FACT SHEET

FOOD FOR YOUR SPORT - BASEBALL

ABOUT BASEBALL

Baseball is a skill-based sport that emphasises motor skills, coordination and agility. In addition, baseball players also need a high power-to-weight ratio to be both quick and strong. In Australia, baseball is played at junior level through to elite, with most athletes aiming for selection to play for a major league team in the USA. Baseball is one of the few sports without a pre-defined time limit. Multiple games may be played per day and game time can vary from 1½ hours to over 3 hours.

Most players in Australia will train and play at a club level and may be associated with representative or talent development programs. Scouts from overseas attend a scouting camp annually 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.

A typical baseball season run for 26 weeks and competitions are usually held on a weekend with one game per day, sometimes two. Aggressive and intense play is required throughout the whole game. 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.

TRAINING DIET

AAlthough baseball is not a game of continuous activity and each athlete has considerable recovery time during a game, staying well hydrated and properly fuelled is especially important given the long duration of the game and potential hot and humid environments. The main nutritional goals for baseball players are to maintain energy levels and concentration and to ensure adequate hydration whilst meeting the requirements for good health and optimal body composition. Focus should be on a nutritious diet that includes a wide range of foods, which meet their training and competition needs..

The daily energy (kilojoules) requirement for a baseball player varies with his/her size, age, body composition and playing position. Pitchers and catchers typically require more kilojoules than infielders and outfielders. For example, an 80kg pitcher can burn up to 3,700 kilojoules in 2 hours of play, compared to a fielder who may burn closer to 2,500 kilojoules. Energy requirements also depend on the in and off-season training program and other goals the player may have.

1. Carbohydrates

Baseball players need approximately 3-5g of carbohydrates per kg of body mass per day to sustain training requirements and prevent fatigue during a game. Quality sources of carbohydrate include multigrain breads, pasta, vegetables and legumes as well as dairy and fruits are suggested.

2. Protein

Protein is important for recovery and to support growth & development of muscle. It is recommended to consume a protein containing meal or snack every 3-4 hours over the course of the day. Good sources of protein to consume include trimmed red and white meats, fish, low fat dairy, eggs, nuts & seeds, as well as legumes such as lentils & baked beans and tofu. A protein-containing snack, e.g. low fat chocolate milk, especially after training, can enhance recovery.

3. Fats

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

4. Extras

Frequent travel increases the exposure to low nutritional value and high fat and/or calories take-away and highly processed foods such as chips, pastries, cakes & soft drinks. These foods are poor preparation and recovery choices and can contribute to unwanted body fat gain.

FLUID NEEDS

IAs a baseball player, 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. Baseball players should adopt a habit of drinking often during training to stay hydrated and not rely on thirst as a prompt for drinking.

Some tips to stay hydrated:

- Any loss in weight should be countered by consuming ~150% (or 1.5 times) the amount lost. For example, if your pre-game weight is 82kg and post-game weight is 81.4kg
  Weight lost = 600g (eqv. to 600ml)
  Amount of fluid to be replaced = 600ml × 1.5 = 900ml
- Take note of your sweat rate in different conditions and aim to replace ~80% of what you lose during the game or training session.
- Chilled drinks promote fluid intake. Try to keep drinks in a chiller or icebox 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 an intense, long training session or game, a sports drink may be used.

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EATING 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 2-4 hours before the game, which contains carbohydrate to prevent fatigue. Low fibre and low fat foods may be preferable as they help with stomach comfort. Including some protein in the meal may assist with feeling full so hunger does not distract you during the game. Suggestions include (don't forget to drink some water with your pre-event meal):

- Cereal with milk and fruit + a glass of juice
- Pancakes with fruit and honey
- Toast with fruit spreads, eggs or baked beans
- A sandwich with peanut butter + banana
- Pasta with a tomato based sauce and water
- Rice or noodles with meat/chicken/egg sauce
- Large bowl of fruit salad and yoghurt
- A fruit smoothie (a great choice for those who get nervous before a game!)

EATING & DRINKING DURING COMPETITION

It is best to have a source of carbohydrate each hour of the game. This can a combination of fluids like sports drink and easy to eat snacks such as bananas, low fat flavoured milk tetras, creamed rice, muesli bars, crackers, light sandwiches, 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.

RECOVERY

The post game meal should focus on replenishing fuel stores and rehydration. This means having nutritious carbohydrate rich foods and plenty of fluids, In baseball however (as with many team sports), 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, refueling, 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 with water and other fluids (e.g. sports drink, flavoured milk) to replace fluid losses.
- Refuel & repair with carbohydrate and protein as soon as possible (i.e. within 30m minutes) after the game BEFORE you drink alcohol
- Replacing fluids, carbohydrate and protein should be the priority BEFORE drinking 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 baseball player'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 years of progressive training and good nutrition practices! Top baseball players did not transform overnight – they have been perfecting their game and body composition for many years. So be patient!
- The right training: A suitable exercise program specific to baseball is required to stimulate muscular adaptation and growth.
- 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.

OTHER NUTRITIONAL TIPS

Protein only supplements (e.g. whey powders) 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. See an Accredited Sports Dietiitan for more details.

Creatine and caffeine may also enhance performance. These are best taken in consultation with your sports physician and Sports Dietitian for the right dosage and loading strategies.