## National Sport and Human Performance Conference

## University of Limerick

## 29th September 2023

**Sample Abstract**

**Effectiveness of functional movement screening in predicting injury rates amongst soccer players**

**Smith, P. & Hanlon, M.**

**Department of Sport and Exercise Sciences, University of Limerick**

**Introduction**

The use of screening tests to assess an athlete’s risk of injury has become more prevalent, with one specific seven-test Functional Movement Screen (FMS) (Cook et al., 2006) gaining popularity in recent years. Research has linked lower FMS scores with increased injury prevalence, with a score of 14 reported to be the cut-off point for possible increased injury risk (Kiesel et al., 2007; Chorba et al., 2010). However, such studies included limited analysis of injury types, severities and other relevant factors. This research attempted to identify if FMS tests can be used to predict the likelihood of various injury types/severities in soccer players.

**Method**

A sample of 116 senior League of Ireland players participated. Participants were assessed on the seven FMS tests (Cook et al., 2006), and then tracked throughout the 2014 season to monitor injury occurrence rates and soccer activity exposure. Odds ratios were determined to establish the likelihood of different injury types/severities occurring based on FMS score. Differences in mean FMS scores between injured and non-injured players were also analysed.

**Results**

109 injuries were recorded. 66 of the injuries recorded were non-contact injuries with 64% occurring during matches and an average time loss absence per injury of 12.4 days. The mean FMS scores for injured (n=58) and non-injured players were 16.31 and 16.15, respectively (out of a maximum possible score of 21). 40 players received a non-contact injury with a mean FMS score of 16.32. No significant difference was found between the mean scores of injured/non-injured players and contact/non-contact injuries (p>0.05). The odds ratio of a player scoring 14 or less on the FMS receiving a contact injury was 0.80; for non-contact injuries this reduced to 0.57 (see Table 1).

**Table 1: Table title**

|  |  |  |  |
| --- | --- | --- | --- |
| FMS Score | 10-m time (s) | Vertical jump (cm) | Number of injuries |
| ≥ 14 | 12.61 ± 0.75 | 34.3 ± 4.1 | 45 |
| <14 | 12.91 ± 0.68 | 32.1 ± 4.3 | 39 |

**Conclusions**

Contrary to previous research reporting an 11.7 times increase in the likelihood of receiving an injury for scores of 14 or less (Kiesel et al., 2007), the results of this study suggest there is no increase in the likelihood of an injury occurring. Similarities in injury rates between low and high FMS scorers were present both when all injuries were pooled and when contact injuries and non-contact injuries were assessed separately.

**Practical Applications**

Practitioners should consider that the previously reported strong links between FMS score and injury risk were not present in this population of soccer players.

**References**

Chorba, R.S. et al. (2010). *N Am J Sports Phys Ther,* 5(2), 47-54.

Cook, G. et al. (2006). J Sport Sci*,* 1(2), 62-72*.*

Kiesel, K. et al. (2007). J. *Mot Behav,* 2(3), 147-158.