



Grains of truth about NUTRITION FOR ATHLETES

Like most people, eating is a pleasure for athletes. However, they can eat large amounts of the foods they like, especially grain products such as pasta, bread, bagels, pizza, pretzels, cereals, crackers and tortillas. These foods are high in complex carbohydrates, the body's best source of energy.

Carbohydrates are the most essential nutrient in an athlete's diet because they are the only fuel that can sustain intense exercise for extended durations. Low carbohydrate intake can hurt performance; high carbohydrate intake improves it.

Whether a person runs marathons or simply takes daily walks to keep in shape, eating a diet high in carbohydrates will help improve personal bests. Sports nutritionists recommend athletes eat as much as 60 to 75 percent of their total calories in the form of carbohydrates.

Carbohydrates	Proteins	Fats
55 – 65%	12 – 15%	20 – 25%

Definition

Simple carbohydrates are found in fruits, most vegetables, milk, table sugar, brown sugar, corn syrup, molasses and honey. They digest faster than complex carbohydrates, proteins or fats and provide short bursts of energy.

Complex carbohydrates are found in starchy foods such as pasta, bagels, bread, rice, legumes, other grain products and some vegetables. Complex carbohydrates are digested at a slower rate, giving the time-released form of energy athletes need. However, enriched and fortified grain products and potatoes digest more rapidly than whole grains.

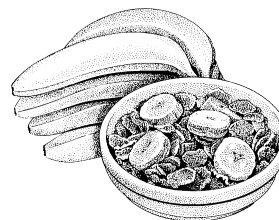
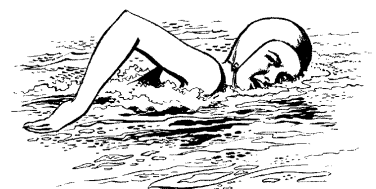
Carbohydrates are stored in your muscles as glycogen, the most efficient and readily available energy for exercise. Athletes "hit the wall" when glycogen is depleted. A conditioned athlete who eats a high carbohydrate diet can store enough glycogen to last 1 ½ to 2 hours of prolonged exercise.

Training diets

The 2005 U.S. Dietary Guidelines recommend eating a variety of foods from all five food groups for both athletes and "couch potatoes". The grain group—bread, cereal, rice and pasta—should be consumed in the largest quantities, five to ten ounces a day (depending on age, gender and activity level) with at least half the recommended servings coming from whole grains.

RECOMMENDED DAILY INTAKE

Food Group	Basic Diet 2,000 calorie	Training Diet
Grains	6 ounces	9 – 11 ounces
Vegetables	2.5 cups	2.5 cups or more
Fruits	2 cups	2 cups or more
Milk	3 cups	3 cups
Meat and Beans	5.5 ounces	5.5 ounces
Oils	5 teaspoons	7 – 9 teaspoons



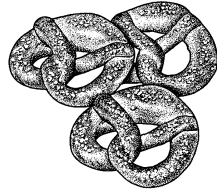
NUTRITIOUS HIGH-CARBOHYDRATE FOODS

COMPLEX

Breads
Bagels
Pasta
Tortillas
Hard/soft pretzels
Cereals
Graham/baked crackers
Legumes
Potatoes
Rice
Corn
Fig bar cookies

SIMPLE

Fruits
Most vegetables
Skim and 1% milk
Fat-free frozen yogurt
Fat-free yogurt shakes
Angel food cake



Pre-competition meals

All individuals differ in the way they digest foods because of variations in age, metabolism, training status and gender. Some athletes should never eat a candy bar right before an athletic event, while others thrive on them. The closer to event time, the fewer calories one should consume. Carbohydrates are always a better choice than fats or proteins because they empty from the stomach faster. Experiment during training, not during competitive matches.

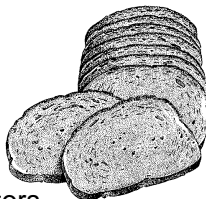
Eating and drinking during competition

Considerable research is being conducted in the area of eating and drinking during competition. The most recent research shows that carbohydrate drinks may help spare glycogen for both short and long term events. Carbohydrates from easy-to-eat food or beverages with 6 to 9 percent carbohydrate content are recommended because they empty the fastest from the stomach.

Carbohydrate reloading

Once the glycogen in the muscles has been depleted after 1 ½ to 2 hours of prolonged exercise, a high-carbohydrate diet immediately following exercise is the most effective way to replenish this reserve. Grain products are an excellent choice.

- ◆ Bite a bagel.
- ◆ Taste a tortilla.
- ◆ Polish off some pasta.
- ◆ Crunch some crackers.
- ◆ Break bread with fellow competitors.



High carbohydrate sport drinks, fruit juices and milk provide carbohydrates in addition to re-hydrating the body tissues. It appears the sooner carbohydrates are consumed, the more completely the glycogen is replaced. Experts recommend that athletes consume carbohydrates in the following amounts before, during and after endurance sports (Berning 2000):

BEFORE EXERCISE:

(3 – 4 hours before) – 200 to 350 grams
(1 hour before) 50 to 100 grams

DURING EXERCISE:

(per hour) – 50 to 60 grams

AFTER EXERCISE:

(within 30 minutes) 100 grams



Water consumption

While carbohydrate beverages play a definite role in prolonged exercise, cold water is still an option for the typical, short-duration event. Cold water clears the stomach quickly and is usually readily available. However, because Americans are so used to sweetened drinks, some teenagers will be more likely to drink a sports beverage than water.

Fluids should never be restricted. As little as a 2 percent weight loss due to dehydration can impair performance. Drink before, during and after exercise. ACSM has issued the following guidelines to help athletes stay hydrated (ACSM 2001):

TWO HOURS BEFORE EXERCISE:

Drink 16 ounces fluid

DURING EXERCISE:

Drink six-eight ounces of fluid every fifteen minutes

AFTER EXERCISE:

Drink 16-24 ounces of fluid for every pound lost during exercise.

WheatFoods
C O U N C I L

10841 S. Crossroads Drive
Suite 105
Parker, Colorado 80134
(303) 840-8787/Fax: (303) 840-6877
E-mail: wfc@wheatfoods.org
URL: www.wheatfoods.org

