

Acute effects of static stretching on jump performance

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Use of stretching protocols in sport practice is widely adopted in the most part of sports. Muscular elongation is commonly accepted as a part of the warm-up and cool-down phases, as well as an important element for lowering the risk of injuries and improving the quality of performance. However several studies called the real contribution of stretching on motoric performance into doubt.

The aim of our study, hence, is to further examine, through protocols and standardized measurements, acute effects of static stretching on jump performance.

Sixty-two volunteer subjects (42 male, 20 female; age 21.01 ± 6.44 years; height 172.29 ± 10.55 cm; weight 64.95 ± 10.9 kg) underwent three different jump tests. According to two randomized procedures' protocols, in non consecutive days, they executed specific static stretching exercises for lower limbs after two different warm-up protocols, including (P2-Stretching) and not including (P1-No stretching) muscular elongation. Jump's performances were recorded by Microgate OptoJump system.

Data comparison after the administration of the mentioned protocols demonstrated a impairment of jump height and duration in P2-No stretching compared to P1-Stretching group (mean decrease 5.48%). Results of the present study confirm that acute static stretching lacks of positive effect on jump performance. Our results can be explained by mechanical (reduction of overlapping between actin and myosin filaments) and nervous (reset of Golgi's muscle-tendinous organs and of neuromuscular fuses) adjustments.

References

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Keywords

Stretching, sport, performance, warm-up, jump test.