotics, specializing in the development of medical robots today announced the installation of a robotized system for image-guided Transcranial Magnetic Stimulation (TMS) at Alberta Children's Hospital in Calgary, Canada.

The Calgary Pediatric Stroke Program (CSPS), directed by Dr Adam Kirton, Pediatric Neurologist, provides children with cerebrovascular disease and their families with state-of-the-art diagnosis, treatment, and support while providing the opportunity to participate in leading clinical research initiatives. Since its establishment at the Alberta Children's Hospital in 2007, the CSPS has enrolled >500 children locally and established multiple new clinical and research programs.

In 2010, the CSPS opened the ACH Pediatric Transcranial Magnetic Stimulation (TMS) Laboratory. TMS technology has the remarkable capacity to both measure and "map" how a child's brain recovers from injuries like stroke but also possesses a therapeutic potential with the possibility that repetitive TMS could help guide a child's brain toward better recovery. CSPS is the first TMS laboratory dedicated to children in Canada and one of only a few such facilities in the world. Ongoing studies are examining brain plasticity after stroke as well as other aspects of brain development and pediatric neurological disease. <http://perinatalstroke.com/>

The TMS installation is also part of the new Non-invasive Neurostimulation Network (N3) led by Dr Kirton at the University of Calgary. N3 is one of the Neuro Technology platforms that supports the University of Calgary's [Brain and Mental Health](#) research strategy.

<http://www.hbi.ucalgary.ca/research/neurotechnologies/non-invasive-neurostimulation-network>

In a recent study (Neurology 2016), Dr Kirton and his team showed evidence that combined rTMS and rehabilitation enhances therapy-induced functional motor gains in children with stroke-induced hemiparetic cerebral palsy.

TMS applications are numerous, ranging from neuroscience research to the treatment of neurological or psychiatric diseases resistant to drug treatments, which are the subject of increasing clinical investigations. Axilum Robotics TMS-Robot is the first and only robot developed specifically for TMS. The hemispherical architecture of its arm is patented. It is intended to safely automate and improve the accuracy and repeatability of this non-invasive and painless brain stimulation technique, which is usually implemented manually. The installation in Calgary has been realized in partnership with Magstim for the stimulator and Rogue Research for Brainsight TMS navigation system.

"Our team is proud about the choice of our technology by this leading TMS center dedicated to children" explains Michel Berg, CEO of Axilum Robotics. "We are convinced that this robotized system is an asset for the high quality of execution sought by the team".

"Our clinical trials with TMS in children suffering from cerebral palsy after stroke showed improvement of their motor abilities. Which is encouraging in the current context with limited options to treat post-stroke palsy.

The robot allows precision and repeatability of the orientation of the stimulation coil, particularly for a patient requiring multiple sessions. Thanks to the compensation for head motion, the robot allows as well to maintain the coil on the target in children who are sometimes restless at the end of long sessions" precises Dr Kirton.

About Axilum-Robotics

Axilum Robotics was founded in 2011 in Strasbourg, France, by a team of leading experts in medical robotics. The objective of the company is to provide researchers and health care professionals with robotic solutions to improve both technical medical procedures and medical resources management.

TMS-Robot is the first CE marked medical robot specifically designed for Transcranial Magnetic Stimulation (TMS).

In a fast-growing market, Axilum Robotics' ambition is to become the global leader in robotic solutions for TMS.

Axilum Robotics is ISO 13485 certified for its Quality Management System since 2013, has received CE mark and Health Canada licence for TMS-Robot in 2013 and benefits from an exclusive patent license agreement (US 8,303,478 ; Ca 2,655,433). 10 centers have already been equipped with Axilum Robotics' TMS-Robot.

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