

Public Abstract

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Graduation Term:SS 2010

Department:Exercise Physiology

Degree:MA

Title:ECCENTRIC AND CONCENTRIC RESISTANCE EXERCISE INDUCED CHANGES ON INSULIN SENSITIVITY AND INFLAMMATION

The purpose of this study was to break down weight lifting into the two different phases of muscle contraction (the muscle elongation phase [eccentric] and the muscle shortening phase [concentric]) and measure the effects on insulin sensitivity and inflammation. Seven overweight, sedentary subjects completed an eccentric-only workout and seven different overweight, sedentary subjects completed concentric-only workout. Insulin sensitivity was measured before the exercise session and after the exercise session using a test that was similar to the test administered for diagnosing diabetes. Inflammatory markers in the blood were also measured before and after the exercise session to examine whether or not exercise-induced inflammation played a role in any observed changes on insulin sensitivity. The two different exercise sessions showed a slightly opposing response on insulin sensitivity and showed a similar response in inflammation. These results lead to the conclusion that inflammation was not the primary cause of any observed changes in insulin sensitivity after resistance exercise. Further research is warranted on this topic with the goal of a better understanding how resistance exercise affects insulin sensitivity.