Many elite athletes follow strict nutrition programs to guarantee their best performance. But what about the rest of us – the house league hockey player, the Sunday hiker, or the after-work runner? For all recreational athletes, good nutrition plays an important role in helping us improve our performance and in meeting the added energy demands of physical activity.

For most of us, our glycogen stores are enough to keep us going during exercise. But if your activities last longer than an hour, you may use up your glycogen stores, so you need to eat carbohydrates to keep you going strong.

**Filling your fuel tank**
For recreational athletes, getting the right amount of carbohydrate means following Canada’s Food Guide. This means enjoying a variety of foods every day, emphasizing vegetables and fruit, grain products, lower fat milk products, and leaner meats. Of course, it is always important to drink plenty of fluids, especially water, to avoid becoming dehydrated.

The best way to make sure you have plenty of energy for all your physical activity is to eat a nutritious, well-balanced diet, not just when you exercise, but every day!

**Premium fuel**
A nutritious, well-balanced diet every day is important for good health and energy. But when it comes to the best choice for fuelling your physical activity, carbohydrates play a starring role.

Carbohydrates are eaten as starches (in cereal, bread, pasta, etc.) or sugars (from fruit, milk, table sugar, honey, etc.). No matter where they come from, carbohydrates are digested and ultimately changed into small sugars, such as glucose, which your body uses for energy.

Extra glucose is stored as glycogen in both your muscles and liver. When you are exercising, your muscles can use both fat and carbohydrate (glucose or glycogen) as fuel. As the intensity of your workout increases, your muscles depend more and more on carbohydrate from glycogen stored in the muscle and glucose delivered by the blood.

**TIPS FOR BEFORE, DURING AND AFTER ACTIVITY**

**BEFORE**
- Eat a medium-sized, high carbohydrate meal, including foods like fruit, bread, cereal, or juice, one to four hours before activity. Drink plenty of water.

**DURING**
- Drink plenty of water.
- If activity is longer than 1 hour, enjoy carbohydrate-rich snacks or drinks every hour (see snack ideas on reverse).

**AFTER**
- For a few hours after your activity, choose foods and beverages high in carbohydrates, particularly if your activity was strenuous or lasted a long time.
Good nutrition plays an important role in your physical performance. Test your nutrition know-how by matching each statement with the correct word in the quiz below:

1. Sugars and starches provide ______ Calories per gram.
2. Fat has ______ Calories per gram.
3. The nutrient that needs to be replenished most often during activity.
4. Glucose is stored in the liver and muscles in this form.
5. Breaks down carbohydrates during digestion.
6. Breads and cereals are good sources of this type of carbohydrate.

A. water  B. nine  C. starches  D. enzymes  E. four  F. glycogen

**Consumers Smarts**

There are a lot of different sports drinks on the market, but you can make your own inexpensive homemade sports drink by mixing:

- 250 mL (1 c) juice or other sugar-containing beverage
- 250 mL (1 c) water
- 0.25 mL (pinch) salt

This homemade drink recipe makes two 250 mL (1 cup) servings and will provide you with 64 Calories, 15 grams of carbohydrate and 62 mg of sodium per serving.

**Nutrition Focus**

Sports drinks are popular, even among children. But are they worth the money? If your workout is less than an hour, water is still the best fluid. But if you exercise longer than that, or on days that are particularly hot or humid, you may benefit from using a sports drink, which you can buy or make yourself (see Consumer Smarts section for recipe).

As well as replacing fluids, sports drinks supply you with energy from carbohydrate (usually sugars). They can also help replace minerals, such as sodium, that you lose through sweat during your workout.

Remember to drink plenty of fluids throughout your activity. Don’t wait until you are thirsty – when you are active, your body needs fluids before you feel thirsty.

Check out the chart below for a comparison of a variety of sports drinks.

**Nutrient Content of Sample Sports Drinks (per 250 mL/cup)**

<table>
<thead>
<tr>
<th>Snack Idea</th>
<th>Calories (kcal)</th>
<th>Carbohydrate (g)</th>
<th>Sodium (mg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Orange Juice</td>
<td>129</td>
<td>30</td>
<td>5</td>
</tr>
<tr>
<td>Commercial Sports Drink*</td>
<td>64-92</td>
<td>16-24</td>
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*Range of four brands and several flavours of sports drinks available in the Toronto-area, 2008.
** Made from the Consumer Smarts recipe below using orange juice.


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