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### **Influence of Acute Resistance Exercise on Glycemic Control**

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**PURPOSE:** To study the effects of resistance exercise on the body's ability to regulate blood sugar in active, resistance trained, college students **METHODS:** The study included eight participants (2 female, 6 male; age: 20.63 years; mass: 80.98 kg; height: 173.31 cm; % fat: 16.73%). Initially, informed consent, 10-repetition maximum (10-RM) for the three resistance exercises (squat, bicep curl, and bench press) and demographic measurements were obtained. Subjects completed three trials on separate days. One resting trial and two exercise trials (squat only, full body: all three exercises) were completed. The subjects performed five sets (6 reps/set) using the 10-RM load. In each trial, the subject consumed a 25% carbohydrate beverage (4ml/kg of body mass) after completion of exercise. All trials (resting included) involved a 75-minute oral glucose tolerance test (OGTT). Blood glucose (BG), heart rate (HR), blood pressure (BP) and blood lactate (BL) measures were collected before and following exercise. Blood pressure, and HR were also measured following the OGTT. **RESULTS:** OGTT response was not significantly different based on trial. Area under the curve (AUC) did not differ significantly by trial. Resting AUC was 5.8% greater than the squat only trial and 2.5% greater than the full body trial. There were no significant differences between exercise trials for BL, HR, or mean arterial pressure (MAP). Rate of perceived exertion was significantly greater for full body ( $15.88 \pm 1.81$ ) vs. squat ( $13.63 \pm 1.06$ ). **CONCLUSIONS:** Resistance exercise was not shown to significantly affect glucose regulatory response during recovery. The volume of active muscle did not seem to influence the OGTT response. Resistance exercise may not be as potent as aerobic exercise in promoting acutely enhanced glycemic control. Future investigations into post-exercise glycemic control should be expanded to include a larger sample size and varied resistance exercises.