

Public Abstract

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Title:Exercise and Glycemic Control in Individuals with Type 2 Diabetes

Type 2 diabetes (T2D) and the associated impaired glycemic control greatly increases the risk of cardiovascular disease mortality. **PURPOSE:** It is unknown if or for how long a single bout of exercise will reduce post-prandial glucose levels in individuals with T2D. **METHODS:** We recruited 9 individuals with T2D who were not using exogenous insulin and were sedentary. The subjects consumed a eucaloric diet containing identical food components at each meal during two separate 3 day trials while wearing CGMS monitors to continually monitor blood glucose levels. During one 3 day trial the subjects performed one 60 minute, supervised exercise bout (60% of heart rate reserve) prior to breakfast on the morning of the first day. During the second 3 day trial, the subjects maintained their sedentary lifestyle (sedentary). **RESULTS:** A comparison of the 2 trials revealed that one bout of exercise did significantly reduce the glucose AUC for the 2nd meal post exercise. There was also a decrease in 24 hour average blood glucose level for the first day after the exercise bout ($p=0.003$). **CONCLUSION:** These results suggest that one moderate-intensity bout of aerobic exercise is effective in significantly improving glycemic control in subjects with T2D, however the improvement only seemed to last for a single day.