



Effect of warm-up (general and post-activation potentiation) on vertical jump and jump-landing technique of persons with trunk dysfunction

Poster Presentation

1Zahra Ghahremani * ; 1Hassan Daneshmandi; 2Mehrdad Anbarian

¹Department of sport injury and corrective exercises, Faculty of sports sciences, University of Guilan, Rasht, Iran
(z.ghahremani20@gmail.com)

²Department of sports biomechanics, Faculty of sports sciences, Bu-Ali Sina University, Hamedan, Iran

Abstract

Introduction: The purpose of the present study was to assess the Comparison of the acute effect of warm-up protocols (general and post-activation potentiation) on vertical jump performance and jump-landing technique in female handball players with trunk dysfunction.

Methods: Twelve trained handball female players with trunk dysfunction (age: 23 ± 2.7 years, weight 58.5 ± 7.5 Kg, height 163.7 ± 5 cm) participated voluntarily in this study. Subjects performed three difference warm-up protocols on three separate days randomly: 1- general warm-up protocol (running on treadmill with 9 km/h speed for 5 minutes and stretch movements for 3 minutes), 2- general warm-up with 2 repetitions of dynamic half-squat at %90 1RM, 3- general warm-up with 2 repetitions of static half-squat at %90 1RM. In fifth minutes of recovery period after 3 protocols, subjects performed vertical jump and the Landing Error Scoring System (LESS) tests, and LESS scores, valgus and flexion angles, and vertical jump height was extracted. ANOVA with repeated measures was used for statistical data analysis

Results: The jump height increased significantly after performing the second and third protocols (post-activation potentiation) relative to general warm-up ($p=0.047$ and $p=0.039$, respectively), but we didn't found a significant difference in LESS score, valgus and flexion angles for three protocols ($p \geq 0.05$).

Conclusion: It seems that the special warm-up method by post-activation potentiation (dynamic and static half-squats) can lead to improvement of athlete's vertical jump performance without any changes in rate of anterior cruciate ligament injury risk. therefore, this method can be used by the coaches to improve sports performance of athletes and play an important role in their success during training and competitions.

Keywords

Post-activation potentiation; trunk dysfunction; landing

Reference:

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