

GREAT LAKES NEUROTECHNOLOGIES RECEIVES NEARLY \$2 MILLION IN NEW FUNDING TO EXPAND HOME-BASED TECHNOLOGIES FOR MONITORING MOVEMENT DISORDERS

01 SEPT 2011: Cleveland OH – Great Lakes NeuroTechnologies was recently awarded two NIH SBIR grants: \$1.7 million in Phase II funding from the National Institute on Aging to develop ETSense™, an adaptive, portable essential tremor (ET) monitor and \$256,000 in Phase I funding from the National Institute of Neurological Disorders and Stroke to develop Kinesia-HS™, an integrated solution to facilitate pharmaceutical development of neuroprotective interventions targeted to Parkinson’s disease.

ET is characterized primarily by tremor during movement and affects approximately 4% of the population in the United States that is over age 40. Exact prevalence may be much higher since up to 90% of those suffering from ET do not seek treatment.

The Phase II ETSense grant award will provide for the continued development of an adaptive, portable essential tremor (ET) monitor that will classify tremor type and rate tremor severity continuously throughout the day while a patient performs typical activities, which should help clinicians to better prescribe treatment and aid in the development of novel therapeutic interventions. This initiative is a collaborative effort between Great Lakes NeuroTechnologies (<http://www.glneurotech.com/>) and clinical testing at Baylor College of Medicine in Houston, TX and Rush University Medical Center in Chicago, IL.

Tremor rating scales all provide a concise, subjective symptom rating at a designated point in time and require a clinician to visually assess the patient. This method does not enable the clinician to capture the patient’s complex symptom fluctuations that occur throughout the day as they respond to various interventions.

Dustin Heldman, Ph.D., Principal Investigator and Biomedical Research Manager for Great Lakes NeuroTechnologies, reports that “Objectively capturing ET symptoms continuously during daily activities and using adaptive algorithms to classify both tremor types and severity will help clinicians better prescribe therapy to minimize the patient’s symptom fluctuations. Further efforts in this regard provide for the expansion of care to rural and underserved populations.”

The prototype system successfully used kinematic data recorded from a motion sensor unit placed on the finger of subjects afflicted with ET to discern tremor from the voluntary motions associated with daily activities. It further objectively quantified tremor severity with scores highly correlated with clinicians’ qualitative ratings, providing a standardized platform for continuous ET assessment. Tremor quantification algorithms were extrapolated to non-standardized tasks, suggesting that it is feasible to rate tremor continuously throughout the day during activities of daily living. The results were published in the journal Parkinsonism and Related Disorders.

The Phase I Kinesia-HS program will provide for the development of an upgrade of Great Lakes NeuroTechnologies existing Kinesia™ Quantitative Motor Assessment System (<http://www.glneurotech.com/Kinesia/>) and deliver an integrated solution to facilitate pharmaceutical development of neuroprotective interventions targeted to Parkinson's disease.

Pharmaceutical companies place great emphasis on neuroprotective agents designed to slow the progression of Parkinson's disease. The current standard for evaluating motor symptoms in response to therapy is a subjective, integer rating scale that does not provide the resolution necessary to measure the rate at which motor symptoms change during disease progression.

The Kinesia-HS system will include both compact, patient-worn instrumentation and web-based infrastructure for home monitoring to provide significantly increased motor symptom resolution in both amplitude and time.

"This standardized platform for objective home assessments is expected to lead to clinically significant results faster with improved resolution," says Dr. Heldman.

"Compared to traditional methods, this approach will enable breakthrough therapies to get to market faster and lower developmental costs."

About Great Lakes NeuroTechnologies

Great Lakes NeuroTechnologies 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
Web Marketing Manager
216-361-5410
aaearhart@GLNeuroTech.com