



Fuelling Fitness for Your Sport - Baseball

About Baseball

Baseball has some very unique requirements as far as sports go. Players are required to perform intermittently over the course of a game. However, the time frame that elapses from start to finish will be several hours. In addition, many young athletes are expected to train and play within a matter of hours of each other. This demand, in conjunction with the fact that many of these athletes are trying to gain muscle at the same time, poses some difficult nutritional issues. Furthermore, with a greater emphasis on keeping body fat levels low and power-to-weight ratio high, gone are the days where being an overweight baseballer is the norm. Therefore, we start with general training diet as the foundation and then move on to more specific aspects of the sport.

Training Diet

The *training diet* refers to what, the athlete, eats on a day-to-day basis. A good base intake ensures consistent performance at the highest level by

1. optimising energy levels
2. keeping you well hydrated
3. making sure all your basic vitamin/mineral requirements are being met

Below is a breakdown of the 4 main components of the training diet and some basic examples of the types of food that you may wish to incorporate into your daily routine.

1. Carbohydrate

Carbohydrate is your body's preferred source of fuel. Carbohydrate is stored with water as glycogen in muscles and the liver and can be called upon for energy production during the course of exercise.

↑ carbohydrate consumption = ↑ glycogen storage = ↑ energy potentially available

- Good sources of carbohydrate include: **bread, rolls, crumpets, fruit loaf, pancakes, pasta, rice, cous cous, fruit, potato, sweet potato, peas, sweetcorn, legumes (baked beans, lentils, red kidney beans), breakfast cereal, muesli bars, dry crackers and fruit flavoured dairy products (eg yoghurt)**
- Some of these types of food should be part of every meal and snack during the course of the day
- Aim to eat up to 6 **small** meals per day to ensure your carbohydrate needs are being met
- Products such as *sugar, soft drink, cordial, lollies and jelly* provide carbohydrate but are of little other nutritional benefit and therefore may contribute but not be the foundation of your diet

How Much Do I Need?

You need at least 5g carbohydrate per kilogram of body weight every day



- If you weigh 80kg, you need **at least** 400g of carbohydrate every day (80kg x 5g/kg = 400g)
- As a guide, the following list provides approximately a **total** of 400g of carbohydrate:
 - 6 slices of bread
 - 1 bread roll
 - 1 tablespoon of jam
 - 2 cups of cooked pasta
 - 2 pieces of fruit
 - 6 Weetbix
 - 1 muesli bar
 - 1 glass orange juice
 - 1 small tub yoghurt

There are many 'diets' recently promoted that encourage a reduction in carbohydrate intake. Remember, too little carbohydrate can cause a drop in your energy. If you are trying to reduce body fat levels start with decreasing your fat intake. This is more likely to influence your body fat and a reduced intake will not cause a drop in your energy.

2. ***Fat***

- Fat is extremely high in energy that is easily stored as body fat. Fat is not utilized during exercise as effectively as carbohydrate
- The higher the fat content of the diet potentially the higher the body fat levels
- Fat is very filling and a high fat diet may make it difficult to consume enough carbohydrate as per your daily requirements
- Minimise your fat intake by:

Reducing butter, margarine and oil in cooking/toast/sandwiches

Trimming fat and skin away from meat and poultry

Using reduced fat dairy products

Reducing intake of cakes, biscuits and take-aways

Minimising the use of dressings and mayonnaise

Selecting snack foods carefully

- Fat should NOT be avoided completely (< 20g per day is potentially harmful) as it is necessary for health and provides some energy, it just needs to be minimised/monitored
- Total fat intake should be less than 80g per day
- Never ignore your hunger (this may slow down the rate at which your body burns fat). Instead choose low fat/high carbohydrate snacks eg: muesli bar, wholegrain sandwich, bread roll, cereal, fruit, rice cakes etc
- Read labels to ensure that lower fat products are being selected and remember fruit, vegetables, pasta, rice, noodles, bread and most breakfast cereals and dry biscuits contain minimal fat it is what is added to them that can boost the fat content

3. ***Protein***

- Protein is primarily used for muscle generation and growth and to a lesser extent for energy
- Protein needs can easily be met by consuming meat, poultry or fish at least five times per week (in serves the size of your palm) and by including dairy products (low fat) three times each day
- Including more protein in your diet is not necessarily harmful, but do not let it take the place of the most valuable energy provider, carbohydrate
- In majority of cases *protein supplements* are **NOT** necessary

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4. ***Fluid***

- It is vitally important that you include adequate fluid each day to help ensure optimal performance
- DON'T let 'thirst' tell you when to drink – it is a poor indicator of hydration and often occurs when the body is already partially dehydrated
- Symptoms such as tiredness, thirst, cramping and constipation may be indicators of dehydration
- Aim to drink at least eight glasses of fluid each day and more if the above symptoms occur
- The best fluid is water
- Sports drinks (eg: Powerade, Gatorade etc) may be appropriate before, during and after training and games
- Beverages that contain caffeine, such as cola based drinks, tea and coffee should only be consumed in small volume as the caffeine in these drinks leads to impaired absorption of that fluid.
- Always have drinks available to you whether at school/work or travelling to and from training or games

Every time you eat, include at least one glass of fluid to help ensure you meet your requirements

The training diet is the foundation for your day-to-day nutrition. In conjunction with this you can now focus on specific things to include before, during and after training and games.

Carbohydrate Loading:

- In order to help get the most out of your training diet (ie: optimise energy levels) carbohydrate intake should be further increased in the 2-3 days leading up to games (especially if playing consecutive games/days)
- This simply involves:
 1. Trying to base at least 2 meals around carbohydrate (eg: pasta, rice, noodles, cereal) for the days leading up to a game
 2. Snacking regularly on low fat carbohydrate containing foods over the day (eg: bread/rolls, dry biscuits, fresh/dried/canned fruit, low fat yoghurt, fruit buns, raisin toast, muesli/sports bars etc)

Pre-Game Meal:

- The purpose of the 'pre-game' meal is to provide the final boost to energy stores that should have been built up through your training/carbo loading diet and ensure you do not get hungry during the game
- It should therefore meet the following criteria:
 1. based primarily around carbohydrate (pasta with tomato sauce, stir fry rice & vegetables, breakfast cereal with low fat milk, fruit/salad, toast/roll/crumpet/muffin with jam/honey/salad, low fat pancakes/waffles with syrup/sugar, Sustagen)
 2. low in fat (fat slows the rate of digestion and therefore means the energy in the food will take longer to become available)
 3. contain fluid – you should continue to drink/sip fluids leading up to and during the course of the game to keep yourself well hydrated. Best choices include water, cordial or sports drink (last two can help boost carbohydrate/energy intake as well as supplying fluid)
 4. familiarity – any type of food/meal pattern that you are experimenting with should always be trialled at training first in case any issues arise
- The timing of the pre-game meal will vary from person to person but should be completed at least 1 ½ hours before start time (allow time for digestion)

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- A small snack can be included closer to the time of commencement (eg: muesli bar, dried/fresh fruit)
- Those who feel too nervous to eat adequately should be encouraged to nibble on small quantities regularly and try drinking sports drink to obtain extra energy

If travelling from training to games it is vital that you are well organised

- Example of Saturday morning training and then playing

7.30am	Cereal with low fat milk	Drink (water/juice/cordial)
8.30am	Jam/honey sandwich or muesli bar	Drink (sports drink/water)
10.45am	Sandwich/roll/low fat muffin & fruit	Drink (sports drink/water)
12.00pm	Muesli bar or fruit or rice crackers/ dry biscuits with honey/jam/vegemite	Drink (water)
4.00pm	Sandwich/roll with salad & muesli bar	Drink sports drink/water)

- Some of these foods will have to be prepared the night before and taken to training with your baseball gear
- Food must become something that you pack with your baseball kit

During the Game/Training

- Drink water or sports drink at every opportunity
- Snacking during a change of innings can further help boost energy if feeling tired or lethargic (try fruit or jelly lollies but make sure you have used them before during training without any problems)

Double Header:

- If playing both games of a double header prepare as normal but ensure that you are drinking sports drink/cordial/caffeine free soft drink during the game to boost your energy
- In between games snack on a sandwich/roll, fruit, muesli/sports bar, fruit stick, low fat muffin/bun, sultanas
- Avoid high fat foods from the canteen (eg: pies, sausage rolls, chips, chocolate etc.)
- An extra snack may be required during the second game and should be eaten as needed (refer to 'during the game')

Recovery:

- The most important time for nutrition in the recovery from training and games is the first two hours immediately after completion. This is because the body is extremely willing to replenish its used carbohydrate stores (glycogen).
- This is especially important when you are required to 'back up' again later that day or the next
- It is critical that you replace what you have used and then store for the next session/game to ensure performance will not be hindered
- Therefore the focus of your recovery should be placed on:

1. Carbohydrate

- appropriate carbohydrate based snacks for immediately after training and games include : sandwiches, bread rolls, fruit (fresh/canned/dried), low fat yoghurt, low fat muffins/buns, sultanas, fruit sticks, muesli bars, flavoured milk (low fat)
- follow this up with a carbohydrate containing meal within the next 2 hours (eg: pasta, noodles, rice, bread/rolls, sweet/potato, corn, peas)
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2. Fluid

- If training/playing more than once a day or within the next 2-3 days it is vital that you replace lost fluid
- Water or sports drink are the best choices for replacing lost fluid
- Using sports drink to as part of the re-hydration process can be a good option because they are absorbed faster and allow more rapid recovery
- Weighing yourself before and after training/games can give you an idea of your individual fluid losses and how much more you typically may need to drink

In order to recover nutritionally as quickly as possible between training and games you must have appropriate types and quantities of food with you at all times. Be organised!

How to Get Involved

Click on the link below to find out more information about baseball and how to get involved.

<http://www.baseball.com.au/>

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