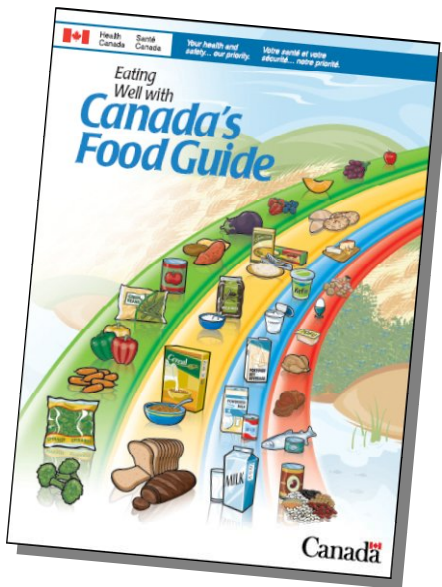


## Feeding Your Competitive Swimmer



*You don't have to be an athlete to eat healthy but as a young athlete, the demands on the body are two-fold. Whole grains, fruits and vegetables, lean meats and alternatives, healthy fats and dairy are all foods that can provide a wide array of nutrients for a growing and hard-working body. By eating the right types and amounts of food before, during and after training or competing, your athlete will be able to give their all every time he or she swims while still providing their bodies with what it needs to develop properly.*

*To meet the increased energy needs of swimmers, he or she should try to consume 3 balanced meals and 3-4 healthy snacks everyday by choosing food from the four food groups of Canada's Food Guide.*



## *Everyday Nutrition!*

Everyday your swimmer should be encouraged to eat 3 meals and 3 snacks. Using Canada's Food Guide, eating healthy balanced meals and snacks can be very easy. Choosing healthy foods from four food groups at meals and two food groups at snacks will help your swimmer to meet energy and nutrient needs, promoting proper growth and development. It is possible that your swimmer may need to eat more, particularly during swim meets.

The following information was taken from Health Canada's Website:

Following *Canada's Food Guide* helps children grow and thrive.

Young children have small appetites and need calories for growth and development.

Serve small nutritious meals and snacks each day.

Do not restrict nutritious foods because of their fat content. Offer a variety of foods from the four food groups.

Most of all...be a good role model.























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## Recommended Number of Food Guide Servings per Day

The chart below shows how many Food Guide Servings you need from each of the four food groups every day.

<b>Recommended Number of Food Guide Servings per Day</b>									
	Children			Teens		Adults			
Age in Years	2-3	4-8	9-13	14-18		19-50		51+	
Sex	Girls and Boys			Females	Males	Females	Males	Females	Males
<b>Vegetables and Fruit</b>	4	5	6	7	8	7-8	8-10	7	7
<b>Grain Products</b>	3	4	6	6	7	6-7	8	6	7
<b>Milk and Alternatives</b>	2	2	3-4	3-4	3-4	2	2	3	3
<b>Meat and Alternatives</b>	1	1	1-2	2	3	2	3	2	3

**What is One Food Guide Serving?**  
Look at the examples below.

 <p><b>Fresh, frozen or canned vegetables</b> 125 mL (½ cup)</p>		 <p><b>Leafy vegetables</b> Cooked: 125 mL (½ cup) Raw: 250 mL (1 cup)</p>		 <p><b>Fresh, frozen or canned fruits</b> 1 fruit or 125 mL (½ cup)</p>		 <p><b>100% Juice</b> 125 mL (½ cup)</p>	
 <p><b>Bread</b> 1 slice (35 g)</p>	 <p><b>Bagel</b> ½ bagel (45 g)</p>	 <p><b>Flat breads</b> ½ pita or ½ tortilla (35 g)</p>	 <p><b>Cooked rice, bulgur or quinoa</b> 125 mL (½ cup)</p>	 <p><b>Cereal</b> Cold: 30 g Hot: 175 mL (¾ cup)</p>	 <p><b>Cooked pasta or couscous</b> 125 mL (½ cup)</p>		
 <p><b>Milk or powdered milk (reconstituted)</b> 250 mL (1 cup)</p>	 <p><b>Canned milk (evaporated)</b> 125 mL (½ cup)</p>	 <p><b>Fortified soy beverage</b> 250 mL (1 cup)</p>	 <p><b>Yogurt</b> 175 g (¾ cup)</p>	 <p><b>Kefir</b> 175 g (¾ cup)</p>	 <p><b>Cheese</b> 50 g (1 ½ oz.)</p>		
 <p><b>Cooked fish, shellfish, poultry, lean meat</b> 75 g (2 ½ oz.) / 125 mL (½ cup)</p>	 <p><b>Cooked legumes</b> 175 mL (¾ cup)</p>	 <p><b>Tofu</b> 150 g or 175 mL (¾ cup)</p>	 <p><b>Eggs</b> 2 eggs</p>	 <p><b>Peanut or nut butters</b> 30 mL (2 Tbsp)</p>	 <p><b>Shelled nuts and seeds</b> 60 mL (¾ cup)</p>		

## What is one Food Guide Serving?

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Look at the examples below.

### Vegetables and Fruit

Fresh, frozen or canned vegetables - 125 mL ( $\frac{1}{2}$  cup)

Leafy vegetables - 250 mL (1 cup)

Fresh, frozen or canned fruits - 1 fruit or 125 mL ( $\frac{1}{2}$  cup)

100% Juice - 125 mL ( $\frac{1}{2}$  cup)

### Grain Products

Bread - 1 slice (35 g)

Bagel -  $\frac{1}{2}$  bagel (45 g)

Flat breads -  $\frac{1}{2}$  pita or  $\frac{1}{2}$  tortilla (35 g)

Cooked rice, bulgur or quinoa - 125 mL ( $\frac{1}{2}$  cup)

Cereal - Cold: 30 g

Hot: 175 mL ( $\frac{3}{4}$  cup)

Cooked pasta or couscous 125 mL ( $\frac{1}{2}$  cup)

### Milk and Alternatives

Milk or powered milk (reconstituted) - 250 mL (1 cup)

Canned milk (evaporated) - 125 mL ( $\frac{1}{2}$  cup)

Fortified soy beverage - 250 mL (1 cup)

Yogurt - 175 g ( $\frac{3}{4}$  cup)

Cheese - 50 g (1  $\frac{1}{2}$  oz.)

## Meat and Alternatives

Cooked fish, shellfish, poultry, lean meat - 75 g (2 ½ oz.)/125 mL (½ cup)

Cooked legumes - 175 mL (¾ cup)

Tofu - 150 g or 175 mL (¾ cup)

Eggs - 2 eggs

Peanut or nut butters - 30 mL (2 Tbsp)

Shelled nuts and seeds - 60 mL (¼ cup)

## Oils and Fats

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Include a small amount - 30 to 45 mL (2 to 3 Tbsp) - of unsaturated fat each day. This includes oil used for cooking, salad dressings, margarine and mayonnaise.

Use vegetable oils such as canola, olive and soybean.

Choose soft margarines that are low in saturated and trans fats.

Limit butter, hard margarine, lard and shortening.

## Make each Food Guide Serving count.

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Wherever you are - at home, at school, at work or when eating out!

**Eat at least one dark green and one orange vegetable each day.**

Go for dark green vegetables such as broccoli, romaine lettuce and spinach.

Go for orange vegetables such as carrots, sweet potatoes and winter squash.

**Choose vegetables and fruit prepared with little or no added fat, sugar or salt.**

Enjoy vegetables steamed, baked or stir-fried instead of deep-fried.

**Have vegetables and fruit more often than juice.**

**Make at least half of your grain products whole grain each day.**

Eat a variety of whole grains such as barley, brown rice, oats, quinoa and wild rice.

Enjoy whole grain breads, oatmeal or whole wheat pasta.

**Choose grain products that are lower in fat, sugar or salt.**

Compare the Nutrition Facts table on labels to make wise choices.

Enjoy the true taste of grain products. When adding sauces or spreads, use small amounts.

**Drink skim, 1%, or 2% milk each day.**

Have 500 mL (2 cups) of milk every day for adequate vitamin D.

Drink fortified soy beverages if you do not drink milk.

**Select lower fat milk alternatives.**

Compare the Nutrition Facts table on yogurts or cheeses to make wise choices.

**Have meat alternatives such as beans, lentils and tofu often.**

**Eat at least two Food Guide Servings of fish each week. \***

Choose fish such as char, herring, mackerel, salmon, sardines and trout.

**Select lean meat and alternatives prepared with little or no added fat or salt.**

Trim the visible fat from meats. Remove the skin on poultry.

Use cooking methods such as roasting, baking or poaching that require little or no added fat.

If you eat luncheon meats, sausages or packaged meats, choose those lower in salt (sodium) and fat.

\* Health Canada provides advice for limiting exposure to mercury from certain types of fish. Refer to [www.healthcanada.gc.ca](http://www.healthcanada.gc.ca) for the latest information.

Enjoy a variety of foods from the four food groups.

### Satisfy your thirst with water!

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Drink water regularly. It's a calorie-free way to quench your thirst. Drink more water in hot weather or when you are very active.

Advice for different ages and stages.

### How do I count Food Guide Servings in a meal?

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Here is an example:

Vegetable and beef stir-fry with rice, a glass of milk and an apple for dessert

250 mL (1 cup) mixed broccoli, carrot and sweet red pepper = 2 **Vegetables and Fruit** Food Guide Servings

75 g (2  $\frac{1}{2}$  oz.) lean beef = 1 **Meat and Alternatives** Food Guide Serving

250 mL (1 cup) brown rice = 2 **Grain Products** Food Guide Servings

5 mL (1 tsp) canola oil = part of your **Oils and Fats** intake for the day

250 mL (1 cup) 1% milk = 1 **Milk and Alternatives** Food Guide Serving

1 apple = 1 **Vegetables and Fruit** Food Guide Serving



## *How to Ensure You have Adequate Muscle Glycogen Stores*

*Meeting energy needs should be the top priority of any swimmer. The main fuel used by the body for exercise is carbohydrate (e.g. From grains, fruit, milk) which is stored in the muscles as glycogen, which is basically a reserve of sugar in the body. During intense exercise regimes, the muscle glycogen stores can be used up.*

*Because the amount of glycogen the body can store is limited it is VERY IMPORTANT for all swimmers to replace all glycogen stores between practice sessions by consuming a high carbohydrate diet, especially the days leading up to any competition and endurance exercise lasting longer than 60-90 minutes.*

### *Why are Carbohydrates So Important???*

*Carbohydrate is the form of blood glucose and muscle glycogen is the main source of fuel the body uses during intense training and competition.*

*Once glycogen stores have been depleted, athletes experience decreased endurance, fatigue and exhaustion.*

*Carbohydrate foods are needed to re-fill these glycogen stores. Swimmers should consume over half of their daily calories from carbohydrates.*

### *Sources of Carbohydrates:*

*The best choices are breads, bagels, pita bread, tortilla wraps, pancakes, potatoes, rice, quinoa, pats, cereals, canned, frozen or fresh fruits, 100% fruit juices and milk products.*

## Nutrition for Pre-Events/Meets:

### Night Before Competition:

*If he/she has difficulty eating before early am practices or during swim meets, it is EXTREMELY IMPORTANT they fuel up the night before. Consume a high carbohydrate supper meal and always have a healthy night snack.*

*Your meal should provide about 65% calories from carbohydrates, moderate protein and low fat. Make sure adequate fluids are consumed the day before, as well.*

### Day of Event/Meet Nutrition

*Having a snack or small meal before swimming that is rich in easily-digested carbohydrate, low in fat and fiber and moderate in protein will provide the athlete with ample energy and endurance and ultimately, improve or enhance performance. Carbohydrates will help to balance blood sugars and maximize glycogen stores, while protein will help to repair and build muscle and can also minimize muscle tenderness. Timing of snacks or meals need to be considered to ensure the body is properly fuelled at the right times.*

### **Important:**

- *Always select foods that are well liked and familiar to your body. Do not experiment with unfamiliar foods on the day of the meet.*
- *Meals should be high in carbohydrate, low in fat and low in fiber.*
- *Protein, fat and fiber take longer to digest and may make you feel uncomfortable if eaten too close to competition.*
- *Be cautious when consuming the following types of foods:*
  - *spicy foods*
  - *gas producing foods*
  - *fiber rich foods*
  - *high fat foods*
  - *foods containing caffeine*

<b>Time Before Activity</b>	<b>What to Choose</b>
<b>3 hours</b> before exercise- <b>Regular Meal</b>	Peanut butter & honey on toast with Instant Breakfast drink Oatmeal with brown sugar, almonds, skim/1% milk & fruit. Lean hamburger on a bun with lettuce & tomato & yogurt-fruit parfait Turkey and Swiss cheese sandwich, fruit & sports drink Tuna and cheese melt sandwich, fruit cup and fat free yogurt Bagel with peanut butter and banana, 1% milk and granola bar
<b>2-3 hours</b> before exercise - Mostly carbohydrate foods with small amount of protein and fat	Homemade muffin, low fat cheese, fruit, yogurt and small glass of 100% fruit juice. Whole grain cereal, milk, blueberries and Greek yogurt Fruit & yogurt smoothie with $\frac{1}{2}$ cup low fat granola Scrambled egg, 2-3 whole grain toast, strawberries and milk Small portion of pasta with tomato sauce and glass of 1% milk Grilled cheese sandwich with 250ml orange juice and yogurt Large Tortilla wrap with 2 oz chicken, small amount mayo, lettuce + fruit salad and low fat yogurt 2-3 pancakes with 1 Tbsp syrup + glass of milk + orange sections
<b>1 hour</b> before exercise	1 cup dry cereal, 2 tbsp raisins and $\frac{1}{2}$ cup 1% milk. 2 whole grain toast with jam and $\frac{1}{2}$ cup orange juice English muffin with 1 tsp honey and $\frac{1}{2}$ cup applesauce 1-2 pancake with 1 tbsp syrup + $\frac{1}{2}$ cup 100% juice
<b>30-60 minutes</b> before activity	8 oz fruit yogurt smoothie 2 Fruit servings or sandwich with jam $\frac{1}{2}$ bagel with jam + $\frac{1}{2}$ c up orange juice



***Snack Ideas During the week or Between Swim Heats that are at least one hour apart:***

- Fruit/raw veggies
- Trail mix ( would not have unless 2 hours or more before exercise)
- 100% fruit/vegetable juice
- Muffins
- Sandwiches (e.g. Soy butter, almond butter, egg, tuna, lean meat)
- Bagel/pita/tortilla with hummus
- Greek yogurt with granola and fruit
- Dry cereal (muesli, low fat granola, Shreddies, Kashi)
- Fruit smoothies
- Cheese and crackers
- Chocolate or white milk (including rice, soy and almond)
- Instant Breakfast or meal replacement drinks such as Boost, Ensure (would not have unless 2 hours or more before exercise)

## Refuel in 30 minutes and Recover!



**ReFuel = CARBOHYDRATES!**

*"Focus on carbohydrate-rich foods to replenish glycogen stores;*

**Repair = PROTEIN!**

*Choose small serving of lean protein (about 10 to 20 grams of protein) to help repair muscle tissue and promote growth;*

**Rehydrate = See chart**

## Recovery Snacks

<i>Within 30 minutes</i>	<i>Within 1-2 hours after</i>
Peanut butter sandwich, strawberries, milk or juice	Meat or cheese sandwich with veggies, milk/juice
Banana, Greek yogurt, juice	Whole wheat pasta with meatballs, salad, milk/juice
Chocolate milk, granola bar, apple and water	Pasta salad with veggies, canned tuna or chicken breast, milk/juice/water
Muffin or bagel, homemade smoothie (milk, yogurt, fruit, juice and ice)	Greek yogurt, fruit salad, muffin, milk/juice/water
Graham crackers with peanut butter, chocolate milk, banana	Whole wheat pita sandwich with lean meat and veggies, pretzels, milk
	Stir fry with lean meat, broccoli, bell peppers, carrots, brown rice

## What about fluid?



Dehydration can cause muscle cramps, fatigue and impair performance.

Start your activity well hydrated and remain hydrated through-out the duration or the exercise and after.

Timing	Quality	Type of Beverage
4 hours or less before exercise	Drink about 1-2 cups of fluid (250-500 mL).	Water is usually your best choice.
2 hours or less before exercise	Drink about $\frac{1}{2}$ - $1\frac{1}{2}$ cup (125-375 mL) of fluid if you have not produced any urine or only a small amount of bright yellow urine.	Water is usually your best choice.
During exercise	Keep fluid with you when you exercise. Sip it during your workout. Drink enough to replace water lost through sweat.	Water is usually your best choice. • Sports drinks are a good choice when exercising for over 1 hour or in other special circumstances. (see sports drink section)
Immediately After exercise	If you drank enough during your exercise let your thirst guide you over the rest of the day. Eat your regular meals and healthy snacks over the day.	Water continues to be a good choice but you can also include: • milk or chocolate milk • 100% fruit juice • sports drinks-(see sports drink section for more details)

Chart taken from Dietitian's of Canada "Sports Hydration" 2010

## *Sports Drinks*

What to look for in a sports drink:

- No carbonation or 'fizz'
- Carbohydrates: 40-80 g/litre from different sources such as glucose, sucrose, fructose and/or maltodextrin
- Sodium: 300-700 mg/litre (or at least 70 mg/250 ml)

(Taken from Dietitian's of Canada factsheet on Sports Hydration)

Why not make your own sports drink!

500 ml of 100% juice

500 ml of water

$\frac{1}{4}$  tsp salt

Freeze in 1-2 litre plastic bottle(s)