

Tart Cherries Improve Antioxidant Defense (decreases Oxidative Stress – the cause of free radical damage and disease)

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Tart cherry juice decreases oxidative stress in healthy older men and women.

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Compared with young adults, older adults have significantly impaired capacities to resist oxidative damage when faced with acute stress such as ischemia/reperfusion. This impairment likely contributes to increased morbidity and mortality in older adults in response to acute trauma, infections, and the susceptibility to diseases such as atherosclerosis, cancer, diabetes, and Alzheimer's disease. **Consumption of foods high in polyphenols, particularly anthocyanins, have been associated with improved health, but the mechanisms contributing to these salutary effects remain to be fully established. This study tested the hypothesis that consumption of tart cherry juice containing high levels of anthocyanins improves the capacity of older adults to resist oxidative damage during acute oxidative stress.** In a double-blind, placebo-controlled, crossover design, 12 volunteers [6 men and 6 women; age 69 +/- 4 y (61-75 y)] consumed in random order either tart cherry juice or placebo (240 mL twice daily for 14 d) separated by a 4-wk washout period. The capacity to resist oxidative damage was measured as the changes in plasma F(2)-isoprostane levels in response to forearm ischemia-reperfusion (I/R) before and after each treatment. The tart cherry juice intervention reduced the I/R-induced F(2)-isoprostane response ($P < 0.05$), whereas placebo had no significant effect. The tart cherry juice intervention also reduced basal urinary excretion of oxidized nucleic acids (8-hydroxy-2'-deoxyguanosine, 8-hydroxyguanosine) ($P < 0.05$) but not urinary excretion of isoprostanes. **These data suggest that consumption of tart cherry juice improves antioxidant defenses in vivo in older adults as shown by an increased capacity to constrain an oxidative challenge and reduced oxidative damage to nucleic acids.**

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