Effects of C4 on Maximum Testing During Bruce Protocol

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Abstract

The Bruce Protocol is a commonly used test used for recording VO₂ max. The VO₂max value is a measure of an athlete’s aerobic endurance. VO₂max can be reported in absolute terms (L/min) or it can be reported in relative terms (ml/kg/min). C4 is one of the most popular pre-workout supplements on the market. One of the reasons that C4 is so popular is because of the ingredient of Creatine Nitrate. The Creatine Nitrate allows the body to absorb more creatine which in turn allows the body to do more work. Research has showed that C4 can improve an athlete’s anaerobic power and endurance, but much research has been done on how C4 can affect aerobic endurance.

Methods (cont’d)

Each subject completed the Bruce Protocol, which is a graded exercise test on a treadmill, which increases speed and elevation every 3 minutes until the subject cannot run anymore, on two separate days. On one day, 30 minutes prior to the exercise the subjects ingested 6.5 grams of a placebo mixed in water, and on the other day the subjects ingested 6.5 grams of C4 mixed in water. The order in which they took the placebo and C4 was randomized.

Conclusions

The results of this experiment support the evidence that C4 and pre-workout supplements similar to C4 have no effect on maximal aerobic endurance. However, further research should be done to determine the effect on submaximal work.