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**FOR IMMEDIATE RELEASE**

**Banner Alzheimer's Institute and Mayo Clinic Arizona to Participate  
in Multi-Center Study of Chronic Traumatic Encephalopathy  
in Former Football Players**

*Researchers awarded \$16 million to advance detection of serious brain disease*

**PHOENIX** (December 22, 2015) – Researchers from Phoenix-based Banner Alzheimer's Institute (BAI) and Mayo Clinic Arizona will participate in a new \$16 million federally funded study of former professional and college football players, attempting to create methods to detect and diagnose a serious brain disease known as chronic traumatic encephalopathy (CTE) before death.

Under a seven-year, multi-center grant from the National Institutes of Health/National Institute of Neurological Disorders and Stroke (NIH/NINDS), the two Arizona research facilities will work with physicians and scientists from Boston University, the Cleveland Clinic and New York University.

"There is an urgent need to clarify the clinical and biological consequences of repetitive head injuries, as well as the factors that lead some but not all athletes to develop chronic traumatic encephalopathy, and to use this information to find the best ways to treat and prevent this condition," said Eric Reiman, MD, executive director of BAI and one of the four multi-center principal investigators for the grant.

Mayo Clinic will conduct extensive clinical examinations, advanced MRI scans, experimental blood tests and other tests in an effort to detect the changes in the brain associated with CTE on study participants. BAI will conduct state-of-the-art PET scans in the same research participants, including information about the accumulation of an abnormal tau protein, a characteristic feature of this disease seen in the brains of autopsied individuals, and assist in the analysis of the brain imaging data.

CTE is a degenerative brain disease that occurs in individuals with repetitive head injuries and is characterized by changes in behavior, mood and memory, and may lead to the development of dementia and Parkinson's disease. It has been described most extensively in boxers and football players, but has also been reported in individuals who have played in other contact sports and in some military veterans. Many cases have been diagnosed in deceased former professional football players, and currently CTE can only be diagnosed by autopsy.

The grant will fund a study in which former professional football players, former college football players and a control group of individuals without any history of contact sports or brain injury will be examined over a few years' time.

"Although we've made some progress in understanding CTE, the clinical presentation of this disorder is still not well characterized," said Charles Adler, MD, PhD, professor of neurology at the Mayo Clinic and principal investigator for the study's combined Arizona site. "The main goal of our study is to identify biomarkers that predict which individuals will have CTE, as currently we are only able to make the diagnosis after death."

David Dodick, MD, professor of neurology and director of the Mayo Clinic Sports Neurology and Concussion Program, will provide his extensive clinical expertise in CTE to the research team. Dodick said, "This study will bring together many of the nation's foremost experts who will use their clinical expertise and the most advanced tools to develop diagnostic and prognostic markers of CTE. Ultimately, the ability to identify who is at risk and what the earliest manifestations of the disease are will enable strategies aimed at preventing the disease before it develops or treating the disease after it's begun."

Adler added that by finding tests to predict who may develop CTE during life, we then expect to find treatments to stop this devastating disease.

Drs. Reiman, Adler and Dodick all maintain that it is both a great privilege and responsibility for BAI and Mayo Clinic researchers to partner with leading experts from around the U.S. to help find solutions to this devastating neurological disease.

Banner Alzheimer's Institute and Mayo Clinic's collaboration in this study is part of their commitment to furthering Arizona's leadership position in scientific advancement. They are key members of the Arizona Alzheimer's Consortium, the nation's leading model of statewide collaboration in Alzheimer's disease research, and the Arizona Parkinson's Disease Consortium, a collaboration in Parkinson's disease research.

"There are so many critical unanswered questions about CTE," explained lead principal investigator, Robert Stern, PhD, clinical core director of the Boston University Alzheimer's Disease and CTE Center. "We are optimistic that this project will lead to many of these answers, by developing accurate methods of detecting and diagnosing CTE during life, and by examining genetic and other risk factors for this disease."

The researchers will characterize the clinical features of CTE and develop clinical criteria for the disorder. They will also seek to clarify the nature and extent of head injuries and genetic factors that lead some but not all football players to develop clinical and biological features of CTE.

Project data will be shared with researchers around the world to promote understanding of this disease, ultimately leading to successful methods of preventing and treating CTE.

Note: NIH/NINDS Grant No. 1U01NS093334-01

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### **About the Banner Alzheimer's Institute**

Banner Alzheimer's Institute (BAI) is a nonprofit organization dedicated to the goal of ending Alzheimer's disease without losing another generation. It is helping to launch a new era of Alzheimer's research—detection, treatment and prevention at the pre-symptomatic stage—and to establish a comprehensive model of care that can be the national standard. BAI was founded in 2006 by Phoenix-based Banner Health, one of the country's largest nonprofit healthcare systems. For more information, go to [www.banneralz.org](http://www.banneralz.org).

### **About Mayo Clinic**

Recognizing 150 years of serving humanity in 2014, Mayo Clinic is a nonprofit worldwide leader in medical care, research and education for people from all walks of life. The Neurology Department at Mayo Clinic Arizona is one of the largest in the Southwest United States and specializes in the treatment of athletes suffering from concussion as well as dementia and Parkinson's disease. For more information, visit [150years.mayoclinic.org](http://150years.mayoclinic.org), [www.mayoclinic.org](http://www.mayoclinic.org) and [newsnetwork.mayoclinic.org](http://newsnetwork.mayoclinic.org).

### **About the Arizona Alzheimer's Consortium**

The Arizona Alzheimer's Consortium (AAC) is the nation's leading model of statewide collaboration in Alzheimer's disease research. Established in 1998, the Consortium capitalizes on its participating institutions' complementary strengths in brain imaging computer science, genomics, the basic and cognitive neurosciences and clinical and neuropathology research to promote the scientific understanding and early detection of Alzheimer's disease and find effective disease-stopping and prevention therapies. It also seeks to educate Arizona residents about Alzheimer's disease, research progress in the state and the resources needed to help patients, families and professionals manage the disease. The Consortium is determined to find effective treatments to halt the progression and prevent the onset of Alzheimer's disease in the next 12 years.

### **About the Arizona Parkinson's Disease Consortium**

The Arizona Parkinson's Disease Consortium (APDC) is a unique collaboration of Arizona researchers performing a longitudinal clinicopathological study of patients with Parkinson's disease and similar disorders. The clinical component is called the Arizona Study of Aging and Neurodegenerative Disorders and all participants have agreed to be autopsied at the end of life providing a valuable resource of tissue for scientists around the world to study this disease. The goals of the APDC include finding the cause of Parkinson's disease as well as treatments to improve symptoms and eventually stop the progression of disease.