

Bunhan Witchayapiti 2014: Effect of Repeated Sprints Training in Hypoxic and Hyperoxic Conditions on Anaerobic Performance in Team Sports Players. Master of Science (Sports Science), Major Field: Sports Science, Faculty of Sports Science. Thesis Advisor: Assistance Professor Ratee Ruangthai, Ed.D. 116 pages.

The purpose of this research was to study the effect of repeated sprints training in hypoxic and hyperoxic conditions on anaerobic performance in team sports players. Twenty-four male team sports players age between 19-23 years of Faculty of Sports Science Kasetsart University were the subjects of the research. During 6 weeks 2 times per weeks, the subject performed repeated sprints training for 3 set, 7 times per set, in each times included maximum sprint for 5 second separated by active recovery for 55 second, and rest 3 minutes between set . They were divided into 3 groups and training the repeated sprints with the different amount of oxygen in the air (normoxic, hyperoxic and hypoxic). All of the subjects were tested for weight, height, rest heart rate and serum iron before the training and after the sixth week of training. Peak power, mean power and fatigue index were tested before the training and after the third and the sixth week of training. Lactic accumulation were tested after the first training and after the final training. Data were analyzed with One Way Analysis of Variance with Repeated Measures, Two Way Analysis of Variance and Tukey's multiple comparison test at $p < 0.05$

The results shown that the peak power, mean power, fatigue index and lactic accumulation in repeated sprints training in normoxic, hyperoxic and hypoxic groups before the training and after the third and the sixth week of training were significantly within groups at $p < 0.05$. The different in amount of oxygen in the air was improved in different ways. Peak Power was improved the most by repeated sprints training in normoxic group, Mean Power was improved the most by repeated sprints training in hypoxic group and Fatigue Index was improved the most by repeated sprints training in hyperoxic group. However, the comparison of each groups, peak power, mean power, fatigue index and lactic accumulation, were not significantly difference at $p < 0.05$. These findings suggested that amount of oxygen different in the air is improved not different. Therefore, the coaches can select the any type for training.

Student's signature

Thesis Advisor's signature