

Frequency of musculoskeletal injuries and their impact on healthcare utilization and tactical readiness in an Army Airborne Division

Monday, November 8, 2010

Mita Lovalekar, MBBS, PhD, MPH , Department of Sports Medicine and Nutrition, University of Pittsburgh, Pittsburgh, PA

Jonathan Pederson, ATC , Department of Sports Medicine and Nutrition, University of Pittsburgh, Pittsburgh, PA

John Abt, PhD, ATC , Department of Sports Medicine and Nutrition, University of Pittsburgh, Pittsburgh, PA

Timothy Sell, PhD, PT , Department of Sports Medicine and Nutrition, University of Pittsburgh, Pittsburgh, PA

Anthony John House, MS, ATC, CSCS , Department of Sports Medicine and Nutrition, University of Pittsburgh, Ft Campbell, KY

Takashi Nagai, MS, ATC , Department of Sports Medicine and Nutrition, University of Pittsburgh, Ft Campbell, KY

Jennifer Deluzio, MS, CSCS , Department of Sports Medicine and Nutrition, University of Pittsburgh, Ft Campbell, KY

Brian Smalley, LTC(P), MC, MFS, Division Surgeon , 101st Airborne Division (Air Assault), 101st Airborne Division (Air Assault), Ft Campbell, KY

Scott Lephart, PhD, ATC , Department of Sports Medicine and Nutrition, University of Pittsburgh, Pittsburgh, PA

**Purpose:** The aim of this analysis was to measure the frequency of musculoskeletal injuries, assess their impact on healthcare utilization and tactical readiness, and identify types of common musculoskeletal injuries in an Army Airborne Division.

**Methods:** Medical records for the year 2008 were reviewed for a representative sample ( $n = 202$ , age =  $27.2 \pm 6.0$  years (mean  $\pm$  SD), 93.6% male) of personnel in an Army Airborne Division. Musculoskeletal injuries were described and classified according to their frequency, anatomic location, activity when injury occurred and injury type.

**Results:** The rate of musculoskeletal injuries was 52.5 per 100 soldiers per year. Eighty-four musculoskeletal injuries (84/106, 79.3%) were potentially preventable by an injury prevention training program. The majority of musculoskeletal injuries (57/106, 53.8%) affected the lower extremities. In case of 39 injuries (39/106, 36.7%), subjects were engaged in physical or tactical training when injuries

occurred. The common injury types were sprains (25/106, 23.6%), strains (15/106, 14.2%) and overuse injuries (14/106, 13.2%). Thirty-nine injuries (39/106, 36.8%) were classified as “pain” without further description of pathology. Forty-three injuries (43/106, 40.6%) required radiological assessment, 13 injuries (13/106, 12.3%) required physical therapy, and 81 injuries (81/106, 76.4%) required pain medication. Also, 48 injuries (48/106, 45.3%) resulted in work/duty/training limitations or profile.

Conclusions: Preventable musculoskeletal injuries cause significant morbidity, and impact healthcare utilization and tactical readiness in this Army Airborne Division. There is a need to implement a customized injury prevention program to reduce the occurrence of preventable musculoskeletal injuries in this population.