EFFECTS OF CRYOTHERAPY ON MUSCULAR POWER

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The purpose of this research project was to evaluate the effects of cryotherapy on the recovery of muscular power. Eight healthy male student-athletes who currently participated in physical activity on a regular basis were recruited to participate as subjects. Each subject participated in four exercise sessions and performed the Wingate Anaerobic Power Bicycle Test twice during each of the exercise sessions. During one exercise session, subjects rested for two minutes between performances of the Wingate Anaerobic Power Bicycle Test. During one exercise session, subjects rested for two minutes between performances of the Wingate Anaerobic Power Bicycle Test, including one minute of cryotherapy. During one exercise session, subjects rested for ten minutes between performances of the Wingate Anaerobic Power Bicycle Test. During one exercise session, subjects rested for ten minutes between performances of the Wingate Anaerobic Power Bicycle Test, including nine minutes of cryotherapy. Cryotherapy involved placing both legs in a whirlpool at ten degrees C. Heart rates were measured before, during and after each exercise session. Peak anaerobic power and anaerobic capacity were calculated for each performance of the Wingate Anaerobic Power Bicycle Test. Heart rate was substantially increased in response to exposure to cryotherapy, but otherwise, heart rate responses were consistent. Cryotherapy improved both peak anaerobic power and relative peak anaerobic power. There was a slight decline in both anaerobic capacity and relative anaerobic capacity with cryotherapy. These results indicate that cryotherapy may improve power performance during exercise of extremely short duration.