The efficacy of a tart cherry juice blend in preventing the symptoms of muscle damage

DAJ Connolly 1*, Malachy Mc Hugh 2 and Olga Padilla-Zakour 3

1 University of Vermont, United States 2 NISMAT, United States 3 Cornell University, United States

* To whom correspondence should be addressed. E-mail: dconnoll@zoo.uvm.edu.

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Abstract

Purpose: Numerous antioxidant and anti-inflammatory agents have been identified in tart cherries. The purpose of this study was to test the efficacy of a tart cherry cherry juice blend in preventing the symptoms of exercise-induced muscle damage.

Methods: This was a randomized, placebo-controlled, crossover design. Fourteen male college students drank 12 fl oz of a cherry juice blend, or a placebo, twice per day for eight consecutive days. A bout of eccentric elbow flexion contractions (2 x 20 maximum contractions) was performed on the fourth day of supplementation. Isometric elbow flexion strength, pain, muscle tenderness and relaxed elbow angle were recorded prior to, and for four days following the eccentric exercise. The protocol was repeated two weeks later with subjects who took the placebo initially, now taking the cherry juice (and vice versa). The opposite arm performed the eccentric exercise for the second bout to avoid the repeated bout protective effect.

Results: Strength loss and pain were significantly lower in the cherry juice trial versus placebo (Time by Treatment: Strength P<0.0001, Pain P=0.017). Relaxed elbow angle (Time by Treatment P=0.85) and muscle tenderness (Time by Treatment P=0.81) were not different between trials.
**Conclusions:** These data show efficacy for this cherry juice in decreasing some of the symptoms of exercise-induced muscle damage. Most notably, strength loss averaged over the four days after eccentric exercise was 22% with the placebo but only 4% with the cherry juice.

**Key Words:** Cherries, DOMS, Pain, Recovery, Strength