

Bond University
Research Repository



The Functional Movement Screen as a Predictor of Police Occupational Task Performance

Bock, Claire; Stierli, Michael; Orr, Rob Marc

Published: 15/10/2014

Document Version:
Peer reviewed version

[Link to publication in Bond University research repository.](#)

Recommended citation(APA):

Bock, C., Stierli, M., & Orr, R. M. (2014). *The Functional Movement Screen as a Predictor of Police Occupational Task Performance*. Poster session presented at Be Active Conference 2014, Canberra, Australia.

General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

For more information, or if you believe that this document breaches copyright, please contact the Bond University research repository coordinator.

THE FUNCTIONAL MOVEMENT SCREEN AS A PREDICTOR OF POLICE OCCUPATIONAL TASK PERFORMANCE

¹Bock, C., ²Stierli, M., ²Hinton, B. & ¹Orr, R.

¹ Bond University ² New South Wales Police Force

Corresponding Author: clairebock@student.bond.edu.au



Purpose

The occupational task requirements of the tactical athlete (e.g. military personnel, firefighters and police officers) impose significant physiological stressors in diverse and challenging environments. Poor performance of these tasks have the potential to cause injuries and reduce the chance of mission success; both of which impact on the ability of the tactical athlete to maintain optimal performance across the lifespan.

Poor movement quality has already been associated with increasing the potential for injury [1]. What is not yet known is whether poor movement quality impacts on occupational task performance. This association is of importance to the tactical athlete as they are often required to carry external loads which reduce their movement quality and has been known to cause injuries [2]. On this basis, the aim of this study was to determine whether poor movement quality impacts on the tactical athlete's occupational performance.



Methods

A cohort of 53 volunteers was randomly selected from a pool of 173 police recruits attending basic recruit training.

The Functional Movement Screen (FMS), conducted in the first week of the police recruit training program, was used to assess movement quality. Four occupational measures (marksmanship, baton strikes, defensive tactics and tactical options), completed over the 12 week police recruit training program, served as a measure of typical police occupational tasks.

SPSS Version v.20 statistical software package (SPSS Inc., Delaware, USA) was used to conduct independent sample t-tests to detect differences in Functional Movement Screen scores between pass/fail groups across all assessed occupational tasks. Chi-square tests were used to examine the significance of relationship between the FMS scores, converted to Pass (14+) or Fail (<14) and occupational measures. Significance was set at $p < 0.05$

Ethical approval for this research was provided by Bond University Human Resources Ethics Committee (BUHREC).

Results

FMS scores ranged from 8 to 18 points (mean = 13.96 ± 1.99 points). Of the occupational measures, 11% failed the marksmanship and baton strike assessments, 21% failed defensive tactics and 36% failed the tactical options assessment.

Only the tactical options assessment approached a significant difference ($p=0.077$) between movement performance and occupational task scores for passing and failing recruits.

Similar results were found between FMS scores when graded as pass (14+) or fail (<14) with the tactical options measure being the only measure to approach significance ($p=0.057$) (Figure 1).

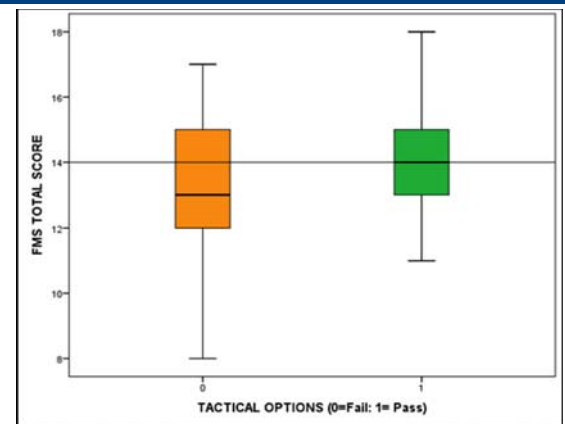


Figure 1: Box plot for the Tactical Options occupational measure by 'fail' and 'pass' sub cohort Functional Movement Screen scores.

Conclusion

Completion of tasks containing dynamic and functional movement patterns is an occupational requirement for tactical athletes like police officers, with poor movement patterns possibly leading to decreased performance and injury in some of these tasks.

Previous research has indicated that the Functional Movement Screen is a reliable tool for identifying poor movement patterns. The current study suggests that poor movement patterns, as measured by the Functional Movement Screen may not predict poor occupational performance in marksmanship, defensive tactics and baton strikes assessments, but may in tactical options assessments.

References

1. Orr, R., Pope, R., Johnston, V., & Coyle, J. (2011). Load carriage and its force impact. *Australian Defence Force Journal: Journal of the Australian profession of arms*, 185, 52-63.
2. O'Connor, F. G., Deuster, P. A., Davis, J., Pappas, C. G., & Knapik, J. J. (2011). Functional movement screening: predicting injuries in officer candidates. *Med Sci Sports Exerc*, 43(12), 2224-30.
3. Chapman, R. F., Laymon, A. S., & Arnold, T. (2014). Functional Movement Scores and Longitudinal Performance Outcomes in Elite Track and Field Athletes. *International Journal of sports physiology and performance*, 9(2):203-211