Descriptive Epidemiology of Musculoskeletal Injuries in Naval Special Warfare Personnel

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Injury prevention is of utmost importance in the Naval Special Warfare (NSW) population. The first step in the Public Health Model as applied to injury prevention is measuring the burden of injuries in the population of interest. Previous studies examining musculoskeletal injuries in NSW personnel have utilized either medical chart review (MCR) or self-report (SR), but not both. MCRs yield only those injuries for which medical care was sought. SR injuries are prone to issues with lack of recall, especially as time since injury increases. Using both methods provides further detail of the injury burden.

PURPOSE: To describe both MCR and SR musculoskeletal injuries in the NSW population.

METHODS: Two hundred thirty five NSW personnel volunteered (age 28.3 ± 5.8 years, height 1.8 ± 0.1 meters, weight 85.7 ± 9.4 kilograms). MCR and SR injuries were obtained by certified athletic trainers, and musculoskeletal injuries sustained during the calendar year prior to the year of survey were described. Injury description included anatomic location, activity when injury occurred, and injury type.

RESULTS: MCR were reviewed for 108 subjects and SR were obtained for 226 subjects. For both MSR and SR data, the average numbers of injuries recorded during one year were 0.32 per subject. Anatomic distribution for MCR injuries was - upper extremity (UE): 45.7%, lower extremity (LE): 34.3%, spine: 17.1% and torso: 2.9%. Anatomic distribution for SR injuries was - LE: 47.2%, UE: 37.5%, spine: 8.3%, torso: 4.2% and head/face: 2.8%. The most common anatomic sub-location was the shoulder (28.6%) for MCR injuries, and the ankle and shoulder (16.7% each) for SR injuries. Subjects were engaged in training for 40.0% of MCR and 56.9% of SR injuries. Subjects were engaged in recreational activity/ sports for 8.6% of MCR and 20.8% of SR injuries. Common MCR injury types were strains (25.7%), pain/spasm/ache (20.0%), and fracture (11.4%). Common SR injury types were fracture (26.4%), sprain (13.9%), and strain (12.5%).

CONCLUSION: The analysis shows that musculoskeletal injuries are common in the NSW population. Many of these injuries are potentially preventable by an injury prevention and performance optimization program.