

## Cherry Juice May Prevent Muscle Damage Pain

Main Category: [Sports Medicine / Fitness](#)

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The familiar "no pain, no gain" phrase usually associated with exercise may be a thing of the past if results from a study on cherry juice published June 21 in the online version of the *British Journal of Sports Medicine* prove true in future research.

Historically, a number of approaches to prevent exercise-induced muscle pain and damage have been examined, but few have been effective. Declan Connolly, associate professor of education and director of the human performance laboratory at the University of Vermont and colleagues at New York's Nicholas Institute of Sports Medicine and Athletic Trauma and Cornell University, evaluated the efficacy of a fresh, highly-concentrated, specially- processed tart cherry juice blend in preventing the symptoms of muscle damage in a randomized, placebo-controlled study in 14 male college students.

**"The anti-inflammatory properties of cherry juice have been examined before, but the focus of this research was on a new area - muscle damage repair," said Connolly. "Only two species of mammals suffer this type of muscle damage - horses and humans."**

The study participants were asked to either drink a bottle of the cherry juice blend twice a day for three days before exercise and for four days afterwards, or to drink a placebo juice containing no cherries. The 12-ounce bottle of juice contained the liquid equivalent of 50 to 60 tart cherries blended with commercially available apple juice.

The participants performed a type of muscle-damaging exercise - flexing and tensing one arm 20 times - that creates contractions in which the muscle is lengthened. Muscle tenderness, motion, and strength were assessed on each of the days before and after exercise, using standard pieces of equipment designed for the purpose. Study participants rated their muscle soreness on a scale of one to ten. The whole process was repeated all over again two weeks later, with those who had taken the placebo juice taking the cherry juice blend instead, and vice versa. The other arm was also used.

There was a significant difference in the degree of muscle strength loss between those drinking the cherry juice blend and those taking the placebo juice. This fell by 22 percentage points in those drinking the placebo juice, but only by four percentage points in those drinking cherry juice. Muscle strength had slightly improved after 96 hours in those drinking cherry juice. The degree of soreness differed little between the two groups, but the average pain score was significantly less in those drinking cherry juice. Average pain scores came in at 3.2 for those drinking the placebo juice and 2.4 for those drinking cherry juice. Pain also peaked at 24 hours for those drinking cherry juice, but continued to increase for those on the placebo juice for the subsequent 48 hours.

According to Connolly, next steps include identifying funding sources and collaborators to continue study of the cherry juice's effectiveness in muscle damage repair and possibly [arthritis](#),

as well as research involving race horses.

"Current anecdotal evidence suggests the drink may be effective in treatment of arthritis and [gout](#), and thus offer a potentially safer alternative than prescription drugs," said Connolly.

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*Article adapted by Medical News Today from original press release*

## **New Diets Tout Role of Colors**

According to several new diet plans, medical researchers are convinced that people consume foods that were never intended for human consumption based on genetic makeup. Major diseases, these authors say, are caused by the imbalance between what we eat and our DNA. Humans should break from the typical brown and beige American diet of meat and starches and adopt a more colorful diet, one more heavily weighted with fruits and vegetables. Here is what several of the authors say:

"Cherries offer antioxidant and inflammatory protection from other phenolic compounds they contain, and cherries have been used as a folk remedy for arthritis for many years, presumably because of...anti-inflammatory effects." From *Eat Your Colors* by Marcia Zimmerman.

"Red = Cherries = Fight Arthritic Pain." From *The Color Code: a Revolutionary Eating Plan for Optimum Health* by James Joseph, Tufts University.

"The most convenient way to get your fruits and veggies in the red/purple group are with...cherries." From *What Color is Your Diet? The 7 Colors of Health* by David Heber, UCLA Center for Human Nutrition.

### **Cherries: Naturally Good for You**

These days people want to take care of themselves and cherries can help. Montmorency tart cherries naturally pack a health-promoting punch that provides pain relief for many consumers. Ongoing research shows that tart cherries are a rich source of antioxidants, including melatonin, which may help to relieve the pain of arthritis, gout and possibly fibromyalgia. To date, no other fruit or vegetable has been found to have the pain relieving properties of tart cherries. In addition, the antioxidants in tart cherries can help fight cancer and heart disease.

The latest information on the health benefits of cherries is summarized in this newsletter. Read on for details on how ruby-red tart cherries are the healing fruit.

### **New Research Shows the Power of Cherries**

Recently published research conducted at Michigan State University (1) investigated a range of fruits and berries for the level and activity of anthocyanins found in each. Researchers analyzed the ability of the fruits to inhibit cyclooxygenase and act as antioxidants to destroy free radicals. The researchers then quantified the anthocyanin levels of tart and sweet cherries, raspberries, strawberries, blackberries, blueberries, cranberries, elderberries and bilberries.

Cyclooxygenase is produced in the body in two or more forms, termed COX-1 and COX-2, for different purposes. COX-1 is built in many different cells to create prostaglandins, which is used for basic "housekeeping" messages throughout the body. The second enzyme, COX-2, is built only in special cells and is used for signaling pain and inflammation. Some pain relief medication works by blocking the messages carried by COX-1, COX-2, or both, and thus the body does not feel pain or inflammation. The anthocyanins that are able to block COX-1 and COX-2 are called Anthocyanins 1 and 2, respectively.

Researchers discovered that the antioxidant activity of anthocyanins from cherries was superior to vitamin E at a test concentration of 125 g/ml. The COX inhibitory activities of anthocyanins from cherries were comparable to those of ibuprofen and naproxen at 10 M concentrations.

Anthocyanins 1 and 2 are present in both cherries and raspberries. The yields of pure anthocyanins 1 and 2 in 100 g in cherries and raspberries were the highest of the fruits tested at 26.5 and 24 mg, respectively. Fresh blackberries and strawberries contained only anthocyanin 2 at a total level of 22.5 and 18.2 mg/100 g, respectively; whereas anthocyanins 1 and 2 were not found in bilberries, blueberries, cranberries or elderberries.

#### References

(1) Seeram N. P., et al. Cyclooxygenase inhibitory and antioxidant cyaniding glycosides in cherries and berries. *Phytomedicine*. 2001 Sept 8 (5): 362-9.

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## **Pain Relief Never Tasted So Good!**

By Tina Miller, MS RD  
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Look at the person to your left, then to your right - chances are good that one of you battles arthritis pain every day. According to a recent survey, 70 million (one in three) Americans suffer from some form of joint disease, including osteoarthritis and gout. Pain from arthritis reduces mobility and quality of life. In fact, arthritis can be more than pain in your joints - it can be a pain in the wallet too! Americans spend over \$1 billion every year on alternative therapies to alleviate the symptoms of arthritis.

Unfortunately, there is no cure. However, there are reasonable natural, and even flavorful, methods to managing your arthritis or gout pain. Research has taught us that inflammation associated with arthritic disorders is the chief cause of discomfort. Foods that decrease inflammation can reduce the pain associated with arthritis. In particular, the Montmorency Tart Cherry is a leader among foods that possess anti-inflammatory properties. Bioactive anthocyanins (pigments) present in tart cherries are the powerhouses that help relieve inflammation. As an added bonus, these same anthocyanins may significantly reduce your risk for colon cancer, the third leading cancer in America.

How much do you need? While there is no set "prescription" for the use of tart cherries, **most**

**people benefit from consuming two tablespoons of tart cherry juice concentrate daily.** If you're on a low-acid diet, you can still use cherry juice concentrate, just be sure to consume it in combination with other foods, or at the end of a meal. Include consumption of tart cherries as part of your healthy eating plan everyday.