

STATIC STRETCHING DOES NOT REDUCE VARIABILITY, JUMP AND SPEED PERFORMANCE

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ABSTRACT

Background: Stretching is often part of the warm-up routine prior to athletic participation; however, controversial evidence exists on the effects of stretching on countermovement jump (CMJ) and sprint performance. Additionally, analysis of variability between repeated tasks is useful for monitoring players, to analyze factors that could affect the performance, and to guide clinical decisions for training strategies.

Purpose: The purpose of this study was to examine whether static stretching (SS) prior to CMJ and 20-meter (20-m) sprint would affect performance, and to investigate whether SS affects an athlete's ability to perform these tasks consistently.

Methods: Twenty-two trained healthy athletes (23.2 ± 5.0 years) attended, randomly, two testing sessions, separated by 48 hours. At session one, all participants underwent 10 minutes of dynamic running warm-up followed by the experimental tasks (three CMJ and three 20-m sprint), whereas five minutes of stretching was added after the warm-up routine at session two. All participants performed the same experimental tasks in both sessions. The stretching protocol consisted of five stretching exercises for each lower limb.

Results: The paired-samples t-test revealed no significant differences between the stretching protocol condition and no stretching condition for the 20-m sprint ($t(21) = .920$; $p = .368$) and CMJ ($t(21) = .709$; $p = .486$). There were no significant differences in trial-by-trial variability on 20-m sprint ($t(21) = 1.934$; $p = .067$) and CMJ scores ($t(21) = .793$; $p = .437$) as result of SS.

Conclusion: The SS protocol did not modify jumping and running ability in trained healthy athletes. The SS prior to training or competition may not cause detrimental effects to athletic performance.

Keywords: Counter movement jump, sports performance, sprint, static stretching, variability.

Level of evidence: Level III, Nonrandomized controlled trial.

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