

CYBEX Arc Trainer Improves Work Output and Lower Body Endurance

The Effects of High-Intensity Training on the CYBEX Arc Trainer on Muscular Endurance and Work Capacity

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Introduction: Cardio training devices are typically used to improve aerobic capacity or promote weight loss. If a machine allows users to exercise at a relatively high workload, with effective resistance, then it may be possible to experience benefits other than those traditionally associated with cardio training.

Objectives: If subjects are able to exercise on a cardio device at high intensities, with significant resistance, will they experience improvements in work output and muscular endurance?

Methods:

Ten healthy male subjects exercised on a CYBEX Arc Trainer, three days per week for three weeks. The subjects followed a 19-minute high intensity routine in which they exercised at 120 strides per minute, at a significantly high resistance, for four minutes, followed by a one-minute rest interval. The process was repeated four times, completing the exercise bout.

The subjects were tested before and after the training period for steady state work capacity by recording the average watts achieved throughout the four work intervals. In addition, lower body muscular endurance was determined by executing as many complete repetitions as possible on a leg press at 75% of body weight.

Ten control subjects were tested for muscular endurance and steady state work capacity on the Arc Trainer at the beginning of the training program, and again at the end. They did not exercise during the three-week training period.



Results:

The Arc training group experienced a significant improvement in work capacity, measured as a 22% increase in steady state watt production. The control group showed no statistically significant improvement (figure 1).

The Arc training group demonstrated a significant improvement in muscular endurance by a 35% increase in leg press repetitions at 75% body weight. The control group showed no statistically significant change (figure 2).

Conclusions: Despite its classification as a cardio device, the CYBEX Arc Trainer will improve one's workload capacity while increasing lower body endurance. These will have direct benefits in performing daily activities, participating in athletic events, and reducing injury risks.

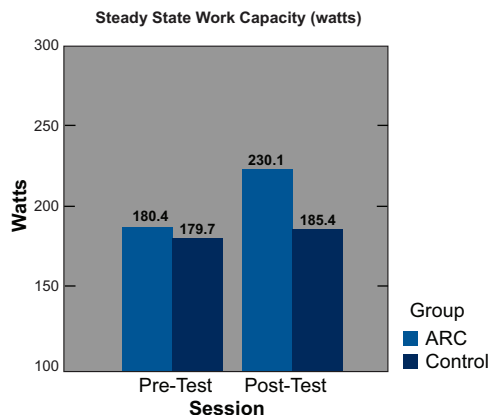


Figure 1. Work capacity (watts)

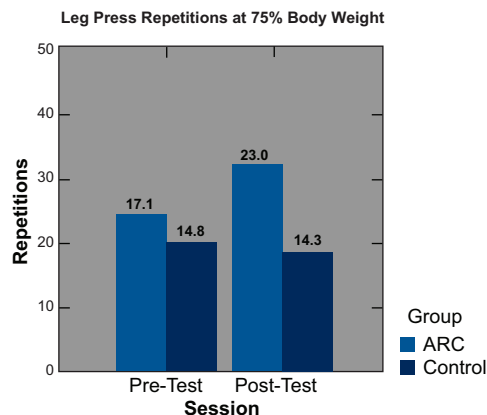


Figure 2. Muscular endurance (repetitions)



This study is available in its entirety at
www.cybexnstitute.com.