

RISK FOR SUBSEQUENT MISHAPS AMONG AIRMEN WITH MILD TRAUMATIC BRAIN INJURY

Casserly R. Whitehead
*InfoSciTex Corporation, 2800 Q Street, Bldg 824
Wright Patterson AFB, OH 45433-7947 USA
Phone: (937) 255-1902
Fax: (937) 255-3343
E-mail: Casserly.Whitehead@WPAFB.AF.MIL
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Advisor: Dr. Mira Katz*

Col. Timothy S. Wells and Timothy S. Webb
*USAF AFMC 711 Human Performance Wing, RHPA
Wright Patterson AFB, OH 45433-7947 USA*

ABSTRACT

Objective: Mild Traumatic Brain Injury (mTBI) results from trauma to the head, such as that occurring from motor vehicle or industrial accidents, or sports injuries. Additionally, with increased use of improvised explosive devices, mTBI is often diagnosed among troops serving in Iraq and Afghanistan. United States Air Force (USAF) members (Airmen) and other individuals with mTBI may suffer from cognitive deficits placing them at increased risk for mishaps. The objective of this study was to examine the relation between mTBI and risk for further mishaps.

Methods: Using a historical prospective cohort design, electronic data were assembled from the Defense Manpower Data Center, the Military Health System, and the Air Force Safety Automated System. Emergency room visit data were utilized to identify Airmen with mTBI and one of two comparison groups, consisting of injuries without involvement of the head, and the other control group consisting of all other study members without a diagnosis of a head injury. Cox's proportional hazards modeling was utilized to calculate adjusted hazard ratios and 95% confidence intervals while controlling for varying lengths of follow-up.

Results: There were 545,003 Airmen who met study criteria, and 7,258 with an Emergency Room-diagnosed mTBI. Compared to the injured control group, no differences were noted for subsequent mishaps involving motor vehicles, sports and recreation, industrial accidents, or for miscellaneous reasons. However, when compared to the other control group, Airmen with an mTBI were at increased risk for all categories except government-owned motor vehicle accidents.

Conclusions: These conflicting findings suggest that increased risk for subsequent mishaps is likely not the result of a cognitive deficit, as may be expected among those with mTBI, but rather due to differences shared among those who seek emergency care for injuries. These differences may include risk-taking behaviors, occupations, and differential participation in sports activities, among others.

Poster presentation preferred