

NUTRITION RECOMMENDATIONS FOR BEFORE, DURING AND AFTER WORKOUTS



Based on the Nutrition and Athletic Performance Joint Position Statement from the American Dietetic Association, Dietitians of Canada and the American College of Sports Medicine

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Some of the most frequently asked questions from athletes deal with food and fluid consumption before, during and after workout. Recently, the American Dietetic Association, Dietitians of Canada and the American College of Sports Medicine published a joint position statement that included recommendations about food and fluid consumption at those critical times.¹ The guidelines below were developed to provide practical food and fluid recommendations that can be used by practitioners to help athletes make food and fluid choices for those three critical nutrition designated need states.

PRE:

Before workout or competition, meals should be individualized, and differences need to be recognized. Optimal timing is not always feasible, due to scheduling or individual preferences. Athletes should experiment with foods and timing in training before using the strategies during competition. The timing of fuel and fluid intake is important when considering pre-workout nutrition.

Food

- > Studies on carbohydrates in which athletes consume 200–300 g CHO body weight three to four hours before competition have shown to help performance.
- > The closer to the start of competition or activity, athletes should consume less food. Athletes may benefit from consuming liquid carbohydrates such as pre-workout beverages or gels (25 g CHO/4 oz) or sports drink (containing 6–8% CHO solution) an hour or less before the start of physical activity.
- > Consuming a concentrated source of carbohydrates about 15 minutes before a workout works well when athletes do this in conjunction with carbohydrate intake during activity.

Fluids

- > At least two to three hours before a workout, drink 12–20 ounces (400–600mL) of water or a sports drink. This will optimize hydration and allow time for excretion of any excess fluid.

DURING:

Carbohydrate consumption should begin shortly after the start of physical activity.

Events lasting one hour or less; consumption of sports drinks (CHO 6–8% or 60–80 g/L) is sufficient.

- > This is especially important when working out after an overnight fast or when liver glycogen is decreased.

Longer events; consumption of 30–60g CHO/hr has been shown to extend endurance performance.

- > Consumption of 6–12 ounces of sports drinks with 6–8% CHO concentration every 15–30 minutes during activity can extend workout capacity of athletes who participate in prolonged or intermittent sports.²

Fluid losses will vary depending on the sport, the individual and environmental conditions. The athlete should attempt to anticipate the losses as a guide to fluid intake during activity.

AFTER:

The window for optimal post-workout recovery is six hours after its cessation. The first 30 minutes are when the most rapid glycogen re-synthesis occurs.

Intake of 1.0–1.5 g CHO/kg within 30 minutes after workout increases glycogen storage and decreases recovery time when compared to ingestion two hours after workout.

Adding protein to a post-workout recovery snack will not enhance muscle glycogen stores. However, consuming protein along with carbohydrates will support muscle repair and growth.

- > Recent research suggests that consuming about 20 g of protein is the maximum amount needed to stimulate synthesis and repair of muscle.³
- > Research shows that ingestion of 7–10 g of protein along with carbohydrates within 30 minutes of activity is enough to start muscle protein synthesis. Repeated feedings up to six hours post-workout may help provide a pulsing effect for muscle rebuilding over time.⁴
- > Athletes need to continue the recovery process by consuming 1.0–1.5 g CHO/kg approximately two hours post-workout.

A simple guideline of consuming 2–3 cups of fluid for every pound lost and not replaced (net loss) during physical activity can help athletes replace lost fluids post-workout.

- > Water alone is not the best replacement for acute recovery strategies, due to concomitant possible losses of electrolytes.
- > Consuming rehydration beverages and salty foods as subsequent meals/snacks will help replace fluid and electrolyte losses.

CONCLUSION:

Adopting nutritional strategies from the joint position statement will often help athletes improve workout tolerance and recover from training and competition. An important premise of these general recommendations is that the optimal mixture of nutrients to speed recovery from hard training and competition can be obtained by eating wholesome foods and beverages, provided correct choices are made regarding food type, amount and timing. The primary advantages of properly formulated products marketed for “sports nutrition and recovery” are convenience and good taste.

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