



Name _____ Date _____

Email _____ Phone _____

Fueling Baseball Players

Baseball is a skill sport and requires fine motor control, quick reaction time, and good hand-eye coordination.

Since most players on the field are not continuously active, baseball players probably burn more calories in training and conditioning than during actual games. Pitchers and catchers burn more calories than players in other positions. For example, a 183-pound pitcher who throws for 2 hours burns about 900 calories, but an outfielder only burns about 600 calories during 2 hours of play. That's not a lot of calories, especially when you consider that 2 slices of a large meat-lover's pizza contain 940 calories and 6 buffalo wings have 720 calories.

USA Baseball is the national governing body for elite baseball players (www.usabaseball.com).

Fueling Strategies

Baseball players may burn more calories in practice and training and conditioning sessions than during games. Many baseball players try to bulk up or build muscle for power at bat. Eating 5 to 6 meals with nutrient-rich foods each day can fuel performance and help meet body composition goals.

The nutrients that provide energy (calories) are carbohydrate, protein, and fat. The amounts of each nutrient you need to fuel your practice and competition are given below.

Carbohydrate

Carbohydrate should make up most of your diet. During intense training periods, eat 1.8 to 2.7 grams of carbohydrate per pound of body weight per day (4 to 6 grams per kilogram). For example, a 183-pound baseball player would need 330 to 495 grams of carbohydrate a day. On less intense training days or when sidelined by injury, you only need 1.4 to 1.8 grams of carbohydrate per pound (3 to 4 grams per kilogram).

Choose high-quality carbohydrate foods such as whole grain breads and cereals, rice, pasta, starchy vegetables, whole or dried fruit, and low-fat milk and yogurt. Eat fewer refined carbohydrates and sweets such as pastries, cookies, cakes, candy, sugar-sweetened soft drinks, fruit drinks, tea, and specialty coffee drinks.

These foods have **15 grams** of **carbohydrate**:

- 1 slice bread
- 1 6-inch tortilla
- ½ cup corn
- ½ cup mashed potatoes
- ½ medium baked or sweet potato
- ⅓ cup rice
- 3 cups popcorn
- 1 small apple
- 15 grapes
- 2 tangerines
- 2 tablespoons raisins
- ½ cup orange juice
- 3 cups green beans
- 1¼ cups milk or yogurt

Protein

Protein provides the building blocks for muscle mass and for healthy growth and development. You need 0.6 to 0.8 grams per pound (1.4 to 1.7 grams per kilogram). For example, a 183-pound baseball player would need 110 to 146 grams of protein a day.

These foods have
7 grams of protein:

- 1 ounce cheese
- 1 ounce beef, pork, chicken, turkey, or fish
- ¼ cup cottage cheese
- ½ cup black beans or kidney beans
- 1 whole egg
- 2 tablespoons peanut butter
- 1 cup milk or plain yogurt

Timing of protein intake is important for building muscle. Eat 20 to 25 grams of protein within the first hour after weight training to provide needed amino acids (the building blocks of protein) to your muscles for repair and growth. Eating more protein than the recommended amount will not build muscle faster or add extra muscle mass.

Choose lean protein foods such as lean beef and pork, chicken, turkey, fish, eggs, and low-fat dairy foods. Nuts are a good source of protein and contain healthy fats. Eat fewer high-fat protein foods such as regular burgers, brisket, ribs, sausage, and full-fat cheeses and dairy foods.

Fats

There is no specific recommendation for fat for baseball players, but healthy fats should be a part of every athlete's diet. Healthy fats include olives and olive oil, nuts and nut butters, avocado, and vegetable oils (such as canola oil). Fat has more calories than carbohydrate or protein so healthy fats can add calories for baseball players who want to gain weight.

What Should Baseball Players Eat Before and After a Workout?

When possible, eat 3 to 4 hours before a hard practice or competition. Aim for a low-fat meal with 200 to 300 grams of carbohydrate and 30 grams of lean protein. This will ensure you have enough fuel on board but will leave time for your stomach to empty before you take the field. A turkey sub sandwich with baked chips and a side of fruit or a grilled chicken wrap on a flour tortilla with pretzels and fruit juice or low-fat milk are examples of meals that will meet the energy demands of practice or competition.

If there is not enough time to eat 3 to 4 hours before practice or competition, eat a snack 1 to 2 hours before you begin your workout. Good choices include a small bagel with peanut butter, granola or cereal bars, cheese and crackers, cereal and milk with banana, or yogurt. If there is less than 1 hour before exercise, liquids may be the best choice. Drink sports drinks or a low-fat liquid meal replacement.

For practices longer than 1 hour, for doubleheaders, or for all-day tournaments, pack portable snacks. Try to eat 25 to 30 grams of carbohydrate every hour. Good choices for snacks include sports drinks, which provide carbohydrate, fluid, sodium, and potassium; peanut butter

sandwiches; pretzels; string cheese; trail mix; dried fruit; orange slices; baked chips; smoothies; or 100% fruit juice.

After practice, recover with a carbohydrate- and protein-rich snack. Carbohydrate replaces muscle glycogen (carbohydrate stored in muscles) that was lost during a long practice or competition, and protein stimulates muscle protein repair. Good choices include a turkey or grilled chicken sandwich, a slice of vegetable-cheese pizza, low-fat chocolate milk, cottage cheese and fruit, or cheese and crackers. If you are practicing or competing the next day, start your recovery within 30 minutes after training. If the following day will be a rest day, add recovery foods to your next meal.

Vitamins and Minerals

Baseball players can get all the vitamins and minerals they need by making healthy food choices and eating a variety of foods. Have at least 5 servings of fruits and vegetables each day. Adding berries to breakfast cereal, dried fruit to trail mix, frozen fruit to plain or vanilla yogurt, side salads with meals, vegetables on sandwiches, and salsa on baked potatoes and snacking on fresh fruits and vegetables will help you get all the nutrients you need.

Hydration Strategies: What Should Baseball Players Drink?

Baseball is played in the spring and summer months when heat and humidity can be high, so hydration is critical for sports performance and good health.

Water is best for most athletes. Plan to drink about 2 cups (16 ounces) of water 2 to 3 hours before a practice or game. Then drink 1 cup (8 ounces) of water 10 to 20 minutes before taking the field. When practicing or playing a game when the temperature and humidity are high, drink about 1 cup of fluid every 10 to 20 minutes during activity. Keep a sports bottle filled with water at the bench so it is easy to reach.

Sports drinks are a good choice when you have long practices, when the game goes into extra innings, or when you're playing multiple games during a tournament. Stick to the basic tried-and-true sports drinks such as Gatorade or PowerAde, because they provide a good balance of carbohydrate, sodium, and potassium to replace losses. Follow the same drinking schedule as for water, but also listen to your body. Drink when you are thirsty and monitor how much you urinate and the color of your urine. If you are urinating frequently throughout the day and your urine is a light-straw color, you are probably drinking enough fluids.

Notes:

Frequently Asked Questions

My teammates use a pre-workout drink that claims to provide energy and improve concentration. Are pre-workout drinks really useful?

Pre-workout drinks are no more beneficial than eating real food or drinking water or sports drinks. Some pre-workout drinks contain high levels of caffeine and/or other stimulants that can hurt your performance by causing anxiety or hand tremors. If you are considering using a pre-workout formula, check the label for banned substances. Many college athletic departments have a policy that any supplement, including pre-workout formulas, be evaluated by the sports dietitian or athletic trainer.

We always play evening games and go out for pizza or wings after the game. Are these foods healthy?

If you have a choice, eat cheese pizza or pizza topped with vegetables such as green peppers, onions, mushrooms, or olives. If you want a meat topping, the leanest meat choice is Canadian bacon. Skip the stuffed crust and pepperoni and sausage pizza. Add a side salad to get some extra vegetables. If you order wings, try the boneless wings, which are usually made from chicken breast meat, and order them baked, not fried, to keep calories in check. And don't forget to check out the restaurant's website on your smartphone for nutrition information before you order. Many restaurants post calorie information on the menu board, so compare choices that fit within your calorie budget.

What are some good resources for nutrition and baseball?

The best resource is a registered dietitian nutritionist, especially one who specializes in sports nutrition.

To find a qualified sports dietitian, connect to the website of Sports, Cardiovascular, and Wellness Nutrition (SCAN) (www.scandpg.org) and use the "Find a SCAN RD" search box. SCAN also has free sports nutrition fact sheets on a wide range of topics at www.scandpg.org/sports-nutrition/sports-nutrition-fact-sheets.

For online resources, check out the United States Olympic Committee's sports nutrition resources at www.teamusa.org/About-the-USOC/Athlete-Development/Sport-Performance/Nutrition. You will find many resources there, including videos, recipes, and eating guidelines for athletes.