

The Athlete's Kitchen

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Sports Nutrition Update: What Does the Research Say?

How much protein is enough? ... What about vitamin supplements? ... Should athletes eat carbs before they exercise? Ask 10 athletes and you will get 10 answers. But whom should you believe?

To identify proven sports nutrition strategies, professionals from the Academy of Nutrition and Dietetics (AND), the American College of Sports Medicine (ACSM), and Dietitians of Canada (DC) evaluated the latest research, and then wrote the *AND, ACSM & DC Position Stand on Nutrition & Athletic Performance* (available for free at www.EatrightPro.org). Here are just a few highlights that might help you fuel your body for higher energy and better performance.

- For competitive athletes, a key training goal is to stimulate metabolic adaptations that will reduce or delay fatigue. Current research suggests that occasionally training when you are carbohydrate-depleted can trigger biochemical adaptations that will ultimately enhance your performance. Just be sure to enter the competitive event after having eaten adequate carbs on the days beforehand, so your muscles will be optimally fueled.

On most days, if you are training for 1 to 3 hours a day, you want to consume 2.5 to 4.5 (or more) grams of carbohydrate per pound of body weight per day (5-10+ g/kg). If you weigh 150 pounds, that comes to 1,500 to 2,700 calories of grains, fruits and veggies!

- When exercise is so intense that you have difficulty consuming even water or sports drink during the workout, just swishing and then spitting a sports drink might help you feel better and perform stronger. The brain detects the presence of sugar in the mouth, and this might help you work harder.

- While many sports supplements are worthless, ones that have strong research to back their performance-enhancing claims include sports drinks and gels, caffeine, creatine, sodium bicarbonate, beta-alanine and nitrate. For in-depth information, refer to the Australian Institute of Sport's classification system that ranks sports foods and supplement ingredients based on the strength of scientific evidence: www.ausport.gov.au/ais/nutrition/supplements And please take note: No amount of any supplement will compensate for a poor sports diet. Commercial products work best when *added* to a well-chosen eating plan.

- Vitamin and mineral supplements will not improve your performance unless they reverse a nutritional deficiency. That is, if you have iron-deficiency anemia related to low dietary iron (i.e., eating no red meat) or high iron losses (heavy sweating, menstruation, donating blood),

you will need an iron supplement to replenish your depleted iron stores. Reversing iron-deficiency anemia can take as long as 3 to 6 months. Hence, you want to prevent anemia from happening in the first place by eating iron-rich foods (such as dark meat chicken, fortified cereals). Taking iron supplements “just in case” is not advised and might contribute to medical issues.

- Antioxidant vitamins (such as C, E) have not been shown to enhance athletic performance. There is some evidence that high doses of antioxidants supplements might actually *hinder* training adaptations. The safest and most effective strategy to boost antioxidants is to regularly enjoy colorful fruits and vegetables, whole grains, and nuts. Enjoy oranges, berries, broccoli, spinach, almonds, avocado, etc. Real foods are more effective than pills (and tastier)!
- Advertising, in combination with an athlete’s desire to perform better, can boost the appeal of sports supplements. Yet, the rapidly growing sport supplement industry is poorly regulated in terms of the claims they make and their manufacturing practices. Products are commonly tainted with unsafe and/or banned substances. Hence, many of the 40% to 90% of athletes who take supplements fall victim to fraud. Are you one of them...?
- If you plan to use commercial sports foods and supplements, you’d be wise to first meet with a sports dietitian to get a professional assessment of your baseline diet and to determine if you would actually benefit from (as opposed to waste money on) these products. Maybe you are already consuming plenty of protein and have no need to buy that expensive whey protein, after all? The best sports nutrition plans are personalized because each athlete is unique. To find your local sports RD, use the referral network at www.SCANDpg.org.
- Some athletes do not drink any fluids before they exercise in hopes of avoiding undesired pit stops during the workout. Yet, exercising under-hydrated can hurt performance. The solution is to drink 2.5 to 4.5 ml per pound of body weight (5-10 ml/kg; about 13 to 24 ounces for a 150-lb athlete) in the two to four hours before you exercise. This allows more than enough time for you to flush the excess fluid down the toilet. You can then drink as desired right before you start your workout.
- As a part of their daily eating, most athletes consume adequate protein, but they may not eat it at the right time. You want to *evenly distribute* your protein intake throughout the day. That means consuming some protein at least every 3 to 5 hours, so that your muscles have the tools they need to grow and repair. That is, instead of eating 16-ounces of salmon at dinner, divide the salmon into four 4-oz portions—or more realistically, enjoy 2 to 3 eggs for breakfast, a sandwich for lunch, Greek yogurt + nuts for an afternoon snack, and then a smaller portion of salmon with dinner.

The target is about 15 to 25 grams protein per meal and snack for most athletes. (More precisely, 0.1 to 0.14 grams of protein per pound of body weight per meal (0.25 - 0.3 g/kg).



Eating more than 40 grams of protein at one time has not been shown to offer any additional muscle-building benefits. Enough is enough!

*Sports nutritionist Nancy Clark MS RD CSSD has a private practice in the Boston-area (Newton; 617-795-1875), where she helps both fitness exercisers and competitive athletes create winning food plans. Her best-selling **Sports Nutrition Guidebook**, and food guides for marathoners, cyclists and soccer players, as well as teaching materials, are available at www.nancyclarkrd.com. For online and live workshops, visit www.NutritionSportsExerciseCEUs.com.*