

Boonsita Saiwuttigool 2011: Effects of Oxygen Inhalation and Active Recovery upon Oxygen Saturation, Blood Lactate and Performance of Futsal Players. Master of Science (Sports Science), Major Field: Sports Science, Interdisciplinary Graduate Program. Thesis Advisor: Miss Apasara Arkarapanthu, Ph.D. 91 pages.

The purpose of this research was to analyze the effects of oxygen inhalation and active recovery. The subjects consisted of twelve futsal players aged 18-22 years, from Kasetsart University. Random order cross over design was used in this study. The subjects performed a futsal simulation game four times. Each time consisted of 3 sets of 5:30 minutes of exercise follows of 5:30 minutes of recovery. During the recovery periods subjects performed one of the following methods for 1) oxygen inhalation combined with active recovery 2) oxygen inhalation 3) active recovery 4) sit. The experiment was repeated with diverse methods of recovery with a minimal interlude of two days. All subjects completed all four recovery methods in random order. Oxygen saturation, minute ventilation, tidal volume, respiratory rate, heart rate, running speed, and ball-passing accuracy were recorded and blood samples were collected. The obtained data was analyzed to means and standard error. One-way analysis of variance with repeated measure were used. P-values of 0.05 of significant were set.

The data revealed significant differences in oxygen saturation, minute ventilation, tidal volume and heart rate among the methods of recovery. Significant difference in blood lactate were found after performed the third futsal simulation game. Running speed of the highest value was retained when oxygen inhalation recovery method was used. The oxygen inhalation combined with active recovery method resulted in highest the ball-passing accuracy compared to the first set. The results of this research can be used as guidance for a short-term recovery method during competitions of intermittent sports like futsal.

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