INTRODUCTION: Maximal oxygen consumption (VO2 max) is the maximum capacity of the body to transport and utilize oxygen during incremental exercise.

PURPOSE: The purpose of this study was to determine the effects of supplementing nitric oxide has on an individual performing a VO2 max test.

METHODS: Five men (mean age 23.2 ± 1.7 years, height 71.2 ± 2.2 inches, weight 93.12 ± 3.9 kg) that attend The University of Texas at Arlington volunteered to participate in this study. Each subject had blood pressure taken manually with a stethoscope and blood pressure cuff at rest (mean systolic pressure 114.6 ± 8.4 mmHg, diastolic pressure 74.6 ± 2.6 mmHg). Before each subject performed a graded exercise test on the treadmill, they had the informed consent form read to them and given a questionnaire. Upon completion of the questionnaire each subject signed the informed consent form. Next, each subject was given either the supplement (Nitric Oxide) or the control (Vitamin-C) and waited 30 minutes before the graded maximal test could be performed. Prior to the exercise, resting measurements of heart rate (HR), blood pressure (BP), and rate of perceived exertion (RPE) were recorded every 3 minutes. The subjects went through the same protocol with the other supplement on a separate day within 3 days.

RESULTS: The t-test was used to analyze the data in the graded exercise test showed no significant differences between VO2max (p = 0.555), SBP (p = 0.134), DBP (p = 0.260), HR (p = 0.454), and total time of the exercise (p = 0.604). The mean placebo VO2max resulted in 39.76 ± 4.8 mL/kg/min, systolic blood pressure (SBP) max 184.2 ± 10.6 mmHg, diastolic blood pressure (DBP) max 78.8 ± 5.4 mmHg, max heart rate (HR) 190.4 ± 6.8 BPM, and time 11:08 ± .02 minutes. The mean nitric oxide supplementation of VO2max resulted in 38.8 ± 4.2 mL/kg/min, systolic blood pressure (SBP) max 177 ± 2.4 mmHg, diastolic blood pressure (DBP) max 73.8 ± 5.2 mmHg, max heart rate (HR) 187.2 ± 9.7 BPM, and time 11:20 ± .04 minutes.

CONCLUSION: These results indicate that there was no significant difference in VO2max, SBP, HR, and duration of the exercise test. The results also indicate that there was no significant difference in supplementing nitric oxide during VO2 maximal testing.