

Optimum Pre and Post Game Nutrition for Athletes

By Elena M. Davis, M.S., R.D.

Most athletes are continuously looking for ways to improve his or her performance, encouraging their body to perform at maximum potential. In order to their body healthy and keep themselves in optimal shape for sports, athletes will want to hit two important points with their diet: high energy and healthy nutrients. With the right amount of attention paid commitment on the field and the best possible nutrition at the training table, desired results can be achieved.

The Pre-Exercise Meal

The pre-event meal serves two purposes. First it keeps athletes from feeling hungry and sluggish before and during the game, and secondly it helps to maintain optimal levels of energy (blood glucose) for the exercising muscles during competition. While fuel is needed to perform, exercise should not be undertaken on a full stomach. Food that remains in the stomach during competition may cause indigestion, nausea and possibly vomiting. The best practice is to consume a meal 3-4 hours prior to the game. The athlete should get in the habit of testing the ideal time frame for digestion for his or her body during training; taking into consideration that nervousness on game day could delay the digestive process.

The ideal pre-game meal should be composed primarily of complex carbohydrates, moderate protein and be low in fat. Carbohydrates digest rapidly with protein and fat taking longer to digest. Pre game meals high in fat can cause stomach upset, gas and bloating.

Examples of foods to consume 3-4 hours pre-game:

- Whole grain cereal with non-fat milk and a piece of fruit
- Fruit shake made with banana, strawberries, mango 100% fruit juice and non-fat yogurt
- Low-fat bran muffin and low fat yogurt
- Whole wheat toaster waffles with ½ cup applesauce and low-fat yogurt
- Whole grain toast with small amounts of nut butter and jam
- Lean turkey on whole-wheat bread with an apple
- Vegetable-bean soup and whole grain crackers
- Whole-wheat pasta, vegetables and a lean meat sauce
- Vegetables, brown rice and fish or chicken breast
- Ham sandwich with a glass of 100% fruit juice or nonfat milk
- Fig Newton's and 16 oz. of nonfat chocolate milk
- String cheese, whole grain crackers and grapes

Tournaments and Longer Lasting Competitions

During tournaments and competitions where multiple games are played in a single day, mini meals and snacks will be necessary to remain fueled for subsequent games. These meals will need to be composed primarily of carbohydrates in order to have digestion completed prior to the game and while allowing for energy at game time.

Examples of foods to consume 1-2 hours pre-game:

- Whole-wheat toast with jam
- Banana, apple or other piece of fruit
- Low-fat yogurt
- Dry cereal (non-sweetened)

- English muffin
- 3-4 *Fig Newtons*
- Fat-free chocolate milk
- Energy bar

The Post-Exercise Meal

Eating for peak performance also includes making wise food choices post-exercise. The right post-game meal replenishes the athlete's muscles for the event or competition around the corner. Blood flow to muscles is much higher immediately after exercise allowing the muscle cells to take up more glucose therefore maximizing muscle glycogen synthesis. **Muscles are most receptive to recovery during the first 30 minutes after competition.** Consuming protein along with a source of carbohydrate after exercise provides the amino acids necessary for muscle repair. If muscle damage is not repaired after an event, the damage can impede muscle glucose uptake and glycogen storage, thereby limiting your performance during your next training session or event. A general rule of thumb is consuming 1 -1.5 g carbohydrate per kilogram body weight immediately after exercise. (*Ex. 150 lb. person 70-100 grams (280-400 calories)*). An additional 1-1.5 grams of carbohydrate per kilogram should be consumed 2 hours later. If solid foods are not tolerated or not available 30 minutes after exercise, a sports drink, energy gel, energy gel blocks or energy bar can be consumed.

Examples of foods to consume within 30 minutes post-game:

- Peanut butter and banana sandwich on whole-wheat bread
- Non-fat chocolate milk
- Fruit shake made with banana, strawberries, mango, 100% fruit juice and non-fat yogurt
- Beans and brown rice
- Sports beverage containing carbohydrate and protein
- Cereal with non-fat yogurt
- Turkey and cheese on whole wheat bread
- Peanut butter on crackers
- Granola bar and glass of nonfat milk
- Pasta with a lean meat spaghetti sauce
- Graham crackers and yogurt
- Peanut butter and apple slices

Ultimately by giving extra attention to pre and post game nutrition you will reap rewards on the field come game day.

Elena Davis is a registered dietician and has spent much of her career in private counseling for weight loss, athletic performance and disease management.

Resources

- American College of Sports Medicine (ACSM) www.acsm.org
- American Dietetic Association www.eatright.org
- Clark, Nancy, MS, RD. *Nancy Clark's Sports Nutrition Guidebook*. 4th Ed. Champagne (IL): Leisure Press; 2008.
- Clinical Sports Nutrition, Third Edition (Louise Burke and Vicki Deakin)
- Nutrition Care Manual website [Internet]. Chicago (IL): American Dietetic Association: [cited August 2010].
- Sawka, M. et al. Position Paper: Exercise and Fluid Replacement. *Med SciSports Exerc.* 2007: 377-390.