Great Lakes NeuroTechnologies Launches Study to Automatically Classify Abnormal Muscle Tone in Movement Disorders

15 JAN 2014: Valley View, OH – Great Lakes NeuroTechnologies (GLNT) announced today that it is launching a study to determine the feasibility of a clinician-worn glove to objectively evaluate abnormal muscle tone, such as stiff joints or muscle tightness, due to neurological disorders.

The technology is being developed at Great Lakes NeuroTechnologies in collaboration with Dr. Erwin Montgomery. The clinician-worn glove is instrumented with force and velocity sensors to monitor changes in resistance to movement as the clinician moves the individual's limb at different speeds. This will allow clinicians to distinguish between speed-based changes in muscle properties, like those that result from spasticity, and effects of other types of abnormal muscle tone, like rigidity and dystonia. This device will complement the Kinesia™ system [http://glneurotech.com/kinesia/] to expand market opportunities in automated and quantitative evaluation of neurological motor impairments. The clinical study to evaluate the technology in patients will be completed at the Cleveland Clinic.

Neurological conditions such as cerebral palsy, stroke, Parkinson's disease, and spinal cord injury often result in abnormal muscle tone, which is a major impediment to functional use of the affected limbs and can severely limit independence. Treatments such as Botox injections and Deep Brain Stimulation differ in effectiveness depending on the condition. As a result, the ability to quantitatively distinguish between different types of abnormal tone is important for determining the appropriate treatment.

"Spasticity and dystonia can be difficult to distinguish and are both currently measured clinically using subjective rating scales," said Dr. Erwin Montgomery, a neurologist and researcher. "Providing a sensor-based, objective assessment may improve the accuracy of diagnosing the underlying condition, and selecting the appropriate treatment option to improve quality of life, minimize healthcare costs, and aid development of new treatments."

"With the development of numerous surgical, medication, and physical therapy treatment options for abnormal muscle tone, there has become a pressing need for quantitative assessments that can evaluate intervention efficacy", said Dr. Elizabeth B. Brokaw, Senior Biomedical Engineering Researcher. "As Great Lakes NeuroTechnologies works to expand product offerings in the movement disorders market, this technology may provide clinicians with a device that can be easily integrated into their clinical practice to improve abnormal muscle tone management and patient outcomes".

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About Great Lakes NeuroTechnologies

Great Lakes NeuroTechnologies [http://www.glneurotech.com] is committed to pioneering innovative biomedical technologies to serve research, education, and medical communities, improving access to

medical technology for diverse populations, and positively impacting quality of life for people around the world.

Media Contact

Amelia Earhart, 216-446-2431 - aaearhart@GLNeuroTech.com

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