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Performance in the Deep Squat Test and the risk of musculoskeletal injuries: a systematic review

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ABSTRACT

Introduction: Deep Squat Test (DS) is a functional test frequently used in risk classification protocols for musculoskeletal injuries in physical activities. Objective: To systematically evaluate the literature on the validity of DS as a predictor of musculoskeletal injuries. Method: A search without language or time filters was carried out on the Medical Literature Analysis and Retrievel System Online (MEDLINE), Scientific Electronic Library Online (SciELO), Physiotherapy Evidence Database (PEDro) and Virtual Health Library (BVS) databases with the following title words: injury prediction, injury risk and deep squat. We included prospective studies of DS as a risk classification test for musculoskeletal injuries during the practice of physical activities until December 2016. The participants' profile, sample size, classification of musculoskeletal injuries, follow-up time, study design and results were extracted from the studies. The bias risk analysis was performed with the Newgate-Ottawa Scale. Results: Five studies were included, using different analyzes, whose results varied. The odds ratio ranged from 1.21 to 2.59 (95% CI = 1.01 - 3.28). The relative risk was 1.68 (95% CI = 1.50 - 1.87), sensitivity from 3 to 24%, specificity from 90 to 99%, PPV from 42 to 63%, NPV from 72 to 75% and AUC from 51 to 58%. Conclusion: DS is a test whose presence of movement dysfunctions is a predictor of the risk of musculoskeletal injuries in individuals who practice physical activities. However, due to the methodological limitations presented, caution is suggested when interpreting such results.