Curcumin Reduces Inflammation, Improves Exercise Performance

Curcumin reduces exercise-related inflammation and improves running performance recovery in mice, according to a recent study.* Intensive exercise can result in muscle fiber damage, delayed-onset muscle soreness, and inflammation.

Animals received either curcumin or placebo and were assigned to run either uphill or downhill on a treadmill for 2.5 hours. Two or three days later, animals were placed on a treadmill and allowed to run to fatigue. In a second experiment, voluntary running on an activity wheel was monitored in another subset of animals, while a third experiment analyzed muscle tissue for inflammatory cytokines after the forced running exercises in additional mice.

The research team found that downhill running increased inflammatory cytokines, decreased voluntary activity, and shortened the animals' run time to fatigue, but that curcumin offset these effects. "These results support the hypothesis that curcumin can reduce inflammation and offset some of the performance deficits associated with...exercise-induced muscle damage," concluded researchers.

—Dale Kiefer

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Soft-Drink Sweetener Linked to Diabetes

High-fructose corn syrup, a sweetener commonly found in non-diet soft drinks and baked goods, may contribute to the development of diabetes, particularly in children, according to a report presented at the 234th meeting of the American Chemical Society in Boston.* Rutgers University scientists found that carbonated beverages containing the common sweetener contained high levels of highly reactive compounds known as carbonyls.

Carbonyls have previously been linked to cellular and tissue damage implicated in triggering diabetes, and/or contributing to some of its complications.2-4 Italian researchers have previously noted that, "Carbonyl groups...in tissues and plasma [are] a relatively stable marker of oxidative damage."5

"People consume too much high-fructose corn syrup in this country," noted the lead scientists of the Rutgers study. They added that: "It's in way too many food and drink products and there's growing evidence that it's bad for you."

Research also indicates that carnosine helps protect the body's proteins against damaging carbonyl reactions.6

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Calcium Supplements Reduce Fracture Risk

Elderly adults over 50 years can reduce their risk of bone fractures by about 25% with daily doses of calcium supplements, Australian researchers noted recently.* Researchers at the University of Western Sydney conducted a meta-analysis involving 63,000 people taking calcium or calcium and vitamin D supplements. Calcium supplements were linked to a 12% lower risk of all types of fractures. In addition, greater compliance, reflected in consistent daily intake, doubled this risk reduction. Furthermore, a daily dose of 1,200 mg of calcium with 800 IU of vitamin D was associated with the greatest benefits.

"The efficacy of calcium supplements in reducing the risk of fractures later in life is comparable to more established preventative medicines such as aspirin and statins, which are widely taken to reduce the risk of cardiovascular events such as strokes and heart attacks," study leader Dr. Benjamin Tang noted.

—Cathy Burke

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