The Effect of 8 Days of Training in Tropical Environment on Performance in Neutral Climate in Swimmers

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Abstract

The tropical climate imposes a high level of physiological stress during exercise. As a result of this stress, adaptations may be induced and could benefit athletes upon return to a neutral climate. To test this hypothesis, climate effects on swimming performance were assessed in 16 swimmers: 6 trained for 8 days in a tropical climate, 6 trained for 8 days at altitude, and 4 served as a tapering group. The swimming performance was assessed during a 400-m freestyle before the experimental period, and at 10 days and 30 days after. The results demonstrated that only the tropical group increased performance (10.0 ± 4.2 %, p < 0.03 for the tropical group 30 days after return). No significant change in performance was noted for the two other groups 10 or 30 days post-training. The results of the present study demonstrated that training in a tropical climate significantly enhances performance in swimmers 30 days after return to neutral climate. However, further studies are needed to evaluate the effects of such a climate on performance in other sports.

Key words

Swimming - performance - heat - altitude - training