Facial, Hearing, and Visual Injuries

Visual Dysfunction at Different Stages Following Blast and Non-Blast mTBI

Researchers from USAARL assessed the frequency and types of visual defect seen at different testing stages following non-blast and blast-induced mTBI. Data for the study were obtained from a comprehensive retrospective review of electronic health records of 500 US Service Members with a diagnosis of deployment-related mTBI who received eye care at the Landstuhl Regional Medical Center. For analysis, the data were grouped by mechanism of injury and each group was further divided in three sub-groups based on the number of days between injury and initial eye exam. The results showed a high incidence of visual symptoms and visual dysfunctions. However, the prevalence of visual symptoms and visual dysfunctions did not differ significantly between groupings by mechanism of injury and post-injury stage, except for eye pain and double vision. Among visual symptoms, binocular dysfunction was most common, including higher near vertical phorias, reduced negative fusional vergence breaks at near, receded near points of convergence, decreased stereoacuity, and reduced positive relative accommodation. The lack of difference in terms of visual sequelae between the blast and non-blast groups suggests that TBI research from the civilian (i.e., non-blast) environment is relevant to military personnel where combat injury results primarily from a blast event.