Diagnostics

Magnetoencephalography (MEG) Provides Real-time Assessment of Neurologic Function and Stimulus Processing

NICoE is supporting and conducting research to identify characteristics unique to patients with mTBI. MEG measures magnetic fields generated by neuronal activity and is used to identify active areas of the brain. Unlike other imaging techniques, MEG provides very specific locations of brain activity in real time. Preliminary results identify a previously undescribed neural pathway involved in visual sensory processing; the activity of the pathway differed between patients with mTBI and comorbid PTSD and patients with mTBI only. The activity of this pathway observed by MEG could potentially provide an objective biomarker for comorbid PTSD. The study results also suggest a mechanism of action for certain PTSD symptoms and lay the groundwork for future research studies aimed at potential treatments to correct the underlying dysfunction, ultimately improving patient care.