ABSTRACT

Background: The Musculoskeletal Readiness Screening Tool (MRST) was developed in an effort to consistently predict injury among military personnel. Current injury prediction tools have not consistently predicted injury in this population. The MRST is comprised of the weight bearing forward lunge, modified deep squat, closed kinetic chain upper extremity stability test (CKCUEST), forward step down with eyes closed, stationary tuck jump, unilateral wall sit hold, and subjective, individual perceived level of risk for injury. The Feagin hop and self-reported history of injury were also included in this study protocol. The Feagin hop was a functional test used consistently by the orthopedic department located at the testing site as well as used in a recent study aimed at defining a return to duty screen; self-reported history of injury has been identified as a potential predictor of injury.

Purpose: To examine whether MRST scores, as a composite as individual components, were predictive of a United States Military Academy Preparatory School (USMAPS) student athlete sustaining a future musculoskeletal injury.

Study Design: Prospective Cohort Study

Methods: MRST scores were collected for 141 student athletes (mean age 18.63 ± 1.31) at USMAPS. The injury surveillance period was nine months. Students participated in regularly occurring military specific training and various sports. Mean scores were compared between injured and uninjured groups; binary logistic regression model was also completed.

Results: Seventy students sustained an injury. The top activities resulting in injury included football (36%) and basketball (11%) with injuries predominantly located in the lower extremity including the knee (24%), hip (15%), and ankle (14%). Composite MRST scores were not statistically different between injured (12.58 ± 2.16) and uninjured (13 ± 2.27) groups. There was an association between those with a personal concern for future injury and actual injury (p = .04). There was an association between those reporting a prior injury in the preceding 12 months and those incurring an injury at USMAPS (p = .04).

Conclusion: The MRST composite scores were not predictive of injury in this population. Previous injury and personal concern for injury were significant injury predictors.

Level of Evidence: 2a

Key Words: Fear of injury, injury prediction, military, previous injury

Acknowledgements: The research team would like to extend our sincere gratitude to USMAPS, Robby Vought, MS, ATC, Timothy Hansen, MS, ATC, Erin Miller, LAT, ATC, Michael R. Johnson, PT, DSc, John S. Mason, PT, DSc, Jeffery Dolbeer, PT, DSc, Traci Dolbeer, PA, Jamie Morris, PT, DSc.

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