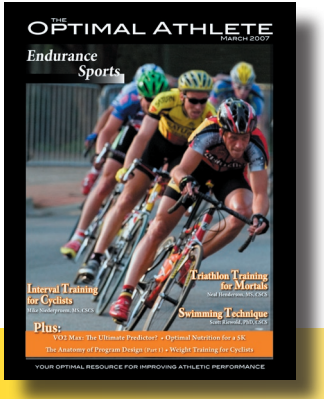

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Nutrition

Increase Your 5k Performance through Proper Nutrition

By Ilana Katz, MS, RD, LD

For many, the phrase "increase your performance for a 5k" conjures images of supplements and ergogenic aids. An ergogenic aid is something that claims to enhance energy and performance. Wise athletes treat food as an ergogenic aid. Like fuel for a car, energy for an intense aerobic event, such as a 5k, has an optimal blend. Carbohydrate **(S)** and fats are the optimal energy source for high intensity aerobic exercise. Typically, an athlete should have enough fat stored to get through a 5k race without having to "eat" more fat; thus carbohydrates become the focus for this event. Protein is highly unlikely to be used as an energy source in a 5k race; however, protein is essential for growth and repair of muscle and body tissues, and should be an essential part of the recovery meal following your 5k.

Consuming carbohydrates before your race can enhance performance by maintaining adequate blood glucose (sugar) levels, which is the main fuel for your muscles. Furthermore, glucose is also the main source of energy for your brain, and a well-nourished brain improves your focus. Scientific studies have shown that a high carbohydrate meal or snack directly before an event enhances both endurance and energy.

For a 5k race a large breakfast is probably too much food, yet a snack, such as a banana or an energy bar, should provide the energy required to maintain race pace for at least 30 minutes, or a typical 5k race. Many athletes avoid food right before an event, because of the perception that it may cause gastrointestinal distress if not digested, when in fact a low-fiber, low fat snack could digest within five minutes. A banana, a half a bagel, or some granola are all examples of these kinds of food. Furthermore, advances in sports nutrition have enabled athletes to make performance gains with scientifically derived products (such as bars, gels and sports drinks).

Research suggests that these products, or even just the 100-calorie snack mentioned above, could enhance performance by 10 percent on average (1).

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A threshold level 5k road race differs from longer endurance events in that fueling during the event is not critical. For optimal performance in a 5k race, your nutrition goal is to focus on pre-race and post-race. Based on scientific averages, optimal energy can be derived from 0.3g - 0.5g of carbohydrates per pound of body weight eaten approximately one hour before the race (2). For example, for a 140 pound athlete, 0.3 - 0.5 g X 140 pounds = 42 - 70g of carbohydrates. There are 4 calories per gram, thus 40 - 70g = 160 - 280 calories of carbs. This is somewhat of a wide range, and your decision of what to consume within this range would depend on your personal tolerance of carbohydrate digestion, as well as your anticipated intensity level. Carbohydrate tolerance is the amount of carbohydrates you are able to digest within a set time, just like your physical training (aerobic capacity and muscle strength), you can train your body to tolerate more carbs. If you consume a high carbohydrate

diet you will naturally store more glycogen. Moreover, your body is more inclined to spare glycogen during your race especially if you are training it to tolerate more carbs. Be aware however, that training for a higher tolerance of carbs, could offset other goals, such as weight management. A 5k race does-not require high carbohydrate tolerance when compared to a marathon.

Because carbohydrates are available in the form of drinks, bars, gels and real food, it is strongly recommended that you experiment with various products

"Enhanced performance does not-start & end on race day..."

and texture when you are training. If you find GI distress is easily brought on at high intensities, you may want to consider liquids versus solids, as they empty faster from the gut than the solids. Gels are a fairly new concept in sports nutrition, providing an intermediate between liquids and solids. They are an electrolyte and carbohydrate blend that is scientifically designed to create a solution of 6 – 8% concentrate, the scientific number of optimal digestion of concentrated carbs recommended by the American College of Sports Medicine. Be aware, once again, that gels are designed to be taken with 12oz of water and if this is neglected, the gel solution may also cause gastrointestinal distress. Experimentation enables you to determine your personal tolerance. Gels, drinks and snacks can be used interchangeably, but you need to determine what approach works best for you.

Hydration for a 5k race should not be ignored, although pre and post race, versus during your event will be your focus. Drinking at least 17 - 20 oz of water or sports drinks 2 – 3 hours before and then another 7 – 10 oz, 10 – 20 minutes before is recommended for dehydration prevention. If the race is anticipated to take more than 30 minutes, drink 7 - 10 oz every 10 to 20 minutes during the race. Lost fluids should also be replenished after the race, and 16 – 24 oz should be taken for every pound of weight lost during the race. This can be determined by weighing yourself before and after training sessions to determine your individual sweat loss rate. More practically, checking the color and volume of your urine can provide hydration guidelines. Urine should be pale yellow and plentiful, unless you are consuming vitamin supplements regularly (may turn urine dark), in which case rather rely on volume and body weight as a measure.

For muscle recovery and glycogen replenishment, your post race meal becomes important. The enzyme responsible for storing glycogen is elevated after exercise. It is thus recommended that you eat carbohydrates as soon after your race as tolerated. Adding some protein to that meal or snack will not only enhance glycogen storage capacity, but it will also aid in muscle recovery. Ideally, 0.5 grams of carbohydrate per pound body weight every hour, for 4 to 5 hours (72g, or 170 - 280 calories of carbohydrates, every hour for a 140 pound athlete) (2).

Remember, enhanced performance for a 5k does not start and end on race day – it is vital to consider fueling on a continuous basis, and then before, during and after each training session will maximize the cumulative effect. For optimal performance, an athlete should eat a good balance of carbs, protein, fat, vitamins and minerals on a continuous basis, and then focus on race day with the recommendations provided.

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