

## عنوان مقاله:

The Effect of ۲-Day Intermittent Hypoxia-Hyperoxic Training on Anaerobic Metabolism

## محل انتشار:

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## خلاصه مقاله:

Background: Researchers have studied practical applications of high-intensity interval training and hypoxic training. PGC-1 $\alpha$ , IGF-I, and HIF-1 $\alpha$  are generated from high-intensity interval training and affect muscle cells. Altitude training also produces HIF-1 $\alpha$ , which induces erythropoietin and increases the number of red blood cells. However, due to the limit on training intensity and cycle, it was replaced by normobaric hypoxia training. Purpose: To investigate the effects of ۲-day high-intensity interval training on muscular anaerobic metabolism at varying oxygen concentrations for ۲ days. Method: Ten subjects performed ۲ consecutive days of intermittent hypoxia-hyperoxic training (IHHT); intensity of training was determined by the sprint test results. IHHT comprised ۴ sets of ۳ repetitions for ۴۰ seconds (۴ × ۳ × ۴۰ s); the intensity and oxygen concentration were ۸۰% of maximal effort and ۱۳% oxygen for the first and third sets, and were ۹۰% of maximal effort and ۲۱% oxygen for the second and fourth set; participants walked for ۳ min wearing an oxygen mask (O<sub>2</sub> ۸۰%) before each set. Differences in biological parameters between the two days of training was analyzed by t-test. Results: The difference of mean lactate levels between two days were ۰.۹۶ ± ۰.۷۵ mmol/l at Set ۳ (P = .۰۰۳) and ۱.۰۵ ± ۱.۱۲ mmol/l at Set ۴ (P = .۰۱۶), respectively. Mean ammonia concentrations at Set ۴ were ۱۱۷.۷۰ ± ۲۹.۸ μmol/l for the first day and ۹۴.۵۰ ± ۱۴.۴۵ μmol/l for the second day (P = .۰۵۷). The difference of heart rate were ۴.۲۰ ± ۵.۰۵ min<sup>-۱</sup> at Set ۱ (P = .۰۲۷) and ۴.۰۰ ± ۵.۴۸ min<sup>-۱</sup> at Set ۲ (P = .۰۴۶). Conclusions: Two-day intermittent hypoxia-hyperoxic training affected lactate and heart rate

## کلمات کلیدی:

Hypoxic, Lactate, Heart Rate

