

IS PRE-PERFORMANCE MASSAGE EFFECTIVE TO IMPROVE MAXIMAL MUSCLE STRENGTH AND FUNCTIONAL PERFORMANCE? A SYSTEMATIC REVIEW

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ABSTRACT

Background: Although pre-performance massage is frequently used in sports settings, the evidence regarding its effects on muscle strength and functional performance is equivocal.

Purpose: The purpose of this systematic review was to synthesize the findings of randomized controlled trials (RCTs) investigating the effects of pre-performance massage on strength and functional performance.

Study Design: Systematic review with qualitative analysis.

Methods: Eight electronic databases were searched from inception until June 2017. Methodological quality of included studies were assessed using Physiotherapy Evidence Database scale. Data was synthesized qualitatively.

Results: Nine crossover RCTs with varied methodological qualities met inclusion criteria. Six out of nine studies had low quality, while two were of moderate-quality and one was high-quality. Following the descriptive analysis using within-group effect sizes of interventions used in included studies, no evidence was found to support the use of any kind of massage interventions (passive manual massage or self-massage) to enhance maximal strength, sprint or jump performances of young healthy subjects. In fact, there appears to be limited evidence which implies the negative effects of passive manual massage. In particular, longer-duration (> 9 minutes) of massage interventions tended to result in negative effects on lower-limb maximal strength, sprint performance and jump height.

Conclusion: In conclusion, the use of longer-duration pre-performance massage cannot be recommended for enhancing young athletes' strength and performance in sprint and vertical jump. More high-quality RCTs are necessary to examine overall effects of pre-performance massage on athletes' performance.

Level of Evidence: 1a

Key Words: Functional performance, muscle strength, pre-performance massage, systematic review

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The authors declare that they have no conflicts of interest related to this work.