



Baseball

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About the sport

Traditionally, baseball has been a sport based on skill, with less emphasis on physical fitness or physique. Today however, baseball athletes need a high power-to-weight ratio to be both agile and strong. Physical requirements differ depending on the playing position. The pitcher and catcher have unique requirements, with the remaining fielders forming a more homogenous group. Baseball is played at junior level through to elite, with most Australian baseball athletes aiming for selection to play for a major league team in the USA. Multiple games may be played per day and game time can vary from 1½ hours to over 3 hours.

Training & competition

In Australia, most players will train and play at a club level and may be associated with representative or talent development programs. Annually, scouts from overseas attend a scouting camp to recruit players for the minor or major leagues, particularly in the US. The camp runs over an intensive month, often with two or more training sessions per day.

Competition is a weekend event usually with one game per day, sometimes two. A unique element of baseball is that many substitute players are permitted and there are often five or more starting pitchers and further relief pitchers in reserve. Aggressive and intense play is required throughout the whole game and while there is considerable recovery time available during a game, the long duration of the game and potential hot and humid environments may challenge an athlete's nutrition and hydration plan.

Baseballers need to eat according to their training needs to maximise their performance. The nutritional goals for baseballers are to prevent fatigue, maintain

concentration and ensure adequate hydration. A balanced diet that includes a wide range of foods, which matches the players training and competition needs is recommended for optimal performance. Baseballers need:

Moderate amounts of foods rich in carbohydrates

To sustain training requirements and prevent fatigue during a game, lower GI carbohydrate choices are suggested. (See our factsheet on Glycaemic Index.) Carbohydrate-rich foods should be included at every meal and snack for fuel as well as for recovery.

Protein-rich foods at each meal and snack

Protein is important for recovery and to support growth & development of muscle and body structures. The body can only absorb a limited amount of protein; any excess will be broken down for fuel or stored as fat. A lean source of protein such as trimmed red and white meats, fish, nuts & seeds, low fat dairy, legumes such as lentils & baked beans and tofu at each meal is sufficient. A protein-containing snack, e.g. dairy or nuts, especially after training, will enhance recovery.

A moderate intake of mono-and poly-unsaturated fats

A small amount of 'good' fats are required every day for good health and body maintenance. Good sources of fat include fish, avocado, nuts, plant oils such as olive and canola and margarine.

Very limited amounts of takeaway and processed foods such as lollies, crisps, pastries, cakes and soft drinks.

These foods are generally low in nutritional value and often are high in fat and calories, which may contribute to body fat gain.

Fluid needs

Adequate hydration during play/training is critical for performance. Dehydration can result in impaired skill development, poor focus and concentration, fatigue and heat stress. Fluid requirements are highly individual and will vary according to the athletes' size, gender, sweat rate, time in play and weather conditions. Players need to be familiar with their individual fluid requirements to manage their hydration levels. This is best achieved by taking weighing pre- and post-game or training session. Any change in weight reflects a change in fluid status and a loss on the scales signifies a loss of body fluid, which replenishing. A gain on the scales may indicate over-drinking practices. Some tips to stay hydrated:

- Any loss in weight should be countered by consuming 150% of the amount lost. E.g. If pre-game weight is 82kg and post-game weight is 81.4kg, weight lost = 600g (equiv. to 600mL). 150% of this is 900mL – this is the target for rehydration.
- Take note of your sweat rate in different conditions and aim to replace 80% of what you lose during the game or training session. Remember to drink at least another 20% after the session to return to an adequate hydration status.
- Cool drinks are more palatable than those at room temperature. Try to keep drinks in a cool place and freeze drink bottles in preparation for long games in warm weather.
- Water should be your fluid of choice in a game or training session. If it is hot, humid or its an intense, long training session or game a sports drink may be used. [Click here](#) for more information on sports drinks.

What should I eat before competition?

A baseball game may extend for several hours, and you may have to travel to and from the game. It is important to eat a pre-event meal, which contains carbohydrate to prevent fatigue. Low GI carbohydrate foods may provide an advantage as they are digested more slowly and including some protein in the meal may assist with feeling full so hunger does not distract you during the game.

The meal should be timed for 2-4 hours prior to the game, be a comfortable and familiar meal, low in fat and liberal in fluid. Suggestions include:

- Cereal with milk and fruit + a glass of juice and water
- Pancakes with fruit and syrup with plenty of water
- Toast with spreads, eggs or baked beans with water
- A sandwich with lean meat, cheese or spreads and a dilute cordial
- Pasta with a tomato based sauce and water
- Rice or noodles with meat/chicken/egg and maybe some vegetables with water
- Large bowl of fruit salad and yoghurt
- A fruit smoothie (a great choice for those who get nervous before a game!)

What should I eat during competition?

It is best to have a source of carbohydrate every hour, whether this is in the form of a sports drink or snacks such as fruit, muesli bars, crackers, a small sandwich, a milk drink or yoghurt. This is to help maintain concentration and ensure adequate carbohydrate stores during game play.

The game may extend over a meal time so it is important that meals are timed around the game with regular snacks to top up in between. Games can be unpredictable, so come prepared with plenty of snacks and fluid choices to last you through all circumstances.

What about recovery?

In baseball, there is a culture of alcohol consumption to celebrate or commiserate after a game in the sheds immediately after the game. Alcohol directly competes with the goals of recovery and affects rehydration, refuelling, muscle repair and can increase inflammation to any tissue damaged in play. Recovery choices are critical when playing multiple games in a day or backing up for another game/training the next day. Below are some tips for optimal recovery:

- ✓ **Rehydrate** (replace all fluid losses) BEFORE drinking alcohol. A weight pre- and post- game can help to achieve this.
- ✓ **Refuel & repair** with carbohydrate and protein as soon as possible (i.e. within 30m minutes) after the game BEFORE you drink alcohol
- ✓ If you do choose to drink, alternate alcoholic beverages with non-alcoholic drinks.

A note on building muscle

In the early stages of a baseballer's career, there is often a focus on building muscle to develop a stronger, more powerful athlete. The following components are keys to building muscle:

- **Time:** Building muscle takes many years! Top baseball players did not metamorphose overnight – they have been perfecting their game and body composition or many years. So be patient!
- **The right training:** A suitable exercise program specific to baseball is required to stimulate muscular adaptation and hypertrophy.

- **Energy:** Building muscle is a physically expensive process! It requires plenty of energy and eating plan that provides lots of nutritious foods such as breads and cereals; fruits and vegetables; dairy products; lean meat, fish, chicken, eggs, nuts & seeds and legumes and healthy fats.
- **The right parents:** Your ability to build muscle is genetically determined; some people are able to build muscle more easily than others.
- **Protein:** The right type, timing and amount of protein is required to build new muscle. However, adequate protein can be achieved through a well planned diet without consuming excessive amounts of meat, eggs or protein supplements. (See our fact sheet on [Increasing Muscle Mass.](#))

Other Nutrition Tips

Protein and other supplements are popular in baseball. Most players will consume enough protein in their diet, however, a protein or liquid meal replacement such as Sustagen® Sport may be necessary for convenience. In particular, whey protein supplements have been shown to assist muscle recovery and growth. Supplements are most effective with carbohydrate via low-fat milk or a carbohydrate-rich snack. Protein supplements should not replace a nutritious diet and should be carefully selected, as many formulations have been found to contain other ingredients (often not listed) which may result in a positive drug test. Go to www.asada.org.au for info.

Creatine and caffeine may also enhance performance. These are best taken in consultation with your sports physician and Sports Dietitian as they can have significant negative side-effects if not used carefully. If you would like more assistance with planning your eating plan or supplement intake, [click here](#) to find an Accredited Sports Dietitian near you.

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