
ORIGINAL RESEARCH

OVERHEAD DEEP SQUAT PERFORMANCE PREDICTS FUNCTIONAL MOVEMENT SCREEN™ SCORE

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ABSTRACT

Background: The Functional Movement Screen (FMS™) has been suggested for use in predicting injury risk in active populations, but time constraints may limit use of the screening test battery. Identifying one component of the FMS™ that can predict which individuals may perform poorly on the entire test, and therefore should undergo the full group of screening maneuvers, may reduce time constraints and increase pre-participation screening utilization.

Purpose: The purpose of this study was to determine if performance on the FMS™ overhead deep squat test (DS) could predict performance on the entire FMS™.

Study Design: Cohort study.

Methods: One hundred and three collegiate athletes underwent offseason FMS™ testing. The DS and adjusted FMS™ composite scores were dichotomized into low performance and high performance groups with athletes scoring below 2 on the DS categorized as low performance, and athletes with adjusted FMS™ composite scores below 12 categorized as low performance. Scores of 2 or above and 12 or above were considered high performances for the DS test and adjusted FMS™ composite score respectively, and therefore low risk for movement dysfunction and potentially, injury.

Results: Individuals categorized as low performance as a result of the DS test had lower adjusted FMS™ composite scores ($p < 0.001$). DS scores were positively correlated with adjusted FMS™ composite scores ($\rho = 0.50$, $p < 0.001$). Binomial logistic regression identified an odds ratio of 3.56 (95% CI: 1.24, 10.23, $p = 0.018$) between DS and FMS™ performance categories.

Conclusions: Performance on the DS test may predict performance on the FMS™ and help identify individuals who require further musculoskeletal assessment. Further research is needed to determine if DS performance can predict asymmetries during the FMS™.

Level of Evidence: Level 3

Keywords: Injury risk assessment, injury prevention, pre-participation examination, screening

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