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BY MATT BRZYCKI



### DOES ENDURANCE TRAINING HAVE AN ADVERSE EFFECT ON ORAL HEALTH?

Researchers compared a group of 35 triathletes (average age 36.8) who did endurance training for more than 5 hours per week to a control group of 35 individuals (average age 36.1) who didn't do any endurance training. It was found that endurance athletes had a significantly greater risk of dental erosion than non-athletes. There was no significant difference between the two groups in prevalence of decayed, missing or filled teeth. Among the endurance athletes, there was a significant correlation between caries prevalence and the cumulative weekly training time.

It appears as if exercise decreases saliva flow rate. The researchers speculate that this results in a compensatory increase in saliva pH, producing an acidic environment. This may also be exacerbated by the frequent consumption of acidic sports drinks.

It's critical for endurance athletes to replace the carbohydrates that they use for energy as well as the electrolytes that they lose through sweat. However, their consumption of sports drinks, energy gels and energy bars may increase their risk of certain types of oral disease.

#### REFERENCE:

FRESE, C., ET AL. "EFFECT OF ENDURANCE TRAINING ON DENTAL EROSION, CARIES, AND SALIVA." *SCANDINAVIAN JOURNAL OF MEDICINE & SCIENCE IN SPORTS*, 25, NO. 3 (JUN 2015): e319-26.

### DOES GRAPE JUICE INCREASE ENDURANCE PERFORMANCE?

Grapes and grape products—such as grape juice—contain varying amounts of antioxidants. (Interestingly, red and purple grapes have more antioxidants than green.) It's reasonable to think that the protective properties of grapes and derivatives could have an ergogenic effect.

Researchers randomly assigned 28 recreational runners (average age 39.8) to two groups: One group received grape juice and the other received a beverage that had the same amount of calories, carbohydrates and volume as the grape juice. For 28 days, both groups drank the assigned beverage, before and immediately after training. On the days in which no training was done, the groups drank the assigned beverage during meals.

Those who consumed grape juice significantly improved their running time to exhaustion by nearly 13 minutes while the performance of the control group worsened by about 1 minute. Moreover, those who consumed grape juice significantly improved three of the four markers that were used to assess antioxidant activity. Those who consumed the control beverage experienced no change in those variables.

#### REFERENCE:

TOSCANO, L.T., ET AL. "POTENTIAL ERGOGENIC ACTIVITY OF GRAPE JUICE IN RUNNERS." *APPLIED PHYSIOLOGY, NUTRITION, AND METABOLISM*, 40, NO. 9 (2015): 899-906.

### DOES COLD-WATER IMMERSION AFTER EXERCISE IMPROVE MUSCULAR ADAPTATIONS?

Cold-water immersion is, ironically, a hot trend in recovery strategies. It's thought that this treatment—aka cryotherapy—can reduce muscular fatigue and soreness following exercise.

In one study, 21 subjects (average age 21.3) did strength training two times a week for 12 weeks. The participants—who had at least 12 months of experience with strength training—were randomly assigned to do 10 minutes of either cryotherapy or active recovery after each session. Strength training focused on the lower body and was supervised.

The subjects who received cryotherapy were immersed up to their waists in water that was maintained at about 50°F; those who did active recovery pedaled a stationary bike at a self-selected low intensity.

Individuals who did active recovery after strength training had significantly greater increases in muscular size and strength than those who did cryotherapy.

#### REFERENCE:

ROBERTS, L.A., ET AL. "POST-EXERCISE COLD WATER IMMERSION ATTENUATES ACUTE ANABOLIC SIGNALLING AND LONG-TERM ADAPTATIONS IN MUSCLE TO STRENGTH TRAINING." *THE JOURNAL OF PHYSIOLOGY*, 593, NO. 18 (SEP 2015): 4285-301.



#### MATT BRZYCKI

is the assistant director of campus recreational fitness at Princeton University. He has more than 33 years of experience at the collegiate

level and has authored, co-authored and edited 17 books.