

Fuel for Fitness

Calories

Meeting energy needs is a nutrition priority for athletes—it's important to consume enough, but not too many calories. Exact calorie needs depend on a variety of factors, including body size, age, sex, body weight, and the type, intensity, frequency and duration of exercise. Consult a registered dietitian to learn more about your specific calorie needs for marathon training and race day performance.

In general, the best diet for an athlete is one that contains a variety of foods from each of the major food groups—this will help ensure that your diet is made up of nutrient-rich foods. The chart below will give you a quick overview of the food groups recommended in the U.S. Department of Agriculture's MyPyramid. For more detailed information, visit www.mypyramid.gov.

Food Group	Major Nutrients	Examples	Tips
Grains	Carbohydrates, B vitamins, iron and dietary fiber	Whole wheat, oats, pasta, bread, rice	Choose mostly whole grains.
Vegetables	Carbohydrate, Folate, dietary fiber, Vitamin C, beta carotene	Broccoli, carrots, corn, spinach, beans, potatoes	Choose a variety of colorful vegetables. Vegetables may be cooked or raw, frozen, canned or dried.
Fruit	Carbohydrates, Vitamin C, beta carotene, potassium, dietary fiber	Mangos, bananas, strawberries, kiwi, grapes	Choose a variety of colorful fruits. Fruits may be fresh, frozen, dried or canned.
Milk	Protein, fat, carbohydrates, calcium, vitamin D, phosphorous	Milk, yogurt, cheese	Choose fat-free or low-fat products
Meat and Beans	Protein, fat, iron, B vitamins	Beef, lamb, chicken and fish	Choose mostly lean cuts of meat and poultry.
Oils	Healthy fats (monounsaturated and polyunsaturated) and vitamin E	Canola and olive oil; almonds, walnuts, pecans and peanuts	Choose oils that are liquid at room temperature (this is a sign of a healthy oil). Remember that oils have more calories ounce for ounce than other food groups, so use wisely.

Carbohydrates

Because carbohydrates are the primary fuel source for active muscles, athletes need to consume them on a daily basis. Carbohydrate-rich foods include fruit, some vegetables (potatoes and beans), grains, breads, cereals and some dairy products (milk and yogurt). **Approximately 55-60% of total calories should come from carbohydrates.** Athletes need to consume carbohydrates before, during and after exercise to provide fuel for the body and support overall health.

- **Before Exercise**

Before engaging in physical activity, it's important to make sure the muscles have adequate fuel in the form of carbohydrate. On the day of an event, consume a light, balanced breakfast containing carbohydrates and some protein. A snack containing approximately 0.5 grams of carbohydrate per pound of body weight should be consumed within the hour before exercise. The amount and types of food consumed on the day of an event depends upon your stomach's ability to tolerate pre-event food.

- **During Exercise**

Carbohydrates should be considered during exercise if the athletic event is more than one hour, is very intense, or if the athlete did not eat anything prior to the event. Liquids are generally better tolerated than solid foods during athletic performance. **Consuming a carbohydrate-rich sports beverage or fruit juice will provide carbohydrates for energy and fluid for hydration.** For endurance events, such as marathons, you should plan to consume 200-250 calories from carbs each hour.

- **After Exercise**

Because the athlete's body will use a lot of carbohydrates for energy during an athletic event, it's essential that these carbohydrates be replaced when the activity is over. This will help speed recovery and preparation for the next event or practice session. A good rule of thumb recommended by sports nutrition experts is to consume 0.5 grams of carbohydrates per pound of body weight along with a small amount of protein as soon as possible post-exercise and every hour for four or five hours.

Mangos—The Fun and Refreshing Fuel

Mangos and marathons go hand in hand. With over 30,000 participants in 2007, the Marine Corps Marathon shows how popular marathons have become in the U.S. This pairs naturally with mangos, because they are the most popular fruit in the world! But mangos have more going for them than sheer popularity— mangos deliver a host of important nutrients and are refreshing and delicious.

Mangos are an excellent source of vitamins C and A, both important antioxidants. Vitamin C supports healthy immune function and vitamin A is important for vision and bone health. They also deliver carbohydrates, the essential fuel for active muscles.

Mangos: Perfect Before and After an Event

Because they contain carbohydrates and other important nutrients, mangos are a perfect addition to pre- and post- run snacks or meals.

- **Mango Yogurt Parfait** -Filled with protein and calcium from the yogurt, fiber and minerals from the granola, and carbohydrate and antioxidants from the mango, this parfait is the perfect blend of high-performance nutrients. Visit http://mango.org/recipes/mango_recipe.php?Mango-Yogurt-Parfaits&mango_recipe=6 for the full recipe.
- **Peanut Butter, Mango and Honey Roll Ups** -This recipe is a delicious combination of protein, carbohydrates, antioxidants and fiber. To top it all off—it travels easy! Visit http://mango.org/recipes/mango_recipe.php?Peanut-Butter,-Mango-and-Honey-Roll-Ups&mango_recipe=75 for the full recipe.

Mangos—Easy as One, Two, Three

New to mangos? No sweat! They're super-easy to slice and dice. Follow these simple instructions to easily cut a mango every time:

Stand the mango on your cutting board stem end down and hold. Place your knife about 1/4" from the widest center line and cut down through the mango. Flip the mango around and repeat this cut on the other side.

The resulting ovals of mango flesh are known as the "cheeks". What's left in the middle is mostly the mango seed.

Cut parallel slices into the mango flesh, being careful not to cut through the skin. Scoop the mango slices out of the mango skin using a large spoon.

Visit <http://www.mango.org/about/howtocutamango.php> to watch a video demonstrating how to cut a mango and find more delicious recipes, tips and games.