

Interval Training: Its Effects on Resting Fat Oxidation and Body Composition in Recreationally Active College-Aged Females

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Interval training has become a popular training method among the exercise and sport field. It has been shown to cause similar physiological changes to that of endurance training, but little research has been done involving its effects on resting fat oxidation after a running, interval training protocol. **PURPOSE:** The purpose of this study is to investigate interval training and its effects on resting fat oxidation and body composition on recreationally active, college-aged females. **METHODS:** Eight recreationally active women (20.4 years \pm 1.3) participated in an interval training protocol for three weeks. Subjects were tested before (PRE), and after the completion of the 3 week training (POST). VO_{2max} tests were performed using the Bruce protocol to determine baseline measurements. Resting metabolic rate (RMR) was assessed to calculate resting fat oxidation (FAO) using the following equation: $((1.67 \cdot VO_2) - (1.67 \cdot VCO_2))$. Body composition was assessed using air displacement plethysmography. The interval training protocol consisted of a 30 second maximum effort sprint followed by a 4.5 minute active recovery, and was repeated a total of six times. Heart rate (HR) and rating of perceived exertion (RPE) were recorded after every sprint, as well as after each recovery. A one-way repeated measures ANOVA was used to analyze data. Statistical significance was set at .05. **RESULTS:** There was no difference between PRE and POST measurements of the following variables: VO_{2max} - PRE: (41.7mL/kg/min \pm 1.8) POST: (40.3 \pm 2.2); RER - PRE: (1.2 \pm .02) POST: (1.2 \pm .03); RMR - PRE: (.92 \pm .03) POST: (.93 \pm .03) FAO - PRE: (.028 \pm .01) POST: (.027 \pm .01). **CONCLUSION:** The present study found that there was no significant difference in resting fat oxidation, or aerobic capacity, after a three-week interval training intervention was implemented on recreationally active females. Further investigation should be done to assess any physiological changes effected by interval training.