

# SportsNutrition

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## The Athlete's Kitchen

In Part I of this article, I discussed 5 common missing nutrition links that hurt athletic performance: 1) Respect for the power of food. 2) Sufficient calories during the active part of the day. 3) Equal sized, evenly scheduled meals. 4) A beneficial intake of dietary fat. 5) Pre-exercise fuel. Here are six more missing links, with solutions so you can eat to win.

### MISSING LINK #6: Beneficial protein intake

Some athletes eat too little protein; others eat too much. For example, a 150 lb (68 kg) athlete may need 0.5 to 0.75 g protein/lb; this translates into ~75-105 g pro/day. If this athlete eats 6 egg whites (18 g pro) for breakfast, one can tuna (35 g) with lunch, a protein bar (20 g) for a snack, and two chicken breasts (90 g) with dinner along with 16 oz milk (16 g) the protein intake will be ~180 grams—excessive, to the point some of the protein could be traded for more carbs to better fuel the muscles. In contrast, a vegetarian athlete on a reducing diet could easily consume too little protein: 2 egg whites at breakfast (7 g), a salad with 1/4 cup chickpeas at lunch (3 g) and a gardenburger (11 g) for dinner. Too little!

**Solution:** Meet with a sports dietitian, so you can learn your protein requirement and how to translate that into meals.

### MISSING LINK #7: Iron to prevent fatigue from anemia

Iron-deficiency anemia is common, particularly in females. A survey of collegiate athletes indicates 20% of the female volleyball and basketball players were anemic, as were 50% of the soccer team. (Eichner '01) Anemia is particularly common among women who have heavy menstrual blood losses, but eat neither red meat nor iron-enriched cereals.

**Solution:** If you don't eat red meat and feel needlessly tired, get a blood test (including serum ferritin). Your MD might suggest iron pills. Boost the iron content of your diet with:

- iron-rich foods (if not red meat, enjoy dark meat chicken or turkey, salmon, tuna fish)

- iron-fortified cereals (such as Wheaties, Raisin Bran, Total) Include with each meal a source of vitamin C (from fruits and veggies, such as orange juice, berries, broccoli, tomato).

### MISSING LINK #8: Post-exercise recovery food.

If you are doing hard workouts, you haven't finished training until you have refueled! "No time" to refuel is no excuse.

**Solution:** Plan ahead; have recovery foods readily available. Even in a time-crunch, you should be able to properly refuel.

### MISSING LINK #9: Recovering with both carbs & protein

Recovery foods should offer a foundation of carbs, with protein as the accompaniment. A reasonable target is about 240 calories of carbs (60 g carb) and 80 calories (20 g) of protein. Some popular choices include Greek yogurt with honey, cereal with milk, a turkey sandwich or pasta with meat sauce. You need not buy engineered sports foods; standard fare works fine and tends to taste a lot better!

Athletes who do two workouts a day *really* need to rapidly refuel with a proper recovery diet. In a six-week study with swimmers, those who did two workouts (morning and afternoon) sprinted slower than those who swam only in the afternoon (Costill, 1991). If nutrition is your missing link, don't even think about double workouts!

**Solution:** Post-exercise, you may not yet feel hungry for solid foods but you will likely be thirsty. A fruit smoothie (made with yogurt) is excellent for recovery, as is chocolate milk. Both contain carbs to refuel, protein to build and repair muscles and reduce muscle soreness.

Recovery foods can even be eaten pre-exercise. That is, a pre-exercise yogurt gets digested into amino acids and glucose that will be ready and waiting to be used when the exercise stops. In a 10-week study with recreational body builders, those who consumed a protein-carb supplement both immediately before and right after the mid-afternoon strength training session gained 2.3 pounds more muscle

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and 7 pounds more in strength (bench press), compared to the group without pre- and post-exercise fuel. (Cribb, 06)

Another study compared Marines who drank a carbohydrate recovery beverage with or without protein during 54 days of basic training. Those who received the 100-calorie recovery drink (with 10 g protein) immediately post-exercise reported 17% less muscle soreness after a 6 mile hard hike, 28% fewer medical visits for bacterial/viral infections, 37% fewer visits for muscle/joint problems, and 83% fewer visits due to heat exhaustion (Flakoll 2003). That's impressive!

### MISSING LINK #10: Rest days for muscles to refuel

Rest is an important part of a training program. Depleted muscles may need more than 24 hours to not only replace glycogen stores but also to heal. Hence, rest days with little or no exercise *enhance* a training program.

Athletes who want to lose weight commonly hesitate to take a rest day because they fear they will "get fat." These athletes need to understand:

1) On a rest day, they will feel just as hungry because the muscles need food to refuel.

2) They will gain (water) weight. For each 1 ounce of glycogen, the muscles store about 3 ounces water. This water gets released during exercise and is beneficial.

**Solution:** Plan one to two rest days a week. Notice how much better you are able to perform the day after the rest day.

### MISSING LINK #11: Adequate Fluids

Athletes who maintain optimal hydration can train harder and perform better. For each one percent of body weight lost via sweat, the heart has to beat 3 to 5 more times per minute (Casa, 2000); this creates needless fatigue.

**Solution:** Monitor your urine. If are well hydrated you will need to urinate every 2 to 4 hours; the urine will be a light color. If you sweat heavily, you should make the effort to determine how much sweat you lose (and need to replace) during a workout. Do this by weighing yourself naked before and after exercise. For each pound (16 oz) of sweat lost, you should drink at least 16 to 24 ounces of fluid.

### MISSING LINK #12: Sodium before exercise in the heat

Research with trained cyclists reports they rode 20 minutes longer to exhaustion (99 vs 79 minutes) in 90° heat when they drank a pre-ride beverage with 1,000 vs ~150 mg sodium. They drank no fluids while riding. (Sims)

**Solution:** If you train and compete in the heat, you should consume some salty foods (salted oatmeal, soup, pretzels) beforehand. The salt holds water in your body and reduces your risk of becoming dehydrated.

### MISSING LINK #13: The sports dietitian (RD, CSSD)

Serious athletes generally have a support crew that includes a coach, sports psychologist, medical doctor, physical therapist and massage therapist. But to their detriment, some fail to have a sports dietitian on their team.

**Solution:** To get the most from your workouts, use the referral network at [www.SCANdpp.org](http://www.SCANdpp.org) to find a local registered dietitian who is a Board Certified Specialist in Sports Dietetics (RD CSSD). This professional can help you resolve:

- struggles with "no time" to eat properly,
- issues with intestinal distress related to pre-exercise food
- weight issues and undesired body fat.
- disordered eating practices that hinder performance.

**The bottom line:** Don't let nutrition be your missing link! You will always win with good nutrition!

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