

Functional Movement Screen test (FMS™): A reliable screening test for young elite hockey players

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Purpose and relevance

Ice hockey is one of the most popular sports practiced by teenagers in Canada and young athletes aged 12-17 are highly vulnerable to injuries. Overuse injuries could be avoided if core strength and movement pattern deficits are detected precociously. The purpose of the Functional Movement Screen (FMS™) test is to evaluate trunk stability and motion quality while performing functional movements. The reliability of the FMS™ has been documented in adult football players. The aim of our study was to determine inter-rater and intra-rater reliability of the FMS™ test among young elite hockey players.

Methods

Twenty-eight male hockey players aged 13-16 were evaluated by four FMS™ qualified raters. Inter-rater reliability was evaluated by two field raters (on the field). All performances were videotaped. Two other raters evaluated the videos once and then again 7 weeks later to determine intra-rater reliability. A weighted kappa statistic was used to analyze intra-rater and inter-rater reliability of each FMS™ subtest, while an intra-class correlation coefficient was calculated for the total score.

Results

The video raters demonstrated excellent intra-rater reliability for the total score, with intra-class correlation coefficients of 0.960 (CI 95% 0.916-0.981) and 0.959 (CI 95% 0.914-0.981). The field raters achieved excellent inter-rater reliability for the total score, with intra-class correlation coefficients of 0.962 (CI 95% 0.920-0.982). Subtest analysis showed good agreement among all four raters for five of the seven main subtests.

Conclusion and implications

In the current context of evidence-based medicine, physiotherapists are strongly encouraged to use assessment tools that are documented for their psychometric properties. Our study demonstrates that FMS™ is a reliable test for young elite hockey players. Further research should be done to assess the predictive validity of the FMS™ test within this population so that physiotherapists may eventually use it as an injury prevention tool.

Key words

Hockey, reliability, trunk stability