

## Effect of different methods of active recovery after high-intensity exercise on intermittent exercise performance of soccer referees / Takuma Yanaoka, Tetsuhiro Kidokoro, Kanako Edamoto, Kyoko Kashiwabara, Jumpei Yamagami, Masashi Miyashita

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### Abstrak

This study aimed to examine the effect of different methods of active recovery (AR) after high-intensity exercise on exercise performance, determined with the Yo-Yo Intermittent Recovery Test level 2 (Yo-Yo IR2) in soccer referees. Using a crossover design, fourteen male soccer referees completed three trials. After resting for 10 min, participants ran approximately 495 meters (m) at 80% of maximum heart rate (HRmax) and, ran approximately 165 m at 90% of HRmax. This was followed by 15 min of passive recovery (control), 15 min of running at 130 beats/min (continuous AR), or 15 min of intermittent AR consisting of alternating 2.5 min intervals of passive recovery and running at 130 beats/min, repeated for 15 min (intermittent AR). Finally, participants performed the Yo-Yo IR2. Blood lactate and salivary cortisol concentrations were determined immediately after the rest, high-intensity exercise, recovery intervention and Yo-Yo IR2 periods. The Profile of Mood States (POMS) Questionnaire was measured after rest and Yo-Yo IR2. Yo-Yo IR2 performance was significantly higher in the intermittent AR trial than in the control trial. Blood lactate concentrations were significantly lower in the continuous and intermittent AR trials than in the control trial after the recovery intervention. No significant between trial differences were observed in salivary cortisol concentrations. The fatigue score using the POMS increased significantly during the control and continuous AR trials, but not during the intermittent AR trial. In conclusion, AR with intermittent exercise after high-intensity exercise increases Yo-Yo IR2 performance compared to passive recovery.