Special Olympics Prince Edward Island

Nutrition Basics

CANADA'S FOOD GUIDE

Canada's Food Guide Includes Three Food Groups.

Fruits and Vegetables: Include plenty of fruits and vegetables with meals and snacks. Ex: apples, berries, bananas, leafy greens, carrots, broccoli, etc.

Grains: Choose whole-grain foods. Whole grains have more fibre, vitamins, and minerals than refined grains. Ex: whole grain bread, quinoa, whole oats.

Protein Foods: Choose a variety of protein foods, including plant-based protein. Ex: meat, eggs, dairy, beans, chickpeas, lentils, nuts, soy products.

Canada's Food Guide also suggests including food from each food group at **every meal**, **cooking** more often, **enjoying** your food, eating meals **with others**, and reading **food labels.**

MACRONUTRIENTS

Macronutrients provide your body with energy known as calories. They each have essential roles that help our bodies function properly. There are three types of macronutrients: Carbohydrates, protein, and fats.

Carbohydrates

Carbohydrates are your body's main **source of energy.** They are the main fuel source for your **brain and muscles. Sugar, starch, and fibre** are all types of carbohydrates.

Food Sources

- Grains: bread, rice, cereal, oats, pasta, etc.
- Fruits & vegetables
- Beans & lentils

Role in Sports Nutrition

Carbohydrates provide the body with easily used energy during exercise.

Fat

There are four different types of fats. These include **trans** fats, **saturated** fats, **unsaturated** fats, and **cholesterol**. Unsaturated fats are **healthy fats** and are found in foods like oil, beans, nuts, and fish.

Food Sources

- Butter, margarine, oil
- Meat, eggs, fish
- Dairy: milk, yogurt, cheese
- Avocado
- Nuts, seeds, nut butter

Role in Sports Nutrition

Fats slows down digestion and absorption of carbohydrates. Timing of fat intake is important for athletes.

Protein

Proteins make up all tissues in the human body, including **muscle tissue.** Proteins help **grow and repair cells**, and build a **strong immune system**.

Food Sources

- Beef, poultry, eggs, pork, fish
- Dairy: milk, yogurt, cheese
- Beans, lentils, soy (e.g. tofu)
- Nuts, seeds, peanut butter

Role in Sports Nutrition

Protein helps the body recover and repair muscle after exercise.

HYDRATION

Fluid is needed for vital functions in the body. Therefore, getting enough fluid every day is essential for good health.

- Mild **dehydration** can cause fatigue, dizziness, headaches, and cramping.

- Fluid requirements need to be individualized depending on your daily activities. Fluid comes from water, other beverages, and food.

- **Athletes** need to consume **more fluid** due to sweat losses during exercise. **Electrolytes** (like sodium) are also lost through sweat during exercise and need to be replaced. **Sports drinks** replenish lost electrolytes and maintain optimal fluid and electrolyte balance.

- An easy way to see if you are getting enough water is to check the **colour of your urine**. It should be a **pale yellow** colour. If it's a dark yellow colour you may need to drink more water.

SPORTS NUTRITION

Nutrition before, during, and after training or events is critical for performance! Improper fueling can result in low energy levels, lack of concentration, cramping, increased risk of injury, and an overall decrease in performance.

Before

3-4 hours before - High carbohydrate meal with moderate protein and fat.

2-3 hours before - Small high carbohydrate meal with low protein, fat, and fibre.

30-60 minute - Carbohyrate and fluids.

During

<45 minutes of exercise - fluids only.

>45 minutes of exercise - fluids and simple carbohydrates (fresh fruit, applesauce, fruit gummies, dried fruit, etc).

After

20-60 minutes after - 3:1 ratio of carbohydrate to protein (60g carbohydrate, 20g protein).

2-3 hours after - Recovery meal with 4:1 ratio of carbohydrate to protein.

Overnight recovery (1 hour before bed) - High protein snack, moderate carbohydrate.

Remember to include fluids with all your meals and snacks!

References
https://www.eatright.org/food/nutrition/healthy-eating/
https://www.nutrition.gov/topics/basic-nutrition
Performance Nutrition Academy Ltd, 2020
https://food-guide.canada.ca/en/

Special Olympics Prince Edward Island

Your Nutrition Checklist

A balanced diet helps support growth, development, daily activities, energy levels, sport and training performance and decreases your risk of injury. A balanced diet means eating a variety of foods from all food groups, every day.

Use the checklist below to ensure that you include a variety of foods on a daily basis.

	Fruit (apples, grapes oranges, berries, bananas, etc.)	**Vegetables** (leafy greens, carrots, broccoli, potatoes, etc.)	**Grains** (breads, rice, cereal, oats, pasta, quinoa, etc.)	**Protein** (meat, fish, poulty, eggs, beans, lentils, nut butter, tofu, etc)	**Dairy** (milk, yogurt, cheese, milk alternatives, etc.)	**Fluids** (water, milk, sport drinks, fruit juice, etc.)
Breakfast						
Snack						
Lunch						
Snack						
Dinner						
Snack						

Special Olympics Prince Edward Island

Winter vs Summer Sports

ENVIRONMENTAL CONDITIONS

Each sport has special nutrition considerations depending on intensity, duration, environmental conditions, and many other factors.

Environmental conditions can affect body temperature, workload, perceived exertion, hydration status, and several other things that impact nutrition strategies. Temperature, humidity, and ventilation can affect an athlete's nutrition strategy when competing indoors. But outdoors, performance can be affected by wind, rain, lack of cloud cover, heat, humidity, cold, and altitude. Therefore, nutrition strategies will need to be designed with the environmental conditions in mind.

Because nutrition needs vary widely between sports, to ensure athletes consume adequate fuel for performance, they should work with a sports dietitian to design an individualized nutrition strategy.

INDOOR SPORTS

There are many factors that can impact hydration when training or competing indoors. It's important to be aware of these factors and consider them in your hydration plan to ensure proper hydration.

- **Air flow**- Lack of wind eliminates natural cooling effect
- **Temperature & humidity**- in heat, cooling and evaporation are reduced
- **Ventilation**- can impact humidity and temperature
- **Perceived effort**- often higher indoors due to increased core body temperature
- **Size of facility**- can impact humidity and temperature
- **Number of spectators**- can impact humidity and temperature

High temperature and humidity lead to less affective cooling, increased sweating, and higher fluid needs. In facilities that are not well air conditioned increase you fluid intake and replenish electrolytes.

In colder environments athletes have increased carbohydrate and fluid needs. In sports like hockey, figure skating, and speed skating, the temperature of the rink should be considered.

OUTDOOR SPORTS

Macronutrients provide your body with energy known as calories. They each have essential roles that help our bodies function properly. There are three types of macronutrients: Carbohydrates, protein, and fats.

Winter

Types of sports
Biathlon, skiing, snowboarding, etc

Cold Conditions
Cold temperatures can lead to shivering resulting in increased muscle contraction and energy use, increased insensible fluid losses, decreased heart rate. High windchill increases risk of frostbite.

Altitude
Higher altitude leads to increased metabolism, increased carbohydrate and iron needs, decreased thirst sensation.

Nutrition Concerns

- Hydration
- Maintaining energy levels
- Increased iron needs (altitude)

How to Avoid Negative Side Effects

1. Increase intake of simple carbohydrates before and during training or event
2. Increase fluid intake to maintain hydration
3. Replenish electrolytes during and after training or event
4. Ensure adequate iron intake (high altitude)

Summer

Types of sports
Soccer, rugby, tennis, triathlon, cycling, etc

Increased Heat & Humidity
Extreme heat and humidity can lead to higher body temperature, more sweating, higher risk of heat illness, increased energy use, more fluid and electrolyte losses, digestive issues, and becoming tired quicker.

Nutrition Concerns

- Hydration
- Maintaining energy levels
- Cooling strategies
- Digestive issues

How to Avoid Negative Side Effects

1. Increase intake of simple carbohydrates during training or event
2. Increase fluids to prevent dehydration.
3. Replenish electrolytes during and after training or event
4. Have a cooling strategy - cold water, shade, ice slurries, ice baths
5. Avoid high FODMAP carbohydrates to prevent digestive distress

References
Performance Nutrition Academy Ltd, 2023