Special Olympics

Health Promotion

Clinical Director Manual

Chapter Five:
Education Stations

SpecialOlympics.org/Health

Special Olympics

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CHAPTER FIVE: EDUCATION STATIONS

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Why We Address Nutrition

Individuals with intellectual disabilities (ID) are at increased risk for obesity, osteoporosis, heart disease, seizures, poor physical conditioning and fitness as well as other medical conditions. The 2005, U.S. Surgeon General's Call to Action to Improve the Health and Wellness of Persons with Disabilities noted that: Persons with disabilities of all kinds share many of the same challenges as those without disabilities when it comes to their own health and well-being.

Individuals with ID often experience nutrition challenges including growth alterations such as failure to thrive, obesity, and growth retardation, metabolic disorders, medication-nutrient interactions, and food/sensory challenges. Foremost among those challenges is having the tools and the knowledge to help the individual enjoy and maintain full, healthy lives. A number of the health habits that contribute to chronic disease, including nutrition choices are within the control of the individual. The goal of the nutrition component of the Special Olympics Healthy Athletes Health Promotion (HP) Program is to provide the athlete with information and tools to make healthy food choices.

HP conducts hands on screening in key areas that impact the athlete's nutrition/health status. There are three health screenings in Health Promotion.

- Height and Weight for body mass index (BMI) calculation
- Blood Pressure
- Bone Density

Data collected at previous Special Olympics World Games, regional and local events indicate that many of the athletes are overweight or obese; are at risk for osteoporosis and osteopenia and consume less than the recommended servings of dairy foods, and fruits and vegetables. Results from the individual athlete's screening and health habits survey information form the starting point for athlete nutrition education. HP nutrition education provides interactive nutrition education opportunities targeted to the individual athlete's needs and interests.

Through displays, interactive education stations, food samples, food demonstrations positive messages about foods are gives to athletes. Key focus areas in nutrition include: bone building, eating 5 fruits and vegetables a day and drinking water.

Screening Protocol/Equipment/Supplies

Health Habits Survey- Nutrition-Beverage Questions Screening Protocol

The HAS Nutrition Questions include several questions on eating habits. Below are the nutrition-related questions on the Health Habits portion of the HAS form. Full information about the HAS form is available in Chapter 4.

Do you take vitamin D supplements? ☐ Yes ☐ No ☐ Don't know

What do you usually drink when you are thirsty? (select all that apply)

☐ Water
☐ Fruit juice
☐ Soft drink O Diet O non diet
☐ Other _____
☐ Sports drink
☐ Milk product (includes soy)
☐ Energy drink

Sources of Calcium O less than 1 serving per day O 1-2 servings per day O 3-5 servings per day O more than 5 servings per day O never	**Sweetened Beverages** O daily O weekly O monthly O never
Fruits and Vegetables O less than 1 serving per day O 1-2 servings per day O 3-5 servings per day O more than 5 servings per day O never	**Snack Foods** O daily O weekly O monthly O never
Fast food O daily O weekly O monthly O never	

TIP: Use the food pictures that best represent the county or region in which the athlete lives. An example template for the US as well as a modifiable template is available online for programs who want to develop their own food pictures to match regional and national foods. Access the templates at:
http://resources.specialolympics.org/Topics/Healthy_Athletes/Disciplines/Health_Promotion.aspx
Contact your Regional Clinical Advisor for Regional Food Pictures. Additional props to assist in the food questions include food models and actual foods.

Tips for Health Promotion Food Questions

Introduce yourself and explain the purpose of interview
Explain to the athlete that you will be showing them pictures of foods and are interesting in learning about what foods they eat.

- Be a good listener; take your time; let the athletes take their time.
- Be non-judgmental throughout the interview.
- Use open-ended questions to solicit unbiased information.
- Sometimes you will get a response that may not seem accurate- they never eat any grain foods. A follow up question always is helpful. Ask – What do you eat in the morning or when you wake up? Often the response is cereal. Follow with- What do you put on your cereal? Often the response is milk. Then you can ask about the frequency during the week.

If you are having difficulty in getting a response the following trigger questions may be helpful.

- Which meals do you usually eat during the day? How often do you snack? How many times a week do you skip breakfast? Other meals?
- What kinds of things do you like for snacks?
- Are there any foods you won't eat? Which ones?

If time is available, many athletes want to discuss what they eat and changes they can make for their health. The following questions can often assist in starting the conversation.

- How do you feel about the food you eat?
- Are there any changes would you like to make in the way you eat?
- How often do you make your own meals/snacks? Do you purchase any of your own food or snacks?
- How many days per week do you eat fast food?
- How do you feel about your body and the way you look?
- Are you trying to change your weight? How are you going about doing this? How much would you like to weigh?
- How much physical activity time do you get in a week? What types?
- How much time per day are you spending watching TV/on the Internet?
- Do you have any concerns about your diet/weight/growth?

Recommendations for nutrition equipment and supplies can be found in Chapter 2.

Key elements to developing a successful nutrition station include the use of colorful props such as foods, food models, pictures of foods, balloons and items which will attract the attention of the athletes and support the education message.



Global Nutrition Guidelines

Nutrition represents what one eats on a daily basis. Food habits are individual and based on geographic, cultural, religious, economic and other factors. Most countries have nutrition guidelines for their population. Examples include:

United States My Plate **Korea- Food Bicycle** **Belgium- La Pyramide Alimentaire**

Do you know your country's nutrition guidelines?

Key Nutrition Messages

- Choose water instead of sugar sweetened beverages
- Eat at least 5 fruits and vegetables every day
- Choose healthy snacks every day
- Include bone building foods every day

The key messages used in HP Nutrition represent nutrition guidelines from around the world and have global support among medical and governmental health authorities as considered key behaviors to prevent obesity and chronic disease.

Nutrition Education Resources

A number of countries, states, medical and health authorities have well developed nutrition education and health promotion materials available in an electronic format. Some may be appropriate or need adaptation for a HP event. A good place to start is your local government health authority such as your Ministry of Health or State Health Department. Many food related companies or non-profit organizations offer nutrition education materials.

Choose to Change Card - Nutrition

"I choose to have strong bones" can be used to give the athlete a take home message on the importance of Bone Health either at the bone health station, or better yet, at the check-out station where the athlete will receive feedback and recommendations from a trained clinical professional. The cards for all the topics (in 6 languages) can be found at: http://resources.specialolympics.org/Topics/Healthy_Athletes/Disciplines/Health_Promotion.aspx The "Choose to Change" cards are described in more detail in Chapter 6.

Special Olympics
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Bone Health

Bone Health Education Station - Strong Bones, Strong Athletes

Background Information - Bone Health for Sport Success

Bone health is important for Special Olympics Athletes around the world. For many athletes, getting enough calcium, vitamin D and other nutrients, can be a challenge. Many athletes do not engage in daily physical activity, and even for those who do, the exercise might not be vigorous enough to positively stress bones. For all athletes it is important to include good bone building nutrients and vigorous physical activity into their daily lives.

Bone and tooth enamel are the hardest mineral substances in your body. Most people know the value of strong teeth, but how many consider the value of strong bones until a problem develops? Strong bones do much more than provide strength, balance and support for your body; they also enable better posture to improve your appearance and make you look and feel more youthful.

Bones protect our internal organs and provide support for muscles. Strong bones support participation in Special Olympics sports as well as social activities like dancing and group activities. Strong bones carry us through busy work days and allow us to enjoy playing, running, jumping, climbing all the fun-filled physical activities we love. As the athlete trains and competes, if the bone nutrients are available, bone density will improve. Exercise without adequate calcium, vitamin D, magnesium and potassium doesn't improve bone strength. Likewise, even the most excellent nutrition will not improve bone density without exercise.

Nutrition

A large part of our bones are made of calcium. If we do not get enough calcium from foods or supplements, then we may have weak bones, bone loss, and increase the chance of having a breaking a bone. The calcium recommendation is based on age, ranging from 1000 -1200 milligrams per day. This is the amount of calcium in four 8-ounce glasses of milk or soy milk (1 quart/liter). Many of us do not get the recommended calcium in our diets even though calcium is found in many foods.

- Milk, yogurt, and cheese are the main food sources of calcium for most people.
- Kale, broccoli, and Chinese cabbage are fine vegetable sources of calcium.
- Fish with soft bones that you eat, such as canned sardines and salmon are good animal sources of calcium.
- Most grains (such as breads, pastas, and unfortified cereals), have small amounts of calcium.
- Calcium is added to some breakfast cereals, fruit juices, soy and rice beverages, and tofu. If sufficient dietary sources of calcium and not consumed, calcium supplements are needed.
- Other bone building nutrients that most people don't get enough are vitamin D, vitamin K, magnesium and potassium.

Physical Activity

Bone health is also dependent on routine physical activity. Many of the sports practiced in Special Olympics help build stronger bones. Different types of weight bearing and strength building activities produce different effects on the skeleton. Bones need three kinds of exercise to keep them strong:

1. **Weight bearing** is any activity using our body's major muscle groups makes a difference in strenthging bones. Exercise that makes our muscles to pull on bone causes our body to build more bone mass; power walking, running, court sports, dance, aerobics and others.

2. **Strength training** a type of exercise using resistance to cause muscular contraction which builds the strength, anaerobic endurance, and size of skeletal muscles and bone density; weight lifting, use of resistance bands, some kinds of yoga and others.

3. **Balance enhancing exercises** include those that help reduce risk of falling. They involve side to side and backward movements; standing on one foot for increasing lengths of time, dance, yoga, court sports and others.

Athlete Medications and Low Bone Density

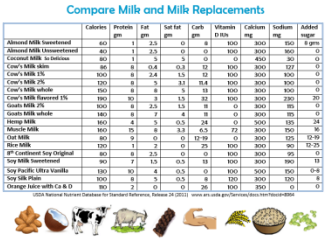
Bone health can be affected by some medications – see a Medication Watch List available on SOI website. People with ID with certain health conditions, such as Down syndrome, Fragile X and Marfan syndrome have lower peak bone mass than others. Many people with I/DD are prescribed needed medications that affect bone metabolism, vitamin D metabolism, and nutrient absorption. Some other routine medications depress estrogen levels, and still others cause photosensitivity, so sun exposure is avoided to prevent sun burn. The lack of hormone replacement therapy for people with I/DD (for women after menopause and older men with hypogonadism), accelerates bone loss. The following are examples of substances and drugs that may put the athlete at risk for bone loss (osteopenia and osteoporosis):

1. Alcohol and tobacco
2. Anti-seizure medications
3. Many anti-depressants
4. Medications with corticosteroids or steroids, including asthma inhalers
5. Depo-Provera, a contraceptive shot
6. Many psychotropic medications
7. Non-steroidal anti-inflammatory medications (NSAIDS)

Building and maintaining strong bones takes a lifetime commitment to healthy behaviors, including healthy eating, daily physical activity, avoiding alcohol and tobacco, assuring safe sun behavior or taking supplements to insure adequate vitamin D.

Training and Teaching Aids for Volunteers

- ✓ Comparison of "Milk Beverages. Which are healthiest?
- ✓ Sports and Activity Discussion Tool
- ✓ Medication Watch List
- ✓ Vitamin D References



Milk and Alternative Beverages SOI HP

Sports and Activities Discussion Sheet SOI HP Website

Loss of a Bone Easel

See Bone Health Lesson Plan for instructions on interactive education

The education station for strong bones features information and pictures (or packages) for foods and beverages that contain calcium, vitamins D and K. It may also include calcium + D, and vitamin D supplements. Graphic displays of exercises that promote bone health are essential.

Colorful and informative table top displays can illustrate:

- ✓ the importance of food sources of calcium and vitamin D
- ✓ supplment bottles of Ca + D and a separate vitamin D bottle for those who don't get recommended amounts through food and sun exposure
- ✓ graphics of sports and activities that ehance bone strength
- ✓ plastic skeleton to enhance conversation

Athlete Incentive Items

- String cheese, low-fat yogurt, carton or bottle of unflavored milk
- Got Milk incentive items (see Equipment and Supplies List for ordering info)
- Skeleton (spine) key chain

Health Habits Survey

The Healthy Athletes Software Nutrition questions include questions on vitamin D use and beverage choices. The responses to these questions will give the volunteer information on the athlete's vitamin D supplementation and their general beverage consumption including dairy/soy products, if these questions are done at the Bone Health Station, rather than a separate survey station. More about the HAS Form and Health Habits Survey included in Chapter 4.

Do you take vitamin D supplements? O Yes O No O Don't know

What do you usually drink when you are thirsty?

- ☐ Water
- ☐ Fruit juice
- ☐ Soft drink O Diet O non-diet
- ☐ Other _____
- ☐ Sports drink
- ☐ Milk product (includes soy)
- ☐ Energy drink

Sweetened Beverages

- ☐ Daily
- ☐ Weekly
- ☐ Monthly
- ☐ Never

Key messages for athletes about protecting their bone health

1. Drink low fat cow's or soy milk daily, instead of soda, soft drinks, sports and energy drinks and other sweetened beverages.
2. Don't smoke or chew tobacco.
3. Eat healthy foods like dark green vegetables, fruit and almonds instead of candy or other sweetened foods.
4. Choose plain low fat yogurt and add your own fruit.
5. Take a calcium pill and a vitamin D pill.
6. Discuss your bone health with your doctor.
7. Ask your doctor about having a vitamin D test.
8. Become physically active.
9. Practice for your sport every day.

Choose to Change Card - Bone Health

"I choose to have strong bones" can be used to give the athlete a take home message on the importance of Bone Health either at the bone health station, better yet, at the check-out station where the athlete will receive feedback and recommendations from a trained clinical professional. The cards for all the topics (in 6 languages) can be found at: http://resources.specialolympics.org/Topics/Healthy_Athletes/Disciplines/Health_Promotion.aspx The "Choose to Change" cards are described in more detail in Chapter 6.

Resources

1. The Surgeon General's Report on Bone Health and Osteoporosis: U.S. Department of Health and Human Services, Office of the Surgeon General, 2012. http://www.ncbi.nlm.nih.gov/pubmed/20945569
2. Emphasizing the health benefits of vitamin D for those with neurodevelopmental disorders and intellectual disabilities. Nutrients. 2015, 7, 1538-1564. Grant WB, Wimalawansa SJ, Holick MF, Cannell JJ, Pludowski P, Lappe JM, Pittaway M, May P. www.mdpi.com/2072-6643/7/3/1538
3. American Academy of Developmental Medicine and Dentistry Medication Watch List (for side effects) for People with Intellectual Disability. aadmd.org/sites/default/files/Medication_Side_Effect_Watch_List_07-29-10.pdf
4. Relationship Between Bone Quantitative Ultrasound and Fractures: A Meta-Analysis† Fernando Marín MD, PhD et al; 15 MAY 2006 DOI: 10.1359/jbmr.060417Journal of Bone and Mineral Research Volume 21, Issue 7, pages 1126–1135, July 2006 onlinelibrary.wiley.com/doi/10.1359/jbmr.060417/full#fn1
5. What impact do intellectual and developmental disabilities have on an individual's bone health?" Mary Pittaway, MA, RD; National Osteoporosis Foundation December 2014: Ask the Expert, nof.org/files/nof/public/content/file/4309/upload/1051.pdf
6. Vitamin D Status Around The World: Interactive global map for Vitamin D status. 2015 www.iofbonehealth.org/facts-and-statistics/vitamin-d-studies-map
7. Screening Tests for Adults with Intellectual Disabilities Joanne E. Wilkinson, MD, MSc, Larry Culpepper, MD, MPH and Mary Cerreto, PhD J;; Am Board Fam Med July-August 2007 vol. 20 no. 4 399-407

Comparison of Milk and Milk Replacements

This is a useful factsheet that shows a comparison of milk and milk replacements.

Special Olympics
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Comparison of Milk and Milk Replacements

Beverage/ 8 oz	Calories	Protein Gms	Fat Gms	Sat Fat Gms	Carb Gms	Vit D IUs	Calcium Mgs	Sodium Mgs
Almond Milk	60	1	2.5	0	8	100	300	150
Coconut Milk	80	1	5	5	0	0	450	30
Cows Milk 1%	100	8	2.4	1.5	12	100	300	100
Cows Milk 2%	120	8	5	3.1	11.4	100	300	100
Cows Milk Flavored 1%	190	10	3	1.5	32	100	300	230
Cows Milk Skim	86	8	0.4	0.3	12	100	300	127
Cows Milk Whole	150	8	8	5	13	100	300	100
Goats Low Fat Milk	100	8	2.5	1.5	11	0	300	115
Goats Milk Whole	140	8	7	4	11	0	300	115
Hemp Milk	160	4	5	0.5	24	0	500	135
Muscle Milk	160	15	8	3.3	6.5	72	300	150
Oat Milk	80	9	0	0	12	0	300	125
Rice Milk	120	1	2	0	25	100	300	90
Soy 8th Continent Original	80	8	2.5	0	0	100	300	95
Soy Milk Sweetened	90	7	1.5	0.5	13	100	300	190
Soy Pacific Ultra Vanilla	130	10	4	0.5	0	100	500	150
Soy Silk Plain	100	8	5	0.5	8	120	300	120
Orange juice with Ca & D (non dairy)	110	2	0	0	26	100	350	0

USDA National Nutrient Database for Standard Reference, Release 24 (2011) www.ars.usda.gov/Services/docs.htm?docid=8964

Comparison of Milk and Milk Replacements Updated 1/2/2014

Sports and Physical Activity Discussion Sheet 2014

This handout may be used in both the Physical Activity and the Bone Health station to talk about how physical activity is an important aspect of bone health.

Special Olympics
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Hydration

Hydration Education Station

Background Information:

Water is important for the health of Special Olympics Athletes across the world. In some countries, athletes need to understand the importance of clean and safe water. In countries like the United States, athletes should try to limit the number of sweetened beverages and chose more water. For all athletes regardless of location, it is important to drink adequate amounts of water during exercise and sports

Hydration for Sport

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

Dehydration – Key Facts and Information:

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

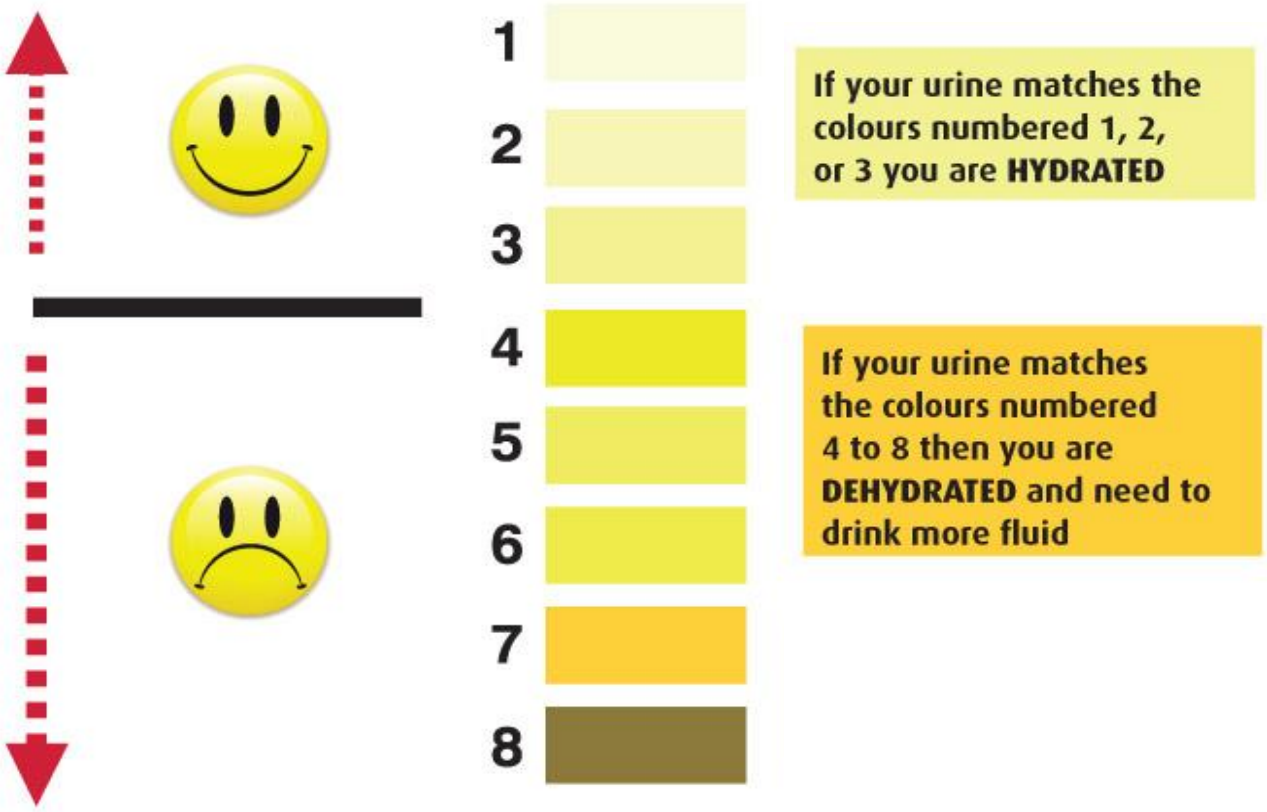
As the athlete trains and competes, fluid is lost through the skin through sweat and the lungs while breathing. If the lost fluid is not replaced during this time, it can lead to dehydration. Dehydration is entirely preventable. Athletes, coaches and families should plan for adequate hydration of all 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. (We suggest laminating this chart for use at hydration station.)



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: 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. See a Medication Watch List available on SOI and AADMD websites.

Screening Protocol/Equipment/Supplies

Health Habits Survey

The Health Habits Survey on the HAS form includes questions on vitamin D use and beverage choices. The responses to these questions will give the volunteer information on the athlete's vitamin D supplementation and their general beverage consumption including dairy/soy products, if these questions are done at the Bone Health Station, rather than a separate survey station. More Information on the Health Habits survey and the HAS form available in Chapter 4.

Do you take vitamin D supplements? O Yes O No O Don't know

What do you usually drink when you are thirsty?

- ☐ Water
- ☐ Fruit juice
- ☐ Soft drink O Diet O nondiet
- ☐ Other _____
- ☐ Sports drink
- ☐ Milk product (includes soy)
- ☐ Energy drink

Sweetened Beverages

- ☐ Daily
- ☐ Weekly
- ☐ Monthly
- ☐ Never

See Hydration Lesson Plan 5 for instructions on interactive education and information on Hydration.

The education station for hydration should feature information on athlete recognition for when water is needed, promotion of water as the beverage of choice and sugar in sweetened beverages and sports drinks.

Colorful and informative table top displays illustrating the importance of water for sport and providing information beverages can be developed. Check out resources at:
The California Department of Public Health "Rethink Your Drink" campaign has numerous resources (posters, beverage cards, lesson plans) to develop an education station. Resources are available at: http://www.cdph.ca.gov/programs/cpns/Pages/RethinkYourDrink-Resources.aspx.

Athlete Incentive Items

- Water bottle with instructions on use
- Water bottle carrier
- Bottle of water
- Keychain, bookmark or pin with healthy beverage message

Key Messages for the Athletes

The goal is to keep the athlete hydrated and not allow the athlete to become dehydrated. A simple routine that all athletes should follow includes:

1. **Hydration**
   - Drink one bottle of water before an athletic event.
   - Drink one bottle of water after an athletic event
   - Drink a glass of water before each meal
   - Don't wait until you are thirsty to drink (you are already dehydrated)

2. **Water as a Beverage of Choice**
   - Drink water instead of sweetened beverages each day.
   - Select 100% fruit juice, in limited amounts (children 4-6 oz. /day, adults up to 8oz./day).
   - Drink plain low fat (1%) or fat free milk.

Water as a Beverage of Choice

An important hydration consideration is the importance of water as the beverage of choice. Health concerns related to consumption of sugary drinks. These include risk for:

- overweight and obesity
- certain chronic diseases such as type 2 diabetes and heart disease
- dental cavities

Sugary drinks include a number of beverages such as:

- Soda/Soda pop
- Sports drinks
- Energy drinks
- Juice drinks
- Flavored milk (e.g., chocolate, strawberry, vanilla)
- Coffee drinks (hot or iced) with sweeteners or flavoring
- Blended coffee drinks
- Mocha
- Vitamin-added waters
- Milk tea
- Boba/ Bubble/ Pearl tea or drink
- Sweetened teas (hot or iced)
- Horchata
- Agua Fresca
- Yogurt drinks
- Grass jelly drinks

About Sports and Energy Drinks

- 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.

Choose to Change Card Hydration

"I choose to drink water everyday" can be used to give the athlete a take home message on the importance of Hydration either at the Hydration station, or better yet, at the check-out station where the athlete will receive feedback and recommendations from a trained clinical professional. The cards for all the topics (in 6 languages) can be found at:

http://resources.specialolympics.org/Topics/Healthy_Athletes/Disciplines/Health_Promotion.aspx
The "Choose to Change" cards are described in more detail in Chapter 6.

Example of Hydration materials. These and other materials are available at:
http://www.scandpg.org/nutrition-info/

Nutrition Fact Sheet | Issue 5 | April 2009

Exercise Hydration

Athlete Scenario

For my resistance training and cardio workouts at the gym, I bring a water bottle and drink when I get thirsty. My workout usually lasts about 1–1 ½ hours and I tend to sweat a lot. After I leave the gym, I am physically spent and don't feel completely recovered before the next workout. If I have time, I grab a sports drink for the ride home. When, what, and how much should I drink to improve my energy at the gym?

Goals of Hydration

- Begin exercise well hydrated by drinking fluids during the day and within the hour before the exercise session.
- Replace sweat losses by drinking fluids regularly during exercise.
- Rehydrate after exercise to replace weight lost as fluid during exercise.
- Follow a personalized fluid replacement plan to prevent the consequences of excessive (>2% body weight loss) dehydration such as early fatigue, cardiovascular stress, increased risk of heat illness, and decreased performance.

Fluids Surrounding Exercise

- For short duration (<60 minutes), low to moderate intensity activity, water is a good choice to drink before, during, and after exercise.
- Sport drinks (6-8% carbohydrate) are good options for moderate to high intensity activity lasting longer than 60 minutes, especially when the goal includes replacing carbohydrate and electrolytes.
- For those who experience high sodium losses during exercise, eat salty foods in a pre-exercise meal or add salt to sports drinks consumed during exercise.
- Rehydrate following exercise by drinking enough fluid (water or sports drinks) to replace fluid lost during exercise. Replace fluid and sodium losses with watery foods that contain salt (soup, vegetable juice). Replace fluid and potassium losses by consuming fruits and vegetables.

Tips to Take With You

1. Replace fluids early and often during and after exercise, particularly in hot environments.
2. Good sources of fluid include water, sports drinks, juices, soups, smoothies, fruits and vegetables.
3. A sports dietitian can assist you in designing a personalized hydration plan that considers thirst, urine color, and body weight changes under varying conditions of exercise.

Contact SCAN

Web site: www.scandpg.org
Voice: 800.249.2875

Written by SCAN registered dietitians (RDs). The key to optimal meal planning for athletes is individualization. For personalized nutrition plans contact a SCAN sports dietitian or Board Certified Specialist in Sports Dietetics (CSSD) by accessing "Find a SCAN Dietitian" at **www.scandpg.org** | **800.249.2875**.

 Photo Credit: Ivanna Buldakova–Fotolia.com

Nutrition Fact Sheet | Issue 17 | February 2012

Hydration for the Teen Athlete

Athlete Scenerio

Ever since football practice started in August, I've been getting headaches, feeling tired, and having trouble paying attention in class. I've been thirsty during the day, so I drink juice or soda at meals and stop at the water fountain on my way to class. During practice, I drink a 20-oz sports drink and, occasionally, I drink water from the cooler. Am I getting enough fluids? How much and when I should be drinking?

Goals of performance hydration:

- Begin exercise well-hydrated and hydrate within the hour before practice or games.
- Minimize fluid loss during exercise and avoid excessive dehydration (>2% loss of body weight). Dehydration negatively affects athletic performance, causes early fatigue, electrolyte imbalance and may alter attention and decision-making on the field.
- After exercise, replace sweat losses as soon as possible.

Strategies to help you stay hydrated on and off the field

- Drink according to thirst during the day and include fluids with meals.
- Develop and follow a personal hydration plan to avoid excessive dehydration.
- Drink 8-20 oz. of fluid (water or sports drink) an hour before exercise.
- Continue drinking during exercise, up to 16-24 oz. of fluid per hour (4 to 6 oz. every 15 minutes).
- Track your sweat loss by weighing yourself before and after exercise. Drink 16-24 oz. of fluid for every pound lost through sweat.
- Use water to hydrate if exercising under an hour; consider a sports drink to replace fluid and electrolytes lost in sweat if exercising over an hour or if you are a salty sweater.

Tips to Take With You

1. Check your urine color— clear to light yellow usually indicates adequate hydration.
2. Drink frequently during exercise by following your personal hydration plan. One gulp equals about an ounce of fluid.
3. A sports RD (registered dietitian) can help you develop a personalized hydration strategy.

Contact SCAN

Web site: www.scandpg.org
Voice: 800.249.2875

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Special Olympics
Health Promotion

Sun Safety

Sun Safety Education Station

Background Information

Health Promotion addresses the topic of Sun Safety, to help reduce the athlete's risk of sunburn and skin cancer, while still obtaining adequate levels of vitamin D. The incidence of skin cancers over the past decades continues to rise. Experts believe that four out of five cases of skin cancer could be prevented. Over exposure to sunlight is widely accepted as an underlying cause for harmful effects on the skin, eye and immune system. Inadequate vitamin D blood levels increase risk of melanoma and other cancers.

"Global Burden of Disease from Solar Ultraviolet Radiation", a WHO publication, provides estimates of UV-associated disease burden worldwide, using the best available estimates on UV-related mortality and morbidity. This report estimates that annually around 1.5 mill DALYs (Disability-adjusted life years) are lost through excessive UV exposure. The report gives region, age and sex-specific estimates and includes detailed methodological considerations. However, a counterfactual zero population exposure to UV would generate a substantial burden of disease through diseases of vitamin D deficiency. 1

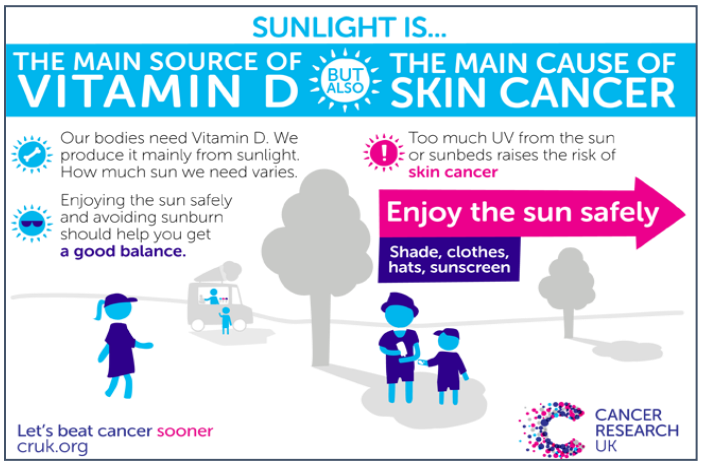
Sun Safety issues affecting SOI Athletes:

1. Unprotected skin exposure that leads to sunburn.
2. Use of medications that cause photosensitivity.
3. Low vitamin D levels due to reduced sun exposure, low vitamin D supplement use and use of medications that result in vitamin D depletion.

The Call to Action to Prevent Skin Cancer presents five goals for skin cancer prevention in the US:

1. Increase opportunities for sun protection in outdoor settings
2. Provide individuals with information needed for informed, healthy choices about ultraviolet (UV) exposure
3. Promote policies that advance the national goal of preventing skin cancer; reduce harms from indoor tanning; and strengthen research, surveillance, monitoring, and evaluation related to skin cancer prevention.

Humans traditionally have obtained most of their vitamin D from sun exposure. Although excessive exposure to sunlight increases the risk of non-melanoma skin cancer, (easily detected and treated) there is no evidence that sensible sun exposure, as our hunter-gatherer forefathers likely experienced, increases risk. [2]



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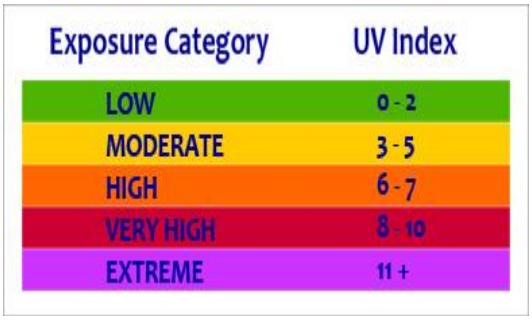


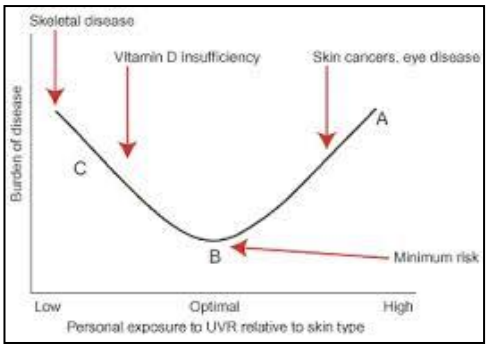
Local TV Weather Reports often post the UV Exposure Index information daily. Teach athletes what these mean.

Adopting the following the following simple precautions provide protection from sun burn and reduce skin cancer risk.

Key Messages:

- **Limit time in the midday sun:** UV sunrays are the strongest 10 am - 4 pm. "Be careful not to burn."
- **Use shade wisely:** Seek shade when UV rays are the most intense. Trees, umbrellas or canopies may not offer complete sun protection. The shadow rule: "Watch your shadow – Short shadow, seek shade!"
- **Wear protective clothing:** A hat with a wide brim offers good sun protection for your eyes, ears, face, and the back of your neck. Sunglasses with 99 to 100 percent broad spectrum protection will reduce eye damage from sun exposure. Tightly woven, loose fitting clothes will provide additional protection from the sun.
- **Use sunscreen:** Apply a broad-spectrum sunscreen of SPF 15+ liberally and re-apply every two hours, or after working, swimming, playing or exercising outdoors.
- **Avoid sunlamps and tanning parlors**: Sunbeds damage skin and unprotected eyes.
- **Take a vitamin D pill daily.** The correct daily supplement dose is individualized based on blood levels, weight, age, latitude, skin color and other variables.

Photosensitization: The use of certain medicines produce a photosensitizing effect on exposure to UVA. Many medications and other agents contain ingredients that may cause photosensitivity, defined as a chemically induced change that makes an individual unusually sensitive to light. The individual may develop a rash, sunburn, or other adverse effect from exposure to light of an intensity or duration that would normally not affect that individual. Photo or sun sensitivity is skin inflammation induced by the combination of sunlight and certain medications or substances, causing redness and a look similar to sunburn.



Vitamin D depletion by use of certain medications. Steroids can interfere with vitamin D metabolism and affect calcium absorption. Weight loss drugs including orlistat and the cholesterol-lowering drug cholestyramine reduces vitamin D absorption. Anti- seizures medications increase vitamin D metabolism, reducing blood levels of vitamin D and calcium absorption.

Certain medications can make athletes more sensitive to sun exposure. See a Medication Watch List on SOI and AADMD website.

Vitamin D, Sun Safety Controversy:

Debate exists over whether it's better to get vitamin D from diet and vitamin supplements rather than from sun exposure. Dietary sources and vitamin supplements do not increase risk for skin cancer, are can be reliable ways to get the vitamin D needed. Compliance with routine use of vitamin D supplements and consumption of dietary sources of vitamin D is a challenge for many.

The relationship between outdoor UV exposure, vitamin D, and human health is complex. The amount of sun exposure needed for meaningful vitamin D production depends on many factors including time of day and year, latitude, altitude, weather, skin type, amount of skin exposed to UV rays, and reflective surfaces, such as snow, water and sand. Vitamin D can be obtained safely through food and supplements without increasing exposure to UV radiation. Entirely avoiding UV sun rays is not realistic nor advisable for most humans. Spending time outdoors is associated with positive health benefits, such as increased levels of physical activity and improved mental health.[1]

Skin cancer incidence rates have continued to increase in recent years. Melanoma is responsible for the most deaths of all skin cancers, with nearly 9,000 people dying from it each year. Despite efforts to address skin cancer risk factors, such as inadequate sun protection and intentional tanning behaviors, skin cancer rates, including rates of melanoma, continue to increase in the United States and worldwide. This steady rise may be associated with sun avoidance, and our indoor life style that has resulted in decrease levels of vitamin D in many populations.[3]

Sun Exposure and Vitamin D: Except during the summer months, the skin makes little if any vitamin D from the sun at latitudes above 37 degrees north (in the United States, the shaded region in the map) or below 37 degrees south of the equator. People who live in these areas are at greater risk for vitamin D deficiency.[8]
Combined efforts to reduce the risk of sunburn, while assuring vitamin D adequacy may be the most effective approach to help reduce skin cancer risk for Special Olympics Athlete.

Health Habits Survey

The Health Habits Survey in the Healthy Athletes Software (HAS) includes questions on behaviors related to skin cancer. The responses to these questions will give the volunteer a sense of what sun protection behaviors the athlete follows. A question on vitamin D supplementation is also included in the Foods & Beverages section of the HAS. More information on the HAS in Chapter 4.

Do you do anything to protect your skin in the sun?

- ○ Yes
- ○ No

If yes, what do you do to protect your skin in the sun?

- ☐ Use sunscreen
- ☐ Seek shade
- ☐ Wear long sleeves
- ☐ Wear a hat
- ☐ Wear Sunglasses
- ☐ I do not do anything

If no, what is the reason? (select all that apply)

- ☐ Did not know it was important
- ☐ Did not get sunburned
- ☐ Wear long sleeves
- ☐ No money to buy protection
- ☐ I like to be tan
- ☐ Other

Choose to Change Card Sun Safety

"I choose to protect myself in the Sun" can be used to give the athlete a take home message on the importance of Sun Safety either at the Sun Safety station, or better yet, at a check-out station where the athlete will receive feedback and recommendations from a trained clinical professional. The cards for all the topics (in 6 languages) can be found at: http://resources.specialolympics.org/Topics/Healthy_Athletes/Disciplines/Health_Promotion.aspx
The "Choose to Change" cards are described in more detail in Chapter 6.

See Sun Safety Lesson Plan 6

The Sun Safety Bean Bag Toss game that reinforces the sun safety messages. See HP Equipment and Supplies

Solar Active Bracelets (see HP Supplies & Equipment to order)

Taking Sun Safety Education Outside and On to the Field

UV Derma Scan Device: Your local dermatologists, universities and clinics may loan your program a device for use at events.

Sun Safety Suggested Supplies, Equipment and Teaching Materials

- ***I Choose to Change*** Sun Safety Cards
- Broad spectrum sunscreen that blocks UVA rays
- Picture of a sunburn vs slightly pink skin
- Sunglasses with UV protection label
- Colorful tablecloths and seasonal items like beach balls, sand pails in summer to display
- Incentives such as sunscreen, sun safety pamphlets, bottled water, UV protecting lip balm**,** Solar Active bracelets
- Examples of hats for men and women, including hats with neck covering
- A variety of sunscreen containers
- A colorful umbrella to emphasize shade
- Grapes (plastic ones are okay) and raisins
- Doll that is washable for practicing application of sun screen
- Supplement bottles to demonstrate how to read labels, to help athletes choose supplements that better meet their needs.
    - Vitamin D supplement bottles 1000 IU and 5,000 IU
    - a multivitamin supplement for adults
    - calcium citrate +vitamin D supplement bottle

References

1. World Health Organization - Ultraviolet Radiation www.who.int/topics/ultraviolet_radiation/en/
2. Surgeon General's Call to Action to Prevent Skin Cancer surgeongeneral.gov/library/calls/prevent-skin-cancer/
3. In defense of the sun: an estimate of changes in mortality rates in the United States if mean serum 25-hydroxyvitamin D levels were raised to 45 ng/mL by solar ultraviolet-B irradiance. Grant WB. Dermatoendocrinol. 2009;1(4): 207-214. www.ncbi.nlm.nih.gov/pmc/articles/PMC2835876
4. Vitamin D for Health: A Global Perspective; Hossein-nezhad, Arash et al. Mayo Clinic Proceedings Volume 88 Issue 7 , 720 – 755 www.ncbi.nlm.nih.gov/pubmed/23790560
5. Landscape and well-being: a scoping study on the health-promoting impact of outdoor environments. Abraham A, Sommerhalder K, Abel T. *Int J Public Health.* 2010;55(1):59-69. www.ncbi.nlm.nih.gov/pubmed/19768384
6. Evaluation, Treatment, and Prevention of Vitamin D Deficiency: Endocrine Society Clinical Practice Guideline; Michael F. Holick, Neil C. Binkley, Heike A. Bischoff-Ferrari, Catherine M. Gordon, David A. Hanley, Robert P. Heaney, M. Hassan Murad, and Connie M. Weaver http://www.grassrootshealth.net/media/download/endocrine_guidelines_060611_jcem_article_6-3-11.pdf
7. Hypovitaminosis D in developing countries—prevalence, risk factors and outcomes: Asma Arabi, Rola El Rassi & Ghada El-Hajj Fuleihan Nature Reviews Endocrinology 6, 550-561 (October 2010) doi:10.1038/nrendo.2010.146 www.nature.com/nrendo/journal/v6/n10/fig_tab/nrendo.2010.146_ft.html
8. Time for more vitamin D: September 2008 Harvard Women's Health Watch health.harvard.edu/newsweek/time-for-more-vitamin-d.htm

Special Olympics
Health
Promotion

Hand Washing

Handwashing Education Station

Background Information: Why We Address Handwashing

Infectious diseases that are commonly spread through hand-to –hand contact include the common cold, flu, as well as many others. If an individual does not wash their hands frequently enough, they can become infected with germ through the action of touching their eyes, nose or mouth. Other people can become infected after coming into contact with a surface that the person carrying the germ has already touched.

Handwashing is our best defense against many kinds of bacteria and viruses that cause infection. It is especially important for Special Olympics athletes, coaches and volunteers, where many individuals share sports equipment, practice facilities, food and beverages to practice good handwashing habits.

Soap and Water or Hand Sanitizer?

Washing hands with soap and water is the best way to reduce the number of germs on them in most situations. If soap and water are not available, use an alcohol-based hand sanitizer that contains at least 60% alcohol. Alcohol based hand sanitizers can inactivate many types of germs effectively; sanitizers do not eliminate all germs. Hand sanitizers may not be as effective when hands are visibly dirty or greasy. Consider the dirt and grime that may accumulate on hands as a result of some sports activity, soap and water should always be used after playing sports, handling food, working in the garden or other similar activities.

Whatever your language the message is clear.

"Handwashing is the single most import means of preventing the spread of infection" - U.S. Centers for Disease Control

Healthy Habits Survey

The Healthy Athletes Software Health Habits questions include three questions on handwashing The responses to the questions will give the volunteer a sense of what the athlete's general handwashing knowledge and practice is.

1. **When are the most important times to wash your hands? (select all that apply)**
   ☐ After using the toilet ☐ Before eating or touching food ☐ other reason
   ☐ No reasons given

2. **Did you use soap when last washing your hands?** ☐ Yes ☐ No
3. **Do you have soap at home?** ☐Yes ☐ No

Education Station - Hydration

While handwashing is an everyday activity and many think they know the proper technique, it is important to make the education station activity fun and interactive for all participants. Involving coaches and others in the HP venue will contribute to the importance of the message. There are several options for an interactive education station.

- **Glo Germ Kit** The Glo Germ Kit contains special solution a hand washing activity. Fluorescent powder is used and if not completely washed off, the powder will show under an UV light. Lesson Plan 8 provides a full description of the activity and alternative to the Glo Germ solution. Note: Hand sanitizers don't remove the Glo Germ powder so this teaching tool must be removed with warm water and soap.

- **UNICEF "Do the Global Handwashing Dance"-** Initially developed in Japan to support a handwashing initiative, this video has been seen worldwide and continues to be a popular activity at Health Promotion Venues. When shown to a group, the dancing starts and is followed by the athletes demonstrating how to wash their hands. Download the file to play on computer or DVD player.
  http://www.youtube.com/watch?v=825gGELjB98

Lesson Plans

Lesson Plan 8- Handwashing and germs provides recommendations about what to include in your hydration education stations. The germ demo visually demonstrates to Special Olympics athletes how germs live on hands, how they can be transmitted from person-to-person, and how properly washing hands with soap can help get rid of germs that make people sick and make our hands clean and smell good. The Handwashing Prize Wheel Game- An interactive game to describe when handwashing is important. Good to use when a source of water is not readily available.

Choose to Change Cards

"I choose to have have clean hands" can be used to give the athlete a take home message on the importance of Hygiene either at the Handwashing station, or better yet, at a check-out station where the athlete will receive feedback and recommendations from a trained clinical professional. The cards for all the topics (in 6 languages) can be found at: http://resources.specialolympics.org/Topics/Healthy_Athletes/Disciplines/Health_Promotion.aspx
The "Choose to Change" cards are described in more detail in Chapter 6.

Athlete Incentive Items

- Soap
- Hand Sanitizer
- Sticker promoting handwashing
- Keychain, bookmark or pin with handwashing message

Key Messages for Athletes

- Germs from when you cough, sneeze or go to the bathroom can live on your hands and can make you sick.
- Germs on your hands can be passed from person-to-person.
- Hand washing with soap is more effective at killing germs and preventing illness than hand washing with water alone.
- The critical times each day to hand wash with soap.
- The proper technique for handwashing with soap.

Resources:

- **Hand Wash Poster**
  - http://media.specialolympics.org/soi/files/healthy-athletes/How_To_HandWash_Poster.pdf

- **Tippy Tap Instructions**
  - http://media.specialolympics.org/soi/files/healthy-athletes/tippy-tap%20instructions.pdf
  - http://www.webstaurantstore.com/search/black-cambro-handwashing-station.html

Special Olympics
Health
Promotion

Tobacco Prevention

Tobacco Education Station

Background Information: Why we cover Tobacco avoidance?

The 1982 United States Surgeon General's report stated that "Cigarette smoking is the major single cause of cancer mortality [death] in the United States." This statement is as true today as it was then. Tobacco use is responsible for nearly 1 in 5 deaths in the United States. Because cigarette smoking and tobacco use are acquired behaviors – activities that people choose to do – smoking is the most preventable cause of death in our society.

Tobacco use by Special Olympics Athletes varies considerably. Some athletes may not use tobacco themselves, but may be in the presence of others who smoke, and therefore are exposed to second hand smoke. The tobacco avoidance station will help address the concerns relevant to each athlete. Some may use chew or cigarettes, and want to quit. Some may want to know how to ask others around them to not smoke in their air. Still others may be worried about the tobacco use of family or friends. The suggested activity helps demonstrate the long term impact of cigarettes on breathing.

Key Messages:

1. Smoking or chewing tobacco is dangerous, expensive and hurts your health.
2. If you use tobacco, your doctor can help you quit.
3. Breathing smoke from someone else's' cigarette is also bad for your health.
4. If people smoke around you, ask them either to move away, or to quit if there is nowhere else to move to.
5. Using tobacco is not good for your health and sports.
6. Quitting may be hard. Many people try several times before they quit for good. But they do succeed. Quitting is hard, but— You Can Quit

Tobacco Avoidance Lesson Plan

Lesson Plan 7 Tobacco and My Body is an activity that athletes can do individually or as a group. The activity demonstrates the effect of cigarette smoking on the athlete's ability to exercise and then breathe. Athletes breathe through a straw prior to and after vigorous activity. Difficulty in breathing demonstrates the smoking effect. Music and a group of athletes make this a fun education station.

Additional activities include use of a lung (healthy vs. not healthy) model, Tar Jar (graphic display of tar in tobacco and impact on lungs), Dip and Decay model (display of dental decal caused by dipping tobacco) and other teaching aids can reinforce the education provided.

Health Habits Survey Questions

The Healthy Athletes Software Tobacco Use questions include questions on first and second hand smoke inhalation and key behaviors. The responses to these questions will give the volunteer information on the athlete's exposure to smoke and provide recommendations to reduce their exposure, if possible. More information about the Health Habits Survey and HAS available in Chapter 4.

1. **Do you use tobacco?** ☐ Yes ☐ No
   a. **If yes, how frequently?** ☐ daily ☐ weekly ☐ monthly
2. **Do any of your friends or family members smoke near you?** ☐ Yes ☐ No
   a. **If yes, what do you do when they are smoking near you? (select all that apply?**
      ☐ Ask them to stop ☐ Leave the room ☐ Smoke ☐ I do not do anything ☐ Other _____

Choose to Change Card Tobacco

"I choose sports, not tobacco" can be used to give the athlete a take home message on the importance of tobacco avoidance either at the Tobacco station, or better yet, at a check-out station where the athlete will receive feedback and recommendations from a trained clinical professional. The cards for all the topics (in 6 languages) can be found at: http://resources.specialolympics.org/Topics/Healthy_Athletes/Disciplines/Health_Promotion.aspx
The "Choose to Change" cards are described in more detail in Chapter 6.

Resources

Volunteers from local public health departments and university respiratory therapy programs may be great places to recruit help for your event.

References

1. Conference of the Parties to the WHO Framework Convention on Tobacco Control will meet in Moscow for the sixth time. www.who.int/tobacco/en/
2. A Report of the Surgeon General: How Tobacco Smoke Causes Disease – The Biology and Behavioral Basis for Smoking-Attributable Disease Fact Sheet, 2010; and Tobacco Control: Reversal of Risk After Quitting Smoking. IARC Handbooks of Cancer Prevention, Vol. 11. 2007, p 341 www.surgeongeneral.gov/initiatives/tobacco/
3. Tobacco Control: Reversal of Risk After Quitting Smoking. IARC Handbooks of Cancer Prevention, Vol. 11. 2007.
4. TobaccoFree.org: "Empowering smokers to quit successfully; Motivating Youth to Stay Tobacco Free;" http://www.tobaccofree.org/
5. BeTobaccoFree.gov http://betobaccofree.hhs.gov/quit-now/index.html
6. How Smoking Harms Your Vision www.allaboutvision.com/smoking/ Infographic: http://www.allaboutvision.com/smoking/infographic.htm
7. Tobacco and Blood Pressure www.heart.org/HEARTORG/Conditions/HighBloodPressure/PreventionTreatmentofHighBloodPressure/Tobacco-and-Blood-Pressure_UCM_301886_Article.jsp \
8. Smoking and Bone Health www.niams.nih.gov/Health Info/Bone/Osteoporosis/ Conditions Behaviors/bone_smoking.asp
9. Tobacco and Cancer www.cancer.org/cancer/cancercauses/tobaccocancer/

Special Olympics
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Physical Activity

Physical Activity Education Station

Background Information: Why we cover Physical Activity?

Physical activity is an essential component of a healthy lifestyle, beginning in early childhood and extending throughout life. Regular physical activity increases lean body mass, muscle, and bone strength and promotes good physical health. In addition is improves psychological well-being and can increase self-esteem. Special Olympics athletes compete in a number of different sports and daily physical activity contributes to their training routine and sports improvement.

Government health ministries, professional health and sports affiliations have published physical activity recommendations. A few examples include.

U.S. Centers for Disease Control Recommendations for Adults

2 hours and 30 minutes (150 minutes) of moderate-intensity aerobic activity (i.e., brisk walking) every week and muscle-strengthening activities on 2 or more days a week that work all major muscle groups (legs, hips, back, abdomen, chest, shoulders, and arms).

Or

1 hour and 15 minutes (75 minutes) of vigorous-intensity aerobic activity (i.e., jogging or running) every week and muscle strengthening activities on 2 or more days a week that work all major muscle groups (legs, hips, back, abdomen, chest, shoulders, and arms).

Or

An equivalent mix of moderate- and vigorous-intensity aerobic activity and muscle-strengthening activities on 2 or more days a week that work all major muscle groups (legs, hips, back, abdomen, chest, shoulders, and arms).

World Health Organization

1. Adults aged 18–64 should do at least 150 minutes of moderate-intensity aerobic physical activity throughout the week or do at least 75 minutes of vigorous-intensity aerobic physical activity throughout the week or an equivalent combination of moderate- and vigorous-intensity activity.
2. Aerobic activity should be performed in bouts of at least 10 minutes duration.
3. For additional health benefits, adults should increase their moderate-intensity aerobic physical activity to 300 minutes per week, or engage in 150 minutes of vigorous-intensity aerobic physical activity per week, or an equivalent combination of moderate- and vigorous-intensity activity.
4. Muscle-strengthening activities should be done involving major muscle groups on 2 or more days a week.

Do you know your country's recommendations?

Physical activity can be defined as bodily movement of any type. It may include recreational activities such as jumping rope, playing soccer or lifting weights. It may also include daily activities, such as walking to the park, taking the stairs or raking leaves. It should include aerobic activities, muscle-strengthening activities and bone-strengthening activities. Young people should avoid prolonged periods (two hours or more) of physical inactivity.

Aerobic activities help strengthen heart and lungs. Aerobic activities increase breathing and heart rates. Examples include:

- Walking fast
- Doing water aerobics
- Riding a bike on level ground or with few hills
- Playing doubles tennis
- Pushing a lawn mower

Examples of **vigorous aerobic activities** include:

- Jogging or running
- Swimming laps
- Riding a bike fast or on hills
- Playing singles tennis
- Playing basketball

Muscle-strengthening activities help strengthen and build healthy muscles. These activities make muscles work harder than normal and should be done at least three days of the week. Examples are:

- Lifting weights
- Working with resistance bands
- Doing exercises that use your body weight for resistance (i.e., push-ups, sit ups)
- Heavy gardening (i.e., digging, shoveling)
- Yoga

Bone-strengthening/weight bearing activities help promote bone growth and strength. These activities involve a force produced against the bone, most often by impact with the ground, and should be done at least three days of the week. Examples include:

- Walking, Jogging, or running
- Tennis or Racquetball
- Field Hockey
- Stair climbing
- Jumping rope
- Basketball
- Dancing
- Hiking
- Soccer
- Weight lifting

Health Habits Survey

The Healthy Athletes Software (HAS) has 4 questions on physical activity. The responses to the questions will give the volunteer a sense of what the athlete's general physical activity habits are.

1. **How many days each week do you exercise for at least 30 minutes?**
   ☐ no days ☐ 1 day ☐ 2 days ☐ 3 days ☐ 4 days ☐ 5 days ☐ 6 days ☐ 7 days
2. **Do you exercise outside of your Special Olympics training?** ☐ Yes ☐ No
   a. **If yes, what do you do? (Select all that apply)** ☐ Weights ☐ Run/Jog ☐ Walk ☐ Dance ☐ Sports ☐ Exercise DVD, Wii ☐ Job ☐ Other _____
   b. **If no, what is the reason? (Select all that apply)**

☐ No interest	☐ No money	☐ No time
☐ Do not know how	☐ Physically unable	☐ No place to exercise
☐ No transportation	☐ No one to do it with	☐ Other_____

3. **How many hours a day do you watch television or play computer/video games?**
   ☐ 0 hours ☐ 1—2 hours ☐ 3-4 hours ☐ 5-6 hours ☐ Over 6 hours

Supplies/Equipment

Supplies or equipment are not required.

Lesson Plan 10 Physical Activity provides information on interactive activities to promote physical activity with athletes, coaches and families.

Athlete Incentive Items

- Pedometer with instructions for use
- Keychain, bookmark, pin and water bottle with physical activity message

Key Messages for the Athletes

- Regular physical activity is important for everyone.
- Physical activity is anything you like that makes you MOVE.
- Physical activity can be fun and incorporated into the athlete's daily activities.
- Some physical activities are important for bone heath, improving strength and healthy weights.
- There are Special Olympics programs to assist the athlete in tracking their physical activity efforts.

Resources

Special Olympics Resources – Physical Activity

- **SO Ireland- Health Promotion Toolkit**
  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.
  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-. It includes sample menus and recipes.
  http://pahl.specialolympicsontario.ca/home

- **Special Olympics Indiana Physical Activity Videos**
  Special Olympics Indiana – YouTube videos of physical activity exercises for Special Olympics are online for athletes in training for the 2014 USA National Games. There are several short videos at the beginner, intermediate and advanced level. The videos are intended for coaches to use prior to training athletes. http://soindiana.org/programs/2014-usa-national-games-team-indiana/

- **Special Olympics Young Athletes**
  Special Olympics Young Athletes™ is a unique sport and play program for children with intellectual disabilities. The focus is on fun activities that are important to mental and physical growth. The Young Athletes Toolkit offers basic instructions for leading the activities, equipment recommendations and tips for leaders in the program.
  http://resources.specialolympics.org/Topics/Young_Athletes/Young_Athletes_Toolkit.aspx

Other Resources – Physical Activity

- U.S. CDC Recommendations physical activity for adults with disabilities recommendations.
  http://www.cdc.gov/vitalsigns/disabilities/

Special Olympics
Health Promotion

Check-Out

Health Promotion Check-Out Station

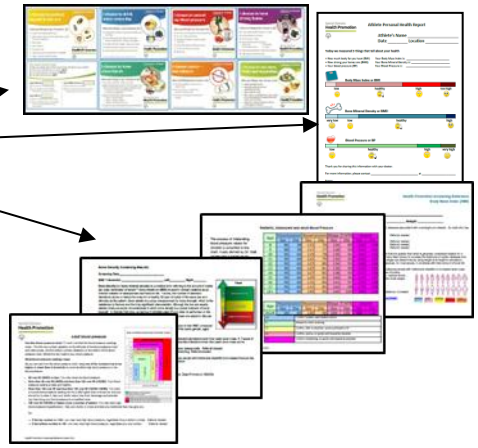
Background Information:

The Health Promotion (HP) check-out station is one of the most important stations in the HP venue. It is where the athlete's screening results and HAS form will be reviewed and when education and referral recommendations are discussed. Volunteers with clinical backgrounds should be assigned to this station as they will have the skill set needed to review screening results. Critical thinking and analysis skills are needed to synthesize information, address the referral needs and provide education on the findings. The clinical volunteers for the check-out station must be familiar with the HP screening exams, health habits questions and the Choose to Change Cards. Lesson Plan 1 describes how to use the Choose to Change Cards. Prior to the event, the HP CD should check with their Healthy Athletes Coordinator to see if there are specific medical practices, public health agencies or community health centers serving as a referral source and assure that the check-out station volunteers are aware of this information.

Station Set-Up

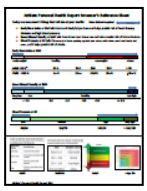
All printed materials mentioned are available on SOI website:
http://resources.specialolympics.org/Topics/Healthy_Athletes/Disciplines/Health_Promotion.aspx

- Four-foot table with 2 chairs on each side (for athlete and volunteers). *More tables/chairs, depending on # of athletes expected.*
- Box to collect HAS forms.
- Supply **of Choose to Change Cards**
- ***Athlete Personal Health Report***
- **HP Screening Reference Sheets** for BMI, BMD & BP
- Reference materials on screening tests.
- Supply of athlete incentive items, if available.



Working with Athletes at the Check-out Station

- Greet the athlete and introduce yourself. Review the HAS form for completeness and determine if complete and if referrals are needed. **Note:** If a screening exam was missed, ask the athlete if they can be tested. If the athlete says no, continue with the check-out. If the Health Habits Survey is not complete, the clinical volunteer will complete the questions with the athlete.
- Transfer the bone density, body mass index and blood pressure scores to the ***Athlete Personal Health Report.***



- ***Screener's Tool***. Use simple terms and graphics on the tool to aid in the discussion, compare the athlete's results with those on the ***Athlete Personal Health Report Screener's Tool.***
- Following the required referral protocol, document referrals on the HAS form and place completed HAS form in the collection box. Note: The reverse side of the Choose to Change card may also be used to record the same information, if desired.
- Ask the athlete if they would like additional information on any of the topics they learned about in the HP venue. Follow Lesson Plan 1, ***I Choose to Change*** to discuss the various topics and cards the athlete can choose.
- Discuss the changes or continuation of good health habits the athlete chooses to follow.
- If no referrals needed, congratulate the athlete on their good health.
- Thank the athlete for their participation in HP and give them the HP incentive item.

Check-Out Station Resources

There are a number of resources required for the checkout station. The resources will assist the volunteer in explaining the screening results, education highlights and required referrals. **Volunteers should have printed copies of all resource materials to use as ready references at the checkout station.** Ideally have the reference sheets laminated or in a booklet.

All the resources listed below are also available on the SOI website for printing: http://resources.specialolympics.org/Topics/Healthy_Athletes/Disciplines/Health_Promotion.aspx

General Resources and Report

- Health Promotion Screening Reference Sheets
- Athlete Personal Health Report - each athlete received a Personal Health Report

Bone Health Resources (Chapter 3 and 5)

- Explaining Bone Density Results
- Comparison of Milk and Milk Replacements

Body Mass Index Resources (Chapter 3)

- BMI chart Boys
- BMI Chart Girls
- BMI Chart Adult

Blood Pressure Resources (Chapter 3)

- Adult and Pediatric Blood Pressure Charts
- Counseling Suggestions for Adults, Depending on BP Reading
- Sodium Education for Parents, Coaches, and Guardians

Choose to Change Cards - Chapter 6, Lesson Plan 1 provides details and examples about the Choose to Change cards

Health Promotion Screening Reference Sheet

Special Olympics
Health Promotion

Adult Blood Pressure – Summary Reference Sheet

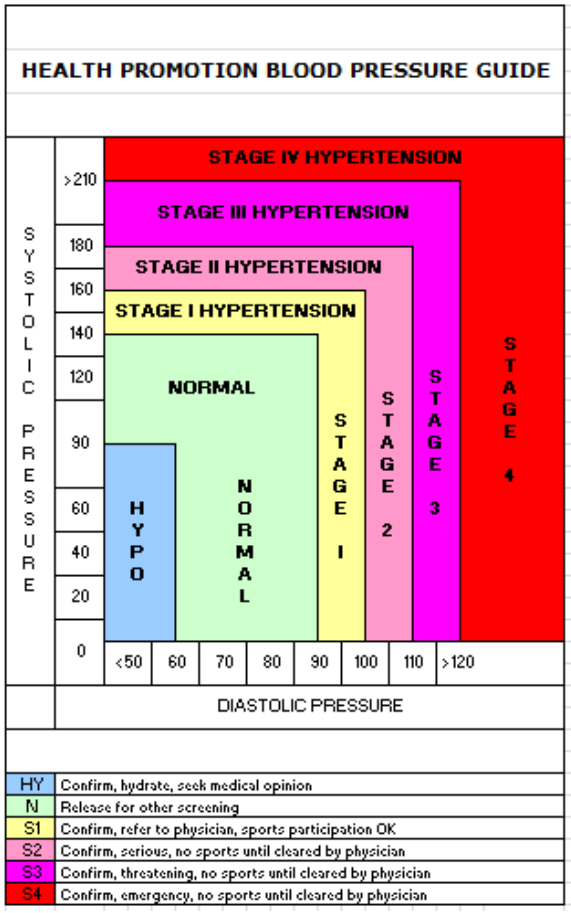
Use this blood pressure chart: To work out what the blood pressure readings mean. Find the top number systolic on the left side of the blood pressure chart and read across, and the bottom number diastolic on the bottom of the blood pressure chart. Where the two meet is the blood pressure.

What blood pressure readings mean

As seen on this blood pressure chart, **only one of the numbers has to be higher or lower than it should be** to count as either high blood pressure or low blood pressure:

- **90/60 or less:** Blood pressure is low. **Referral required**
- **More than 90/60 and less than 120/80:** Blood pressure reading is healthy.
- **More than 120/80 and less than 140/90:** Indicates elevated blood pressure and steps to lower it should be taken. Advise athlete to ask their doctor how food, beverages and exercise can help bring blood pressure to a healthier level.
- **140/90 or higher over a number of weeks:** Indicates high blood pressure hypertension. Advise athlete to consult their doctor and to take prescribed medicines. **Referral required**

  - ✓ **If the top number is 140 or more**: Considered high blood pressure, regardless of the bottom number. **Referral required**
  - ✓ **If the bottom number is 90 or more**: Considered high blood pressure, regardless the top number. **Referral required**



NOTE: Per SOI Policy, Immediate Medical clearance is required if the athlete is competing and in Hypertension II or Hypertension III for repeated re-screenings

Pediatric and Adolescent Blood Pressure - Summary Reference Sheet

Age	Hypotension		Normal BP		Hypertension		Stage II HTN		Urgent	
	Sys	Dia	Sys	Dia	Sys	Dia	Sys	Dia	Sys	Dia
8	86	58	87	75	115	76	126	89	160	100
9	88	59	89	76	117	77	128	90	162	101
10	90	60	91	77	119	78	130	91	164	102
11	90	60	91	78	121	79	132	92	166	103
12	90	60	91	79	123	80	134	93	168	104
13	90	60	91	80	125	81	136	94	170	105
14	90	60	91	81	127	82	138	95	172	106
15	90	60	91	82	129	83	140	96	174	107
16	90	60	91	83	131	84	142	97	176	108
17	90	60	91	84	133	85	144	98	178	109
18+	90	60	91	89	140	90	**160**	**100**	**180**	**110**

Hypotension	Confirm, hydrate, seek medical opinion of BP doesn't normalize	**referral required**
Normal	Release for partcipation	
Hypertension I	Confirm, sports participation OK,	**referral required**
Hypertension II	Confirm, serious condition, no sports until cleared by physician	**referral required**
Hypertension III	Confirm, threatening condition, no sports until cleared by physician	**referral required**

NOTE: Per SOI Policy, Immediate Medical clearance is required if the athlete is competing and in Hypertension II or Hypertension III for repeated re-screenings (to confirm accuracy).

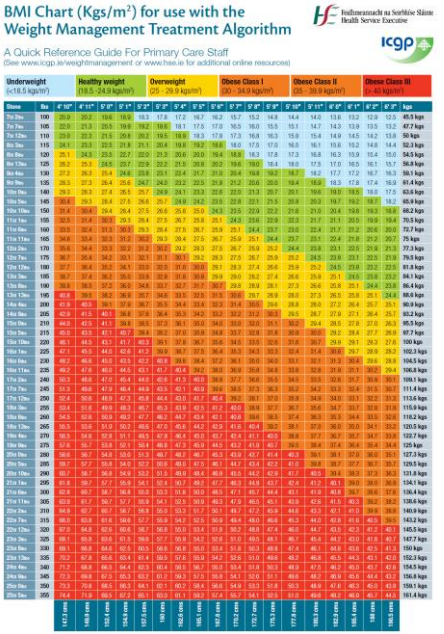
The complex process of interpreting blood pressure values for children is simplified in this chart. It was derived by Dr. Matt Holder, Medical Advisor, Special Olympics International. It is based on an algebraic formula applied to blood pressure values at the 50th percentile height. It was tested against the National Heart, Lung, and Blood Institute, National Institutes of Health, U.S. Department of Health and Human Services. The resulting color coded chart in an imperfect but implementable screening tool appropriate for use in Special Olympics Health Promotion and MedFest. Referrals for abnormal pediatric blood pressures may be made based on the colored coded chart.

www.nhlbi.nih.gov/health-pro/guidelines/current/hypertension-pediatric-jnc-4/blood-pressure-tables.htm

Pediatric, Adolescent and Adult Body Mass Index - Summary Reference Chart

Maintaining a healthy weight may reduce the risk of chronic diseases associated with overweight and obesity. An adult who has a BMI of

- 18.4 or less is considered underweight **referral required**
- 18.5 to <25 is considered normal weight
- 25 to <30 is considered overweight **referral required**
- 30 to <35 is considered obese **referral required**
- 35 or greater is considered morbidly obese **referral required**



Overweight and obesity are both labels for ranges of weight that are greater than what is generally considered healthy for a given height. The terms also identify ranges of weight that have been shown to increase the likelihood of certain diseases and other health problems. For adults, overweight and obesity ranges are determined by using weight and height to calculate a number called the "body mass index" BMI. BMI is used because, for most people, it correlates with their amount of body fat.

Individual risk factors including any of the following may predispose people with intellectual disability to increased body mass index, with concurrent increase risk of some chronic disease including diabetes, heart disease, and some cancers risk. For some, medical and/or lifestyle intervention may help the individual obtain a healthier body weight.

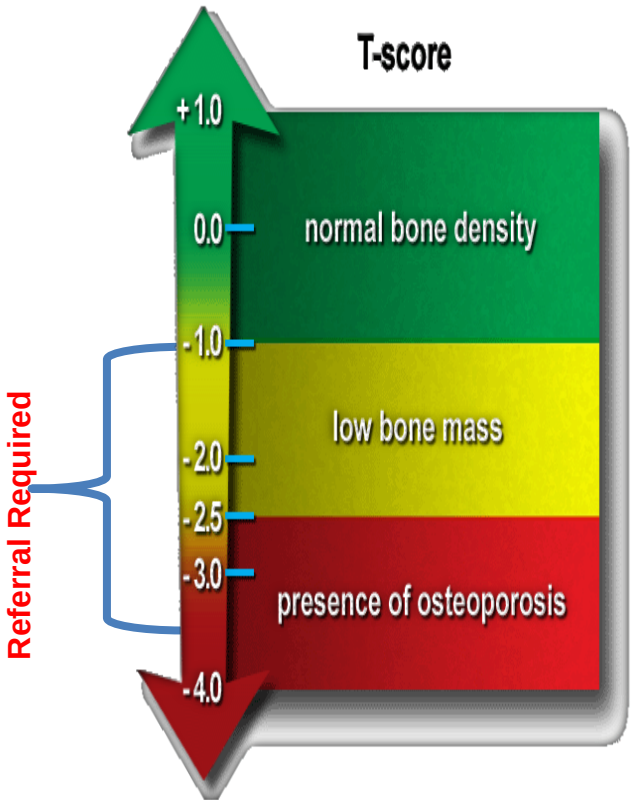
- Excess consumption of empty calorie foods and beverages
- Inadequate physical activity
- Use of some medications that are associated with insulin resistance, increased body fat or impaired appetite.
- Dental disease impeding ability to chew without pain.

Pediatric BMI Weight Status Category	Percentile Range
Underweight	Less than the 5th percentile **Referral Required**
Healthy weight	5th percentile to less than the 85th percentile
Overweight	85th to less than the 95th percentile **Referral Required**
Obese	Equal to or greater than the 95th percentile **Referral Required**

Bone Mineral Density Screening – Summary Reference Sheet

Bone density or **bone mineral density** is a medical term referring to the amount of matter per cubic centimeter of bones.[1] Bone density or **BMD** is used in clinical medicine as an indirect indicator of osteoporosis and fracture risk. T-score, the number of standard deviations above or below the mean for a healthy 30 year old adult of the same sex and ethnicity as the patient. Bone density is a proxy measurement for bone strength, which is the resistance to fracture and the truly significant characteristic. Although the two are usually related, there are some circumstances in which bone density is a poorer indicator of bone strength. In Special Olympics, screening of athletes ages 20 and older is performed on the Hologic Sahara Ultrasound Device. Athletes with scores of -1 or lower are asked to discuss the results with their physician.

BMD can be expressed as T-score, which represents a comparison of their bone density with the average bone mineral density of a healthy 30 year old.	
• A T-score of -0.9 to +3.4 is considered normal BMD	**No referral required**
• A T-score of -1.0 is considered osteopenia.	**Referral required**
• A T-score lower than -2.5 is considered osteoporosis.	**Referral required**
• A T-score higher than +3.5 needs a medical referral to rule out lead poisoning.	**Referral required**



Individual risk factors including any of the following may predispose people with intellectual disability to increased fracture risk. For some, medical intervention may help reduce risk of future fracture.

1. Low circulating blood levels of vitamin D
2. Inadequate nutrition intake of calcium and other nutrients
3. Use of anti-seizure medications, anti-psychotic medications, Depo-Provera or NSAIDs
4. Tobacco use
5. Alcohol abuse
6. Estrogen or testosterone deficiency
7. Sedentary lifestyle
8. Certain medical conditions and syndrome

Athlete Personal Health Report

Special Olympics
Health Promotion

Athlete Personal Health Report

Athlete's Name _____

Date _____ **Location** _____

Today we measured 3 things that tell about your health

- How much body fat you have (BMI) — Your Body Mass Index is: _____
- How strong your bones are (BMD) — Your Bone Mineral Density is: _____
- Your blood pressure (BP) — Your Blood Pressure is: _____

Body Mass Index or BMI

Bone Mineral Density or BMD

Blood Pressure or BP

Thank you for sharing this information with your doctor.

For more information, please contact _____ at _____

Notes:

_____

_____

Athlete's Personal Health Report 2014