

Nutrition for VB Players

Total Daily Energy Intake

Due to a great variability in body size and composition among athletes and differences in types and intensity of athletic training, there is no one single diet that meets the needs of all athletes or even one athlete at different stages of his/her training and competition.

Fluids

Adequate fluid intake is important to compensate for water loss during exercise. Water and non-caffeinated drinks are the best choices to quench thirst. Generally, 8 to 10 glasses of fluid a day from beverages and foods is sufficient. Greater amounts are needed to prevent dehydration during conditions that cause profused sweating including prolonged training and competition or training in hot climates. Sports drinks with small amounts of salt can be ingested to replace body electrolytes lost in sweat.

Warning Signs of Inadequate Fluid Intake:

+ Thirst, dry lips, dry mouth + Dark urine +
 Decreased urine output + Flushed skin +
 Fatigue + Irritability + Headache + Cramps

Macronutrients: Carbohydrate, Fat & Protein

The human body can obtain energy from three dietary sources: carbohydrate, fat, and protein. Carbohydrate is the primary source of energy for all athletes. Fat is an important energy source for endurance events. Protein is usually not used for energy, unless energy intake is less than energy expenditure or glycogen stores are depleted. Yet, adequate protein intake is required for muscle building and repair after a demanding workout.

Warning Signs of Inadequate Food Intake:

+ Unwanted weight loss + Persistent fatigue
 + General weakness + Lack of motivation to
 workout + Decreased concentration + Intense
 sensation of hunger + Preoccupation with
 food + Menstrual irregularity in women

The Basics

The Nutritional Goal is to consume adequate amounts of food and fluids to maintain optimal body composition, energy levels and health. Do not compare yourself with other athletes: focus on how your body feels and responds to training and recovery.

Vitamin & Mineral Supplements

Generally, a healthy balanced diet provides all of the essential micronutrients. Athletes who restrict their food intake or do not eat a quality diet may benefit from taking multivitamin and mineral supplements once a day. Some female athletes may need additional iron and calcium, as can be determined by a dietician.

Protein: The current recommendation for athletes is to consume 0.5-0.6 grams (g) of protein per pound (lb) of body weight. Those trying to build muscle mass or restricting calories to lose weight may increase protein intake to 0.7-0.8 g/lb. The majority of protein calories should come from foods of high protein quality that contain all of the essential amino acids.

Sources of high quality protein:

Lean meats and poultry, fresh and canned fish, egg whites, dairy foods including milk, cheese, cottage cheese, and yogurt, and tofu.

On average, lean meats contain 7 g of protein per ounce, one egg has 6 g, milk and cheese provide 6 to 8 g per serving, yogurt has 12 g per cup, and tofu has about 5 g per ounce.

Plant sources (lower quality): legumes, pasta, cereals, whole grains, and nuts.

Protein content is about 16 g per cup for beans, 5-6 g per cup for pasta and ready-to-eat cereal, and 3 g per slice for whole wheat bread. Nuts provide 4 to 6 g of protein per ounce.

Carbohydrate: Most athletes benefit from consuming a high carbohydrate diet. Carbohydrate-rich foods are characterized by the *Glycemic Index* (GI), which is an indicator of how rapidly blood glucose levels rise in response to the type of carbohydrate ingested. When consumed, high GI foods increase blood glucose levels rapidly, whereas medium and low GI foods take longer to digest and thus cause a more gradual increase in blood glucose. Each type of carbohydrate has a place in the athlete's diet.

High GI Foods such as sugary cereals, hard candies, juices, fruit drinks, non-diet pop, sports drinks, white bread, and some nutrition bars largely contain primarily simple carbohydrates, or sugars. Some of these foods are sources of quick energy but provide little or none of the essential nutrients. High GI foods are beneficial during certain periods of training and recovery, as indicated below.

Medium & Low GI Foods such as brown rice, whole grain bread, cereals, and pasta are sources of complex carbohydrates that provide energy as well as essential nutrients. Legumes (peas and lentils) and beans are rich in both carbohydrate and protein. Vegetables and fruits contain mixtures of simple and complex carbohydrates and are loaded with essential nutrients. It is important to include a variety of these foods in a daily meal plan.

Fat: Although fat is a major source of energy, excessive intakes cause unwanted weight gain and affect performance. Fats differ in their nutritional and health values.

Limit consumption of saturated fat found in butter, rich desserts, creamy salad dressings, pastry, animal products (bacon, fatty meats), and deep-fried foods.

Consume in moderation mono- and poly-unsaturated fats that are found in fatty fish, such as salmon, mackerel and herring, and plant-based foods including peanut butter, nuts, seeds, and oils.

**T
r
a
i
n
i
n
g**

**C
o
m
p
e
t
i
t
i
o
n**

| | During Training or Competition | During Resistance Training | During 2 Hours After Exercise | Remaining Per Day | Nutrient amounts are provided in grams per hour and/or pound of body weight. The amount of grams per serving of food can be found on the Nutrition Facts Panel, a part of the food label. |
|---------------------|--------------------------------|-------------------------------|-----------------------------------|--|---|
| CARBOHYDRATE | 70 g / hour Medium-High GI | 70 g / hour Medium-High GI | 50-100 g / hour Medium-High GI | 3-4 g / pound Low GI | |
| PROTEIN | | 15-20 g / hour | 0.1-0.25 g / pound / hour | 0.6-0.8 g / pound | |
| FAT | | | | The remaining of needed calories to maintain or increase body weight | |

During training or competition carbohydrate consumption in liquid rather than solid form may be preferred to avoid intestinal distress. If dehydration is a concern, water or non-caffeinated beverages with small amounts of carbohydrate (14 g per 8 ounces or 6 g per 100 ml) and sodium (50-120 milligrams per 8 ounces) are the appropriate choice. Beverages with higher carbohydrate content increase carbohydrate availability for energy but delay rehydration.