



Alzheimer's Clinical Trial Begins with Pioneering Medical Device

Phoenix, AZ (July 28, 2017) New bioengineering technology is being utilized in a just-started clinical trial in patients with Alzheimer's Disease. The trial involves treatment with a wearable head device that provides transcranial electromagnetic treatment (TEMT) to the entire brain. The Byrd Alzheimer's Institute at the University of South Florida in Tampa is performing this first-of-its-kind clinical trial.

The 2-month Phase I clinical trial is based upon strong pre-clinical data by the study's sponsor, NeuroEM Therapeutics, Inc., showing the ability of the company's patented electromagnetic technology to prevent and reverse memory loss in Alzheimer's mice.

Several mechanisms not provided by any drug currently in Alzheimer's clinical trials seem to be providing these cognitive benefits. First, TEMT breaks down the small protein aggregates (amyloid oligomers) inside brain cells that are now thought to initiate Alzheimer's development in the brain. And secondly, TEMT dramatically increases the very low energy production of Alzheimer's-diseased brain cells by enhancing their mitochondrial function – mitochondrial dysfunction is an early and critical event in the development of Alzheimer's Disease.

Aside from the pioneering technology being employed, the clinical trial is unique in that Alzheimer's patients will be receiving their treatments in-home, as administered by their family caregiver. The *NeuroEM* 1000 head device, worn twice daily for one-hour treatments, allows complete mobility of the patient for doing in-home activities. Therefore, the patient does not need to be taken to a hospital or clinic in order to receive their daily brain treatments.

Over the past 15 years, attempts to slow or reverse the debilitating memory loss of Alzheimer's Disease with drugs have been unsuccessful. Over 100 drugs have failed in Alzheimer's clinical trials so far. Thus, neuromodulatory (non-pharmacologic) interventions to the disease are being clinically investigated.

TEMT technology is very different from other neuromodulatory approaches against Alzheimer's Disease, such as transcranial magnetic stimulation (tMS) and deep brain stimulation (DBS). tMS uses magnetic waves that stimulate brain cells only in the brain's outer cerebral cortex, while DBS can only directly stimulate small areas of the Alzheimer's brain. For both approaches, "diseased" brain cells are being stimulated without addressing their pathologic condition.

By contrast, TEMT involves interdigitated electric and magnetic waves that easily penetrate the entire human brain to hopefully provide disease intervention. This is important since Alzheimer's Disease is global in affecting many brain areas. Moreover, the trial is ground-breaking in being the first clinical trial providing long-term electromagnetic treatment to the entire human brain.

Dr. Gary Arendash, President and CEO of NeuroEM Therapeutics, and his colleagues developed TEMT technology while he was research professor at the USF Byrd Alzheimer's Institute. The Institute is the largest free-standing Alzheimer's Institute in the world, "We are very pleased to have the Byrd Alzheimer's Institute and its exceptional Alzheimer's clinical staff performing this first-

of-its-kind clinical trial” said Dr. Arendash. The trial was originally to be done at the Banner Sun Health Research Institute in Phoenix. However, delays in trial initiation at that facility resulted in NeuroEM transferring the clinical trial to the Byrd Alzheimer’s Institute.

“Although the Phase I trial is primarily to investigate safety of the TEMT head device, a number of measures have been included in the trial’s design that could provide evidence of therapeutic efficacy” said Dr. Arendash.

Completion of the clinical trial is anticipated for Spring of next year, with public disclosure of the trial results planned to occur shortly thereafter.

About NeuroEM Therapeutics, Inc.

NeuroEM Therapeutics is a clinical stage medical device company focused on development of Transcranial Electromagnetic Treatment (TEMT) to treat neurodegenerative disorders such as Alzheimer’s Disease, Traumatic Brain Injury, and Down’s Syndrome. The company is headquartered in Phoenix, AZ and has NIH grant support for collaborative research with Arizona State University to further develop TEMT against a variety of neurologic conditions. NeuroEM’s head device (the MemorEM 1000) is a first-in-class medical device that provides full brain electromagnetic treatment in-home and with near complete mobility. For more information about NeuroEM Therapeutics, go to www.neuroem.com.

Forward-Looking Statements

This communication contains certain forward-looking statements under the Private Securities Litigation Reform Act of 1995. These forward-looking statements, which may include, but are not limited to, statements concerning the projections, financial condition, results of operations and businesses of NeuroEM Therapeutics, are based on management’s current expectations and estimates and involve risks and uncertainties that could cause actual results or outcomes to differ materially from those contemplated by the forward-looking statements.