

The Effects of High-Intensity Interval Training versus Steady-State Training on Body Fat and Fat Oxidation

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For many years, regular exercise has been recommended as an important strategy in the prevention and management of obesity. One of the most common strategies to tackle this problem is incorporating exercise into daily lifestyle. Recently, there has also been a growing body of evidence demonstrating that high-intensity interval training (HITT) can serve as an effective substitute to traditional steady-state (SS) training that is more endurance based. Furthermore, one of the mechanisms that may underlie some of the beneficial body composition effects of regular exercise in obesity, including both SS and HITT, is the effect of exercise training on substrate utilization. While carbohydrates and fatty acids are the dominant fuels utilized during exercise, the magnitude of their relative contribution can be influenced by diet, exercise duration, intensity and training status of the individual. **PURPOSE:** The purpose of this study was to evaluate the effects of two different types of training HITT vs. SS on body fat (BF) and fat oxidation (FAO) in recreationally active college-aged males. **METHODS:** 16 recreationally active college-aged male subjects completed one of two protocols lasting 12 sessions over a period of 8 weeks: SS group completed 30 minute treadmill of running, at 65% of their VO_2 max, while the HITT group completed 30 second sprint running followed by an immediate 4.5 minute bout of walking six times. Rating of Perceived Exertion and heart rate were recorded at each session. Subjects were tested for body composition and VO_2 max values pre- and post-training sessions. FAO, resting metabolic rate and BF were measured occurred 3 hours after the first session, session 6, and session 12. All subjects maintained >85% compliance with exercise. **RESULTS:** There was no significant difference in body composition ($t=.495$); however the loss of BF was 10% for HITT group while only 5% for SS. There was no significant difference in FAO between training groups ($t=-0.485$, $p=0.643$). **CONCLUSION:** Results showed no statistical difference in FAO between the stimuli of HITT versus SS training. However, there was a slight decrease in body fat percentage seen in the HITT group. When devising strategies to implement exercise into daily lifestyle, practitioners should consider HITT as another mode of training for clients or patients.