

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

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Introduction

The information contained in this module has been adapted from [Sport Nutrition for Youth: A Handbook for Coaches](http://www.albertahealthservices.ca/assets/info/nutrition/if-nfs-sports-nutrition-for-youth.pdf), 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
- Choosing Healthy Drinks
- Planning for Tournaments, Competitions and Travel
- 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.

Hydration Guidelines

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

- Hydration *before* activity: pages 31–32
- Hydration *during* activity (including information on sports drinks): pages 34–38
- Hydration *after* activity: page 41

Guidelines outlining what to eat before, during and after activity can be found in the *What to Eat Before, During and After Activity Module*.

Key teaching points

1. Proper nutrition and hydration before activity can improve mental and physical performance.
2. Dehydration and over hydration can have a negative effect on sport performance and health.
3. A good sign of healthy hydration is the clearness of an athlete's urine.
4. Water is the best fluid for athletes who are active for 60 ***continuous*** minutes or less.
5. 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.

Background information

Hydration guidelines *before* activity

- Athletes need to drink **400–600 mL (1½–2½ cups)** of fluid 2–3 hours before activity

Hydration guidelines *during* activity

- Athletes need to drink **150–300 mL (½–1 ¼ cups)** of fluid every 15–20 minutes during activity
- Athletes should have their own water bottle to drink fluid during activity
- Athletes only need to use a sports drink when they sweat a lot for more than an hour in order to replace blood sugar and mineral (electrolyte) losses.

Hydration guidelines *after* activity

- Athletes need to drink about **250–500 mL (1–2 cups)** of fluid after activity
- Drinking fluid replaces losses from sweat and breath during activity
- After activity, athletes should continue to drink small amounts of fluid until their urine runs clear.

Frequently asked questions about hydration

Do Athletes Need Sports Drinks?

Young athletes do not need to consume sports drinks if they have not been active and sweating for more than one hour. Athletes never need sports drinks to fuel *before* activity or refuel *after* activity as it is always better to eat food and drink healthy fluids such as water and milk. Sports drinks contain sugar and can lead to cavities or weight gain when consumed on a regular basis.

Athletes may benefit from a sports drink when participating in a continuous intense activity and sweating for more than an hour, when training in hot and humid weather, or during competition or tournament activities where athletes participate in multiple events/games each day with little time to properly refuel and rehydrate between events.

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 Drink When I am Active?
- How Much Should I Drink When I am Active?
- Sports Drinks

What Should I Drink When I am Active?

Active people need to drink enough fluid to prevent fatigue, maintain good reflexes, control body heat, and speed up recovery. It is important for athletes to choose healthy drinks to help them stay well hydrated throughout the entire day.

Drink	Before Activity	During Activity	After Activity	Key Points
Water	✓	✓	✓	Drink throughout the day. Best choice before and after activity. Best choice during activity unless sweating a lot for more than an hour.
Milk	✓	✗	✓	Choose unflavoured milk or soy milk most often. Can cause stomach upset during activity.
100% Fruit Juice	▽	▽*	▽	Limit to 125 mL (½ cup) per day. *Can be used to make a homemade sports drink. Can cause stomach upset during activity.
Sports Drink	✗	✓	✗	Drink only during intense activity when sweating for more than an hour. Replaces electrolytes and carbohydrates during long bouts of activity.
Coconut Water	✗	✗	✗	Not recommended. Does not replace enough electrolytes during intense activity. Can cause stomach upset during activity.
Flavoured Water	✗	✗	✗	Not a healthy choice. Can be higher in sugar or sugar substitutes. Can cause stomach upset during activity.
Energy Drink	✗	✗	✗	Not a healthy choice. Can be higher in caffeine and sugar. May have added herbs. Can cause stomach upset during activity.
Fruit Drinks, cocktail, beverage	✗	✗	✗	Not a healthy choice. All are higher in sugar and contain little to no real fruit juice. Can cause stomach upset during activity.
Vitamin Water	✗	✗	✗	Not a healthy choice. May be higher in sugar or sugar substitutes. May have added herbs. Can cause stomach upset during activity.
Soft Drinks	✗	✗	✗	Not a healthy choice. May contain caffeine or sugar substitutes. Carbonation causes upset stomach during activity. Regular soft drinks are higher in sugar.

Adapted from Alberta Health Services, Sports Nutrition for Youth: A Handbook for Coaches

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How Much Should I Drink When I am Active?

Before Activity

You need to be well hydrated when you start your activity, practice, or competition. Drink 400–600 mL (1 ½–2 ½ cups) of fluid 2 to 3 hours before activity. The best fluid to choose before activity is water.

During Activity

You will perform better if you stay hydrated during your activity, practice, or competition. Drink 125 mL (½ cup) fluid every 15 minutes. The best fluid to choose during activity is water so you do not get an upset stomach.

If you are sweating a lot and you are active for more than an hour, you may need to have a sports drink instead of water. Sports drinks help replace fluid, blood sugar, and the electrolytes you lose in sweat (sodium and potassium).

After Activity

It is important to replace all of the fluid you lose through sweat after you finish your activity, practice, or competition. Be sure to drink at least 250–500 mL (1–2 cups) of fluid. The best fluid to choose after activity is water.

A sign of good hydration is the clearness of your urine, for example a pale yellow colour. After activity, continue to drink small amounts of fluid until your urine runs clear. But please note, if you take a multivitamin supplement, it can make your urine bright yellow the next time you go to the washroom.

*Homemade Citrus Sports Drink

Here is a simple recipe for a sports drink:

2 Tbsp	sugar	30 mL
⅛ tsp	salt	0.5 mL
2 Tbsp	boiling water	30 mL
2 Tbsp	orange juice	30 mL
1 Tbsp	lemon juice	15 mL
1 ¾ cup	cold water	425 mL

Combine the sugar and salt in a bowl. Add boiling water and stir until sugar and salt dissolve. Stir in remaining ingredients and chill. Makes 500 mL (2 cups).

*Nutrition information per 250 mL/1 cup: 58 calories, 0 g fat, 155 mg sodium, 42 mg potassium, 15 g carbohydrate, 15 g sugars, 0 g fibre, 0 g protein.

Tip: Other unsweetened, 100% fruit juices can be used instead of orange juice.

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Sports Drinks

Why Do Some Athletes Need Sports Drinks?

Sports drinks are designed to replace fluid and electrolytes (sodium and potassium) that the body loses in sweat. Sports drinks also provide carbohydrate to supply energy to the muscles and the brain during long periods of intense activity.

When Do Athletes Need Sports Drinks?

Active people only need to consume sports drinks during intense activity that causes them to sweat a lot for more than an hour. Water is the best choice for events that last less than an hour or involve only moderate levels of activity.

Which Athletes Need Sports Drinks?

Sports drinks can help athletes who:

- sweat a lot while training or competing very hard for more than one hour
- compete or train in a hot and humid climate
- get dehydrated from sweating when they wear thick sports gear (such as hockey and football)

Examples of intense activity include; triathalons, marathons, and long distance running, biking or cross country skiing.

Can Athletes Make Their Own Sports Drink?

Yes! Here is a simple recipe for a sports drink:

Homemade Citrus Sports Drink

Yield: 500 mL (2 cups)

2 Tbsp	sugar	30 mL
1/8 tsp	salt	0.5 mL
2 Tbsp	boiling water	30 mL
2 Tbsp	orange juice	30 mL
1 Tbsp	lemon juice	15 mL
1 3/4 cup	cold water	425 mL

Combine the sugar and salt in a bowl or pitcher. Add boiling water to the salt and sugar mixture and stir until sugar and salt dissolve. Stir in remaining ingredients and chill in fridge until needed.

Tip: Other unsweetened fruit juices can be used instead of orange juice.

*Nutrition information per 250 mL/1 cup: 58 calories, 0 g fat, 155 mg sodium, 42 mg potassium, 15 g carbohydrate, 15 g sugars, 0 g fibre, 0 g protein.

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