

# Power Up: Eating to Maximize Your Workout

BY ROBERT G. SILVERMAN

Just as a car runs best with a full tank of gas, your body needs the right kind of nutritional “fuel” for peak performance. Eating well for your sport can be very simple. To optimize your workouts and prevent fatigue while enhancing stamina and endurance, fuel your body with a balance of carbohydrates, proteins, fats, minerals, vitamins, and water. The following guidelines apply to various kinds of workouts like kickboxing, martial arts, weightlifting, running, team sports, and so on.

## Pre-Workout Foods and Fluids

Our bodies consist of 60–65 percent water. Fluids are the key to life. It is estimated that 20 percent of our water needs are met through foods, and not fluids (contrary to popular belief). Our bodies need to stay properly hydrated for optimal workout performance. Within two hours of exercising, drink 16 oz. of fluids, or consume foods that are higher in water content, like fruits and vegetables.

Pre-exercise meals should include readily digestible foods and contribute to the energy and fluid requirements of the exercise to prevent needless fatigue. Meals high in carbohydrates and relatively low in lipids and proteins serve this purpose. Three hours prior to exercise provides sufficient time to digest and absorb a pre-exercise meal. Your goal is to target 0.5 grams of carbohydrate per pound of body weight. One gram of carbohydrate equals 4 calories, meaning a person weighing 150 pounds should target about 300 calories (about 3 oz. of pasta, one extra large sweet potato, or 2 cups of mixed berries).

Increasingly, experts suggest eating a small amount of protein and carbohydrates before exercise to optimize your workout. If timing is a constraint, a snack 10 minutes before exercise will be digested and burned during exercise, assuming you will be exercising at a pace you can maintain for more than 30 minutes. Research suggests this pre-exercise snack can help you perform 10 percent harder in the last 10 minutes of a one-hour workout. Depending on how your stomach tolerates fuel before workouts, solids or semisolid foods work equally well. Commercially prepared liquid meals or nutrition bars (100–250 calories) offer a practical approach to pre-workout nutrition and energy supplementation. These meals or bars can provide balance in nutrient value and contribute to fluid needs.

## Foods and Fluids During Workout

A study published in the *International Journal of Sports Nutrition and Exercise Metabolism* shows that a sports drink containing protein (a carbohydrate-protein-electrolyte sports drink) was 15 percent more effective in rehydrating athletes than a conventional sports drink (such as Gatorade or Endura) and 40 percent more effective than water as protein added to a sports drink improves fluid retention. Adequate energy needs to be consumed during times of high-intensity workout to maintain body weight and maximize the training effect. Carbohydrates are important to maintain blood glucose and replace muscle and liver glycogen (stored glucose). During exercise, carbohydrates must be provided at the rate of 30–60 grams per hour (equals 120–240 calories per hour depending on body weight and exercise intensity).

Sensei **Steve Sohn**, principal and owner of Steve Sohn's Jujitsu Concepts in Scarsdale, is a martial artist who teaches high-intensity kickboxing classes. He observes that those who keep their bodies fueled with proper foods and hydration are able to perform much better during his strenuous workouts.

High-intensity aerobic exercise for one hour can deplete liver glycogen by 55 percent, whereas a two-hour strenuous workout nearly depletes the glycogen content of the liver and specifically exercised muscles. As you deplete muscle glycogen, your body will rely on glucose (sugar) in your blood for energy. Thus, consuming sports drinks, sports gels, bananas, and other carbohydrate-based foods during exercise will fuel your muscles, regulate your insulin level, and prevent fatigue. Consume 8 oz. of fluid every 15-20 minutes to rehydrate. Remember, hydration increases exercise performance and enhances concentration.

### **Post-Workout Foods and Fluids**

After a strenuous workout, consume moderate to high glycemic index carbohydrate-containing foods (50-75 grams) for rapid carbohydrate replenishment. The glycemic index provides a relative measure of blood glucose increase after consuming a food containing 50 grams of carbohydrate. With optimal carbohydrate intake, glycogen stores replenish at a rate of about 5-7 percent per hour. Consuming some protein along with the carbohydrates stimulates faster glycogen replacement and optimizes muscular repair and growth. Examples of commercial foods for refueling include a small bagel with peanut butter, milk and a high-protein cereal, pasta with meat sauce. If solids are intolerable after a workout, liquids like protein shakes and smoothies work just as well. Consume simple carbohydrates only after an intense workout.

As for fluids, you would want to stay hydrated, thus preventing dehydration, rather than treating dehydration after exercise. Sports drinks, fruit juices, smoothies, and fruits high in water content like watermelon and oranges are far better than plain water as these provide carbohydrates, protein, vitamins, and other nutrients (lost through sweat) that optimize recovery.

---

*Dr. Robert G. Silverman, a graduate of University of Bridgeport, College of Chiropractic, is a certified nutrition specialist and a certified clinical nutritionist and M.S. in Human Nutrition, a certified strength and conditioning specialist, a diplomat with the American Clinical Board of Nutrition, and a certified sports nutritionist from the International Society of Sports Nutrition. In private practice in White Plains, he is a nationally known speaker and author and can be seen weekly on Get Healthy with Dr. Rob. For more information, call (914) 287-6464 or visit [www.DrRobertSilverman.com](http://www.DrRobertSilverman.com).*