Diagnostics

Neuropsychological Outcome and DTI in Complicated Versus Uncomplicated mTBI

Researchers at NICoE investigated the relationship between neuroimaging abnormalities in individuals with mTBI and subacute outcomes. Participants were evaluated using cognitive testing, symptom reporting, and DTI, with these assessments occurring six to eight weeks after injury. Participants included 62 military Service Members with an mTBI, evenly divided into complicated or uncomplicated based on the presence of neuroimaging abnormalities. The presence of abnormalities was compared to cognitive outcomes. The results suggest that despite differences in the imaging results, there were no significant differences in cognitive performance between the two groups. Further, macrostructural neuroimaging changes following mTBI were associated with quantifiable changes in DTI signal. Despite these structural differences, separating individuals into complicated or uncomplicated mTBI did not predict clinical outcome. This suggests that in addition to evaluation by neuroimaging, other assessments need to be performed.