The approach to nutrition with young athletes is different than with adult athletes. There are many developmental, maturation and learning style changes that should be accounted for when coaches teach kids about the importance of nutrition. By recognizing some of these differences, coaches can better understand how to implement nutrition strategies that support their athletes throughout the continuum of sport development.

TEACHING BASICS

Just because an athlete is younger does not mean that they will not comprehend what you are trying to teach them. A youth's stage of development should be kept in mind when providing nutrition education. Here are some tips to remember when working and teaching younger athletes about sports nutrition:

1. Make it simple. The younger the athlete, the less technical you should be. Avoid using jargon. For example, instead of saying, “it is important to eat fruits and vegetables because they provide a good amount of antioxidants”, try saying “eat fruits and veggies to give you energy to exercise”. Even with adolescent athletes, stick with simple sports nutrition messages. Keep in mind though that as youth progress through their stages of development, you can put more emphasis on the importance of nutrition as it relates to performance. For example, you can teach them the functions of antioxidants and why they are important in their training program and what foods contain antioxidants. The more involved they get in the sport and more years under their belt, the more it is important to make the link between eating for health and performance. Once they are in high school, they should be able to easily make the association between using food to enhance health and improve performance.

2. Assess knowledge base. Depending on the young athlete’s upbringing he/she may or may not have basic knowledge of nutrition. It is important to realize that some young athletes may know that a fruit is a carbohydrate and supplies fuel to the muscles and brain while others may need more basic information regarding the classification of nutrients. I have found that the newly updated Food Pyramid is a great teaching tool for these types of nutrition skills. Visit www.mypyramid.gov as a reference.

3. Repetition. A child’s brain is like a sponge. They absorb and process a great deal of information and most are good at learning facts. However, repetition, as for most athletes, is the key. To ensure that they understand the basic nutrition principles and actually begin to use them in and out of training sessions, constantly reinforce your sports nutrition messages before, during and after practice sessions. A good way to do this during a training session is to have frequent fluid breaks so they grow accustomed to it and learn the importance of it. Actions speak louder than words with youth.

4. Practice what you preach. As a youth coach, just like a parent, it is extremely important to be a positive role model, especially when it comes to eating behaviors and food choices. Far too many times, I have witnessed young athletes develop their nutrition habits from doing what their parents or coaches want, expect or do themselves. If you expect one of your athletes to eat more fruits and vegetables, take a long look in the mirror before sending this message and set the image you want to portray. On the flip side of this is the banning of foods or classifying them as “good” or “bad”. Young athletes are easily influenced and will trust their coaches. Teaching them that eating a variety of foods is paramount to their health as first priority and performance as second priority. There is a fine line between practicing what you preach and teaching from the other end of the continuum that includes classifying foods into categories and scoffing at kids.
when they may eat a food that you do not think is best for them. Kids, while even at an elite level, are only human so let them enjoy an occasional “miss” but place more emphasis on foods that give them energy rather than highlighting the fact that they may have had a piece of cake, a cookie or slice of pizza. All foods fit and a healthy relationship with food should be taught at a very young age. It is the image and association of foods that you teach that is important.

**NUTRITION BASICS**

When it comes to teaching specific sports nutrition principles to younger athletes, the topics are similar to ones that we use with adults. There are a few differences as I will note but as a whole, nutrition should support physical training cycles as they progress through different volume and intensity cycles (otherwise known as nutrition periodization).

**Frequency**

Kids need to balance their blood sugar just like adults but for different reasons. Performance in school becomes the primary target and as I am sure you have heard, test scores improve in kids who eat breakfast. The goal when teaching kids about frequency is to associate changes in energy and mood with food and fluid intake. Emphasize eating every 2-3 hours to maintain blood sugar levels to prevent hypoglycemia and thus preventing a decrease in cognitive abilities including concentration in the classroom. Performance in sport is also important and eating frequently will assure they that have the mental and physical energy to get the most out of a practice session.

**Quality**

No matter the age of the young athlete, it is always beneficial to teach the importance of the quality of food. Focus on educating them on the technique of combining foods. That is, ensuring that a source of lean protein, healthy fat, fruit and/or vegetable and whole grain is eaten at almost every meal and snack. This will help stabilize blood sugar and improve concentration for school work and energy level for training sessions. A great method to do this and engage the athlete is to ask them to write down the foods they enjoy eating and classify them into the categories of lean protein and healthy fats, fruits, vegetables and whole grains. Next, ask the athlete to pick one food from each list to make a breakfast, lunch, dinner and snack. This brings this exercise to life and establishes high self-confidence in the athlete since they did it without much assistance. It is a very empowering exercise for them. Be sure to mention that they should list foods they enjoy and will eat rather than listing foods that someone else thinks they should eat.

**Hydration**

Preventing dehydration is important for any age group but especially young athletes as their bodies are not fully adapted to
handling the increases in core temperature efficiently. School schedules can be hectic and some schools ban the use of water bottles in classes, thus making it difficult for young athletes to stay hydrated throughout the day. Focus on teaching them how to hydrate their bodies with not only water but also high water content foods such as fruits and vegetables. Encourage them to begin drinking fluids when they first wake up in the morning since they will be dehydrated and consume some type of fluid or fluid rich foods throughout the day that will enable them to urinate every 2-3 hours. Using the urine color chart can be a good teaching tool also and is fun for some young athletes. Teach them that pale, yellow lemonade color reflects a more hydrated state while darker, apple juice color indicates a less hydrated state. Combine both the frequency of urinating with use of the urine color chart together for a more accurate assessment of their hydration status.

**Nutrient Timing**

It is extremely important for young athletes to be well-fueled before, during and after training. The emphasis before training is on fluids, carbohydrate, a little protein and fat (depending on the workout) and sodium. A small meal with water or a snack will suffice. If the training session is a glycogen depleting workout (longer than 3 hours or very high intensity-threshold or VO_{2max} sessions), it is important to consume fluid, carbohydrate and sodium during a workout. For youth, general recommendations include drinking 3-8 ounces of fluid every 15 minutes, eating 20-40 grams (80-160 calories) of carbohydrate per hour and consuming 300-500 milligrams of sodium per hour. This can easily be sustained by eating pretzels, bananas, water, fruit, fig newtons or a peanut butter and honey sandwich. I typically do not include nutrition supplements such as energy bars and sports drinks because I encourage kids to learn how to fuel themselves with whole food before choosing nutrition supplements. Once the child is comfortable with whole foods, it is okay to slowly introduce bars, gels and drinks as long as you educate them about the specific purposes these types of products have. After a difficult training session, encourage them to drink 20-24 ounces of fluid for every pound of body weight lost during the workout, about 1/2 gram of carbohydrate per pound of body weight, about 10-15 grams of protein and at least 300-500 milligrams of sodium. One of my favorite post-workout nutrition offerings for kids is either low-fat chocolate milk or a skim milk based fruit smoothie (one cup milk, one cup fruit, one pinch of salt) as both are easy and fun for kids to drink.

Young athletes are great to work with as they are typically sponges for information but keep in mind that they do require slightly different methods of nutrition education and implementation than adults. Take the time, set good examples and have fun in teaching our young athletes the nutrition skills that they can take with them throughout their life and sport career!

Bob Seebohar, MS, RD, CSCS was recently a sport dietitian for the US Olympic Committee and traveled to the 2008 Summer Olympics as the Sport Dietitian for the USA Triathlon Olympic Team. He currently owns his own sports nutrition business, Fuel4mance, and endurance coaching business, Elite Multisport Coaching. Contact Bob at coachbob@fuel4mance.com or www.fuel4mance.com.
“Creamed” Spinach
Serves 4

Ingredients:
1 pound bag Frozen chopped spinach
1.5 cup Vegetable Broth
1 ea Onion, diced
1 ea Pepper, diced
1 Tbs Olive Oil
½ cup Soy milk, plain
½ cup Flour

Preparation:
1. In a sauce pan, sauté the onion and pepper in olive oil until tender (about 3 minutes). Season with salt and black pepper to taste.
2. Add frozen spinach and vegetable broth and bring to a simmer.
3. In a separate bowl, whisk together soymilk and flour until smooth.
4. Slowly whisk flour and soymilk mixture into simmering spinach to thicken.
5. Simmer for 15 minutes, stirring frequently with a whisk. (Season with hot sauce for an added kick)

Nutrition per serving:
Calories: 145; Total fat: 5g Saturated fat: <1g; Carbohydrates: 21g; Protein: 8g; Fiber: 6g; Calcium: 210mg

Kitchen Tips:
1. Spinach is a great non-dairy source of calcium and this recipe provides a healthy, low fat and lactose free substitute for a delicious high fat dairy based side dish.
2. Spinach contains ~130mg of calcium per ½ cup serving
3. This spinach dish can be served as a side dish or used as a rich spinach sauce over whole wheat pasta.

Created by: Adam Korzun, MS, RD, CSSD

BBQ Baked Tofu
Serves 2

Ingredients:
1-16oz block Tofu, extra firm
1 tsp Olive Oil
1 Tbs Dijon Mustard
2 Tbs Lemon juice
¼ cup Stubbs BBQ sauce

Preparation:
1. Preheat oven to 375 F.
2. Slice tofu into 6 pieces, and press dry with several paper towels.
3. In a bowl, combine olive oil, mustard, lemon juice to make a marinade.
4. Toss tofu with marinade.
5. Line a sheet pan with foil and spray with a non-stick pan spray.
6. Place tofu on sheet pan and bake for 40 minutes; turning once halfway through.
7. After 40 minutes, brush tofu with BBQ sauce and bake an additional 15 minutes. (the idea is to bake the tofu until it is crisp on the edges and has a firm texture).

Nutrition per serving:
Calories: 265; Total fat: 12.5g Saturated fat: 1.5g; Carbohydrates: 20g; Protein: 20g; Fiber: 3g; Calcium: 400mg

Kitchen Tips:
1. Tofu contains ~120mg calcium per 4oz serving.
2. When baking tofu, the idea is to bake it long enough to evaporate the excess moisture (since it is stored in water) which will give you a great texture and allow the tofu to better absorb the flavor you add to it.
3. Serve the tofu over some quinoa or brown rice with a side of the creamed spinach for over half of the daily recommended amount of calcium; without ever having a glass of milk!
4. Now a word about Stubbs BBQ sauce. 'Try it! I highly recommend the spicy variety. It is one of the last true BBQ sauces out there that uses natural ingredients and doesn't have high fructose corn syrup as the first ingredient.

Created by: Adam Korzun, MS, RD, CSSD