

TARGETED NUTRITION FOR ENHANCED PERFORMANCE

Dr. Donald C. DeFabio, DC, CES, PES, DACBSP, FACO

Eating and drinking for weight loss and enhanced performance is more than just eating nutrient dense foods and avoiding junk foods. It's eating and drinking at the right times, too. For example, eating more frequently increases your metabolism and accelerates both weight loss and muscle growth. Also, there are specific biochemical windows you need to follow to prepare and recover from exercise.

First, let's address hydration, the single most important aspect of maintaining optimum performance. Research has demonstrated that exercising in a dehydrated state sets the stage for injury and poor performance. Muscles are 75% water and once dehydrated as little as 2% they will become less responsive and tend to cramp. To offset this, you must maintain proper hydration levels on a daily basis so each workout or competition has the opportunity to be great.

The American College of Sports Medicine recommends drinking about 17 ounces of fluid approximately 2 hours before exercise. This will ensure that your hydration level is adequate and also allows time for the excretion of excess ingested water. While training, the recommended amount of fluid intake is 4.6 liters daily (or just under 5 quarts). However, be sure to take into account if you are training in a hot climate, if your activity requires excessive protective clothing or any other factors that would require you to drink even more.

During exercise, start drinking early and keep drinking often to replace fluid lost from sweating. A good baseline is 4 ounces of fluid every 15 minutes of activity. Do not wait until you're thirsty to start drinking. Research has shown that relying on voluntary fluid consumption is inadequate and leads to entering into competition or practice in a dehydrated state. Remember to drink even when you're not thirsty to keep from dehydrating.

To ensure you're getting enough fluid, drink from a refillable container throughout the day that holds a measurable amount of liquid. For example, Tupperware quart sized "sippy-bottles" or stainless steel water bottles work well. Finally, remember to monitor the color and volume of your urine. Infrequent and dark colored urine is a strong indicator of dehydration. When properly hydrated the frequency and color of your urine will be consistent whether you're training, competition or resting: frequent and pale yellow.

For maximum absorption, drink fluids that are slightly cool, 59° to 72°F. Furthermore, drinks which taste better and contain sodium (0.5-0.7 grams per liter) are easier to consume in greater amounts than plain water. Let's face it, better tasting drinks are more palatable and the presence of sodium and other minerals (e.g. electrolytes) will stimulate your thirst mechanism - just like eating salted popcorn at the movies makes you thirsty.

Cramping, overall tightness and headaches are signs of dehydration. To be more accurate in your fluid replacement, weigh yourself before and after workouts. For every pound lost you need at least 16 ounces of fluid.

While hydration is the first key component, the second key to targeted nutrition for exercise is what to drink. When exercising less than one hour, you can drink either water or a sports drink containing both sugars (carbohydrates) and minerals (electrolytes). Just make sure you are drinking.

When exercising longer than one hour, you'll need to have both carbohydrates and electrolytes in your hydration formula. Carbohydrates can be sugars (glucose or sucrose) or starch (e.g. maltodextrin). Fructose often causes stomach upset, vomiting and diarrhea when taken alone so it is best avoided. Look for sports drinks that supply about 60 grams of carbohydrates per quart. Drinks with over 75 grams per quart (approximately one liter) run the risk of poor absorption and stomach irritation. Powdered sports drinks are easily adjusted to fit both your needs and your palate. Protein, approximately 10 grams, is also beneficial after long or hard workouts. The best protein is isolated whey protein or branched chain amino acids. For tournaments or competitions which last all day, a protein source is essential to keep your blood sugar level.

After exercise, it is necessary to replace both lost fluids and nutrients. Sweat contains water, sodium, chloride, magnesium and other minerals. Athletes who exercise in excess of two hours per day can lose considerable amounts of these nutrients which leads to cramping and loss of coordination. The rapid and complete replacement of these minerals is essential in accelerating the recovery from training and competition.

The window of opportunity to replace carbohydrates burned from exercise is 20-30 minutes. It is essential that you refuel within 30 minutes of completing a workout with at least some carbohydrates. Adding protein for muscle repair is excellent, too. Definitely avoid high fat foods at this time since fats slow down the absorption of nutrients. Yogurt, fresh fruit or a protein smoothie would be excellent recovery food choices. See my anti-inflammatory recovery formula below if you want to make your own recovery drink. Remember, by refueling your muscles quickly, they will be prepared for your next workout.

The bottom line is to maintain proper hydration on a daily basis and to fully and rapidly replace the fluid and nutrients lost during exercise. Water alone is fine for short workouts, however, to recover from long workouts, training more than once a day, in warm climates or during competition - electrolytes, protein and carbohydrates all need to be replenished. Finally, be sure to refuel within 30 minutes after workouts.

**For Additional Information Contact
DeFabio Chiropractic Associates
The Natural Way to Better Health and Wellness
Berkeley Heights, NJ
908-771-0220**