Abstract

Acute Effect of Two Different Post-Activation Potentiation Running Protocols on Sprint Performance of Preadolescent Boys †

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† Presented at the 9th Greek Conference of Biochemistry and Physiology of Exercise, Thessaloniki, Greece, 18–20 October 2019.

Published: 3 September 2019

Abstract: AIM: Forward and backward sprint are two types of locomotion commonly used in sports. The purpose of the present study was to examine the acute effect of two post-activation potentiation sprint protocols, including the aforementioned types of locomotion, in subsequent 20-m sprint performance (SP) and the possible fatigue caused by them in preadolescent boys.

MATERIAL & METHOD: Fourteen recreationally active preadolescent boys (aged 12.49 ± 0.52 years) volunteered to participate in the study. Boys’ SP was evaluated randomly on three non-consecutive days. SP was evaluated 4 min after (a) a typical warm-up (3 min jogging and dynamic stretching), (b) the typical warm-up followed by 3 x 10 m forward sprint and (c) the typical warm-up followed by 3 x 10 m backward sprint. The Microgate Witty Wireless Training Timer was used for the evaluation of SP and the 10-degree OMNI scale for the evaluation of the rate of perceived exertion.

RESULTS: ANOVA with repeated measures indicated no statistically significant effect of protocol on the 0–5, 0–10 and 0–20 m SP (p > 0.05). On the contrary, it was found that the protocols in which 3 x 10 m forward or backward sprint was incorporated caused statistically significant greater fatigue than the control protocol (p < 0.001), without any differences between them.

CONCLUSIONS: The implementation of three 10-m sprints, either forward or backward, to a standard warm-up does not cause acute improvement in 20-m sprint performance in preadolescent boys, as both protocols cause greater fatigue than a typical warm-up. Therefore, their addition to warm-up of preadolescent boys is not recommended.

Keywords: preadolescence; post-activation potentiation; sprint performance; fatigue

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