ABSTRACT

Background: Rugby union is a collision sport which is associated with a high injury rate and therefore the development of effective injury prevention strategies is required.

Purpose: This study aimed to determine whether the Functional Movement Screen™ (FMS™) components can predict injury in female and male rugby union players and whether differences exist in the FMS™ scores of injured and non-injured players.

Study Design: Prospective cohort study.

Methods: Sixty-four female university rugby union players (age: 20.39 ± 1.91 years) and 55 male university rugby union players (age: 21.05 ± 1.35 years) completed the FMS™ which assesses seven functional movements on a scale of 0 to 3 and provides a total or composite score out of 21. Players were subsequently monitored for injury during the season and injury rates calculated.

Results: The training injury rates for females were 5.80 injuries/1000 hours and males 5.34 injuries/1000 hours while the match injury rates for females was 55.56 injuries/1000 hours and males 46.30 injuries/1000 hours. FMS™ composite score demonstrated a significant difference between injured females and non-injured males (p = 0.01) and a combined sample comparison of injured and non-injured subjects was significant (p = 0.01). FMS™ composite score was not a good predictor of injury however as FMS™ individual components predicted 37.4% of the variance in total days injured in females. ROC curve analysis revealed an injury cut off score of 11.5 for females and males and provided a sensitivity and specificity of 0.90 and 0.86 and 0.88 and 1.00 respectively. The combined sample FMS™ composite score of ‘multiple injuries’ participants demonstrated no significant difference between non-injured (p = 0.31) and single injury subjects (p = 0.76).

Conclusion: Injury rates between female rugby and male rugby were similar with match injury rates higher in females. The FMS™ can be used to identify those players with the potential to develop injury and the FMS™ injury cut off point was 11.5 for both female rugby and male rugby players. Individual components of the FMS™ are a better predictor of injury than FMS™ composite score.

Key words: Female, Functional Movement Screen™, injury, male, rugby union

Levels of Evidence: 2b.

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Conflict of interest
The authors report no conflicts of interest.