



NUTRITION

NUTRITION AND YOUTH SPORTS-
WHAT TO EAT & DRINK BEFORE,
DURING, AND AFTER PLAY.

Nutrition

Nutrition and Youth Sports

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Introduction

Kids need activity in their lives, and children's sports are the perfect option. These events promote social health as well as physical wellbeing. Whether you are a coach, a parent, or a teacher, you need to understand the important role that nutrition also plays in the child's health.

This guide is designed to give you the information you need so that you can ensure the kids on your team are properly fed before the sporting event as well as during and after it. You will also find out helpful information on the amount of calories kids need throughout the day.

It's important to keep in mind that kids will have changing dietary, nutrition, and caloric needs as they grow. What kids need when they are adolescents is different from what they will need as they get closer to their adult life in their teenage years. The more you understand about this, the more you can ensure the kids have the nutrients they require to grow healthily and to have the energy they need to play well on the field.

Use this helpful guide to educate yourself or even the parents of the kids on your team. At the very end of the book, you will also find a helpful handout you could print and give directly to the parents at the start of the sports season.

To get things started, we will discuss the important role of nutrition in a growing child's diet in chapter one.

Chapter 1:

The Importance of Proper Nutrition

Any athlete will tell you that a big part of their success comes from the foods they eat. That's because proper nutrition is a must for strength, muscle health, and overall wellbeing of the athletic body. The proper nutrition is even more important for youth athletes because they are still growing.

“Jenna A. Bell-Wilson, PhD, RD, is a certified specialist in sports dietetics who is based in Arlington, Massachusetts. She says that an inadequate diet can result in a young athlete getting insufficient fuel for workouts; having deficiencies that can lead to illness or fatigue; suffering a decrement in bone growth and maintenance; and not achieving proper muscle growth. According to Bell-Wilson, nutrient deficiencies will negatively affect the younger's growth and his or her ability to compete at a chosen sport.”

(Pamela Nisevich)

What you must understand is that ensuring your young athlete is eating properly is extremely important to their wellbeing and to their sports performance. When a young athlete has the right fuel in their body, they can avoid certain injuries as well.

Common Deficiencies

When young athletes don't have the foods they need, they will often become deficient in certain nutrients that their bodies need, including:

- Carbohydrates – Lack of enough carbohydrates can lead to early fatigue. Additionally, when the body doesn't have enough carbs to burn as fuel, it will start burning muscle.
- Calcium – Lack of calcium can hinder bone growth (which is vital to young athletes), lead to a decrease in bone mass, and increase the risk of fractures and breaks.
- Vitamin B6 and Folate – These are both used for proper metabolism and energy. They also work to boost amino acids in the body and will have a big impact on bone health. Deficiencies in the two nutrients can lead to muscle soreness, lowered cognitive function (lower grades in school), quicker fatigue, and apathy.
- Iron – This metal helps to move oxygen through the blood and it helps build energy and ensures the body can metabolize carbohydrates. Lack of iron can lead to anemia, fatigue, lowered immune system, lowered cognitive reasoning, and more. Young female athletes are especially prone to iron deficiencies.

A deficiency in these nutrients is very common among youth athletes. Not only do these deficiencies lead to lowered athletic ability, but also they could pose a threat to a child's physical health. You certainly don't want your young athlete to become injured on the field or court.

Fluid Intake

Young athletes need to stay properly hydrated or they could suffer from a variety of different problems like heat stroke, dehydration, and excess fatigue. Children who are dehydrated are prone to headaches, nausea, muscle cramping, and confusion.

“Child and adolescent athletes should replenish lost hydration stores during and after a competition or a heavy workout. Weighing an athlete before an exercise bout allows you to gauge how much fluid needs replacing. The general rule of thumb is 16-24 ounces of liquid to every pound lost. Be aware that children do not instinctively drink enough fluids to replace lost stores, and thirst does not always indicate when a body needs more fluids.”

(Pamela Nisevich)

A young athlete needs the proper nutrients as well as the right fluids. If they aren't getting these things, they may not perform as well at activities or in school. Additionally, they could be more prone to injury or illness.

Ensuring proper nutrition for a growing child is different from nutrition for an adult, so it's important that you understand what you need to be doing for your young athlete. Now that you know just how important it is to make sure your child eats properly, you can continue through this guide where you will learn more about the specific nutritional needs of children overall, needs based on age, and what you should be feeding them before, during, and after athletic events.

Before we get into the athletic events and menus specifically though, let's talk about what kids need for their nutrition overall. There are a few important things you will learn in the next couple of chapters: kids have changing nutritional needs with age and they need more calories than you may realize because they are growing.

Chapter 2:

Understanding Nutritional Needs in Children

“Nutrition for kids is based on the same principles as nutrition for adults. Everyone needs nutrients – such as vitamins, minerals, carbohydrates, protein, and fat. What’s different about nutrition for kids, however, is the amount of specific nutrients needed at different ages.”

(Nutrition for Kids Guidelines for a Healthy Diet)

Just as a general rule, children have different nutritional needs than adults whether the kids play sports or not. It’s vital that you understand how these nutritional needs differ so that you can make sure the kids in your care are getting the things their bodies need to grow.

Children are growing, and that means they need the right number of calories to accommodate this growth. You need to make sure the little ones, especially when under the age of 10, are getting a high amount of calories through several small meals each day.

Fats

As we grow up, we learn to detest any fatty foods because they...well, they make us fat! However, children do not fall into this category. They actually need foods with high amounts of good fat for their growing bodies. Teens and young adults can begin cutting down on the amount of fat they consume, but smaller kids do

need this for their health. However, there are some rules to follow about fats:

- Children under the age of ten should be given whole milk, not 2%, 1% or skimmed. They need the fat and calories from the milk.
- Good fat comes from sources like fish and whole milk.
- Bad fat for children comes from cakes, cookies, chocolate, and candies.

So, this is the first rule of thumb when it comes to the nutritional needs of children specifically. They need fats and you should not try to feed them a lean diet.

Fiber

The actual fiber needs of children changes with age, and we will discuss specific dietary needs for children in certain age groups later. However, what you do need to know is that young children do not need a high fiber diet. That's because they will get filled up with the fiber and they won't have room in their stomachs for the high calories they desperately need.

So, until the child reaches the mid to late teens, you will need to make sure they are eating low fiber, higher fat diets that include heaping amounts of fruits and veggies. However, when feeding a child a meal after a sporting event, it is okay to add a little more fiber to their diet. Just avoid it for young children before and during the events. We will talk about this more later.

Small Meals through the Day

Keep in mind that until a child reaches the mid to late teens, they won't have the same sized stomachs as an adult. For that reason, they will not be able to eat as much at one meal. They still need plenty of calories, though, so it is best to allow them to eat several small meals throughout the day.

Actually, this is a good rule for anyone, including adults, to follow. Scientific studies show that we remain healthier and maintain a higher metabolism when we eat around five smaller meals throughout the day, so this is most certainly the best option for kids.

Caloric Needs by Age

The following chart is an estimated calorie requirement for children by age provided by WebMD.

Gender	Age	Sedentary Lifestyle	Active Lifestyle
Girl	4-8 Years Old	1,200 calories	1,400-1,800 calories
	9-13 Years Old	1,600 calories	1,800-2,200 calories
	14-18 Years Old	1,800 calories	2,400 calories
Boy	4-8 Years Old	1,400 calories	1,600-2,000 calories
	9-13 Years Old	1,800 calories	2,000-2,600 calories
	14-18 Years Old	2,200 calories	2,800-3,200 calories

(Zelman)

As you can see, children need a significant amount of calories when compared to the average adult simply because they are growing and need the extra nutrients as well as fuel for their bodies.

Of course, whether a child is active or not will have an impact on how many calories they need to eat. Children do need to be active, so getting them involved in sports activities is a good idea. Remember that whatever a child does now is setting the stage for the habits they will carry into adulthood. It's a good idea to build up healthy habits now. That includes being involved in physical activities and eating the right foods to stay healthy.

In the next chapter, we will talk about the specific nutrition and dietary requirements for kids based on their age as well because this does change, especially when kids hit the puberty level. That's because, the more a child grows, the more calories they need to keep growing. If you have a teenage son, you probably understand this all too well!

Chapter 3:

Nutritional Needs Based on Age

As children grow, their nutritional needs do change. As far as the fruit and vegetable requirements, a teen will have almost identical needs as an adult, so once a child hits the age of 13, they should certainly begin following the five servings of each a day that all adults are told to follow as well.

To truly understand what your child will need based on their age, let's break things up into two different age categories:

Ages 7-12

From ages 7-12, children will need a lower amount of fiber, a higher amount of good fats, and plenty of fruits and vegetables. Here is a general guideline to follow:

- 4-6 ounces of protein per day
- 2 cups of fruit a day
- Between 2 and 3 cups of vegetables a day
- Between 5 and 7 ounces of grains a day
- At least 2.5 cups of dairy every day.

As you can see, it is extremely important for kids of this age to get plenty of fruits and vegetables as well as dairy. Dairy should come in healthy forms as well, like milk and yogurt. For kids this age, choose whole milk instead of skim or low fat.

Ages 13-18

As children reach the teenage years, they will need more fiber, less fat, and a low sugar content in their diet. Here is a guideline for kids between the ages of 13 and 18:

- Between 5 and 7 ounces of protein (from lean meats) a day
- Around 2 cups of fruits each day
- Around 3 cups of vegetables a day
- Between 6 and 8 ounces of grains each day
- 3 cups of dairy a day.

Now, the diet of a teen is getting closer and closer to the dietary needs of an adult. The most important thing to note is that teens will need what seems like an extremely high amount of calories because they will be going through hormonal changes and growth spurts. For the dairy portion, older kids could choose low-fat options like 1% or 2% milk.

Of course, no matter what a child eats, it is a good idea to also consider a multivitamin designed especially for adolescents. Kids are growing so fast and they have such a need for certain nutrients, it can be very hard to keep up. So, a multivitamin supplement can essentially fill in the blanks for anything that their regular diet doesn't cover.

The golden rule for children, though, is to fill their diet with fruits and vegetables. They need these nutritious foods, and they need to learn the good habit of eating them early.

Now, with all that information in mind, let's start talking about what kids need to eat and drink before, during, and after sports activities. That's what we will discuss in the next three chapters.

Chapter 4:

Food and Drink Before Sports Play

There are a few things you should keep in mind for your kids before their sporting event. To begin with, do not give them a full meal right before the activity. This will actually have negative effects, including:

- They will be playing on a full stomach, which could make them lethargic or even sick.
- A full stomach will make your child slower and uncomfortable when they try to play.
- If kids play on a full stomach, then they won't even gain the energy from the food because the meal will not have digested yet.

To make sure your child has the energy needed from their food, they should eat about two hours before their sports activity.

The meal before the sporting event should include plenty of proteins and vegetables. Avoid empty carbohydrates and sugars because they will only result in very short-term energy (sugar highs) before a lethargic crash.

Snacks Before the Play

If, for some reason, the child is not able to eat a full meal within three hours of the sports activity, then a small snack beforehand is a must. It's just important to choose something healthy like a banana or apple along with crackers.

The best thing to drink before sports activities is water. Sports drinks only help

during the play and sugary sodas will just slow the child down. If your child doesn't like drinking water, then you could choose fruit juice as long as it is 100% fruit and not flavored or filled with sugar. Kids will be more likely to drink water if you get them started with it at an early age. Additionally, you can add calorie-free water flavorings that come in travel packets for easy use. Kids will be much more likely to drink water when they have the flavor enhancements, and these options don't include extra sugar.

Kids are often drawn to anything sweet or sugary, but they are bad for the young ones' health anyway and they will not help them through sports activities. That means you should make sure they avoid candy, chocolate, large portions of bread, sodas, cake, or other sugary sweets.

Basically, the thing you need to remember before sporting events is that kids will need energy, and that means protein. If they eat very shortly before the activity, then choose proteins and carbohydrates that can be digested quickly and easily, like vegetables, fruits, or nuts. Fiber is too filling and too slow to digest, so avoid a high-fiber diet option right before the event. Additionally, avoid any carbs that will turn directly to sugar, like white bread and pastas right before a sporting event.

Chapter 5:

Food and Drink During Sports Play

“Bodies can easily store enough energy for about 60 minutes of sustained, high-intensity action. I’m not talking about an afternoon spent in the out-field, on the bench, or waiting for your event at the meet. I’m talking about 60 minutes actually running around the soccer field, basketball court, or long distance trail.”

(Reinagel)

For that reason, if your child will only be working out for an hour, they won’t really need anything to eat. They will need to stay hydrated. The best thing to drink is water, but sports drinks, which are chock full of electrolytes, can be good options as well. Just avoid anything high in sugar like sodas or so-called “fruit drinks” which are made up of sugar and flavoring.

Activities Lasting Longer than an Hour

If the child will be playing a sporting activity that lasts longer than an hour, then a snack may be important to help ensure they have enough energy to keep going. The best options will be some type of fruit or vegetable or 100% fruit juice.

Protein bars may seem like a good idea, but they have a lot of fat and fiber in them, and they take too long to digest to do any good.

So, the main goal for kids who are in the middle of a play activity should be to only snack on things that offer quick, easily digestible proteins. Anything else will accomplish very little and may even slow your child down. Don’t give them

full-sized snacks because a full stomach can lead to nausea right in the middle of an event.

Hydration

Always make sure your child is hydrated, but snacks during the activity aren't specifically necessary unless the events are to last throughout the day. It's a good idea to know what the signs of dehydration are so that you can keep an eye on kids during the sports events. Generally, if it is hot outside and the kids are sweating a lot, then dehydration can become a bigger problem. The symptoms include:

- Fever
- Diarrhea or vomiting
- Child becoming lethargic or tired
- Dry mouth and tongue
- Lack of tears if the child starts crying
- Sunken eyes

The best way to avoid dehydration is to make sure the kids stay hydrated throughout the sporting event. They need plenty of access to water or sports drinks.

Chapter 6:

Food and Drink After Sports Play

After kids play, the first thing they are going to do is raid the cabinets and the fridge looking for something to eat. They will likely reach for almost anything, but you still want to keep their hands off of unhealthy junk foods.

The Post-Game Meal

If possible, the best thing to do is feed the child a full post-game meal within an hour or so of the child's sports activity. This meal should include plenty of complex carbohydrates to fill them up and replace the energy they lost. Good options for these complex carbohydrates include pasta and whole grains. Just make sure you avoid white bread because it doesn't offer a healthy carbohydrate source. Additionally, their meal should include proteins in small portions from lean meats like fish or chicken.

The Snack Option

If, for some reason, there is going to be a time gap between getting the full meal in front of the child and the end of the sports activity, a small snack may be a must. However, this snack still needs to be healthy. Good options include dried fruit or trail mix. These foods will have plenty of carbs that the kids will need to regain their energy. Don't let the kids overeat on snacks though because they will still need to eat the full healthy meal later.

Again, the best thing to drink would be water or 100% fruit juice. It's best to avoid sugary sodas or fruit drinks. Additionally, sports drinks won't accomplish much

after the game, so avoid them as well.

No matter how hungry your child is, be sure to keep their hands off of chips, candy bars, and other snacks that will just negate the healthy activities they just completed. If you are a parent, the best thing you could do is remove those types of snacks from your home altogether. That's because kids really don't need them in their diets at all. Sugars can contribute to childhood obesity as well as diabetes.

Chapter 7:

Sample Meal Plans

Active kids need good nutrition throughout the day, especially before, during, and after sports activities. Here are sample meal plans for kids before their teenaged years and then sample plans for kids after the age of 13.

Children Ages 7-12

Children from ages 7-12 will need a diet lower in fiber and higher in proteins and healthy fruits and vegetables. For their meal before the sporting event, remember they should have it between two and three hours before the event so that they can get the most energy out of it. Here is a sample meal for kids:

- One turkey sandwich on wheat bread with three thin slices of turkey, a teaspoon of mayonnaise, and one piece of lettuce.
- One cup of chopped broccoli
- $\frac{1}{2}$ cup of fruit
- Water or 100% fruit juice.

Now, as mentioned, kids usually will not need anything to eat during a sporting event, but if the play does last significantly more than an hour, then consider a snack like a banana or apple.

After the playtime, the child should eat a full meal that includes plenty of proteins and carbs like the following:

- 4 ounces of grilled chicken
- One cup of rice, cooked with a small amount of butter
- One slice of bread
- One cup of green salad
- Water or 100% fruit juice.

These types of meals will ensure that the child has the energy and nutrients needed for their active lifestyle.

Ages 13-18

As kids reach into the teens, they will need more calories, so you do need to alter their meal plans. Before the game, they will need a full meal that includes plenty of protein and carbs for energy, like:

- Three ounces of grilled chicken
- 1 cup of vegetables like carrots, broccoli, or celery
- 1 cup of fruits like apples, bananas, or berries
- One slice of bread or a cup of rice
- Water

During the sports activities, the child could choose between water or sports drinks to keep hydrated. After the sporting event, the child will need higher amounts of protein and fiber as well. A sample after play snack could include:

- Three ounces of fish
- 2 cups of vegetables like green beans, broccoli, or cauliflower
- One slice of bread or one cup of rice
- ½ cup of yogurt
- Water or 100% fruit juice

Remember that, as a child gets older and on into their teenage years, they will need more calories. In fact, since an active 17 year old needs around 3,000 calories a day, make sure they are getting the nutrients they need for their growing and active bodies.

Chapter 8:

A Handout for Parents

If you are a coach or teacher, one thing you can do to ensure kids on your team are healthy and full of energy is to help the parents understand what the children need. Below is a handout that you could print and give to parents so they can provide the kids with the meals, snacks, and drinks they require to stay healthy and grow strong.

Keeping Active Kids Energetic and Healthy

Your kids are active and enjoying sports, which is so healthy for their growing bodies. Make sure they are getting the foods they need before, during, and after these sports events. This is important to keep them healthy, but also to give them the energy they need to perform well at their sports play. Here are some helpful tips

Before the Event

You need to make sure your child is getting all the nutrients they need to play actively and healthily, so here are a few guidelines to follow:

- Give your child a full meal two hours before play activities. They do not need a full meal directly before play or sports.
- Make sure this meal is full of protein and veggies. Avoid sugary snacks. Water is the best drink right now although fruit juice would be okay also.
- A small snack before the event is okay, but stick to vegetables or fruits. (a banana is a great choice)

After the Event

After the sports event, your child will also need a healthy, full meal that includes lots of proteins and fiber so that their muscles can recover. Choose lean meats, vegetables, fruits, and breads. Water or fruit juice is the best thing to drink.

Snacks

Of course, your child needs snacks throughout the day. If their full meal before the sports activity is far away from the actual event, give them a small snack like a banana or apple. During the activities, you may wish to bring snacks for break times, but choose things like trail mix or fruits.

Beverages

Throughout the day, water is the best thing for kids to drink. Other options before and after a sporting event include 100% fruit juice and milk. During the sports activities, you can choose between water and sports drinks, which include electrolytes. Just make sure you keep plenty of beverages on-hand during events. Your child needs to stay hydrated!

Things to Avoid

To make sure your child stays healthy and ready to get out on the field, you certainly will want to avoid certain things:

- Do NOT give your child sugary sweets before or during a sporting event. These empty calories can slow them down and sap their energy.
- Do NOT give your child protein bars or energy bars during a sports activity. These bars are loaded with fat and calories that will not be digested in time to turn into energy.
- Do NOT give your child soda or flavored fruit drinks before or during a sports event. They are full of sugar and won't help them at all. A sugar high

always comes with a sugar crash.

- Do NOT fill their diet with fiber before a sporting event. Fiber is slow to process and won't leave room for energy filled proteins and vegetables.

When you provide your child with the right diet before, during, and after their sports play, they will have more energy on the field and will be healthier overall. Make sure you follow these suggestions and always choose fruits and vegetables over fiber and sugars to make sure they get the energy sources their bodies need.

You could print out the handout above and give it to parents so that they have some guidelines for keeping their children healthy and energetic. You may also wish to spend some time educating the parents on the information you learned in this guide, providing more details on the specific foods and drinks the kids need before and after their sports events. Just always emphasize the importance of keeping kids hydrated during activity because dehydration can lead to a number of dangerous side effects.

Conclusion

Kids are growing and that means their bodies need special attention to ensure they stay healthy and have all the energy they need to enjoy activities like sporting events. There are lots of things you must keep in mind to ensure kids are getting the proper nutrition so that they can perform their best during sports events, including the amount of calories and the types of foods they require.

This guide will help you ensure you are taking proper care of the kids, whether they are your own or you are a coach. At all times, keep a few important rules you learned from this guide in mind:

- Water is always the best beverage. Sports drinks during playtime can be helpful. Fruit juice is only okay if it is 100% fruit with no sugar added.
- Avoid fiber before sporting events and instead choose proteins and veggies that will give kids plenty of energy.
- After the sporting events, kids will need more carbs as well as proteins to strengthen their muscles and stay healthy.

Following these rules as well as the rest of the information in this guide will ensure you have a team of healthy, energetic kids. Additionally, be sure to use the handout included in the last chapter to help educate parents.

And, remember this one last thing: the choices you make for kids now will have an impact on their future. By teaching children to be involved in activities and to eat healthily, you are teaching them the things they need for a healthy adulthood as well.

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