



US DEPARTMENT OF DEFENSE  
**BLAST INJURY RESEARCH PROGRAM**  
**COORDINATING OFFICE**

## **Neurocognitive Function and Psychological Health Predicting Return to Duty Status in an mTBI Military Population**

mTBI in combat settings may result from blast exposure. A survey of 2,525 US Army Service Members returning from Iraq reported that 72 to 79 percent of head injuries were caused by blast (Hoge et al., 2008). At present there are no tests that accurately predict whether mTBI patients will return to duty or will proceed to a military medical board for further evaluation. Investigators at the DVBIC/Intrepid Spirit at Camp Lejeune, North Carolina, performed a study to identify variables that differentiate TBI patients sent to the medical board and those healthy enough to return to duty. The researchers searched the AHLTA database, acquired, and de-identified the records of 350 patients seen at the Naval Hospital at Camp Lejeune, North Carolina. Relevant variables included blast injury history, brain injury history, loss of consciousness, health risk factors/comorbidities, clinical exam results, medical evaluation board status, laboratory test values, neuropsychological status, self-report measures, and CT, MRI, and positron emission tomography scans. Between-group testing indicated that there is no statistical difference between the medical board and return to duty patients on any laboratory tests (i.e., blood count, comprehensive metabolic panel, erythrocyte sedimentation rate). There were, however, significant differences between the medical board and return to duty patients on neuropsychological variables. Therefore, understanding what factors are most prognostic in patients with TBI is critical in designing effective long-term treatment plans. This study provides evidence that neuropsychological testing is a significant factor in determining whether mTBI patients return to duty or receive further medical treatment. The results indicate that for mTBI patients, neuropsychological testing is perhaps the best indicator of referral to the medical board. These findings could inform clinical strategy in how the military employs and cares for injured Service Members.