Neurocognitive Function and Psychological Health

The Neuropsychological Outcome from Military-Related TBI: Preliminary Analyses of the Role of Resilience, TBI Severity, and Blast Exposure

Several factors may affect outcomes after TBI. Patient resilience is a currently less understood, but potentially important variable. Resilience is multi-dimensional in nature and may involve a patient's outlook, openness to experience, and motivation to meet challenges. In short, resilience is how well a patient is able to cope psychologically and behaviorally with a trauma. Understanding why some are better able to adapt than others may inform TBI treatment and rehabilitation strategies. Investigators at the DVBIC, WRNMMC, and the NICoE researched the effect of resilience on outcomes after TBI. The researchers administered a test battery consisting of neurocognitive and neurobehavioral measures to 60 Service Members who had sustained mild to severe TBIs. Analysis involved calculating the effect sizes for different divisions in the data: TBI severity (uncomplicated mTBI versus complicated mTBI-severe), blast (blast versus non-blast), and resilience (high versus low). Comparing groups based on TBI severity and blast resulted in medium effect sizes on both neurocognitive and neurobehavioral measures. Comparing groups based resilience resulted in medium to very large effect sizes for neurocognitive (68.8 percent) and neurobehavioral (89.7 percent) measures. These results indicate resilience is more strongly associated with neuropsychological outcome than either TBI severity or blast. This suggests that resilience is an important factor in TBI recovery. Further research is necessary to fully understand the impact of resilience and appropriate ways to measure the trait. Understanding resilience may inform the design of TBI rehabilitation programs, ultimately affording better care to the injured Service Member.