



Investigation of Plyometric and Endurance training on Athletic Performance in Female Elite Rowers

Oral Presentation

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Abstract

Introduction: Plyometric training is defined as a quick, powerful movement involving a system of reactive exercises and an eccentric contraction, followed immediately by an explosive concentric contraction. This study aimed to determine the effect of plyometric and aerobic training on peak power and performance in female elite rowers.

Methods: Sixteen female elite rowers with a minimum of 1 year's competitive rowing experience were recruited to perform six weeks of plyometric or cycling endurance training for 30 minutes before practice on the water three days per week. Rowing performance was assessed through a 500-m rowing time trial (TT), while peak rowing power (RP) was evaluated by measuring the oxygen cost over four work rates (90, 120, 150, and 180 W). All statistics were performed using commercially available software (SPSS v. 23, Armonk, NY). Independent samples t tests were used to determine changes between the two groups.

Results: The results showed 500-m TT performance significantly improved for the plyometric group ($p < 0.05$) but not for the endurance group ($p > 0.05$). Moreover, RP was considerably higher in the plyometric group than the endurance training.

Conclusion: These results suggest that plyometric can improve rowing performance in female elite rowers, and rowing coaches should continue using this form of training. Plyometric can be performed by coaches in conjunction with other methods of strength training or as a warm-up before beginning rowing-specific training. However, further research is needed to determine whether plyometric can improve 2-km rowing performance and performance of other populations.

Keywords

Plyometric training; performance; Female Elite Rowers

Reference:

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