

Sports Nutrition

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The Athlete's Kitchen

The American College of Sports Medicine is the world's largest sports medicine and exercise science organization. At ACSM's annual meeting in Seattle, May 27-30, 2009, over 5,000 exercise scientists, sports dietitians, physicians and health professionals gathered to share their research. Here are a few of the nutrition highlights. More highlights are available at www.acsm.org (click on "news releases").

- Many athletes believe protein supplements are needed for building muscle. Yet, a study with college football players indicated no performance or muscle-building advantages from taking recovery protein in the form of a commercial supplement instead of standard food.
- Fruits and berries, including tart cherries, have anti-oxidant and anti-inflammatory properties. Runners who drank two 10.5 oz. bottles of tart cherry juice for one week before the 192 mile Mt. Hood to Oregon Coast relay race reported less post-race muscle pain than the placebo group.
- Black currants may also help reduce oxidative stress. Cyclists who consumed a pre-hard ride dose of black currant extract (the equivalent of about 1.2 cups of black currants), experienced less oxidative stress.
- Research suggests food tends to be more health-protective than supplements. Taking high doses of C (2000 mg), E (800 IU), A (3000 IU), and selenium (200 micro-g) for six weeks offered no benefits to trained cyclists in terms of antioxidant effects and suppressing oxidative damage.
- Almonds (and all nuts, for that matter) are a positive addition to a sports diet. For four weeks, elite cyclists enjoyed about 60 almonds a day (~450 calories) prior to meals. They increased their anti-oxidant capacity 43% after a time trial as compared to the group who ate an equal number of calories from cookies. They also improved their time trial distance by 5% compared to the cookie group.
- Just rinsing your mouth with a sports drink may help you run faster! After an overnight fast (13-15 hours without food) and before and during a time trial, 10 trained runners rinsed their mouth for five seconds with a sports drink or a placebo, and then spit it out. With the sports drink mouth rinse, they were able to run longer in the one-hour time trial.
- An effective sports drink needs to be rapidly absorbed. Adding sodium (40-165 mg sodium) to the beverage does not significantly slow absorption.
- Athletes who exercise in the heat might wonder if they can "hyper-hydrate." Yes; more fluid is retained when a sports drink has a higher sodium content. Drinking a sports drink with double and triple the standard amount of sodium contributed to retaining 25% and 35% more water (12 and 17 ounces; 340 and 480 ml) than the standard sports drink.
- About 25% of athletic trainers use pickle juice to treat muscle cramps. Some report 1 to 2 ounces of pickle juice relieves cramps within 35 seconds. The mechanism is illusive because rapid relief must mean that pickle juice empties from the stomach very quickly. Yet, research indicates pickle juice empties very slowly from the stomach.
- "LactAway" is a sports supplement that claims to reduce blood lactate. A study with highly trained kayakers does not support that manufacturer's claim.

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- Chocolate milk is a good recovery choice. Cyclists did an exhaustive bike ride, recovered with equal amounts of carbs in chocolate milk or a commercial recovery drink, and then the next day did a time trial. The commercial drink offered no additional benefits. Save your money!
- Glutamine is reported to enhance recovery by reducing post-exercise inflammatory responses. A study that compared a carbohydrate+essential amino acids beverage with or without glutamine taken during and after exercise offered no additional recovery benefits.
- Of 153 female soldiers starting basic training, 37% were iron deficient (serum ferritin <12 ng/mL). The women who took an iron supplement (100 mg ferrous sulfate) improved their two-mile run-times by 86 seconds as compared to the iron deficient women who were given no iron pills. Low ferritin is associated with feelings of depression and fatigue.
- During endurance exercise, consuming carbs in the form of an energy bar, a gel or a sports drink are all equally effective. That is, they all get used for energy at a similar rate.
- Many youth swimmers spend hours training for relatively short competitive events. A six-week study with 9 to 12 year olds suggests high intensity/low volume training offers the same benefits as lower intensity/high volume training (27 vs. 57 km/six weeks)—but in far less training time.
- How many calories are burned when lifting weights? Female subjects burned ~100 calories and the males ~ 210 in the half-hour session with two sets of 10 reps and 8 different exercises. But, if you subtract the calories for the resting metabolic rate, they burned ~70 (females) and ~160 (males).
- Participants in the Western States 100 Mile Run burned about 15,850 calories in about 27 hours. This averaged about 600 calories/hour. That's a lot of food!
- Severely obese people may need about 1800 calories just to be alive, and about 3,200 total calories a day. They don't gain weight just smelling cookies...
- Exercise improves learning. Movement and physical activity in third graders has been linked with higher scores on tests involving problem solving. Among college students, those who spend more than three hours/day studying or have a GPA ≥ 3.5 are more likely to be physically active than students who study less and get lower grades.
- While Americans tend to exercise for weight control, fitness and physical attractiveness; Chinese tend to exercise for health and enjoyment—sustainable reasons to exercise!
- The Female Athlete Triad refers to the common problem of inadequate calorie intake, loss of menses, and stress fractures. The first line of treatment is to increase calorie intake or reduce expenditure. Strength training can help reduce the risk of stress fractures. Athletes with more muscle mass tend to have denser bones. Dense bones are healthy bones!
- Fitness is more important than fatness. Unfortunately, only about 9% of Americans are "fit but fat."

Nancy Clark, MS, RD, CSSD (Board Certified Specialist in Sports Dietetics) counsels both casual and competitive athletes in her private practice at Healthworks, the premier fitness center in Chestnut Hill MA (617-383-6100). Her *Sports Nutrition Guidebook*, and food guides for new runners, marathoners, or cyclists are available via www.nancyclarkrd.com. See also sportsnutritionworkshop.com.