

# Sports Nutrition for Youth: What to Eat Before, During and After Activity Module

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# Introduction

The information contained in this module has been adapted from [Sports Nutrition for Youth: A Handbook for Coaches](https://www.albertahealthservices.ca/assets/info/nutrition/if-nfs-sports-nutrition-for-youth.pdf), <https://www.albertahealthservices.ca/assets/info/nutrition/if-nfs-sports-nutrition-for-youth.pdf>. The information in the handbook is based on current research and best practice in sports nutrition at the time of publication. These modules aim to support coaches who work with recreational athletes, rather than elite athletes. Coaches should always consult a sports dietitian for young athletes who compete at an elite level or who need special nutrition advice.

These short learning modules highlight the key sport nutrition concepts that coaches can teach their athletes and parents. Coaches can deliver content from the modules in the dressing room, on the bench or during formal discussions. No technology is required. There are a total of six sport nutrition modules available and they include:

- What to Eat Before, During and After Activity
- What to Drink Before, During and After Activity
- Planning for Tournaments, Competitions and Travel
- Choosing Healthy Drinks
- Nutrition Supplements and Sports Performance
- Alcohol and Sports Performance

## How to use this module

**Key teaching points:** These spotlight the main nutrition messages from the module to share with athletes and parents.

**Background information:** This section provides greater detail and research about the topic of each module including explanations of the ‘what’ and ‘why’ behind the key messages.

**Materials for athletes:** These tools and resources include websites and handouts that can be passed along to your athletes and parents to provide extra ideas to support healthy eating for athletes.

**Time to deliver the module:** The module could be delivered in 5–15 minutes depending on how much time you have with your athletes and how much detail you want to go into with them. If you only have a few minutes, the key teaching points could be delivered in about 5 minutes and then you could provide your athletes and parents with the handouts for further information. If you were to go through the teaching points as well as the background information it could take about 10–15 minutes.

# Sport nutrition guidelines

**Note:** For more detailed information, please refer to the following pages in *Sports Nutrition for Youth: A Handbook for Coaches*:

- Nutrition and Hydration Guidelines *before* activity: pages 31–33
- Nutrition and Hydration Guidelines *during* activity: pages 34–40
- Nutrition and Hydration Guidelines *after* activity: pages 41–42
- Learning activities: pages 43–44

Hydration is also a key part of sport nutrition. Please see the *What to Drink Before, During and After Module* for specific timing, amounts and types of fluids recommended, as well as supporting handouts.

## Key teaching points

1. Proper nutrition and hydration before activity can improve mental and physical performance.
2. The timing of meals is vital for best performance.
3. The types of foods athletes eat are important for energy, performance and recovery.
4. Athletes need to test new foods and drinks before training sessions rather than before a competition in case these items cause stomach upset or other physical effects during activity.

## Background information

### Nutrition guidelines before activity

- The best foods to eat before activity are those high in carbohydrates with moderate amounts of protein. These foods should also be lower in fat and fibre to reduce the chance of stomach upset.
- High carbohydrate foods digest quickly and should be the main source of fuel for activity.

**The timing of meals is vital:**

- Beginning an activity with food in the stomach may cause cramping or nausea.
- Eating a meal 2–3 hours before an activity gives an athlete’s body time to digest food and convert it to energy to fuel muscles.
- When it is not possible to eat a meal 2–3 hours before an activity, athletes could simply have a snack 1–2 hours before. This snack will help prevent hunger and provide energy for the activity.

**Sample pre-activity meals:**

- 2 slices toast with nut/seed butter, a piece of fruit and skim or 1% milk
- chicken sandwich on whole grain bread with low fat cheese and mustard, and unsweetened apple sauce
- stir-fried roast beef and vegetables with brown rice and skim or 1% milk

**Sample pre-activity snacks:**

- granola bar, low fat yogurt cup and a banana
- low fat cottage cheese, pear slices and an English muffin
- half a roast beef sandwich on whole grain bread with mustard instead of mayonnaise

**Nutrition guidelines during activity**

- Proper nutrition and hydration during activity can improve mental and physical performance.
- Athletes need to test new foods and drinks during training sessions rather than during a competition, as there is a chance that these items may cause stomach upset or other negative effects.
- In most cases, an athlete will not need to eat during activity if they have eaten enough to fuel their muscles and body before they train or compete.
- For ***intense*** activities lasting longer than one hour, athletes should ingest 30–60 grams of carbohydrates in small amounts during each hour of activity and drink enough fluid to maintain hydration and energy levels.

Examples of good carbohydrate food choices include:

- 1 large banana (30 grams carbohydrate)
- 1 medium orange (12 grams carbohydrate)
- 1 cup watermelon (11 grams carbohydrate)
- 4 dried apricots (13 grams carbohydrate)
- 1 box (28 grams) raisins (22 grams carbohydrate)

## Nutrition guidelines after activity

The timing of a snack or meal following an activity will depend on the amount of time between training sessions or competitions.

### Less than 24 hours until next activity:

- Athletes who have less than a full day to recover between sessions should eat food sources of both carbohydrate and protein within 30 minutes of finishing the activity. It is important to eat within this time frame for muscles to fill their glycogen stores.

### More than 24 hours until next activity:

- Athletes who have more time to recover between sessions can refuel with food sources of carbohydrate and protein at their next regular meal or snack. There is no need to refuel within 30 minutes of activity to achieve enough glycogen storage in muscles if the athlete has more than 24 hours to recover.

## Frequently asked questions about nutrition

### Should athletes use sports food products?

Like sports drinks, food products such as sports gels, beans, chews and bars can help athletes refuel blood sugar levels and electrolytes during intense activity lasting more than an hour. However, unlike sports drinks, these products do not provide hydration during intense activity where the athlete sweats a lot.

It is important to note that sports food products are not ideal food choices for athletes to consume before or after activity because they are low in fibre, high in sugar and calories and do not follow Canada's Food Guide. Sports products can also be quite costly, and it should be noted that the use of famous athletes in ads for these products may lead young people to believe they need to use these items to be better at sports.

If an athlete wishes to consume sports food products during intense activity, they need to consider the following:

- Use the Nutrition Facts label to work out the amount of the product needed to consume to get 30–60 grams of carbohydrate per hour of intense activity
- Check the ingredients list for sugar substitutes or caffeine, which are not recommended for youth
- Drink enough water with these products to prevent stomach upset and to ensure good hydration

## Materials for athletes

These supporting handouts that you can share with your athletes and parents can be found on the following pages:

- What Should I Eat Before Activity?
- What Should I Eat During Activity?
- What Should I Eat After Activity?