The Effect of Training Status on Glycemic Control in a Collegiate Population
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**PURPOSE**: To measure the differences in blood glucose regulation following an oral glucose tolerance test (OGTT) between Division II aerobic and anaerobic athletes and a comparable sedentary population.

**METHODS**: Aerobically trained (n=6), anaerobically trained (n=6) and sedentary (n=6) volunteers participated in the study. After completing a 12-hour fast, 10-min incremental blood glucose (BG) measurements were recorded over 80-min following consumption of a 300ml dextrose beverage (dosed 1.5g/kg of body mass). The YMCA Cycle Ergometer protocol was utilized to estimate VO$_{2\text{max}}$.

**RESULTS**: Aerobic athletes displayed a significantly smaller (p<0.05) area under the glucose curve (AUGC) when compared to anaerobic and sedentary groups. No significant differences for glycemic control were present between the anaerobic and sedentary groups. A significant positive correlation (r = 0.75) was shown between BMI and AUGC (p<0.01). A moderate, but non-significant negative correlation (r = -0.463) between estimated VO$_{2\text{max}}$ and AUGC was observed.

Data are mean ± S.D. AUGC expressed in arbitrary units (a.u.).

**CONCLUSION**: Aerobic athletes displayed a significantly more efficient glucose metabolism, and an aerobic-based training program with goals to improve BMI may serve most beneficial for individuals with Type 2 Diabetes Mellitus or pre-diabetic symptoms.