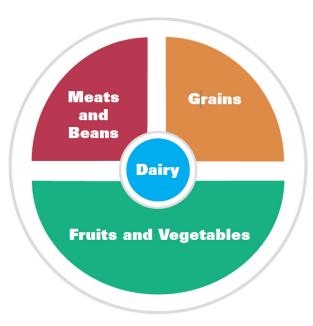


SPECIAL OLYMPICS SPORTS SCIENCES: NUTRITION GUIDE FOR COACHES



TRAIN Plate

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Advancing the public well-being through improved communication

Special Olympics would also like to thank the professionals, volunteers, coaches and athletes who helped in the production of the *Special Olympics Sports Sciences: Nutrition Guide for Coaches*. They have helped fulfill the mission of Special Olympics: to provide year-round sports training and athletic competition in a variety of Olympic-type sports for people 8 years of age and older with intellectual disabilities, giving them continuing opportunities to develop physical fitness, demonstrate courage, experience joy and participate in a sharing of gifts, skills and friendship with their families, other Special Olympics athletes and the community.

Special Olympics welcomes your ideas and comments for future revisions of this guide. We apologize if, for any reason, an acknowledgement has been inadvertently omitted.

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The Nutrition Guide for Coaches is an adaptation and update of the Testing Recreational Activities and Nutrition (TRAIN) Nutrition Guidance. A special thanks to the TRAIN Team for developing the initial quidelines

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Overview



Many factors contribute to the Special Olympics Team and individual athlete's success in sports performance. Athlete training, commitment, capabilities and injury avoidance all contribute to the individual athlete's success. The athlete's diet affects their performance, the foods they choose during training and event competition will impact their sports performance. Food gives the body the energy to walk, run, and play sports. Good nutrition is important for the athlete's everyday health. Eating a healthy diet will give energy to the body and allows it to be active in daily life.

A healthy diet also keeps the athlete focused while practicing or competing in an event, whether basketball, track, or soccer. Practicing good nutrition can help the athlete improve in the sport!

As a Special Olympics Coach you are responsible to ensure a safe environment for athletes. Promoting a healthy diet for your athletes is an important responsibility.

The Special Olympics Nutrition Guide is intended to provide Special Olympics Coaches with basic information on a healthy diet and sports including:

- An overview of the importance of nutrition
- Different food groups and what each particular group provides to the human body
- How to build a healthy diet based on the different food groups
- The role of carbohydrates, proteins, and fats in an athlete's diet
- Nutrition and water before, during, and after an event
- Tips on good nutrition when traveling
- Quick, healthy snacks to consume throughout the day or on the go
- Links to Special Olympics resources that support nutrition and sports
- Recommended resources from sports and nutrition authorities for more in-depth information on sports nutrition

Coaches are encouraged to partner with athletes, unified partners, ALPs and families as they implement nutrition recommendations for their teams. Input and recommendations from individuals participating in the Special Olympics experience is essential to success.

Special Olympics Sports Sciences: Nutrition Guide for Coaches Hydration – Keeping Fluids in the Body

Hydration – Keeping Fluids in the Body

Adequate hydration and fluid replacement is one of the most important nutritional concerns for an athlete. Ensuring that all athletes are adequately hydrated is a critical responsibility for the coach. As small a loss as 4 percent of body weight (4 pounds in a 100 pound person) can seriously affect performance.

Adequate hydration is important throughout the athlete's participation in sport but particularly during the following times:

- Prior to practice and competition
- During practice and competition and
- After practice and competition

As the athlete trains and competes, fluid is lost through the skin through sweat and the lungs while breathing. If the lost fluid is not replaced during this time, it can lead to dehydration. Dehydration is entirely preventable. The coach should plan for adequate hydration of all athletes, regardless of age or gender.

Dehydration means the athlete has a decreased volume of blood circulating through the body, and results in:

- A decrease in the amount of blood pumped with each heart beat
- Exercising muscles do not receive enough oxygen
- Exhaustion sets in and the athlete's performance suffers

Symptoms of dehydration include: dry mouth, dizziness, inability to produce tears or saliva, inability to sweat or produce urine, a rapid heart rate, delirium, altered mental status, and loss of consciousness. In serious cases, dehydration can cause sudden cardiac arrest, seizures, kidney failure, hypovolemic shock, heat injury, cerebral edema and could ultimately result in death.

One very simple way to determine if an athlete is hydrating properly is to weigh them before exercise and after. If the athlete is hydrating properly, there will be very little difference between the weight of the athlete before and after exercise. If a scale is not available, checking the color of the athlete's urine is helpful. Urine that is dark gold in color indicates dehydration. Urine similar in color to pale lemonade or weak tea is a sign of a hydrated athlete.

Coaches should instruct athletes to check their urine color and let the coach know when the color is in the 4-8 zone colors.



Special Olympics Sports Sciences: Nutrition Guide for Coaches Hydration – Keeping Fluids in the Body

1 2 3 4 If your urine matches the colours numbered 4 to 8 then you are DEHYDRATED and need to drink more fluid 7 If your urine matches the colours numbered 1, 2, or 3 you are HYDRATED

Urine Chart to Estimate need for additional fluid

McEnroe, John. "Urine Chart to Estimate Need for Additional Fluid." Chart. *JMTA Blog John McEnroe Tennis Academy*.N.p., 22 Apr. 2013.

Additional situations that will impact athlete hydration include the climate, altitude and temperature where the athlete practices and competes as well as the intensity of the sport. Special attention should *be paid to hydration in climates with extreme heat, prolonged cold and sports such as cycling, track and field.

Athlete Medications and Dehydration

Several serious medical conditions can occur from not having enough water. The following are examples of substances and drugs that may put the athlete at risk for dehydration:

- 1. Alcohol
- 2. Some asthma medications
- 3. Some blood pressure medications
- 4. Some psychotropic medications
- 5. Vitamin D derivatives.

The link: http://www.rightdiagnosis.com/symptoms/dehydration/side-effects.htm, lists prescription medications that can cause dehydration Coaches should be aware of any medications the athlete is taking. If the medications put the athlete at risk for dehydration, the coach should instruct the athlete to drink adequate amounts of water and monitor the athlete for potential dehydration.

The goal is to keep the athlete hydrated and not allow the athlete to become dehydrated. The easiest way is to create a simple, routine system that all your athletes follow:

- Drink plenty of fluids with your meals
- Always have water available before, during and after your event
- Don't wait until you are thirsty to drink

Special Olympics Sports Sciences: Nutrition Guide for Coaches Hydration – Keeping Fluids in the Body

When to Drink Water	How Much Water to Drink	
Night before practice or competition	Glass of water (8 oz./250ml)	
Four hours before event	Glass of water (8 oz./250ml)	
15 minutes before event	One-half glass of water (4 oz./125 ml)	
During event of less than one hour	One water break	
During event of more than one hour	One-half glass of water (4 oz./125 ml)	
After event	Glass of water every three hours until next day	

Athletes need to be instructed to "drink as much water as they want." If you are practicing in warm environments, you may need to increase the frequency of water breaks. The best replacement for most events is plain water.

- Water
- Carbohydrate fluid replacement drinks (PowerAde, Gatorade) should not be used frequently, they contain excess calories can contribute to unnecessary weight gain and dental caries. If used, they are more appropriate for the more intense sports such as cycling and track and field.
- Note Energy drinks are NOT recommended; they contain stimulants (such as caffeine) and could
 impact the athlete's health. In addition some medications the athletes take can be impacted by
 excessive caffeine.

Nutrition Overview

Carbohydrates, protein and fat are the three main nutrients in food that keep the body functioning every day.

- 1. Carbohydrates: Fuels the muscles and allow them to work for longer periods of time without getting tired. Sources of carbohydrates include whole grains, fruits, and vegetables.
- 2. **Proteins:** Builds and repairs muscles and body tissue. Athletes who participate in strength and endurance sports may have higher protein needs than athletes participating in other sports. Most athletes can meet their protein requirements through a healthy diet. Sources of protein include eggs, meat, fish, beans and legumes (pulses).
- **3. Fats: Provides energy, helps the body absorb vitamins.** Small amounts of fat in the diet are necessary. Sources of fat include butter, oils salad dressing, mayonnaise, whole milk and yogurt and desserts.

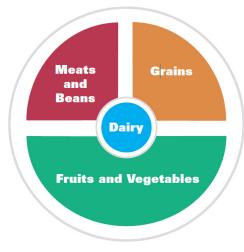
Vitamins and minerals do not provide energy, but are needed in very small amounts to enable the body to perform efficiently and effectively The athlete should eat a variety of foods from each food group will help the body get all the **vitamins** and **minerals**, it needs to function. The next section describes the food groups and recommended foods to contribute to a healthy diet.

Food Groups

All the foods that we eat fit into a food group. Each group helps fuels an athlete's body with different nutrients, so it is important for your athletes to eat foods from each group every day.

Keep the athlete's plate balanced between the food groups- this helps to ensure the athlete is meeting all nutrition recommendations. The TRAIN plate illustrates the balance between the food groups. While countries have their own nutrition guidelines, the TRAIN plate can be adapted to meet country guidelines.

Key Points



TRAIN Plate

- It is important to include at least three different food groups in each meal. Eating different foods allows the body to receive all the nutrients it needs.
- A good guide to use when eating is dividing a plate into three sections. Fruits and vegetables should take up one-half of the plate. Grains make up ¼ of the plate and meats, fish, eggs, legumes and beans (pulses) make up another ¼ of the plate. Dairy foods are shown as a circle in the middle of the plate. Dairy foods can be added to other food groups in meals or taken as a beverage.
- Healthy oils and fats like olive oil can be added as a salad dressing.

*oils are only needed in small amounts and are often added during cooking.

My Country Guidelines for Nutrition

Daily Serving Food Groups

Food Groups	Country Recommendations
Meats, Beans, Legumes, Pulses	
Grains, Breads, Starchy Foods	
Fruits and Vegetables	
Dairy	
Oils and Fats	

What is a Serving Size?

There are several good charts which illustrate a serving size for various food groups. For example a portion of meat is the size of a person's hand (medium size palm), baked potato size of a medium fist, The Resource section has links to serving size posters to print and use with your athletes.

Grains

- Give the body nutrients including vitamins, minerals, fiber and energy.
- Make half of the grains each day from whole grains.
- Whole grains are usually brown in color and have more vitamins.

Foods to Include

	General Foods	My Region/Country Foods
\sim	Brown, Wild, White Rice, Quinoa	
	Granola and Cereal Bars	
	Pasta	
	Popcorn –light prepared without oil or butter	
	Whole Grain Bread, pita bread, corn and whole grain tortillas	
All Control	Whole Grain Cereal, oatmeal	
	Whole Grain Crackers	
	Graham Crackers	

Meat, fish, poultry, eggs, beans and peas

- Gives the body protein, vitamins and minerals and energy
- Include one serving for this group at every meal
- Choose less fattening meat like turkey, chicken, seafood and sirloin steak.

Foods to Include

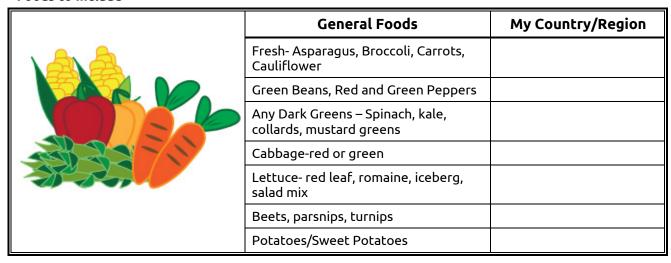
	General Foods	My Country/Region
	Beans (kidney, black, pinto, or soy)	
	Chicken (no skin)	
	Eggs	
	Fish (frozen, fresh, or canned)	
TUNA	Ground Beef (80-90% lean)	
	Peanut Butter and other nuts	
	Tofu	
	Turkey, ham, pork, lamb	

Vegetables and Fruits

Vegetables

- Give the body essential nutrients, including vitamins, fiber and energy
- · Choose fresh, dried, canned or frozen
- Choose a rainbow Eat a variety of colors

Foods to Include



Note- some countries include potatoes in the high carbohydrate (starchy) food group and limit the number of servings to $\frac{1}{2}$ c. day.

Fruits

- Give the body essential nutrients including vitamins, fiber, and energy.
- · Choose fresh, dried, frozen or canned
- Choose a rainbow Eat a variety of colors

Foods to Include

	General Foods	My Country/Region
	Fresh- Apples, Bananas, Berries, Cantaloupe, Grapes, Kiwi, Oranges, Strawberries	
	Canned Fruit (in its own juice)	
	Frozen Fruits	
	Dried Fruit- Raisins, apricots, apples	
	Fruit Juice- limit to 4- 6 oz. or 150ml/day	

Oils and fats

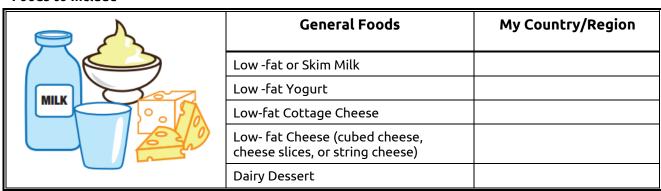


- Give the body energy.
- Fish, avocados and nuts are a great way to get healthy oils and fats in the diet
- Eating and cooking with canola, safflower and olive oils are better for your body.
- Healthy fats include olive oil, canola, safflower and corn oils
- Use in small amounts

Dairy

- Give the body calcium, vitamins and energy.
- Keeps your bones and teeth strong.
- Include one serving of dairy at every meal
- Choose dairy sources that are low fat or fat free

Foods to Include



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Special Olympics Sports Sciences: Nutrition Guide for Coaches Nutrition and Sport

Nutrition and Sport

Eating well on a regular basis will keep the body healthy and in top shape for participating in sports. To fuel the body for each workout the athlete has to focus on what he or she is eating at three specific times: before, during and after exercising. This will help the body build up the energy it needs to perform the workout, keep the energy while working out, and recover from the workout. Remember, the athlete should eat foods that are familiar to the mat any of these times

Before an event	During the event	After an event
 Day before the event The night before get a healthy dinner to start building energy, focus on eating grains, lean meats, fruits, and vegetables to get plenty of carbohydrates. Drink water to be ready for the next day. Day of the event 3 or 4 hours before the event eat a meal which includes a serving from each food group and drink water. Avoid foods high in fat, these can take a long time to digest and make you feel tired If there is an event or practice early in the morning the athlete may not have time to eat a full meal beforehand. In that situation they should eat a good meal the night before and in the morning of the event, eat a small meal or snack an hour before it begins. 1 hour before the event, eat a small snack (like a cereal bar or piece of fruit) and drink water 	 Food for Events or practices shorter than 60 minutes, it is not necessary to eat to maintain energy. Events or practices longer than 60 minutes, the athlete should eat small amount for energy. Any event- fruits, granola and cereal bars, can give a boost of energy during workout or sport event. Water should be consumed: Every 15 minutes, and at breaks while exercising. At high intensity sports or events/ practices longer than 60 minutes. Could consider a sports drink during high intensity sports. 	 Snack 15-30 minutes after: Eat a small snack to begin to regain the energy. Meal One to two hours after: Eat a meal with all the food groups. Give the body back all the energy it lost by eating a healthy meal which includes a serving from each food group.

Snacking

Snacking is a great way to help the athlete meet their nutrition needs and maintain energy during practice and sports events. Some tips:

- **Get more, eat less!** Choose foods that have lots of nutrients such as fruits, vegetables, and whole grains.
- **Keep it small!** Use small bowls and plates when preparing snacks. This will keep athletes from overeating.
- **Plan Ahead!** Have healthy snacks available during practice, travel and competition. This will make athletes less likely to eat junk food.

Choose Healthy Foods and Beverages- Coaches fill in choices from your country

Choose this	Instead of this
Low fat, fat free milk	Whole milk

Special Olympics Sports Sciences: Nutrition Guide for Coaches Healthy Eating While Traveling

Healthy Eating While Traveling

Many athletes and teams travel to sports events within their country, region and globally. It is important to maintain good nutrition and hydration while traveling to an event, before, during and after the competition. The coach should plan with the team what foods to take while traveling and what foods and beverages to take to the competition site. The coach should check with the athlete's family or care giver on food preferences and special diet needs.

Travel Snacks

- Dried fruit, nuts, seeds
- Fresh/canned fruit, vegetables
- Water, fruit juice
- Bagel, pita bread, ready to eat cereals, cereal bar, crackers
- Yogurt, string cheese, humus (may need refrigeration)
- Peanut and other nut butters

Pack a travel healthy food/snack bag for the team or have each athlete bring their foods.

Coach's planning for Healthy Eating on the Road

- Confirm any food allergies or special diet needs with the athlete, athlete family or care giver and Head of Delegation.
- Review the menus and share with team
- Have healthy snacks and beverages available for athletes

Eating Out During Travel

- Review restaurant menu with team, discuss healthy choices before going to the meal
- Choose baked, grilled or broiled foods instead of fried
- Ask for toppings and dressings on the side
- Water to drink

Eating on the Go

Airplane Travel

Be sure to drink plenty of water when traveling by airplane, it is very easy to become dehydrated on long plane trips. Athletes should ask for two beverages with your meal, always make one of the beverages water. Have the athletes bring a bottle of water on the plane (fill the water bottle or purchase a bottle after security checks).

Restaurant Meals

Going out to restaurants is fun and convenient; however, it is not always easy to eat healthy at a restaurant. Here are some tips for coaches and athletes that can make choosing healthy foods fun and easy for athletes.

Drinks	Low fat milk and water are best choices
Salads	Salads with lots of vegetables and less cheese are good choices. Order toppings and dressings on the side
Main dish	Foods that have been grilled, baked, or broiled are best. Avoid foods that have been fried. Check out the vegetarian items, they often have protein rich beans, peas and legumes. Recommended meats include turkey, chicken, seafood, and lean beef. When ordering pasta, stick to red sauces instead of white and cream sauces, to reduce the fat.
Side Dishes	Baked potato, steamed vegetables, salad or fresh fruit in place of French fries are healthy choices
Dessert	Fresh fruit is always a great option to order for dessert. Frozen yogurt is a healthy choice
Grains	Whole grain breads, rolls and crackers, brown or wild rice are healthy choices

Special Olympics Sports Sciences: Nutrition Guide for Coaches Resources

Resources

Special Olympics

Choose to Change Cards

The "I Choose to Change!" cards were developed designed to be given to athletes as the leave Health Promotion screening. The cards can be used by Special Olympics Coaches to teach and reinforce healthy habits to their athletes. They provide visual cues and first steps to positive behavior changes for health and improved sports performance. The following Choose to Change cards are important for nutrition and hydration in Special Olympics sports.

- Strong Bones
- Fruits and Vegetables
- Hydration

The cards are available in English, Spanish, Arabic, Portuguese, Chinese, French and Korean.

The cards can be downloaded from the Health Promotion Resource site at:

http://resources.specialolympics.org/Topics/Healthy Athletes/Healthy Athletes Choose to Change.aspx

A lesson plan describing how to print and use the Choose to Change cards can be found at:

http://resources.specialolympics.org/uploadedFiles/Lesson%20Plan%201 Choose to Change.pdf



Choose to Change Card (front and back) Healthy Bones

Special Olympics Sports Sciences: Nutrition Guide for Coaches Resources

Health Promotion Lesson Plans

- The Health Promotion Lesson Plans were developed to offer interactive education to athletes on short topics. Coaches, ALPS, athletes, unified partners and volunteers could offer lessons on a variety of topics such as: Fruits and Vegetables- Mystery Game- athletes learn about new fruits and vegetables to try
- Hand washing- review the proper hand washing technique with athletes
- Sun Safety and UV Bracelet- provides important information on Sun Safety for athletes

Lesson Plans can be found at:

http://resources.specialolympics.org/Topics/Healthy Athletes/Disciplines/Health Promotion.aspx

TRAIN Resources

Testing Recreational Activities and Improving Nutrition (TRAIN) is an assessment program developed to test Special Olympics athletes' sports skills in specific areas. The TRAIN nutrition materials were designed to complement the sports assessment program. The materials provide key nutrition education and food group information for Special Olympics athletes. Coaches may wish to use TRAIN nutrition materials as a part of their sport introduction and training. TRAIN materials can be found at:

- TRAIN Placemat- Athletes can record on a daily basis, physical activity and nutrition goals http://media.specialolympics.org/soi/files/resources/StriveAndTrain/TRAINPlacemat.pdf
- TRAIN@School- Lesson plans to teach key nutrition concepts to Special Olympics athletes http://resources.specialolympics.org/TRAIN-Downloads2.aspx
- TRAIN@ Home Nutrition Guide <u>http://media.specialolympics.org/soi/files/resources/StriveAndTrain/TRAINHome_Nutrition.pdf</u>

NOTE: TRAIN Nutrition materials are available in a variety of languages including.

Special Olympics Ireland Health Promotion Lessons

The Health Promotion Toolkit includes all the tools needed to deliver a health promotion program for a Special Olympics group. It is divided into 15 workshops, each focusing on a different aspect of health. The workshops are designed to provide athletes with the knowledge and information to make healthier choices in their lives. The toolkit includes posters and games. The toolkit can be found at: http://www.specialolympics.ie/WHATWEDO/HEALTHSERVICES/HEALTHRESOURCES.aspx

Special Olympics Ontario, Canada Physical Activity Healthy Living (PAHL)

PAHL is a project created to promote healthy active living to Special Olympics athletes and students across Ontario. PAHL resources include a Nutrition Guide-TRAIN adaptation. It includes sample menus and recipes.

http://pahl.specialolympicsontario.ca/home

Portion Control Charts

- Dairy Council of California- portion sizes using a hand http://www.healthyeating.org/Portals/0/Gallery/Album/Healthy%20Eating/portion%20size%20hand.
 http://www.healthyeating.org/Portals/0/Gallery/Album/Healthy%20Eating/portion%20size%20hand.
 http://www.healthyeating.org/Portals/0/Gallery/Album/Healthy%20Eating/portion%20size%20hand.
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 https://www.healthyeating.org/portals/0/Gallery/Album/Healthy%20Eating/portion%20size%20hand.
 <a href="https://www.healthyeating.org/portals/0/Gallery/Album/Healthy%20Eating/portals/0/Gallery/Albu
- Portion Serving Size Chart- Web MD- wallet size portion guide http://www.webmd.com/diet/printable/portion-control-size-guide
- Eat well Plate- British National Health Service Recommendations for Healthy Eatinghttp://www.nhs.uk/Livewell/Goodfood/Documents/Eatwellplate.pdf

Special Olympics Sports Sciences: Nutrition Guide for Coaches Resources

Sports and other organizations

- International Association of Athletics Federations- Practical Guide to Nutrition http://www.iaaf.org/about-iaaf/documents/medical#nutrition-in-athletics
 http://www.iaaf.org/about-iaaf/documents/medical#nutrition-iaaf/documents/medical#nutrition-iaaf/documents/medical#nutrition-iaaf/documents/medical#nutrition-iaaf/documents/medical#nutrition-iaaf/documents/medical#nutrition-iaaf/documents/medical#nutrition-iaaf/documents/medical#nutrition-iaaf/documents/medical#nutrition-iaaf/documents/medical#nutrition-iaaf/docume
- Sports, Cardiovascular Nutrition Dietetic Practice Group of the Academy of Nutrition and Dietetics- Sports Nutrition Fact Sheets
 - http://www.scandpg.org/sports-nutrition/sports-nutrition-fact-sheets/
- Federation International Football Association (FIFA) Nutrition for Football FIFA
 http://www.fifa.com/mm/document/footballdevelopment/medical/51/55/15/nutritionbooklet_ne_ue2010.pdf
 - http://www.fifa.com/aboutfifa/footballdevelopment/medical/playershealth/food/index.html
- American College of Sports Medicine
 - http://www.acsm.org/
- U.S. Antidoping Agency http://www.usada.org/
- International Olympic Committee
 http://www.olympic.org/Documents/Reports/EN/en report 833.pdf
- My Plate- U.S. Dietary Guidelines
 http://resources.specialolympics.org/Topics/Healthy Athletes/Disciplines/Health Promotion.aspx