THE EFFECT OF APOE GENOTYPE ON AMYLOID-BETA ACCUMULATION AFTER EXPERIMENTAL TRAUMATIC BRAIN INJURY

MARK BURNS, PH.D.
ASSISTANT PROFESSOR
GEORGETOWN UNIVERSITY MEDICAL CENTER
DEPARTMENT OF NEUROSCIENCE

Research Abstract

Dr. Burns’ lab investigates the link between traumatic brain injury (TBI) and Alzheimer’s disease. Exposure to TBI can quadruple the risk of developing Alzheimer’s disease, and amyloid plaques similar to those seen in Alzheimer’s disease have been found in the brains of TBI fatalities. Dr. Burns’ lab recently found that the same pathways that are activated long-term in Alzheimer’s disease are activated short-term after TBI. By blocking the activation of these pathways in mice, the physical disability or memory impairments following brain trauma were completely abolished and the amount of brain damage was reduced by over 70%. This research is providing new insights into how toxic proteins produced in the brain in Alzheimer’s disease and TBI are causing neuronal cell damage and memory loss.

PUBLICATIONS

