

HIGH SCHOOL SPORTS NUTRITION

**EVIDENCE BASED PRACTICES THAT EVERY COACH AND
PARENT NEEDS TO KNOW TO FULLY MAXIMIZE
YOUR ATHLETES PERFORMANCE**

B R Y A N S N Y D E R

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MAXIMIZE THEIR ATHLETE'S PERFORMANCE

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The information provided in this High School Manual is for general informational and educational purposes, and should not be considered medical advice for any individual problem you may have. This information is not a substitute for the professional judgment of a qualified health care provider who is familiar with the unique facts about your condition and medical history. You should always consult your health care provider prior to starting any new treatment, diet, or terminating or changing any ongoing treatment.

INTRODUCTION

Eat breakfast, spread balanced meals throughout the day, hydrate, recover after workouts, and sleep. We have all heard this or preached this to our high school kids, right? Doing these things, while not “cool” or necessarily cutting edge, can make the difference between an elite high school athlete or just another high school kid with potential. Seems simple enough, right? Let’s think this through though. How many of YOUR high school athletes actually do this every single day?

I grew up in Simla, Colorado which is a small, rural community in eastern Colorado. My parents are both high school coaches and teachers and have been for nearly 30 years. I mention this because I have witnessed firsthand the struggles that schools sometime face getting the resources they need to optimally fuel their athletes.

Currently, I am a Registered Dietitian and the Director of Team Nutrition for the Denver Broncos. I have been lucky enough to have served as a consultant for the Colorado Avalanche, Colorado Rockies, and Denver Nuggets. In addition, I have spoken to countless high schools in the state of Colorado on the importance of proper fueling. Over the past few years I have started to notice a trend in high school sports. I have had numerous high schools and high school parents, reach out to me wondering what they could do to help recover and fuel up their athletes better. I noticed im-

mediately that with so much attention focused on collegiate and professional athletics, high schools get overlooked when it comes to properly training and fueling athletes in a safe and effective way.

A few common questions and statements I get from parents and coaches are the following:

“Is it ok that my 13-year-old is drinking energy drinks before games?”

“What kind of dinner should I prepare the night before a big game?”

“Should my daughter be drinking water or Gatorade before a game?”

“Is chocolate milk really good for recovery?”

One of my favorites: “I wasn’t sure what little Johnny was supposed to do to recover after a game so I went online and found a supplement for him to start taking.”

It is very common for coaches and players to respond to questions that I ask by saying “Well, I just Googled it.” This is dangerous on many levels but some information found online is unethical and downright dangerous, in my opinion.

I hope to be able to answer some of these questions, and filter through some of the bad information out there, and provide you with some nutrition knowledge you can apply directly to your student athlete or son/daughter.

The bottom line is this: Parents and coaches have similar goals. They simply want their child or athlete to be the best they can be and maximize opportunities that are in front of them. As a high school athlete, this goal cannot be truly attained without proper nutrition, hydration, recovery, and sleep! As coaches and parents, you are truly on the first line of defense when it comes to talking

and educating your players on taking care of themselves. If you understand not just what to say when it comes to their health but also how to apply it and show them, you can truly have an enormous impact on their growth and development and ultimately their performance.

What is my goal in writing this manual? To serve coaches, parents, and high school athletes with evidence-based, solid nutritional strategies that can be directly applied in order to maximize their potential. I want to serve the coaches and parents who knew nutrition was kind of important but didn't know *how* important and didn't know *how* to apply sound nutrition practices to their teams.

“WE HAVE NO MONEY”

“We have no money,” is a common phrase that I hear frequently from high school coaches and/or athletic directors. I have worked with schools that have a hard enough time buying uniforms for their sports, let alone trying to find ways to hydrate, fuel, and recover their players. I can sympathize with this, growing up and being raised in a 1A school in rural Colorado. Here is the good news. It truly does not take that much money to fuel up, hydrate, and recover athletes. It doesn’t need to be overly complex and sophisticated like it often times appears to be after reading an article on the internet. I understand that budgets are tight and that there is a concern with trying to find the money to do certain things for the team. After meeting with literally hundreds of coaches/athletic directors/parents, there is also another question being asked.

“What should we be giving them or recommending?” I hope to be able to address these questions in the material below.

Maybe you don’t have a lot of money to work with as an athletic department or maybe you are a larger school with multiple sports who have a larger budget. Either way, there are methods available to help your athletes fuel up properly before, during, and recover properly.

When we are talking about the standard high school athlete and

how to optimize their performance, we are placing a special focus on a couple different areas. Hydration and fuel. We will cover hydration requirements and fueling needs more in depth in another chapter but here are some details on how impactful these two things are. Fluids do a variety of things including regulating body temperature and helping with cramp prevention. As it pertains to budget and this chapter, water is cheap! We need to properly educate our athletes on what and when to eat, which we outline below. We will cover specific recommendations of protein, carbs, fluids in other chapters. This chapter is about COST! For simplicity's sake, carbohydrates provide our muscles and brain with the fuel we need to compete, protein helps repair and rebuild muscle, and fluids help our body stay hydrated and prevent us from developing heat-related illness. When we look at optimizing the performance of high school athletes, we are looking at primarily how to fuel up, hydrate, refuel, and recover in and around games. The application below outlines things YOU can do for your athletes to get them fueled up and recovered, to keep them healthy and able to optimize their performance. The application shows what is recommended, the cost per athlete, and the total cost for the team for the entire season. Keep in mind, we will have more examples of snacks and drinks for each phase of fueling in later chapters. This application is to show how inexpensively we can get athletes fueled up and recovered properly.

APPLICATION:

Example: Determining the cost of fueling and recovering a varsity basketball team consisting of 15 players

15 players playing on average 20 games per year

Pre-Game 4 hours until game	Fluids/Snacks	Cost Per Athlete Per Game	Cost Per Team Per Game	Cost for Season
	12-16oz of water or sports drink	\$1.56	\$23.40	\$468
	1 banana and 1 Nutrigrain Bar	\$1.50	\$22.50	\$450.00
During-Game	Sports Drink	\$1.68	\$25.20	\$504.00
Half-Time	GoGo Squeeze Applesauce	\$1.00	\$15.00	\$300.00
Post-Game	Low fat choco- late milk (2 gallons)	\$0.39 16 oz	\$5.85	\$117.00
Total cost to hydrate, fuel, refuel, and recover		\$6.13 or \$122.60 per player per year.	\$91.95	\$1,839.00

When we look at things that directly impact how a high school athlete feels during games and practices, we look at nutrition and hydration. For around \$6.00 per kid per game we can look at the strategies listed above (including other options later on) and we can actually say that we can hydrate, fuel up before and during games, and refuel/recover after each game. Is this a perfect science? Of course not. Is perfectionism when it comes to hydration and fueling high school athletes realistic and sustainable? Of course not. Could the cost be a little different in your area vs my area in terms of cost for the product? Sure. Having said that, the point is that it doesn't have to be difficult OR expensive to get our young athletes the things they need in order to feel their best during competition and limiting their odds of getting

injured during the season. I have worked with many teams and they all handle the costs a little bit differently depending on the size of the school and the budgets allowed. Here are a few options on how to pay for this.

1. At \$6.00 per kid per game you can certainly provide your son/daughter with these options for their games.
2. Here is a novel idea. Maybe your son or daughter wants to go to the next level and play in college or even professionally someday. Maybe, just maybe, they actually pay for themselves to fuel and refuel/recover properly on game-days. Just think about what these kids are spending \$6.00 on. Do you want that Venti latte at Starbucks today or do you want to put the right pregame fuel in your body to fully optimize how you feel during games?
3. I have worked with some schools who are fortunate enough to have a booster club that can put some money together to make this happen.
4. Maybe the parents of the team get together and all pitch in money to provide these options for the team. After all, if every single parent put \$6.00 in per game, just think about the advantage you would give your son or daughter during that game and throughout the entire season, especially during the playoffs.

After working with many high schools, I can guarantee you one thing. There are very, very few high school athletes in the country at any level that are hydrating and fueling/recovering the proper way in order to optimize performance and reduce injury risk. If your athletes do this each game, it drastically increases the likeli-

hood that they feel great going into the game, which means it increases the likelihood that they are going to play better without worrying about chronic fatigue and heavy legs. I am assuming the team you are playing against are NOT doing these things.

Tips and Specifics to the numbers and chart above.

PRE-GAME FLUIDS AND SNACKS:

The vast majority of games last longer than one hour in duration. I recommend a sports drink both before and during competition in order to replenish the electrolytes lost and provide the fuel that the muscles and brain need in order to play at optimal performance. There are many snacks pregame that would fit the macronutrient guidelines we recommend before a tough practice or game. These recommendations are provided in a different chapter but we want the recommendations and examples to be something practical and easy, which is why we chose bananas and Nutrigrain bars as a potential snack.

HALF-TIME REFUEL:

In this example, we used a GoGo Squeeze applesauce pack as a way to refuel during half-time. We chose this snack in the example because it is portable, inexpensive, and it generally tastes great! Applesauce also contains 16g of carbohydrates to help muscles get refueled during half-time!

RECOVERY NUTRITION:

In this example we wanted to really show how inexpensive it can be to metabolically recover a high school athlete. This is particularly important when you have practices and/or games on back

to back games. We used low-fat chocolate milk as our example, and in order to do it the cheapest and most efficient way we also included cups in addition to the chocolate milk. The serving is 16 oz, which may seem like a lot but there are numerous teams we have worked with that have absolutely no issue consuming 16 oz of chocolate milk within 30 minutes of coming off the floor or field.

It does not matter if you are a small 1A school in rural Colorado or a large 5A school with 3,000 students in California, money should never be the reason why your student-athletes are not fueling, hydrating, and recovering during your season.

HYDRATION

There are a few concerns when we talk about dehydrated athletes. The first, and most important point is being dehydrated increases the risk of the player getting heat-related illness. In addition to our cardiovascular system having to work harder, our core body temperature also increases with every 1% of weight we lose during activity.¹ For a 125 lb athlete, this is only 1.25 lb of weight, which we commonly see with high school athletes. This can cause serious health consequences if we aren't dialed in to what we are doing and educating on from a hydration standpoint. The other concern and more common issue is: being dehydrated can negatively impact performance on the field or court.¹ Being dehydrated can have an extremely negative impact on exercise performance, which even becomes amplified during warm weather. There are countless studies and research that shows just a 2% drop in body weight can negatively impact performance in a big way. The fundamental goal as coaches and parents is to reduce the risk of having this 2% drop!² Research has also shown that many high school athletes show up to practices and/or games already dehydrated so while it may appear to be obvious, it isn't being applied by your athletes.³ The overall goal with hydration for young athletes is to prevent a 2% drop in body weight.² For example, if you have a 130 lb athlete, we

don't want that athlete losing more than 2.6 pounds of fluid during that practice, game, or event. In my experience, it is very common to see a weight loss during practice and/or a game of anywhere between 2-8 lb in high school athletes. This goes for both male and female athletes.

APPLICATION:

If you have an athlete that has a lack of energy, the first question I always ask them is about their hydration status and how well they have been hydrating. Young athletes need to be consuming 17-20 oz of water or a sports beverage at least 2-3 hours before exercise, as well as an additional 7-10 oz of water or a sports beverage 10-20 minutes immediately before competition. ¹ During competition our athletes need an additional 7-10 oz of water or a sports drink every 10-20 minutes while competing. ¹ Once an athlete is finished competing, they should be consuming 16-24 oz of fluid for every pound lost during competition. ¹

Let's simplify this even more.

PRE-WORKOUT/COMPETITION HYDRATION (2-3 HOURS BEFORE)

- 2-3 hours before competition: Consume a little more than a 16 oz bottle of water or a sports drink. Often times 16 oz is 1 bottle of water or 1 bottle of a sports drink like Gatorade. We would want you to drink slightly more than this (1 more ounce) 2-3 hours before competition. ¹
- 10-20 minutes before exercise
 - Drink an additional 7-10 oz of water or a sports drink. ¹

DURING WORKOUT/COMPETITION HYDRATION

- Goal is to prevent a 2% drop in weight
- Consume 7-10 oz of fluid every 10-20 minutes¹

POST WORKOUT/COMPETITION HYDRATION

- Typically need more than just water. Recommend a blend of both water and carbohydrate/electrolyte replacement like that of a sports drink.
- 16-24 oz of fluids/carb/electrolyte replacement drink for every pound lost during practice and games.¹

MONITORING FLUID LOSS:

One of the best and most practical ways to monitor fluid loss in high school athletes is setting up a scale in the locker room and weighing players before and after practices and/or games.^{1,2,4} This sounds simple, because it IS simple and it is particularly important for sports that require a lot of equipment and gear as those athletes are more likely to sweat at a higher rate. Have your athletes step on the scale before practice and then again after practice. Be sure they are wearing the same exact clothes each time to make it as accurate as possible. Let's say you have an athlete that is 140 lb before practice and 136 lb after practice. That is a 4 lb loss and therefore we would recommend they consume between 64-96 oz of fluids before their next practice in order to rehydrate for the next practice or game. Simple? Yes, but how many of your teams actually do this?

Another way to educate your players and assess hydration status is to look at a urine color chart.⁴ We have all seen these at some point in our lives and they still are a great way for your athletes to assess their hydration status.

Coaches, it doesn't matter what sport you are coaching; it is up to you to allow your athletes to have hydration breaks. Give your athletes the time to properly re-hydrate. Durability is more important than ability. Pushing your athletes to the brink without allowing them to hydrate properly is not going to make them tougher; it is going to cause them to get sick and/or injured.

There is nothing worse than game planning, practicing, and scouting in order to get ready for your next opponent only to have your star athlete show up dehydrated and get a soft tissue injury or cramp up during a crucial part of an important game. This, for the most part, is highly preventable! Sometimes as coaches and athletes we focus too much on the BIG things to win a game. Focusing on the big things is great but not if we lose track of the little things, especially if those little things can cause us to win and lose games.

Hydration is a little thing that goes a long way. If your best player does all the big things right and forgets/doesn't hydrate properly, his/her chances of getting injured or cramping up in a key moment of the game increase significantly! I have seen it happen; don't let this happen to you!

CARBOHYDRATES

Carbohydrates are your body's primary fuel source. Not protein, not fat. Depending on what you may be reading on the Internet, this can sometimes get diluted, and a different message may be getting delivered. The majority of calories that youth athletes consume should come from carbohydrates with recommendations coming in at 45-65% of their daily calories.^{5,6} The carbohydrate needs for young athletes are higher than those of adults because we have to focus on their bodies growing, developing, and maturing. Not fueling correctly will obviously hurt their performance during practices and games but it also can have an impact on their growth and development! One of the challenges we face is that there aren't a lot of individualized and specific carbohydrate recommendations to this point.

With somewhat limited data, it is safe to recommend that active youth athletes should be on the higher end of the recommendations, meaning that 45-65% of their daily intake should be coming from carbohydrates on a daily basis, especially for higher intensity and demanding sports.^{5,6} The higher the demands the higher the recommendation of carbohydrates.

Considering the high demands of fuel that a high school athlete needs, this means that kids **MUST EAT BREAKFAST**. No

exceptions. Eating breakfast is vital to making sure that they are getting the carbohydrates they need for the day.

Carbohydrate “loading” is a common phrase that we often times use when talking about the hours and/or days leading up to competition. Much of the research on carbohydrate loading has been done on adults and there really isn’t a lot of solid data showing the benefits of carb loading for adolescent athletes. The primary reason there isn’t much data is because the methodology and procedures that need to be done include muscle biopsies which we understandably don’t do with children.⁷

APPLICATION:

A question I commonly get from coaches is: “I understand that carbs give my athletes energy, but what do I recommend to them and what should I tell them to eat?”

First, let’s be honest. Many athletes are not doing the right things from a diet standpoint as it relates to maximizing their performance. From my experience, many athletes are not eating the appropriate amount of carbohydrates to meet their energy needs. Many of your athletes more than likely did not sleep well the night before, which leads them to sleeping in until the last possible moment, which then can lead to them not eating breakfast. Since they didn’t eat breakfast, they may have a tendency to overeat during lunch which causes them to feel tired in the afternoon and by the time practice or the game/event starts they feel tired and fatigued for some reason. Does this sound familiar? That may come across as a little harsh but that is the reality you as coaches live in every single day. To add another layer onto that, those same athletes may resort to an energy drink or supplement to “get them through”

and the reality is that if they would have slept better, eaten breakfast, and fueled up properly there would be zero reason for them to resort to an energy drink. I think it is important to paint that perspective -- to better educate your athletes once they do start asking why they are tired and what they can do. The answer should start with: How did you sleep? Did you eat breakfast? What did you have for lunch? Are you hydrated? Once those questions have been answered, we can dive into the actual fuel for our muscles and brain, which comes from carbohydrates.

While the research doesn't tell us exactly how many grams of carbs adolescent athletes should be taking in prior to exercise, we should place an emphasis on getting a balanced plate with special attention on carbohydrates as our primary fuel source. We have established based on the data that young athletes need 45-65% of their total caloric intake for the day to come from carbohydrates.^{5,6} This means that 45-65% of each meal during the day should be coming from carbohydrates. Below are some examples of carbohydrates to add and focus on during meals. If an athlete asks you what they can eat for energy or what they can do to feel better before practices and games you can refer to this table. Refer to the handouts at the back of this as well for more ideas!

Breakfast	Lunch/Dinner	Snacks
Yogurt	Sandwich on whole grain bread	Animal crackers and/or Goldfish Crackers
Oatmeal, cereal with low fat milk	Baked Potatoes and Sweet potatoes	Fruits and Vegetables
Fruit	Spaghetti/pasta with red sauce	PB and J Sandwich

Breakfast	Lunch/Dinner	Snacks
4 oz 100% Juice or Milk	Fruits and/or Vegetables	Dried mangos
Toast on whole grain bread	Breads	Raisins
Hash browns	Bagel with peanut butter and banana	Fig Newtons

Obviously young athletes need more than just carbohydrates, but for the sake of this chapter it is important that these athletes understand what to be putting in their body for fuel to get through practices and games at an optimal level.

As coaches, if you want the most out of your players from a performance standpoint, they HAVE to feel good and ready to compete. Carbohydrates are the fuel for the fuel tank, and making sure they are fueled up properly will allow them to feel their best which means that they have the possibility of playing their best.

PROTEIN

Having proper protein consumption for youth athletes is extremely important. Protein is vital for tissue and muscle repair as well as muscle maintenance.² It is extremely important to recognize that proper protein intake is important for not only athletic performance and recovery, but also for the growth and development of the student athletes. Not consuming enough protein can possibly lead to a decrease in lean body mass and it is a key nutrient in the recovery process.⁷ Despite what you may see on the Internet, more protein is not always better. I often times see athletes/parents/coaches get sold on a protein supplement that if they were to take every day would more than likely put them above and beyond what is recommended. I highly recommend you stay away from dietary supplements. It is VERY easy for high school athletes to get the protein they need without the use of dietary supplements.

APPLICATION:

It is recommended that young athletes age 14-18 consume 0.85g/kg/day.⁸ If an athlete is performing regular exercise, competing in sports, or beginning a training program, the recommendations can go as high as 1.0-1.5g/kg/day.⁷ For endurance athletes specifically, it may be necessary to recommend a daily intake of 1.2-1.4

g/kg/day due to the daily practices and high demand of the body during those specific sports.⁷

This means that a 150 lb athlete (68kg) should be consuming at least 57g of protein daily or as high as 102g if they are playing sports or exercising regularly or even starting a new training program.

How much is 102g of protein? Let’s take a look at the chart below to show how easy it is for a high school athlete to consume enough protein during the day.

Source	Serving Size	Grams of Protein
Skinless chicken	3 oz	28g
Steak	3 oz	26g
Roasted Turkey	3 oz	25g
Pork	3 oz	22g
Ham	3 oz	14g
1 large egg	1 egg	6g
Salmon/Tuna	3 oz	22g
Pinto Beans	½ cup	11g
Lentils	½ cup	9g
Edamame	½ cup	9g
Black beans/Red Kidney Beans	½ cup	8g
Quinoa	½ cup	4g
Green Peas	½ cup	4g
Cooked Spinach	½ cup	3g
Pumpkin Seeds	1 oz	9g
Peanuts	1 oz	7g

Source	Serving Size	Grams of Protein
Peanut butter	1 Tbsp	7g
Almonds	1 oz	6g
Pistachios	1 oz	6g
Walnuts/Cashews	1 oz	4g
Greek Yogurt	6 oz	18g
Cottage Cheese (1% low fat)	4 oz	14g
Regular yogurt (nonfat)	1 cup	11g
Skim Milk	1 cup	8g
String Cheese	1 piece (0.75 oz)	6g

Source: USDA

If a 150 lb athlete (68kg) is training for football, it would be safe to recommend 102g of protein per day. This athlete would only need to take in the following to hit those recommendations.

Breakfast: 1 cup Greek yogurt with granola, 1 cup of fruit, 2 scrambled eggs = 30g

Snack: Handful of peanuts and piece of string cheese = 13g

Lunch: Turkey sandwich with whole wheat bread (6oz of turkey) and ½ cup baked lays chips with piece of whole fruit = 22g

Dinner: 3 oz piece of lean protein (chicken, bison, turkey, fish) with 1 cup vegetables and 1 cup brown rice = 30g

Snack: Glass of low fat chocolate milk before bed (8 oz) = 8g

Total protein: 103g

Tip: 3 oz of protein is NOT very much. That is the size of a deck of cards! Many high school athletes that I know consume at least 6 oz of protein if they are consuming a lean piece of protein.

When we talk about protein I often times get asked about protein and recovery. We will cover specific recovery nutrition in another chapter that clearly outlines the proper way to recover and refuel high school athletes.

When it comes to protein and high school athletes there are a couple things to remember.

- 1 Protein is extremely important not just for the recovery and performance of the athlete but also for continued growth and development of the high school athlete. The recommendations are higher for these high school athletes because they are serving a dual role of muscle recovery and regeneration as well as growth and development of the child. Special attention to consuming enough protein should be considered if the athlete is training for a sport and/or lifting weights.⁷

2. Despite what you may read online, it is simply not that difficult to get enough of the recommended amount of protein. While it should be a focal point for these athletes, it is important to eat balanced meals throughout the day and healthy snacking is encouraged in order to make sure we are not only fueling up properly but also to get the adequate protein.

You don't have to be a sports dietitian to recognize if your athletes are not getting enough protein. When you are talking with your athletes, especially in terms of recovery, ask them what they had for dinner. Ask them what they typically snack on. Ask them if they ate breakfast. If they don't eat breakfast or they simply grabbed a piece of fruit as they were leaving, they may not be getting what they need from their diet from a protein standpoint.

Educate them on eating protein during the day and for breakfast specifically and tell them it is vital for protein development and keeping them strong and healthy as they grow during these key years of growth and development.

PRE-EVENT AND PRE-GAME NUTRITION

Let me paint a picture for you. I bet it is one you are familiar with. You are a high school basketball coach and it is Friday night. You have a game at 7:00pm and you are about to face a tough opponent. Your best players show up a couple hours before the game to shoot around, get changed, warm up etc. Despite your best efforts as a coach and even despite the best efforts of the parents, it is now 6:00pm and your best player says, "I'm hungry." You ask them what they had for dinner and their response? "Nothing." We see this far too many times and unfortunately the quickest and most convenient option is the concession stand that is loaded with pizza, nachos, hot dogs, chicken fingers, burgers, and, of course, chips and candy. Maybe if you are lucky you have enough time to run to the fast food place across the street, but the food choices are nutritionally similar to a concession stand. So what do you do? Your stud athlete goes to the concession stand and gets some nachos, M&M's, and -- if you are lucky -- a Gatorade, but more than likely a soda. Midway through the first quarter that same stud athlete is tired and fatigued, is not thinking clearly, making poor choices, and ultimately feeling terribly because of the food choice he made an hour earlier. At the end of the day this player ultimately is letting himself down and his team down because he isn't playing at

his maximum performance because he feels terrible because of the food he/she put in their body right before the game.

Whose fault is it that our concession stands look like this? It is not our schools' fault. Concession stands are tremendous revenue generators for athletic departments and the schools in general. These schools are simply just offering what people will want to buy. Could there be healthier options for athletes getting ready to play or for the people wanting to eat healthier? Of course. I would even argue that revenue would increase because you are hitting a market of people that want to eat healthy while also appeasing those that want their Mountain Dew and Nachos, but that is another topic.

THIS question really should be presented to your athletes. "How serious are you about your performance on the court?" My guess is that if you posed this question, they all will say that their performance is important. As a coach, what is the point of practicing, studying film, scouting the other team, if your players are going to go to the concession stand before games and load up with things that are going to negatively impact their performance on the court or field? If that is the case just keep doing what you are doing and keep "fueling" your body with cheeseburgers and skittles. If you are a serious athlete, then the fuel you put in your body should be serious. As coaches, you should relay this information to your players. While it is up to your kids to make wise decisions, we both know that this doesn't always happen. It is important to guide them in the direction you want them to go.

From the many athletes that I have worked with, I can tell you that from experience, many of these athletes go in to practices and games in a carbohydrate depleted state. By the time an ath-

lete warms up and plays the first half, they more than likely won't have the energy (which came from their pregame food) to make it through the game.

So here is the question. What should I tell my athletes to eat before a practice or a game?

APPLICATION:

First and foremost, EDUCATE your team on what is a good source of fuel and what is not. This is the exact purpose of this manual.

1. Team Education:

- a. Refer to this manual and the handouts in the back. This does not require more effort or work by the coach; it is already done for you.

2. More Concession Stand Options:

- a. Look at adding healthier options to the concession stand menu.
- b. Revenue generator for those that want to eat healthier
- c. Push your kids and your athletes to eat there before games, which helps and benefits the kids as well as the school! Win-Win!

3. Specific food recommendations:

- a. Push starchy carbohydrates, small amount low fat/lean proteins, and fluids ideally two to three hours before the game in order to allow for proper digestion. Examples of these options will be provided below.

4. Avoid:

- a. We want to avoid high protein, high fiber, high fat foods that won't be digested in time for competition.
- b. Avoid trying something new before a game. If you want to try new foods, try them before practice to see how you tolerate those foods.

PRE-GAME AND PRE-PRACTICE FUEL 3-4 HOURS BEFORE COMPETITION

This should be your last big meal to allow for proper digestion and absorption. We want a blend of starchy carbs, lean protein, and fluids. Three to four hours before the game or practice we are ok with lean proteins like turkey, chicken, fish, but the other 2/3 of the plate should come from carbohydrates! We want to make sure that this meal fills your players up so that they are not hungry during the game but we also want to not overdo it where we eat too much and there is still food yet to be digested.

MEALS TO CONSUME 3-4 HOURS BEFORE COMPETITION

Option #1	Option #2	Option #3	Option #4	Option #5
Bagel with low fat cream cheese, ½ cup trail mix, 1 piece of string cheese 16 oz fluid	Turkey and Cheese Sandwich with piece of fruit 16 oz fluid	2 cups pasta with marinara sauce, 1 garlic bread, 1 cup veggies 16 oz water or sports drink	6 oz. chicken breast, ½ cup rice, baked sweet potato, 16 oz fluid	Cold cereal with 1 cup of mixed berries 16 oz of fluid

Option #6	Option #7	Option #8	Option #9	Option #10
1 cup of oat-meal with sliced walnuts, 2 oz blueberries, 1Tbsp peanut butter and 1 Tsp honey 16 oz fluid	Peanut butter, honey, banana sandwich 16 oz fluid	Pancakes with light syrup, 2 eggs, 1 cup fruit 16 oz fluid	Grilled chicken wrap with flour tortilla and vegetables Piece of fruit 16 oz fluid	Chicken burrito with rice, cheese, black beans and mild salsa 16 oz fluid

As we get closer to game time the emphasis on fuel shifts away from protein and fat and we start placing a higher emphasis on carbohydrates. Many athletes still have a tendency to get hungry two hours before the game. While we want to keep fat to an absolute minimum here, having a little bit of protein will help keep your athletes feeling fuller and not hungry and distracted on the field or court. Remember, carbs are our fuel for our muscles and our brain, and if we are depleted (which many athletes are) we set ourselves up for poor performance.

MEALS TO CONSUME 1-2 HOURS BEFORE COMPETITION

Option #1	Option #2	Option #3	Option #4	Option #5
Banana with peanut butter 8 oz fluid	CLIF bar and piece of string cheese 8 oz fluid	Greek yogurt with 2 oz granola 8 oz fluid	Orange and beef jerky	Strawberry-banana fruit smoothie with low fat dairy or almond milk base

Option #6	Option #7	Option #8	Option #9	Option #10
½ cup trail mix and ½ cup sliced watermelon	Graham crackers and peanut butter 8 oz fluid	Nutrigrain bar, piece of string cheese 8 oz fluid	Handful of raisins 8 oz fluid	Piece of toast with almond butter and banana 8 oz fluid

As we get one hour or less before the game the primary focus is fluids and carbohydrates. Carbs are the fuel for the fuel tank and we are trying to top off those fuel stores before the game. Often times we forget about the energy that we burn and the fluids that we lose during warm-ups, so it is usually recommended that you have a light snack 30-60 minutes before the game.^{9, 10}

ONE HOUR OR LESS BEFORE COMPETITION

Option #1	Option #2	Option #3	Option #4	Option #5
Handful of pretzels 6 oz fluid	Gatorade prime pouch and granola bar 6 oz fluid	2 Fig Newtons and 1 GoGo Squeeze applesauce 6 oz fluid	Gatorade Prime Chews OR Honey Stinger Chews 6 oz fluid	Handful of Animal crackers 6 oz fluid

Option #6	Option #7	Option #8	Option #9	Option #10
2 slices of watermelon 6 oz fluid	Sport Gel 6 oz fluid	Banana and 6 oz Gatorade	CLIF bar and 6 oz fluid	Orange slices and 6 oz fluid

As a coach, you practice, teach, watch film, and scout the other opponent. I am fully aware of the tremendous amount of time that goes in to the weekly preparation in order to give your team the best opportunity to win. In my opinion, having athletes not fueled up properly not only lets the team down but the coaches as well. High School athletes going into games in a depleted state and dehydrated state is flat out unacceptable, especially when it is so easy to prevent. One of the most common questions I get as a dietitian from parents and athletes is what to eat before the game. We usually know that we need to eat something but we don't know what. Hopefully that question has been answered in the above material. See the handouts at the end of this manual for even more clarification and specifics.

RECOVERY NUTRITION

We have spent a lot of time discussing and showing you how to fuel up and get your athletes ready to compete at the highest level while feeling at their best. This chapter is by far, one of the most important chapters you can read as a coach. It is absolutely vital that your athletes get recovered properly after practices, lifts, and games. This is especially important when your athletes are practicing and/or playing the following day. What your athletes put in their bodies after the game Friday night directly impacts how they are going to feel and ultimately play the following night. Our body is relying on three primary components to recovery:

- 1. Carbohydrates**
- 2. Protein**
- 3. Fluids**

We want to consume these three groups within 30 minutes of the event and/or lift. Taking longer than the 30 minutes to eat will slow how quickly you respond! It is also important to consume another meal that is balanced with lean protein and carbohydrates again two hours after that to help again with muscle repair and loading up the muscles with glycogen (energy) for the next day.¹¹

Carbohydrates function by reloading the muscles with energy to help the recovery process begin. Without carbohydrates, recovery nutrition doesn't exist. Carbohydrates function as the fuel for your fuel tank. The fuel in this example is the carbohydrates which help reload and refuel our muscle glycogen stores.

Protein helps the muscle repair after exercise. There are many times our muscles get broken down during practices, lifts, and games. It is vital that we repair these muscles, and that comes from taking in protein!

Fluids are the last, and sometimes forgotten about, piece to recovery. We have to rehydrate! As we mentioned in other chapters, we need to focus on the rehydration process. If athletes have the ability to weigh themselves before and after practices and/or games, I would highly recommend they do this if you are concerned with having any of your athletes losing weight during the season.

You should be drinking at least 16-24oz of fluid for every pound lost during that event.¹¹ For our recovery foods/drinks we are aiming for a 3:1 ratio of carbohydrates to protein. This means we are aiming for something that has 50g of carbs, 20g of protein.¹²

KEY POINT REFRESH FOR RECOVERY NUTRITION:

1. Consume 50g carbs and 20g of protein after you workout
2. The sooner the better for the foods. Ideally, we want to consume this recovery shake within 30 minutes of working out or competing and then a real meal two hours after that.
3. It doesn't matter if it is liquid or solid forms of recovery! Both work adequately; it simply comes down to what is convenient for you and your schedule, as long as you actually do it!

It is worth noting that recovery nutrition is more than just protein. Too many times I see athletes walk in to a local GNC and come back with protein supplements that they are told they should use for making a recovery shake. I see these athletes consume nothing but protein post workout and that is only one part of recovery. It takes adequate intake of carbohydrates in order to make the recovery process work, so without carbohydrates the process doesn't work.

APPLICATION:

If you don't take anything away from this manual, take this information and apply it to your teams.

Parent Involvement: I know this can be a sensitive subject for a variety of reasons. Having said that, take some of the pressure off of you as a coach and ask the parents to get involved and help! This is important for a few reasons. First, the financial cost (although ultimately inexpensive) can be put on the parents to help their kids recover. We aren't talking about thousands of dollars here. How hard is it to have some parents pick up two gallons of low fat chocolate milk and some Styrofoam cups so that the teams can recover after games? Sure, it takes some logistical work but it is so worth it to be able to keep kids healthy, maintaining weight and muscle mass, and ultimately feeling and playing at their best at the end of the season. My recommendation is to bring this topic up at the yearly parent meeting and introduction meeting where you lay the groundwork on expectations etc. Simply tell them and show them how important recovery nutrition is. Ask a couple parents (you know which ones) to spearhead the logistics, and have some parents bring some recovery options for the team at the end

of games. Those 30 minutes post-game are vital for recovery and keeping your kids healthy through the year!

PRACTICAL AND EASY RECOVERY OPTIONS

Chocolate Milk:

We have all heard that chocolate milk is good for recovery. Chocolate milk truly does live up to the hype of being a great recovery options for athletes. Chocolate milk has almost the exact ratio of carbs to protein that we want our kids consuming within 30 minutes. It also is in a fluid form, obviously, which means it will help with the hydration component as well! The icing on the cake is that there are many electrolytes that our body needs as well to help with hydration including calcium, sodium, and phosphorus.

16oz of low fat chocolate milk contains 40g of carbohydrates, 16g of protein, and 360mg of sodium. You also are consuming 16oz of fluids as well!

We want to make sure that the chocolate milk is LOW FAT from a digestion and absorption standpoint. 1% low fat milk is ideal and perfect for recovery!

Cost: two gallons of low fat chocolate milk will cost roughly \$8.00 and serve 16 players for recovery. That is it!

Clif Builder Bar and Piece of Fruit:

This is a simple and easy grab and go option for athletes on the run or who don't have a lot of time after the game. Clif Builder Bars contain about 30g of carbohydrates along with 20g of protein. I would recommend eating a banana or other piece of fruit with the bar to get the extra carbohydrates and bring ratio closer to that 3:1 carb to protein ratio that we want. Bars and fruit are very easy

to have available in your gym bag or in your gym locker. Coaches, talk to your kids about packing this in their bags. They bring their uniforms and their water, right? I don't think it is too much to ask them to throw a bar and piece of fruit in their bags in order to optimally recover after games and stay healthy.

Banana with JIF Peanut Butter (JIF PB cups)

This is a great option that is also easily portable and easy to keep in a gym bag or backpack. JIF makes a portable peanut butter cup (not a Reece's peanut butter cup) that comes in little 1-1.5oz packs, making them very easy to throw in a bag and bring with you wherever you are going!

One large banana is going to give you about 30g of carbohydrates and two small peanut butter cups is going to give you an additional 22g of carbs with 18g of protein, giving you a total of 50g carbs with 18g of protein! Perfect!

In addition to these portable options, I believe high school athletes can actually pack a cooler and have some good pre-game and recovery fuel as well. When you have the option to keep things cool it opens a variety of other options for recovery.

Greek Yogurt with granola

This is a great option for those who have the ability to pack a small cooler. It is amazing how many collegiate and professional athletes do this, but the younger high school kids don't. A small cooler that you can even pack in your gym bag would be great!

One container of Greek yogurt contains nearly 12g of protein and 14g of carbohydrates! If you add 2oz of granola on top of this you will get an additional 42g of carbs and 5g of protein, bringing

the total to 56g of carbs and 19g of protein, which is a perfect ratio of carbs to protein.

Turkey Sandwich with apple slices:

Another great option for recovery is a simple turkey sandwich with an apple or apple slices. This is a great option for those that are packing a cooler. We are aiming for 4oz of turkey deli meat with two slices of bread. Feel free to add lettuce, tomato, onion, mayo and/or mustard. You can also add some apple slices or an apple as well. Doing this simple meal within 30 minutes of coming off the field or court will give you 21g of protein with 55g of carbohydrates which is a fantastic option for you as far as recovery goes.

Clif Builder Bar and 12oz Gatorade:

Clif builder bars are easy to transport and keep in your gym bag or locker at school. Having a bar on hand with a 12oz Gatorade will give you about 50g of carbs with 20g of protein, which is ideal for recovery!

Bowl of Cereal with low fat milk:

Before you get too excited, we aren't talking about Fruit Loops and Fruity Pebbles here. Aim for a cereal that is whole grain and nutrient dense. For example, one cup of Raisin Bran cereal will contain nearly 44g of carbohydrates and 4g of protein. If you add one cup of 1% milk to the Raisin Bran you are looking at 12g of protein in total with 56g of carbohydrates, which is optimal for recovery. Other cereal options include Wheaties, Honey Nut Cheerios, and Kashi brand cereal.

Ready to Drink (RTD) shakes

Perhaps the most convenient option for recovering properly after practices or games is the RTD shakes that are available. The same rules apply in terms of carbohydrates and protein. We still want that 3:1 or 4:1 ratio of carbohydrates to protein. The added benefit to recovering with shakes is that it is a fluid, which means it helps you from the hydration and fluid standpoint as well!

Here are a few of my favorite options:

- Shamrock Farms has a product called Rockin Protein Recovery. This product has a great taste and has the exact ratio we are looking for with recovery. It has 48g of carbohydrates, 20g of protein, as well as a lot of the potassium and sodium to help replace what was lost during competition.
- Orgain has a nutritional shake that contains 32g of carbohydrates with 16g of protein. Even though the carbohydrates are on the lower end of what is recommended, when it comes to recovery nutrition and assuming that many student athletes aren't recovering at all, this beverage will work great!

Recovery nutrition is extremely important for high school athletes. If I had to guess the number of kids that I talk to on yearly basis about recovery nutrition, I would say seven to ten are doing NOTHING for recovery. Recovery is one of the most underappreciated mechanisms in nutrition and something that all athletes should be doing regardless of the sport or gender. Getting your athletes recovered helps them maintain and gain lean mass, helps them hold their weight during the season, and can drastically reduce the risk of injuries if done properly, in my opinion.

PACK A COOLER/LUNCH BOX

This seems obvious right? I have met individually with kids and parents at every grade level participating in everything from basketball to cross-country to volleyball to skiing. It never ceases to amaze me the grind and extremely taxing and busy schedule that young athletes go through. When working with elite hockey players, I had a mom sit down with me and show me the schedule that they have on a day to day basis. It looks something like this:

Wake up: 6:30am

Breakfast: 6:45am

Drive to school: 7:15am

School: 7:45am-3:00pm

Dryland workout: 3:45-5:00pm

Hockey Practice: 5:30pm-8:00pm

Dinner: 8:15am (usually fast food)

Arrive Home: 9:00pm

Homework: 9:00-10:00pm

Sleep: 10:00pm

Does this sound familiar? Maybe it isn't hockey, maybe it's basketball or travel baseball. I understand to some this may seem to

be a lot and extremely busy, however thousands of athletes across our country have a schedule very similar to this! In fact, there are even schedules that are busier than this when we factor in travel and multiple sports. The point is, I don't know how these kids get through the day without having a cooler to keep food and beverages to keep them fueled up throughout the day. If your kids don't pack a cooler, we all know what will happen. These kids will resort to either a fast food restaurant one hour before competition, or concession stand where they will be eating hot dogs and skittles before the big game.

One of the best ways to eliminate the concession stand temptation is to pack a cooler. Yes, this means we actually have to tell our kids to plan ahead, pack a cooler before they go to bed the night before, and actually be responsible. Maybe your athletes need to pre-cut/slice some fruit the night before or make a fruit smoothie the night before, so it is ready the next day. My wife and I have an 8-year-old son and a 6-year-old daughter who pack their own school lunch every single day. Is it really too much to ask high school kids to pack their own cooler the night before a big game or competition? I certainly don't think so. I will have a handout at the end of this manual that can be given to parents and/or student athletes so that they will know exactly what to pack. At some point, it is up to the athletes to take their sport seriously and plan ahead. We can give them the tools, but it is up to them to apply the knowledge and follow through.

Coolers don't have to be big and obnoxious. We are aiming for sustainability and something that can be implemented and duplicated time and time again. I am not talking about giant beverage coolers that you load up with drinks during the family BBQ. Re-

member, we are talking about pre-practice and pre-game snacks and drinks along with some recovery options. The options typically don't take up a lot of room and if we can find a cooler or lunch box that can hold a few items it will go a long way to maximizing performance and staying hydrated on game days or tournament days.

A simple Amazon search will give you multiple cooler bag options that you can easily put pre-game snacks in and beverages to keep them cold for before, during, and after competition. Many of the coolers also are small and flat enough to fit easily into a gym bag and are extremely inexpensive. You should be able to easily find a cooler for under \$20. Many coaches may tell their athletes that they should bring cooler bag or lunch box, but I think having the ability to tell them what to put in it can be helpful! This cooler is practical and has plenty of room for many of the items we have discussed in previous chapters.

APPLICATION:

Step 1: Buy a cooler. This should not be an expensive buy. For under \$20, you should be able to find a small cooler that can easily fit inside of a gym bag that can fit “performance foods,” that can help optimize performance on the court and/or field.

Step 2: Now what do I pack?

When we look at healthy snacking and fueling during the day, we are looking at trying to balance good carbohydrates, protein, and fluids. Quick refresher. Carbohydrates provide the energy and the fuel (gas for the gas tank) in order to compete at the highest level.¹¹ No carbs = no energy. Protein will provide our muscles

with the ability to repair and heal from the vigorous practice and/or game that is being played.¹¹ Protein also helps us feel full and fill us up. If we only pack carbohydrates it may lead to us staying hungry and not feeling full during the day. Fluids are going to help your athletes stay hydrated during the day. Water for the most part will suffice here and we can time the sports drinks in and around workouts and/or games. The hardest part of packing a cooler is the actual process of remembering that you need to pack said cooler in advance. I tell athletes to set a reminder in their phones the night before the game to make sure they allocate enough time (10 minutes max) to pack their cooler for the next day. I have worked with countless athletes that simply built this process into their routines and they simply made it a habit.

Cooler Carbohydrates: Specifically for pre-game or pre-practice that provide our muscles with the fuel needed to perform at the highest level. Some of these options are also great for during games, depending on the sport and the portability.

- Bagel
- Goldfish
- Pretzels
- Bananas
- Applesauce (individual GoGo Squeeze packs are the easiest to carry)
- Orange slices
- Red/Green Grapes
- Watermelon (cubed for easy transport)
- Fig Newtons
- Animal crackers

- Popcorn
- Gatorade Energy Chews
- Honey Stinger Chews
- Peanut butter and jelly sandwich
- Low fat yogurt
- Pineapple with cottage cheese
- Cereal with low fat milk

Cooler Hydration:

- Don't forget to pack some water or in your cooler. This should be common sense but often times it is forgotten about. A 32 oz Nalgene bottle is a great thing to invest in and making sure you are drinking at least two full bottles per day.
- Other options to include in your cooler include sports drinks like Gatorade and/or Powerade. It is important to note here that sports drinks and energy drinks are different. We don't want to pack *energy* drinks, we want *sports* drinks only.
- Low fat chocolate milk (recovery beverage) or another ready to drink (RTD) beverage mentioned in the recovery chapter.

Cooler Protein:

During long event days like track and field or tournament play, consuming protein is going to be vital for the muscle repair and regeneration as well as simply keeping us full and not starving during the long day. Other portable protein options to keep in your cooler include:

- Peanut butter
 - Justin's peanut butter squeeze packs
 - JIF portable peanut butter cups
- Beef Jerky

- Trail Mix
- String cheese
- Hard boiled eggs
- Greek Yogurt
- Protein bars
 - Clif Bar
 - Gatorade Bar
- Almonds

Small Meal Options for Recovery or in between events:

- Peanut butter and jelly sandwich with apple slices and 16 oz water. Good recovery option post race or post game
- Turkey, cheese, spinach wrap with 16 oz water
- Graham crackers with peanut butter
- Special K plus cereal with low fat milk and piece of fruit
- Cascadian Farms Protein Granola with low fat milk or Greek Yogurt with 16 oz water
- Pita chips and hummus
- Granola with Greek Yogurt and fruit

Side Note: Don't forget to pack a spoon!!!

Example:

Let's assume you have a game or match at 7:00pm. The education should start with making sure your kids get a GREAT night of sleep! After they wake up in the morning, then we educate them on the importance of eating breakfast and lunch before an evening game or competition. That leaves dinner and snacks/recovery that they will need to get themselves. This is where the cooler comes in. Having the ability to be able to effectively pack a cooler with foods

that are going to help your athletes perform at the highest level is extremely important. There are more examples of what to eat and how to pack a cooler are in the handouts at the back of the manual.

At the end of the day it is up to the ATHLETES to truly take their sport seriously. The serious athletes take everything they do about his/her sport seriously which includes taking care of the their bodies the right way. Packing a cooler is a must, especially for tournament days or event days that last longer than three hours. Packing a cooler should be part of the daily routine that your kids go through the night before they go to bed or the morning of competition. Do you have your water bottle? Shoes? Athletic equipment? And lastly do you have your cooler? Packing a cooler and refueling the fuel tank can certainly be the difference between feeling great and playing great or feeling like you have hit the wall and having that be reflected in their play.

NUTRITION ON THE ROAD

Nutrition on the road can be challenging from a healthy fueling standpoint, but it doesn't have to be. The easiest and most logical way to combat some of the challenges is to simply pack a cooler. This is going to be vital for your athletes to make it through the day. Often times, athletes are going from school directly to the bus to head to the game. If they don't pack a small cooler you know what that means? Concession stand. Again, we aren't talking about a large cooler on wheels. We are talking about a small cooler that can go in the athlete's gym bag. I often times see athletes eat lunch, not pack a snack for the afternoon, and then hop on the bus or start driving to the game without having a good game plan on what they are going to eat as either a snack or dinner. Not having a plan will all but guarantee that your athletes will make a poor decision on what they put in their body before the game. This does impact you as a coach because it sets your players up for not feeling their best and not being fueled properly, which impacts their energy levels and hydration status leading into the big game, which ultimately increases their risk of injury and hurts their performance. Athletes should be eating every three hours, which means when they are traveling, they have to have snacks ready to go.

FAST FOOD BEFORE THE GAME

While not ideal, eating fast food or quick dining before games is all too common. I would love to be able to paint a perfect picture of what every athlete should be eating before practices and games but that isn't the reality -- as you coaches know all too well. From a practicality standpoint and from my experience these athletes are sometimes forced to eat out before a game for a variety of reasons. If your athletes are going to eat out and consume fast food before the game there are a couple guidelines that can help make sure they still feel at their best before the game.

APPLICATION:

1. Plan ahead. You know it is coming. Look at the schedule and figure out where you are going so that you can properly plan ahead on the places you have available before games.
 - a. If at all possible, stay away from the fast food burger restaurants and aim for places that have grilled chicken sandwiches, sub sandwiches and wraps, pasta, fruits and vegetables.
 - i. Examples of better fast food places include:
 1. Noodles and Company
 2. Subway
 3. Jimmy Johns
 4. Chipotle/Qdoba
 5. Panera
 6. Jersey Mike's
 7. Tokyo Joes
 8. Jason's Deli
 9. Atlanta Bread
 10. Einstein Bros Bagels

b. Conversely there are many options that we want to try and avoid from a pre-game nutrition standpoint. Why? We are trying to avoid the high fat and fried foods like burgers and fries before competition. It takes longer to digest and absorb these nutrients, and it makes it very difficult to maximize performance on the field or court if you haven't maximized your pre-game nutrition routine.²

c. Continue to focus on the same pre-game options that we have covered in previous chapters.

d. Focal points include: Lean Proteins, Low Fat, High Carb, High Fluid

i. Lean Proteins include bison, turkey, fish, and grilled chicken, veggie burgers. Lean proteins take less time to digest and absorb. This is NOT the time to crush a fatty burger and fries.

ii. Low fat/High carb include staying away from the fried or buttered items. Instead of the heavy French fries, see if they can do a baked potato option or a rice option! Always see if a vegetable or a fruit can be added or substituted in to your meal.

iii. Fluids include water, Gatorade, PowerAde, iced tea that the vast majority of fast food restaurants have. Stay away from soda before the game!

If you do find yourself sitting in a fast food burger and fried food establishment before a game be sure to stick to the same routine if at all possible. We want lean proteins like grilled chicken,

turkey, fish and bison coupled with healthy carbohydrates including fruits and vegetables, baked potatoes, sweet potatoes, rice, quinoa, breads/pastas. We want to stay away from the fatty foods and fried foods that are still sticking in our gut before we run out to play. Many, if not all, places typically offer some kind of turkey burger or grilled chicken sandwich which will always be a better option than a fatty burger. See if you can substitute the fries with fruit and see if you can have water/Powerade/Gatorade instead of a soda. While this is not ideal, it is certainly better than nothing and it is better than something fried/greasy pre-game.

Plan ahead, pack a cooler, focus on lean proteins and healthy carbs/fluids that are going to help you perform! There will be more information in the handouts below.

ATHLETES TRYING TO GAIN WEIGHT

I meet with many high school athletes who are doing everything possible to gain weight and muscle mass throughout the year. What many athletes and coaches don't realize is that trying to put weight on a high school athlete can be difficult for many reasons that are outside of anyone's control.⁷ Physical maturation of the athlete is a variable that needs to be taken into consideration, and trying to speed this process up is not recommended.⁷ In addition to physical maturation it is also important to focus on the time of year to add muscle and weight. Gaining mass and weight is a great thing to focus on in the off-season or summertime and should not be the main consideration during season.⁷ Many athletes have a tendency to lose weight during the season due to the high demands of their schedule including weight lifting, practicing, and games. *Maintaining* weight during the season is something that should be the focal point, not necessarily putting on lean mass.⁷ In addition to this, we want to focus on a gradual weight gain during the off-season to make sure that the body composition is staying healthy. A gain of one to two pounds per week is on track and should be the focus for adolescent athletes. Results should be driven by a healthy diet plus a weight program to ensure that the gains are lean mass. Any weight gains greater than two to three pounds per week is not

recommended for high schoolers as it is fair to say that the weight being gained is more than just muscle mass.⁷

From my experience in working with hundreds of high school athletes, I can safely tell you that many athletes are undereating on a day-to-day basis in order to simply maintain the schedule and activity that they already have. In order to actually gain weight on top of that, we have to look at adding even more calories on top of that. Remember, most of your athletes are skipping breakfast and showing up to practices already dehydrated and under fueled. Maintaining their weight and body composition is hard enough through the season, we have to be very dialed in just to do that. I ask the many athletes I meet with to take me through a typical day from a diet and hydration standpoint. At least 90% of the athletes I work with, regardless of whether they are trying to gain weight or lose weight, are still not eating enough. I strongly recommend that you have your athletes meet with either their pediatrician or a dietitian in order to get an estimate of the calories they are taking in and get an estimate of the calories they need. Once that is established, we can fully gauge and estimate how much more they need to be eating in order to gain weight.

In addition to the added calories, it can be recommended that athletes trying to gain weight aim for the upper end of the recommendations of protein in order to ensure that the added weight comes primarily from muscle.⁷ Back in Chapter 4 we established that recommendations for those competing in sports or starting a training program can aim between 1.0-1.5g/kg of protein per day. We want the weight being added to be healthy muscle mass and not fat mass. Eating enough protein and even at slightly higher levels is one way that we can make sure that this happens.

APPLICATION:

In order for athletes to gain weight, I recommend we push an additional 500-1000 calories per day in order to gain the necessary weight.⁷ Keep in mind, these athletes need to make sure they are eating and drinking enough to hit their needs *first* before we start adding an additional 500-1000 calories per day. So how do we do this?

We want to start with increasing the frequency of our meals. Many athletes MIGHT eat three times per day when the reality is, they need to be eating closer six times per day.

- Breakfast
- Snack
- Lunch
- Snack
- Dinner

Maybe your athletes are having a tough time gaining weight. Are they eating six times per day? Just simply adding two meals per day for an athlete who is skipping breakfast and an afternoon snack can be the difference in substantial healthy weight gain. In addition to the frequency of eating, we need to make sure that these athletes are also eating MORE calories during the day. As I mentioned before, simply adding a couple snacks can be the way to get another 500 calories per day. There are many strategies to add an addition 500-1000 calories per day. How to make it sustainable? Below are some ideas that are both healthy from a nutrition standpoint and also practical that can be easily implemented on a day-to-day basis.

Shakes and Smoothies: By far the easiest way to get an extra 500-1000 calories per day. Shakes can be made the night before and can be ready for the next day. Shakes can also be utilized nicely before bed and/or after dinner. Let's say your athlete has been holding his weight but can't seem to gain. That same athlete could potentially keep doing exactly what he is doing but add a nighttime shake before bed. Over the course of the week he could have an additional 5000-7000 calories throughout the week. If that same athlete continues to maintain the eating habits he has, and he simply adds a shake before bed and an additional high-calorie shake, we could be looking at an additional 10,000-12,000 calories per week in healthy calories to help facilitate that weight goal weight gain. Take a look at the options below for some quick and practical ideas to help your athlete gain healthy weight.

SMOOTHIE RECIPE:

Recipe #1-Chocolate/Banana Peanut Butter	Calories	Protein
8 oz low fat chocolate milk	140	8g
1 Banana	105	1g
1 cup raw oats	360	12g
2 Tbsp peanut butter	190	7g
1/2 cup granola	270	6g
Blender plus Ice	0	0
Totals	1,065	34g

Calories and protein are an estimation and could vary depending on brand

Recipe #2-Berry Banana	Calories	Protein
8 oz almond milk	35	1g
1 cup frozen strawberries	50	<1g
½ cup frozen blueberries	40	<1g
½ cup frozen raspberries	130	<1g
1 banana	105	1g
1 cup Greek yogurt	220	20g
1 Tbsp Honey	64	0g
Blender and Ice	0	0g
Totals	644	25g

Calories and protein are an estimation and could vary depending on brand

Recipe #3-Cinnamon Almond	Calories	Protein
1 Vanilla Ensure	220	9g
½ Tsp cinnamon	3	0g
4 oz almonds	655	24g
1 banana	105	1g
Blender and Ice	0	0g
Totals	983	34g

Calories and protein are an estimation and could vary depending on brand

Recipe #4-Green Anti-Inflammatory Smoothie	Calories	Protein
8 oz. 1% Milk	96	7g
1 cup pineapple	82	<1g
1 cup spinach	7	<1g
1 banana	105	1g
1 avocado	322	4g
½ cup kale	17	1g
Totals	629	15g

Calories and protein are an estimation and could vary depending on brand

HIGH CALORIE SNACKS FOR THAT EXTRA 500-1000 CALORIES PER DAY

Recipe #1 Power Oatmeal	Calories	Protein
1 cup oatmeal	158	6g
1 Tbsp peanut butter	94	4g
2 oz sliced almonds	241	9
1 oz dried fruit	102	<1g
1 Tsp brown sugar	17	0
Totals	612	19g

Calories and protein are an estimation and could vary depending on brand

Recipe #2 Trail Mix and Apple	Calories	Protein
4 oz trail mix	524	15g
1 whole apple	95	<1
Totals	619	15g

Calories and protein are an estimation and could vary depending on brand

Recipe #3 Greek yogurt/Granola Bowl	Calories	Protein
1 cup Greek Yogurt	120	22g
½ cup protein granola	210	10g
1 cup strawberries	48	<1g
1 oz Chia	138	4g
Totals	516	36g

Calories and protein are an estimation and could vary depending on brand

Recipe #4 PBB&J and Chocolate Milk	Calories	Protein
2 pieces whole wheat bread	138	7g
2 Tbsp peanut butter	188	8g
2 Tbsp jelly	112	0g
1 medium banana (sliced)	105	1g
8 oz low fat chocolate milk	190	10g
Totals	733	26g

Calories and protein are an estimation and could vary depending on brand

Recipe #5 Raisin Bran and KIND Bar	Calories	Protein
1.5 cups Raisin Bran	282	7g
1 cup whole milk	137	9g
KIND Bar	180	4g
Totals	599	20g

Calories and protein are an estimation and could vary depending on brand

Recipe #6 Bar/Jerky/Fruit	Calories	Protein
Clif Bar Protein Bar	280	20g
2 oz Beef Jerky	160	22g
1 Peach	60	1g
Totals	500	43g

Calories and protein are an estimation and could vary depending on brand

Recipe #7 Turkey/Cheese Wrap	Calories	Protein
1 medium tortilla	140	4g
6 oz turkey deli meat	183	30g
2 slices cheddar cheese	226	14g
Bag of sun chips	210	3g
4 oz carrots with low fat ranch	79	<1g
Totals	838 Calories	51g

Calories and protein are an estimation and could vary depending on brand

Helping your athletes gain weight and muscle mass is another example of a classic example of something that gets taken too far and is often times overanalyzed by players, coaches, and parents. Typically I get questions that start with “what supplement can I take to gain weight?” That is the wrong way to start the conversation. The question is not about what supplement to take. The question should be how many more CALORIES should I be eating in order to gain the healthy weight that I need. Remember, from a growth and maturation standpoint your athlete may simply need more time for that maturation to occur. If your athlete is physically at the stage where this growth can occur, the question becomes more about trying to find strategies to gain the weight needed which starts with trying to eat an additional 500-1000 calories daily.⁷ As mentioned before, MANY athletes are already not eating enough to match the needs that they have to compete, lift, and practice etc. So, when we factor in that fact plus the fact that we need an additional 500-1000 calories daily, your athletes may be 1500-2000 calories short per day to achieve this weight gain.

Eat more frequently and focus on calorie-dense foods that are quality protein sources and you can rest assured that your ath-

lete will start to gain healthy weight. Eat an additional 500-1000 calories per day above your athlete's estimated needs and focus on recovering properly after practices, lifts, and games and that will also help the process of gaining healthy weight.⁷

SLEEP AND HIGH SCHOOL ATHLETES

I really can't say it enough. I don't think people really pay enough attention to how important sleep is." –Michael Phelps

Sleep is one of the most overlooked and underappreciated aspects of an athlete's performance that there is, at every level from junior high to professional sports. Having said that, it is almost the easiest thing to control and fix!

Navin Hettiarachchi, Director of Athletic Performance for the Washington Wizards had an excellent quote that I think really applies to high school athletes as much as professional athletes. He said "Athletes spend hours in the training room on recovery modalities and treatments. They only get 5-6 hours of sleep. Sleep is the best recovery! Sleep is 90% of recovery, regeneration and repairing the body and mind. Everything else is 10%."

Sleep, in my opinion, is by far the most cost-effective form of recovery and enhanced performance that is available. **Research tells us that adolescents need at least nine hours of sleep per night, and that the majority of them are getting between 7.5 and 8.5 hours per night on average.**¹³ There are a variety of reasons why high school student athletes are not getting enough sleep which include: shifts in circadian rhythm, going to bed later, kids staying

on electronics including social media and video games through the late hours of the night.¹³ The schedule demands of high school athletes are increasingly grueling. Many student athletes have practice after school and then come home and have to do homework. There are certainly times that make it nearly impossible to get the recommended 9 hours of sleep per night. As mentioned in previous chapters, caffeine intake and energy drink intake is on the rise, which also makes it difficult for kids to fall asleep at night, which further validates that we need to educate and keep kids away from energy drinks.¹³

When we look at sleep and high school athletes there are a couple different areas of interest that I think are valuable for coaches. The impact of sleep on high school athletes impacts both athletic performance and academic performance, which are both extremely important for obvious reasons.

SPORTS PERFORMANCE AND SLEEP:

In addition to recovery, sleep is one of the most underappreciated forms of sports performance. Not getting adequate sleep has shown to increase the risk of injury! One study showed that athletes are 65% more likely to get injured if they are sleeping on average less than 8 hours per night!¹⁴ There isn't anything more frustrating that for you as a coach to go through scouting, practices, making sure your kids are hydrated and fueled, all for them to still get injured because of chronic sleep loss. It doesn't matter if we are looking at studies done on major league baseball players or elite collegiate swimmers; the research has shown time and time again that the more we sleep, the better our reaction time is, and if we don't get optimal sleep our reaction time can diminish.¹⁵ There is even data

showing that a lack of sleep can significantly impact the gains (or lack thereof) in the weight room while lifting weights.^{17, 18} Studies have shown that human growth hormone also gets released when we are sleeping, so not getting adequate sleep can certainly negatively impact how much human growth hormone is released, if at all, depending on your sleep quality.¹⁹ I have spoken to countless high school student athletes who have told me that sleeping less than five hours per night is kind of the norm! There has also been research that shows not getting adequate sleep at night can impact mood and could even contribute to depression!¹⁶

ACADEMICS:

It isn't just athletic performance that gets affected by a lack of sleep. There are countless studies that show a correlation between lack of sleep and a lower GPA.²⁰ On the flip side of that, there is data that shows higher grades for those kids that can extend sleeping periods over the course of a week, even if it is small amounts.²¹

APPLICATION FOR COACHES:

The good news about not getting adequate sleep at night is that it can be corrected and changed through small modifications and changes that can happen over time. We don't need to make giant steps here but even 30 minutes per night more of sleep can yield phenomenal results and stack up over time to keep student athletes healthier throughout the long season.

- Encourage and educate your kids to go to sleep 15 minutes earlier every night. Believe it or not, 15 minutes can be crucial from a recovery and hormonal standpoint with adolescents, especially when added up over time!

- Kids should turn off all electronics before they go to sleep.
- Develop a routine. Do the same thing every single night 20-30 minutes before you go to bed in order to wind down. Maybe your athletes can stretch during this time!
- Have your players make your room like a cave. It should be dark, cool, quiet, and comfortable.
- No energy drinks or coffee before bed for any reason.
- Don't be afraid to take naps! Limit it to 20-30 minutes at a time, in order to prevent our body from hitting deep sleep.

EARLY MORNING PRACTICES:

This may be unpopular, especially for coaches that like to practice early in the morning. I simply do not recommend high school athletes consistently practice early in the morning, if at all possible. I understand that due to many unforeseen circumstances this has to happen on occasion, which is fine. I am specifically talking about practicing in the morning consistently on a day-to-day and week-to-week basis. The science behind the impact of sleep and the toll that it takes on recovery, physical and cognitive performance, and injury risk/sickness is too extensive to ignore. In my opinion, the benefits of getting your kids extra sleep far outweighs the benefits of you practicing/conditioning in the morning. It also is much easier to control when our student athletes wake up in the morning than control when they go to bed. We have all fought the battle to get our kids to go to sleep at a better time, only to find out that they were up playing video games until one in the morning. Eventually, however, they will fall asleep, and if we can get them to sleep an extra hour it will have huge benefits on their health. Many of your athletes may already be conscious of the importance of sleep but

due to their busy schedules they may be still only getting 7-7.5 hours of sleep each night. Allowing these kids to get an extra hour of sleep pushes them to 8-8.5 hours which is so much better than 7-7.5, especially when added up over time.

The bottom line with sleep is that it HAS to start becoming a routine and be viewed as equally important as everything else that your athletes do. We have clearly showed through science that high school athletes who don't get adequate sleep at night have added difficulty in the weight room, difficulty in the classroom, and on the court or field from a cognitive and physical performance standpoint.^{13, 14, 15, 16, 17, 18, 19, 20, 21}

We have also shown that sleep-deprived athletes increase risk of injury by upwards of 68% in some studies.²² This is amazing but often times underappreciated!

Sleeping is just as important, if not more important than lifting weights and practicing every single day in my opinion. The issue we have is that it is not viewed as such. Coaches, educate your team on sleep. It is truly simple. Adding just a little bit of sleep to the athlete's day-to-day routines will yield huge gains.

DIETARY SUPPLEMENTS AND ENERGY DRINKS

Dietary supplements and energy drinks are one of the most heavily marketed drinks toward youth and adolescents. Let's establish this from the beginning. Sports drinks are not energy drinks, and energy drinks are not sports drinks. Sports drinks and energy drinks are very different beverages.

The American Academy of Pediatrics defines a sports drink as a “beverage that may contain carbohydrates, minerals, electrolytes, and flavoring, and are intended to replenish water and electrolytes lost through sweating during exercise.”²³ Notice this definition did not mention anything about caffeine, guarana, taurine, or other stimulants that are commonly found in energy drinks. Sports drinks like Gatorade and Powerade were, in fact, designed for athletes to replenish glucose/fuel and electrolytes to help with hydration. These sports drinks contain many ingredients that are backed by science and research to help athletes perform at the highest level and to optimize performance during competition.

Energy drinks typically come in fancy cans that are marketed and distributed to high school athletes and have claims that help boost energy and performance. They often times contain caffeine, taurine, herbal supplements and usually have claims all over them

saying that it will help with stamina and athletic performance. The primary concern we have with high school athletes consuming energy drinks is the caffeine content and other stimulant content in the product. Since the majority of energy drinks are unregulated, it doesn't mean that all of the caffeine actually has to be reported or listed in the ingredient list label. An athlete may think they are simply getting 80mg of caffeine but in fact they could be getting as much as *three to four times* that depending on the product. Many energy drinks also contain additional ingredients like guarana and yerba mate that also contain caffeine. In fact, research shows that every 1g of guarana contains 40mg of additional caffeine.²² I would never expect the average person to know this or understand this, which means that the average high school kid does not understand this. The bottom line is that we want to direct our kids away from these supplements. They were not designed for athletes, especially high school athletes.

RESEARCH:

Research has indicated that anywhere between 30-50% of adolescents and young adults have consumed energy drinks.²⁴ That means that if you have 60 kids on your football team, statistically 18-30 of them have consumed an energy drink at one point. In 2007 there were 5,448 cases of caffeine overdose and 46% of those cases were in kids under the age of 19-years-old.²⁴ The energy drink market is a multi-billion dollar industry, and much of it is unregulated. Many of the energy drinks on the market today have two to three times the amount of caffeine than in a typical 8oz soda.

APPLICATION:

- Simple: Coaches, direct your athletes AWAY from dietary supplements and energy drinks.
- The vast majority of athletes are doing all the important things the wrong way. This includes sleeping correctly, fueling/refueling/recovering properly, and hydrating properly. Make sure they are doing these things before they resort to energy drinks.
- If you see your athletes consuming these beverages ask them if they are doing the other things to make them have better energy.
 - Ask them how well they are sleeping. This impacts their energy levels.
 - Ask them if they ate breakfast and lunch. This impacts their energy levels during practices/games.
 - Ask them if they are well hydrated. This impacts their energy levels during practices/games.
 - Ask them if they truly know the caffeine content of the drink they are consuming. Many energy drinks contain a lot of sugar, which can certainly impact performance and energy levels in a negative way if they are putting the wrong kinds of things in their body.

From my experience in working with high school athletes for the last decade, I can tell you that the vast majority of athletes are not doing the IMPORTANT and IMPACTFUL things the right way. Most athletes are not hydrating properly before games, fueling up with healthy carbohydrates and lean proteins before games, RE-fueling during games, recovering properly after practices/lifts/

games, sleeping eight hours per night, and many athletes are skipping meals, primarily breakfast. All of these issues can impact an athlete's performance by not giving them the energy that they need to compete at the highest level! These same athletes that are missing these impactful areas are the first ones to go to the gas station and get an energy drink because they are tired and fatigued. The mindset is backwards with these athletes. If we can educate our athletes on doing the right things nutritionally, getting adequate sleep and hydrating properly, I firmly believe there would not be a use and a need for them to go get energy drinks before practices and games. As coaches, we want what is best for our athletes. We want them to do the right things and take care of their bodies. As a coach, I would strongly encourage you to stay away from these energy drinks and direct them to do the right thing in the other areas! Stay away from energy drinks.

TOP 5 KEYS TO SUCCESS

We obviously live in a culture where athletes at all levels are constantly trying to gain that “edge” to attain maximum ability and performance in their respective sports. Parents are spending thousands of dollars to help their kids reach their full ability. Growing up an athlete myself with parents that were coaches, I can certainly respect the passion and drive that many parents and athletes have for their sports. Having said that, after working with hundreds and hundreds of athletes in my lifetime, I can tell you without a shadow of a doubt that 95% of athletes are not doing all five of the “Top 5” things that can help them the most on the field and/or court. The five most impactful keys that you can help your athletes with are:

- 1. Recovery**
- 2. Sleep**
- 3. Hydrating properly**
- 4. Fueling up properly**
- 5. Staying away from energy drinks**

I hear all the time from coaches and parents that say they have zero money to provide recovery shakes for their teams or healthier options after road games when they are on their way home. Here is the thing. Three of the five keys to success listed above COST ZERO DOLLARS. It doesn't cost more money to sleep, drink water, or stay away from energy drinks. Statistically speaking, a huge percentage of high school athletes are not sleeping enough and are not hydrating properly which makes them feel tired and sluggish, which makes them think they need an energy drink. It is vicious cycle. I also have shown you in previous chapters that it doesn't that much money to recover your teams either with some low fat chocolate milk and water!

You often times hear people say, "Take care of the little things and the big things will take care of themselves." This rule doesn't apply for nutrition. These five keys above are *big things* and they are important things if you want your athletes to stay healthy. These five keys are simple and easy to do most of the time, but are often times missed. They are missed for one of two reasons. Either coaches and student athletes already know what to do and they don't think it is important (small percentage of this group I am assuming). Or, (more likely) coaches and athletes know it is important but don't know how to apply it. I hope to dive into more detail on HOW to do this so that you have the tools in your toolbelt

to educate your athletes, which helps them in so many areas, including performance on the field and/or court.

In the following pages we go into more detail on sports-specific recommendations for high schools based on intensity and longevity of the respected sports. We also include handouts and 1-pagers that your coaches can have and even make copies for their athletes to take home. In addition to the handouts for the coaches and players, I have included some handouts that can be given to parents as well to help them help their kids realize their full potential from a nutrition standpoint.

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SPORTS NUTRITION FOR HIGH SCHOOL BASKETBALL

Game Day/Practice Day Education for Parents and Coaches

Many high school athletes go in to practices and games dehydrated and not fueled properly for the game. In addition to hydration and proper fuel, it is extremely important to get recovered within 30 minutes of coming off the court after practice or games.

- Step 1: Sleep! Put the video games down, turn off the phone, and get nine hours!
- Step 2: Fuel up with a great pre-game meal aiming for food that contains 65% carbohydrates and lean proteins. Drink water or a glass of milk with your meal.
- Step 3: Have a great pre-game snack two to three hours before tip-off! Top off the gas tank! Have a banana with a granola bar and drink 8 oz of water!
- Step 4: During the game, focus on fluids and carbohydrates! Carbs = Energy. Hydrate with water and Gatorade, and don't be afraid to have some honey stinger chews or a bite of banana at half time and time-outs.
- Recover! Within 30 minutes of the game ending, get some carbs and protein AND fluids. Carbs replenish muscle glycogen and protein helps rebuild and repair muscle.

HYDRATION

Take advantage of timeouts—Water or sports drinks! Sports drinks = Better for higher minute players!

- 3-4 hours before game = 16-20 oz
- During game—7-10 oz every 10-20 minutes
- Post game—16-24 oz per pound lost
- Drink during timeouts, halftime, and when substituted!

PRE-GAME/HALF-TIME SNACKS

More gas in the gas tank! Carbs!

- Orange slices
- Bananas
- Sports Drink
- Chewy granola bars
- Pretzels
- Goldfish

FUEL ON THE BENCH

Sports drinks are easiest thing to have on the bench and it helps with both hydration AND getting enough carbohydrates. Other options include:

- Sports Gels
- Sports Chews (Gatorade Chews, Stinger Chews, Clif Chews)
- Orange Slices
- Nutrigrain bars or Granola bars (cut up in bite size squares)

RECOVERY

Extremely important, especially if you have a game the next day! Pick 1

- Banana, 2Tbsp peanut butter
- 8 oz low fat chocolate milk
- Ham and cheese sandwich with mustard
- Chicken Caesar wrap
- Greek yogurt with protein granola
- Clif Bar Recovery or Gatorade Recovery Bar

Sports Nutrition for Volleyball

Game Day/Practice Day Education for Parents and Coaches

Being properly fueled before the game and properly fueling throughout the game is going to be crucial in order to maximize performance! We are aiming for 30-60g of carbohydrates per hour that your athletes are on the floor! Sports drinks, fruit, energy gels and chews, granola bars, Fig Newton bars are all quick and easy options to have on the bench. Many coaches/parents want to know what to pack for tournaments when there may be multiple matches played during the day. This can get tricky depending on the length of time in between matches. You HAVE to pack a cooler. I can't think of anything worse than not planning ahead and you finding your athletes wandering around the concession stand in between matches. If you have more than two hours in between matches, we can focus primarily on carbohydrates with protein. If less than two hours in between matches, let's focus primarily on carbohydrates. We also do not want a lot of fat in our diet, as it takes longer to digest than leaner sources of protein and could potentially make you feel heavy before the next match!

Eat a great pre-game meal the night before the tournament followed by a great breakfast on game day! 65% of your plate should come from carbohydrates! Don't forget to hydrate! Pack water and/or sports drinks to sip on throughout the day.

HYDRATION

Take advantage of timeouts—Water or sports drinks! Sports drinks = Better for higher minute players!

- 3-4 hours before game = 16-20 oz
- During game—7-10 oz every 10-20 minutes
- Post game—16-24 oz per pound lost
- Drink during timeouts, halftime, and when substituted!

COOLER SNACKS!

More than 2 hours in between matches:

- Peanut butter and jelly sandwich and grapes
- Pre-made strawberry banana smoothie made with almond milk and strawberry Greek yogurt
- Veggies with hummus
- ½ turkey and cheese sandwich
- Trail mix and banana
- Hard boiled egg and sliced watermelon
- Water and sports drinks
- Apple with peanut butter
- Yogurt and granola

Less than 2 hours in between matches:

- Fresh fruit including grapes, sliced watermelon, orange slices, pineapple
- Mini-bagels with low fat cream cheese
- Granola bars
- Gold fish
- Nutrigrain bars
- GoGo Squeeze applesauce packets
- Granola bars
- Raisins
- Graham crackers
- Energy chews or gels
- Sports Drink
- Pretzels
- Fig Newtons
- Popcorn

FUEL ON THE BENCH

Sports drinks are easiest thing to have on the bench and it helps with both hydration AND getting enough carbohydrates. Other options include:

- Sports Gels
- Sports Chews (Gatorade Chews, Stinger Chews, Clif Chews)
- Orange Slices
- Nutrigrain bars or Granola bars (cut up in bite size squares)

RECOVERY

Extremely important, especially if you have a game the next day! Pick 1

- Banana, 2Tbsp peanut butter
- 8 oz low fat chocolate milk
- Ham and cheese sandwich with mustard
- Ready to Drink Protein Recovery Shakes including:
- Rockin Refuel
- Chicken Caesar wrap
- Greek yogurt with protein granola
- Clif Bar Recovery or Gatorade Recovery Bar
- Gatorade Shakes

Nutrition for Baseball and Softball

Game Day/Practice Day Education for Parents and Coaches

Many baseball players tell me they don't feel like nutrition is that important in the game of baseball because they aren't running around as frequently as a basketball or soccer player. While energy demands tend to be lower than these other sports, the importance of hydration and mental performance is extremely important. We have to fuel our brains in order to be able to think quickly on our feet and make important decisions. Not fueling the right way can negatively impact this. Hydration is extremely important for baseball and softball players as well, depending on the humidity and temperature outside during the game.

HYDRATION

Take advantage of timeouts—Water or sports drinks! Sports drinks = Better for higher minute players!

- 3-4 hours before game = 16-20 oz
- During game—7-10 oz every 10-20 minutes
- Post game—16-24 oz per pound lost

DUGOUT SNACKS

Primary focus is on carbs but some light/moderate protein can be beneficial to keep on hand preventing your athletes from getting hungry.

Options include:

- Energy balls (see recipe below)
- Sunflower seeds
- Trail mix
- Apples, oranges, peaches, pears
- Beef jerky
- Turkey and cheese sandwich
- Peanut butter and jelly sandwich
- Banana with peanut butter
- Pretzels
- KIND Plus Protein
- Granola bars
- Nutrigrain bars
- GoGo Squeeze applesauce
- Ants on a log (Celery with peanut butter and raisins)
- Animal crackers

One of my favorite dugout snacks includes no bake energy bites: These are quite possibly the best dugout snack available because they provide good carbohydrates as well as some protein to help keep you full! They also taste great and are super easy to make! Here is the recipe!

- 1.5 cups of oatmeal
- $\frac{3}{4}$ cup coconut flakes
- $\frac{3}{4}$ cup peanut butter
- $\frac{3}{4}$ cup dark chocolate chips
- $\frac{1}{2}$ cup honey
- 1 teaspoon of vanilla extract
- Stir all ingredients together in a bowl, let sit in refrigerator for 45 minutes, roll in to small balls about 1-2" in diameter. This recipe should make close to 40 balls!

Sports Nutrition for Cross Country Athletes

Game Day/Practice Day Education for Parents and Coaches

Have you ever heard anyone say, “You cannot out-train bad nutrition?” This is highly accurate and especially important for endurance athletes. Endurance athletes are different than many of the quick-burst sports, which means there is a special emphasis on a few areas that should be taken seriously. Many high school athletes are burning a tremendous number of calories on a daily basis due to high practice demands, which means sleep and recovery become absolute necessities. In addition to that, the pre-event topping off of fuel stores is going to be extremely important as well! Other sports may be able to get away with not recovering properly Monday through Friday and potentially being able to suffer through a game. While that is not optimal or recommended, cross-country athletes DO NOT get that luxury. It is just as important to recover, sleep, and top off glycogen stores before practice as it is before the event.

LARGE EMPHASIS ON SLEEP!

Not sleeping enough can drastically increase the chances of getting injured.

You NEED 9 hours of sleep each night. If you take training and competing seriously, getting adequate sleep will help you recover, which is vital for cross country athletes.

Make your room like a cave! It should be dark, cool, quiet, and turn OFF electronics!

Do not be afraid to nap! 20-30 minute naps are optimal!

PRE-EVENT TOP OFF CARB STORES

1-2 hours before your event it is time to top off your fuel stores with carbohydrates!

- | | | |
|------------------------------------|---------------------------------|-------------------------|
| • Fig newtons | • GoGo Squeeze applesauce packs | • Granola bar |
| • Animal crackers | • Pretzels | • Handful of dry cereal |
| • Small bowl of oatmeal with fruit | • Sports Drink | • Energy chews or gels |
| • Nutrigrain bars | • Banana | • Small fruit smoothie |

FOOD = FUEL

RECOVERY IS VITAL! NO EXCEPTIONS!

Focus on carbs AND protein along with fluids!

- | | |
|------------------------------------|-------------------------------------|
| • Trail mix with pretzels | • Gatorade bar |
| • Peanut butter and jelly sandwich | • Clif Recovery Bar |
| • Low fat chocolate milk | • Greek yogurt with protein granola |
| • Banana with nut butter | |

HYDRATE!

Hydration is absolutely vital for endurance athletes. Diet does not mean anything if you are going in to practices and events in a dehydrated state. You cannot afford to get behind. Weigh yourself before and after long practices and events.

Drink 16-24 oz of fluid for every pound lost during these practices/events!

Sports Nutrition for Track and Field

Game Day/Practice Day Education for Parents and Coaches

Plan ahead! If you wake up on the day of the event and you haven't thought about what you are going to eat, drink, and pack for the day you are letting your coaches down, team down, and yourself down. Track and field athletes need to understand that event days are often all day long, which means the single most important thing they can do is pack a great cooler for the day! Not packing a cooler makes it nearly impossible to fuel or hydrate properly.

COOLER – PRE-EVENT CARBS

Pre-event Options to Top off Fuel Tank!

- Bagel bites
- Goldfish
- Dried Fruit
- Pretzels
- Banana
- GoGo squeeze applesauce
- Orange slices
- Red/green grapes
- Watermelon
- Fig Newtons
- Animal Crackers
- Popcorn
- Energy chews and energy gels
- Peanut butter and jelly
- Pineapple with cottage cheese
- Cereal with low fat milk
- Sports drinks containing a 6% carbohydrate solution
- Water, Water, Water

COOLER – IN-BETWEEN-EVENTS SNACKS

Great options for >2 hours in between events. These snacks contain protein to help with muscle repair and to keep you feeling full AND carbohydrates to replenish glycogen stores and refuel muscles.

- String cheese
- Greek yogurt with granola
- Peanut butter and jelly
- Beef jerky
- Hard boiled egg
- Turkey and cheese wrap or sandwich
- Graham crackers and peanut butter
- Special K cereal with low fat milk
- Pita chips and hummus
- Apple slices

COOLER – POST-EVENT RECOVERY

Recovery Options after Events

- Gatorade recovery bar
- Low fat chocolate milk
- Banana with peanut butter
- Clif Builder bar and piece of fruit
- Greek yogurt with granola
- Shamrock farms Rockin Protein Recovery
- Orgain nutritional shake
- Beef jerky and banana

If you want to be an elite athlete you have to take recovery seriously and take care of your body.

<https://freerangela.com/best-meal-prep-bag-reviews/>



Sports Nutrition for Football

Game Day/Practice Day Education for Parents and Coaches

Football is a sport that requires attention to a few particular areas when it comes to nutrition. Recovery nutrition, maintaining weight and muscle mass, and staying away from the temptation and peer pressure of dietary supplements is extremely important. The other important key is making sure athletes are re-hydrating after practices and games considering the fact that it is not uncommon for high school athletes to lose between 3-8 lbs of fluids per practice from my experience. The risk for dehydration is high for football players, especially in hot and humid climates. A simple drop in weight by 2% can have serious performance issues and cause dehydration, which hurts your performance and the team's performance.

COACHES: It is important that you allow adequate time for your players to hydrate during practices. Dehydrated athletes will not help your team win or make them tougher. A dehydrated athlete is an athlete that potentially may not help you at all because they have an increased risk of injury

DIETARY SUPPLEMENTS AND ENERGY DRINKS

Dietary Supplements and Energy Drinks. Stay Away!

I do not recommend dietary supplements for high school athletes. Many energy drinks are not regulated, come in fancy cans, don't do what they claim to do, and are heavily marketed to young athletes.

HYDRATION

Many high school athletes show up to practices and games already in a dehydrated state, which increases the chances that they get injured and have a decrease in performance! Be sure to hydrate throughout the day and don't forget to hydrate during games, even in cold-weather games! Recommendations for football players include:

- 3-4 hours before game = 16-20 oz
- During game—7-10 oz every 10-20 minutes
- Post game—16-24 oz per pound lost and the focal point can be rehydrating with water as the primary liquid.

HIGH CALORIE SMOOTHIE RECIPES

Chocolate Banana Peanut Butter

- 8 oz low fat chocolate milk
- 1 Banana
- 1 cup raw oats
- 2 TBSP peanut butter
- ½ cup granola
- 1,065 Calories and 34g of protein!

Sports Nutrition for Golf

Game Day/Practice Day Education for Parents and Coaches

Nutrition for golfers is extremely important for not only your muscles but for your brains as well! The two areas that I see golfers struggle with the most from a nutrition standpoint are not staying properly hydrated and not fueling up throughout the rounds in order to keep energy up. Both improper fueling and dehydration can both cause muscle fatigue and also cause you to not think as clearly as you otherwise would have. Proper fueling starts anywhere between 3-4 hours before your round, and it is just as important as other sports. Make sure we are getting a great balance of carbohydrates for fuel, and lean proteins to help keep us full and for muscle regeneration. Proteins should be lower in fat since it takes longer to digest and absorb high-fat options. On-course snacks are going to be vital for being able to keep putting gas in the gas tank. The last thing you want is to have a great pre-round meal and not refuel throughout the round. If possible, packing a small portable lunch box is absolutely optimal and ideal for golfers! Lastly, don't forget that you are still burning fuel and losing fluids during practice rounds or during anything you do before the rounds start. Keep this in mind as you will need to be fueling and hydrating during this time as well.

PRE-ROUND FUELING

3-4 hours before the first hole!

- Spaghetti with meat sauce and cup of vegetables
- 6 oz grilled chicken, 1 cup brown rice, 1 cup vegetables
- Omelet, cup of fruit, 2 pieces of toast
- Bowl of oatmeal with sliced almonds and dried fruit
- Chicken burrito with black beans, lettuce, tomato, cheese

HYDRATION

Many high school athletes show up to practices and games already in a dehydrated state, which increases the chances that they get injured and have a decrease in performance! Be sure to hydrate throughout the day and don't forget to hydrate during games, even in cold-weather games! Recommendations for football players include:

- 3-4 hours before game = 16-20 oz
- During game—7-10 oz every 10-20 minutes
- Post game—16-24 oz per pound lost

Sip drinks in order to not feel so full while competing.

DURING-ROUND FUELING

Snacks should occur every 6 holes and be a blend of carbs AND lean protein. Athletes need 30g of carbs per hour!

- Water or sports drinks
- Whole fruits like apples, oranges, bananas
- Trail mix (small amount)
- ½ turkey and cheese sandwich
- Banana with peanut butter
- Beef jerky and string cheese
- Granola
- Celery with peanut butter
- Clif Bar
- Purely Elizabeth Bar
- Honey stinger protein bars
- Whole wheat Fig Newtons

A great on-course snack to have is no-bake energy bites: This option is great because it provides good carbohydrates as well as some protein to help keep you full! They also taste great and are super easy to make! Here is the recipe!

- 1.5 cups of oatmeal
- ¼ cup coconut flakes
- ¼ cup peanut butter
- ¼ cup dark chocolate chips
- ½ cup honey
- 1 teaspoon of vanilla extract
- Stir all ingredients together in a bowl, let sit in refrigerator for 45 minutes, roll in to small balls about 1-2" in diameter. This recipe should make close to 40 balls!

Sports Nutrition for Gymnastics

Game Day/Practice Day Education for Parents and Coaches

Our primary focal point with nutrition when it comes to gymnastics is the constant refueling that is needed in between events and during rigorous practice days. I often see gymnasts do a great job the night before and the morning of, from a fueling standpoint, but they often times don't refuel during the day which can deplete muscle glycogen stores and negatively impact performance! Due to the nature of their sport and sometimes the extreme attention to body weight/body fat, it is extremely important that gymnasts get proper calcium in their diets for bone development and bone support. Typically fluid losses with gymnasts are lower than other athletes in other sports, but from my experience many gymnasts tend to be a little dehydrated going into practices and event days which means it is vital to make sure you are hydrated with water and occasional sports drinks.

COOLER -- PRE-EVENT CARBS

Pre-event Options to Top off Fuel Tank!

- Bagel bites
- Goldfish
- Dried Fruit
- Pretzels
- Banana
- GoGo squeeze applesauce
- Orange slices
- Red/green grapes
- Watermelon
- Fig Newtons
- Animal Crackers
- Popcorn
- Energy chews and energy gels
- Peanut butter and jelly
- Pineapple with cottage cheese
- Cereal with low fat milk
- Sports drinks containing a 6% carbohydrate solution
- Water, Water, Water

COOLER – IN-BETWEEN-EVENTS SNACKS

Great options for >2 hours in between events. These snacks contain protein to help with muscle repair and to keep you feeling full AND carbohydrates to replenish glycogen stores and refuel muscles.

- String cheese
- Greek yogurt with granola
- Peanut butter and jelly
- Beef jerky
- Hard boiled egg
- Turkey and cheese wrap or sandwich
- Graham crackers and peanut butter
- Special K cereal with low fat milk
- Pita chips and hummus
- Apple slices

HIGH CALCIUM CONTAINING FOODS

- Low fat dairy like yogurt, cheese, milk
- Tofu
- Nuts and seeds
- Green Leafy Greens
- Sardines
- Baked Beans
- Cottage Cheese
- Baked Beans



Sports Nutrition for Hockey

Game Day/Practice Day Education for Parents and Coaches

Hockey is a sport that requires athletes to do EVERYTHING the right way in order to stay healthy and on the ice for an entire season. The most important things for hockey players to do include: refueling on the ice during games and during intermission, recovering properly, eating enough calories to keep weight on, and SLEEPING! Not doing even one of these things can negatively impact how you feel, not only day to day when you are practicing or playing, but also how you will hold up through the long season. The games are simply too long for you to make it without refueling during intermission. Also, as crazy as many hockey schedules are (practices, lifting weights, etc.) recovery nutrition is not optional, it is mandatory if you want to hold weight and muscle mass!

INTERMISSION AND PRE-GAME SNACKS 1 HOUR BEFORE GAME

Pre-event Options to Top off Fuel Tank!

- Sports Drinks –I recommend sports drinks while on the ice as well for higher-minute players!
- Graham Crackers
- Gatorade Chews
- Fig Newtons
- Pretzels
- Bananas and Oranges
- Rice Crispy Treats
- Chewy Granola Bars
- Animal crackers
- Raisins and dried fruit
- Sports Gels

RECOVERY

Extremely important, especially if you have a game the next day! Pick 1

- Banana, 2Tbsp peanut butter
- 8 oz low fat chocolate milk
- Ham and cheese sandwich with mustard
- Chicken Caesar wrap
- Greek yogurt with protein granola
- Clif Bar Recovery or Gatorade Recovery Bar
- Recovery Shake!
 - 8 oz low fat chocolate milk
 - 1 Banana
 - 1 cup raw oats
- 2 Tbsp peanut butter
- ½ cup granola

MAINTAINING WEIGHT AND MUSCLE MASS

Gaining muscle mass and adding significant weight is best done in the off season. In season, it is about maintaining weight and muscle mass, which at times can be difficult on its own.

- Make sure you are getting enough protein during the day! 1.0-1.5g/kg of body weight. Example: 175 lb athlete = 79.5kg = 79.5g-119g of protein per day.
- Increase overall calories by 500-1000 calories per day
- Make a high calorie smoothie that is loaded with healthy fats and protein

HYDRATION

Take advantage of timeouts and intermissions! Water or sports drinks! Sports drinks = Better for higher-minute players and ideal for hockey!

- 3-4 hours before game--16-20 oz
- During game—7-10 oz every 10-20 minutes
- Post-game—16-24 oz per pound lost
Drink during timeouts, halftime, and during a line change!

Sports Nutrition for Soccer

Game Day/Practice Day Education for Parents and Coaches

Making sure that soccer athletes are fueled appropriately is extremely important. Muscle glycogen coming from carbohydrates are the muscles' number one fuel source and when that runs out, it is extremely common for athletes to feel like they have "hit the wall." Remember, it is not just about fueling up before the game; you have to constantly be REFUELING as well between 30-60g of carbs per hour!

The other area of focus for games like soccer and lacrosse is making sure that we are hydrating with water and other electrolytes, like sodium and potassium that can help improve hydration status. Since athletes have differing sweat rates and sweat loss is dependent on many factors, including clothing and weather, we cannot give a recommendation on how much sodium you should be consuming. However, placing a bit more focus on higher sodium-containing foods while in the middle of the season can be recommended. Consuming drinks like Gatorade or PowerAde can certainly help replace the electrolytes that are lost in sweat. We also need to focus on reducing inflammation, which includes getting adequate sleep and eating foods like a fruits and vegetables, nuts and seeds, and healthy fats!

REDUCING INFLAMMATION

Eat MORE fruits and vegetables and focus on a variety of COLOR!

- Sleep--Make it a focal point
- Berries
- Tart Cherries/Tart Cherry Juice
- Beets
- Flax Seed
- Nuts and Seeds
- Broccoli and Avocados
- Whole Grains
- Green Tea

RECOVERY

Extremely important, especially if you have a game the next day! Pick 1

- Banana, 2Tbsp peanut butter
- 8 oz low fat chocolate milk
- Ham and cheese sandwich with mustard
- Chicken Caesar wrap
- Greek yogurt with protein granola
- Clif Bar Recovery or Gatorade Recovery Bar

HIGHER SODIUM OPTIONS

- Sports Drinks
- Pickles
- Pretzels
- Mustard
- Broth and soup
- Jerky
- Crackers
- Cottage cheese
- Canned beans
- Soy sauce
- Deli meat
- Eggs
- Bread
- Cheese

PRE-EVENT TOP OFF CARB STORES

1-2 hours before game time, it is time to top off your fuel stores with carbohydrates!

- Fig Newtons
- Animal crackers
- Small bowl of oatmeal with fruit
- Nutrigrain bars
- GoGo Squeeze applesauce packs
- Pretzels
- Sports Drink
- Banana
- Granola bar
- Handful of dry cereal
- Energy chews or gels
- Small fruit smoothie

FOOD = FUEL

Sports Nutrition for Lacrosse Athletes

Game Day/Practice Day Education for Parents and Coaches

If you want to compete at the highest level, then you have to take care of your body the right way. This means recovering properly, fueling before games the right way, sleeping the right way, and making sure you are getting enough electrolytes, especially for sports like lacrosse when there is continuous running with little down time. When we look at high school lacrosse athletes, hydration is key. Make sure you are consuming water throughout the day. One hour before and after and DURING the game, I recommend Gatorade or other sports drinks! Since hydration is so important, it is important for you to monitor your weight before and after practices and games! Drink 16-24 oz of fluids for every pound lost during competition! Throughout the day, focus on higher sodium-containing foods as well. With the amount of running that you will be doing, be careful to not overdo the fiber and fat before games as this can cause your stomach to get upset. Focus on quick digesting carbohydrates in order to put fuel in your fuel tank before the big game!

Preparation is extremely important. Plan ahead and remember to pack a cooler with these options below!

LACROSSE --- HIGHER-IMPACT SPORT!

We all know the obvious sports like football and rugby are higher-impact sports. This is obvious to many. However, lacrosse is a higher-impact sport, as well, which means getting adequate protein is important for maintaining muscle mass. Make sure you are getting protein at every single meal! Chicken, turkey, fish, bison, chickpeas, black beans, nuts and seeds/pistachios are all good sources to consume and snack on!

RECOVERY

Recovery is vital! No exceptions! Focus on carbs AND protein along with fluids!

- Trail mix with pretzels
- Peanut butter and jelly sandwich
- Low fat chocolate milk
- Banana with nut butter
- Gatorade bar
- Clif Recovery Bar
- Shelf-stable chocolate milk
- Greek yogurt with protein granola

HIGHER SODIUM OPTIONS

- Sports Drinks
- Pickles
- Pretzels
- Mustard
- Broth and soup
- Jerky
- Crackers
- Cottage cheese
- Canned beans
- Soy sauce
- Deli meat
- Eggs
- Bread
- Cheese

PRE-EVENT TOP OFF CARB STORES

1-2 hours before game time, it is time to top off your fuel stores with carbohydrates!

- Fig Newtons
- Animal crackers
- Small bowl of oatmeal with fruit
- Nutrigrain bars
- GoGo Squeeze applesauce packs
- Pretzels
- Sports Drink
- Banana
- Granola bar
- Handful of dry cereal
- Energy chews or gels
- Small fruit smoothie

FOOD = FUEL

Sports Nutrition for Swimmers

Game Day/Practice Day Education for Parents and Coaches

One of the most common questions I have received from parents and athletes is, "What to fuel up with when I have to be in the water first thing in the morning?" This is a great question. While we typically want a meal 2-3 hours before the competition or practice, this is not always possible due to athletes having to be in the water so early. Having said that, you can't just skip the meal altogether. Make sure you fuel up properly the night before! You know you have to wake up early, so pay attention the night before and make sure you are eating a higher carbohydrate and lean protein meal. This will help your muscles store the energy they need. If you eat poorly the night before and have to be in the water first thing in the morning, it will make it very difficult to have the energy to make it through practices or events. You also need to eat something when you wake up. Make a nice strawberry banana smoothie the night before and have it sitting in the refrigerator waiting for you for when you wake up. If you fuel up properly the night before and you eat something light when you wake up, you can focus on your bigger breakfast after practice gets over.

EARLY MORNING PRACTICE OR EVENT

Make sure you have a good dinner the night before consisting of healthy carbohydrates like pasta with red sauce, brown rice, quinoa, sweet potato, baked potato, vegetables and lean proteins like chicken, turkey, fish, bison. This will help add some gas to the gas tank before you wake up early the next morning. When you wake up, try the following options:

- Pre-made fruit smoothie that you make the night before
- Banana with peanut butter
- GoGo squeeze applesauce
- Granola with Greek yogurt
- Toast with peanut butter and honey
- Granola bar
- Cereal with low fat milk
- Bowl of oatmeal with blueberries

COOLER—PRE-EVENT CARBS

Pre-event Options to Top off Fuel Tank!

- Bagel bites
- Dried Fruit
- Banana
- Orange slices
- Fruit leather
- Red/green grapes
- Watermelon
- Fig Newtons
- Animal Crackers
- Popcorn
- Energy chews and energy gels
- Peanut butter and jelly
- Cereal with low fat milk
- Sports drinks containing a 6% carbohydrate solution

COOLER—IN-BETWEEN-EVENTS SNACKS

Great options for >2 hours in between events. These snacks contain protein to help with muscle repair and to keep you feeling full AND carbohydrates to replenish glycogen stores and refuel muscles.

- String cheese
- Greek yogurt with granola
- Peanut butter and jelly
- Beef jerky
- Hard boiled egg
- Turkey and cheese wrap or sandwich
- Graham crackers and peanut butter
- Pineapple and cottage cheese
- Special K cereal with low fat milk
- Pita chips and hummus
- Apple slices

HYDRATION

Studies have shown that many adolescent swimmers show up to practices and events already dehydrated, and they progressively get more dehydrated throughout practices and events. Don't let this be you!

I recommend monitoring body weight before and after practices to make sure that fluids are being maintained during practices.

- 3-4 hours before practice = 16-20 oz
- Post practice—16-24 oz per pound lost

Sports Nutrition for Tennis

Game Day/Practice Day Education for Parents and Coaches

Carbohydrates are extremely important to tennis players. Not eating enough carbs can really alter your performance in a negative way, and it certainly can increase the chances you get fatigued early. We have all felt that feeling. We feel like we have “hit the wall” and our legs get extremely heavy. This primarily comes from not eating enough carbs and not replenishing carbs during the match. We also need to make sure that we are eating salty snacks and consuming electrolytes and carbohydrates during the match, as you will be playing sometimes hours at a time.

BEFORE BED SNACKS/HYDRATION/SLEEP

Plan ahead! The night before we need a heavier meal focused on carbohydrates coming from pasta with red sauce, quinoa, brown rice, fruits and vegetables.

Hydrate: Drink 16oz of fluid before you go to sleep!

Get a great night of sleep! Make your room like a cave--Dark, Cool, Quiet. Turn off electronics!

COURTSIDE SODIUM AND CARBOHYDRATES

Cramping is common in tennis and it is also preventable! Focus on higher sodium foods, especially

- Sports Drinks
- Pickles
- Pretzels
- Goldfish
- Sports gels and chews
- Dates and Grapes
- Watermelon (cubed)
- Banana
- Crackers and cheese
- Granola bars
- Fig Newtons

RECOVERY

Extremely important, especially if you have a game the next day! Pick 1

- Banana, 2Tbsp peanut butter
- 8 oz low fat chocolate milk
- Ham and cheese sandwich with mustard
- Chicken Caesar wrap
- Greek yogurt with protein granola
- Clif Bar Recovery or Gatorade Recovery Bar
- Recovery Shake!
- 8 oz low fat chocolate milk
- 1 Banana
- 1 cup raw oats
- 2 Tbsp peanut butter
- ½ cup granola

HYDRATION

It is important that we replace electrolytes and carbohydrates during competition. Sports drinks that contain sodium are crucial during breaks along with sodium-containing snacks. Water alone will not work!

During breaks, drink 1-2 “gulps” of fluids and have a small sodium/carb snack!

Each time you change ends, focus on 4 “gulps” of a sports drink and/or water.

Don't let your performance suffer because you are dehydrated!

Sports Nutrition for Wrestling

Game Day/Practice Day Education for Parents and Coaches

It does not matter how good of a wrestler you are, if you are injured and not fueled properly it can lead to injury and it can increase the odds that you get sick and injured. Protein and carbohydrates are BOTH extremely important. Often times, wrestlers tell me that they are on a “high protein” diet. Protein is important, but if you don’t eat enough carbohydrates, it can cause your body to actually burn through muscle mass. Not only will maintaining muscle mass be difficult, but it can cause you to LOSE muscle mass. Carbohydrates are just as important as protein to wrestlers. While you are competing, I recommend sports drinks like Gatorade/Powerade that put back not only carbohydrates but electrolytes as well! Every time you are thirsty, DRINK! Avoid soda and energy drinks! Snack throughout the day and eat a great meal 2-3 hours before your competition!

COOLER SNACKS!

More than 2 hours in between matches:

- Peanut butter and jelly sandwich and grapes
- Pre-made strawberry banana smoothie made with almond milk and strawberry Greek yogurt
- Veggies with hummus
- ½ turkey and cheese sandwich
- Trail mix and banana
- Hard boiled egg and sliced watermelon
- Water and sports drinks
- Apple with peanut butter
- Yogurt and granola

COOLER SNACKS!

Less than 2 hours in between matches:

- Fresh fruit including grapes, sliced watermelon, orange slices, pineapple.
- Mini-bagels with low fat cream cheese
- Granola bars
- Gold fish
- Nutrigrain bars
- GoGo Squeeze applesauce packets
- Granola bars
- Raisins
- Graham crackers
- Energy chews or gels
- Sports Drink
- Pretzels
- Fig Newtons
- Popcorn

CALORIES AND PROTEIN

High-school and college-age wrestlers should be consuming between 1,700-2,500 calories per day minimum. It is not recommended that you fall below your daily needs! Depending on your training intensity and duration, you could need closer to 3,500 calories per day! Make sure you are getting enough protein! Recommendations are 1.2g/kg of body weight. For a 150lb athlete this means you should be consuming 81g of protein each day to help with muscle maintenance.

EXTREME WEIGHT LOSS

Extreme weight loss can wreak havoc on your body. It is not recommended due to the heavy consequences it can have to your health! There is no data that we are aware of that shows that weight cutting increase your odds of success and weight cutting can cause dehydration and not having enough fuel, which can increase the odds that you get injured or ill.

Do not “sweat it out” or fast!

Sports Nutrition for Skiing and Winter Sports

Game Day/Practice Day Education for Parents and Coaches

Nutrition and hydration are especially important in winter sports. Often times the weather is colder, which can cause us to not drink as many fluids. When we couple that with high-altitude training and competition we have to make sure fluid and carbohydrate intake are perfect. Check your pee! Yes, it is gross but we want our pee to be light lemonade color and not darker than that. Darker urine is an indication that you are dehydrated, which can impact your performance negatively. More importantly, it can lead to serious dehydration issues and can become dangerous, especially in winter sports.

BREAKFAST

Breakfast is a must for winter sports. Waking up and eating before you train is going to be vital to keep you healthy for the day. Focus on a balance of protein and carbohydrates PLUS fluids. Eating also helps us stay warm because it can increase heat production!

- | | | |
|---------------------------------------|---|--|
| • Breakfast burritos | • Bowl of power oatmeal with peanut butter, sliced almonds, honey | banana, Greek yogurt. (Make this the night before and keep it in the refrigerator for the next day!) |
| • Greek yogurt with protein granola | • Fruit smoothie if short on time that has strawberries, | |
| • Toast, scrambled eggs, cup of fruit | | |

RECOVERY IS VERY IMPORTANT PLUS IT CAN HELP WARM YOU UP!

My favorite recommendation for recovery is a bowl of warm oatmeal with sliced almonds, peanut butter, agave/honey. This provides your body great carbohydrates and protein for recovery! Some other options include:

- | | |
|--|---|
| • Low fat hot chocolate and peanut butter and jelly sandwich | • Shelf-stable chocolate milk |
| • Banana with nut butter | • Greek yogurt with protein granola |
| • Gatorade bar | • Strawberry banana fruit smoothie with 2 hard-boiled eggs. |
| • Turkey and cheese sandwich | • 2 pieces of string cheese and banana |
| • Clif Recovery Bar | |

HYDRATION

- | | |
|--|---|
| • 3-4 hours before game = 16-20 oz | • Post race—16-24 oz per pound lost. The focal point can be rehydrating with water as the primary liquid. |
| • While competing I recommend a sports drink like Gatorade or Powerade over water because a carbohydrate-sodium beverage can increase the uptake of sodium in the body and help you maintain a more balanced hydration status! | • Check your pee! Clear to lemonade color is the goal! Darker than that means you are letting yourself and your team down because you are not taking care of your body! |

DIETARY SUPPLEMENTS AND ENERGY DRINKS

Stay Away!

From my experience, there appears to be a higher prevalence of high school athletes participating in winter sports that consume energy drinks than other sports. I do not recommend dietary supplements for high school athletes. Many energy drinks are not regulated, come in fancy cans, don't do what they claim to do, and are heavily marketed to young athletes. Also, hydration is VITAL for winter sports and drinking energy drinks instead of actual drinks that will help with performance is NOT recommended. Stick with water and/or sports drinks!

Pre-Game and In-Game Fuel

- Carbs = Fuel
- No Carbs = No Fuel = Feeling tired and fatigued = Letting yourself and teammates down.
- Fluids = Reduce risk of cramping and injury
- Being dehydrated = increase risk of injuries and negative performance = letting yourself and teammates down.

Not taking care of yourself before the game and not properly refueling during the game will increase your risk of injuries and certainly can have a negative impact on your play. Don't let this be you! Carbohydrates supply your brain and muscles with the energy they need to make it through a tough game. Not eating right before the game and not refueling can be devastating to your performance!

Every single day, but especially on game day, you need to eat breakfast. If you don't eat breakfast on game day it tells me a couple things. First, it tells me you don't take your sport or performance seriously. Second, that bad decision will lead to more bad decisions throughout the day, and you may have a tendency to either over-eat before the game or not be adequately fueled before the game. If you are short on time, don't be afraid to make a smoothie the night before with frozen strawberries, banana, almond milk, and Greek yogurt! That way you can at least have *something* on your way out! Other carb-focused breakfasts can be oatmeal with fruit or eggs/toast/glass of 100% OJ.

Three to four hours before the game make sure you top off your fuel stores with more carbohydrates and some light-to-moderate protein. This is really the last time you want to have a big meal. The classic pasta with marinara sauce with grilled chicken and vegetables is a fantastic blend of carbs and protein. You could also do a lean chicken stir fry with rice and vegetable for a heavier option. As we get a little closer to the game, we want to limit fat and protein and focus primarily on carbohydrates as those are easier to digest and what we use as our primary fuel source! Chews, gels, fruit, bars, oranges and watermelon, animal crackers, and goldfish are all good options.

As we get to the game, we want to focus strictly on carbs. Sports drinks are ideal if you are playing longer than one hour! We want more than just water because you are going to sweat more than just water! Applesauce, bananas, energy chews and gels, sports drinks should be the focus!

Don't forget to hydrate! This is the primary cause of fatigue for high school athletes! Drink 12-16 oz of water or a sports drink three to four hours before the game and another 7-10 oz of water or sports drink every 10-20 minutes while playing! Once you are done with the game, you should drink 16-24 oz of fluids for every pound lost during the game!

Carbs and fluids are the focal point for before and during games! Not doing one or the other means you stand a great chance of hitting the wall and feeling tired/fatigued as well as increase the risk of injury! Don't let this happen to you!

Eat to Recover

WHY DO I NEED TO RECOVER?

- Replenishes energy stores
- Prevents further muscle breakdown
- Repairs muscle!
- Replaces fluids
- Separates you from your competition
- You are not only refueling and recovering your muscles; you are refueling and recovering your brain as well!
- Don't let your team down. Recover after all workouts and practices!

WHEN DO I RECOVER?

- Must get a recovery beverage or snack within 30 minutes.
 - Improve from a 24-36-hour recovery period to a 12-16-hour recovery period if you recover within 30 minutes!
- Muscles are craving carbs and protein. Take advantage of it!
- It doesn't matter if the calories come from liquids (shakes) or solids.
- The longer you wait to recover, the longer it will take you to recover.
- Don't miss your window!

HOW DO I RECOVER?

- CARBOHYDRATES, PROTEIN, FLUIDS
- 45-50 grams of carbohydrates with 15-20 grams of protein coupled with 16-24 oz of a sports drink or water.
- RECOVERY SNACKS
 - Low-fat chocolate milk
 - Peanut butter and jelly sandwich
 - Clifbar and 8 oz Gatorade
 - Granola with Greek yogurt
 - Bowl of cereal with low-fat milk
 - Ready to drink (RTD) Gatorade shakes
 - Bagel with peanut butter
 - Trail mix with Gatorade



Hydration for High School Athletes

Do not let your teammates and coaches down. Hydration seems simple but research shows us that MANY high school athletes show up to practices and games already dehydrated, which leads to a decrease in performance and increase in likelihood that you get injured.

STATISTICS

- High school athletes frequently show up to practices and/or games already dehydrated.
- Heart rate increases an additional three to five beats per minute for every 1% of weight you lose during practices/games.
- A small 2% drop in body weight can have a large impact negatively on performance.
- From my experience, it is very common for a high school athlete to lose between 3-5 lbs in one high-intensity practice or game.

CONSEQUENCES OF DEHYDRATION

- Negative impact on performance
- Increased risk of injury
- Increased risk of fatigue
- Increased risk of heat-related illness
- Increased risk of muscle cramps
- Increased risk of letting your team and coaches down because you didn't take care of your body and didn't focus on hydrating before practices and games.

GOALS AND RECOMMENDATIONS

- *Goal is to prevent a 2% loss in body weight*
- Aim for 12-16 oz of fluids 3-4 hours before exercise
- Aim for 7-10 oz of fluids every 10-20 minutes while competing
- Aim for 16-24 oz of fluids for every pound lost during competition

MONITORING FLUID LOSS

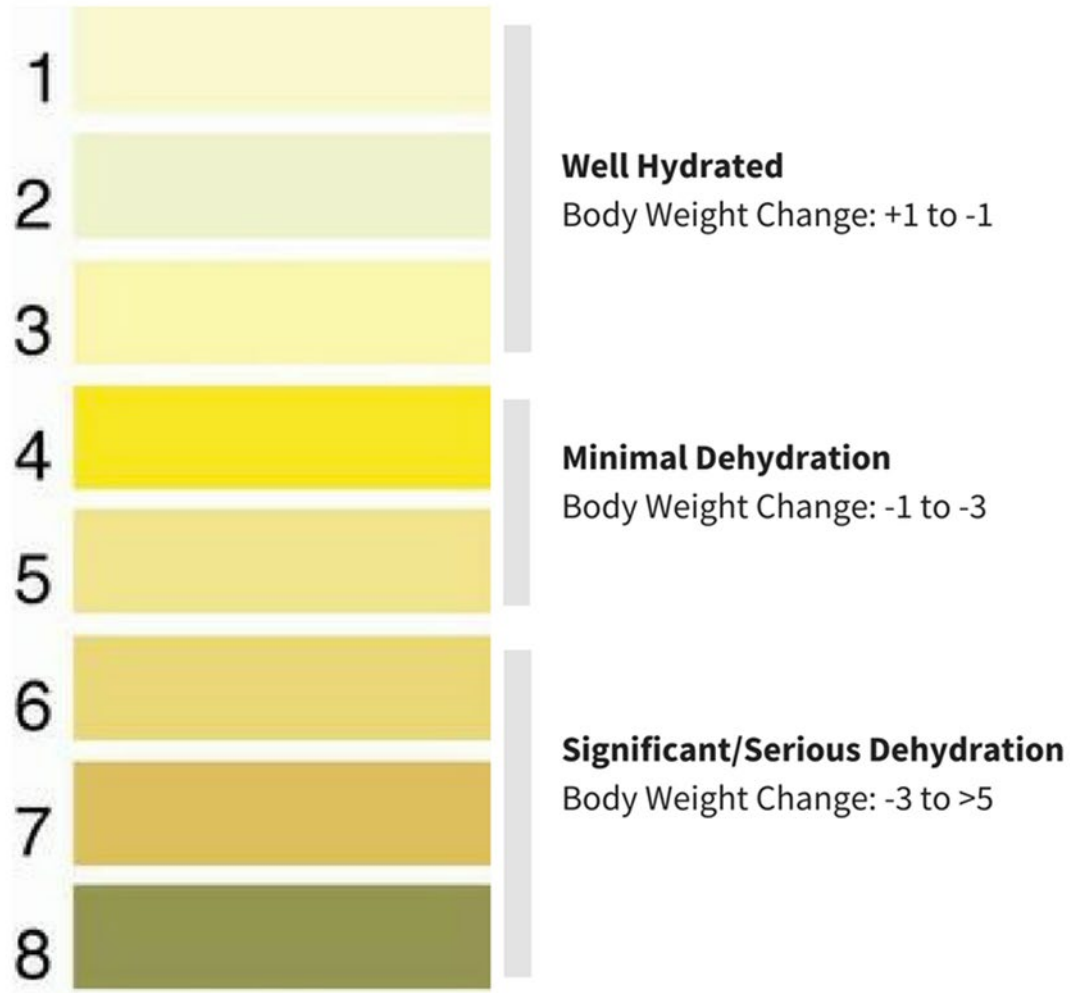
- Check your urine! The NCAA has a fantastic urine chart that should be posted for athletes to see! <http://www.ncaa.org/sites/default/files/Assess%2BYour%2BHydration%2BStatus.pdf>
- For high-risk athletes or athletes that are concerned with becoming dehydrated, weigh before and after practices and games. Make sure you are weighing in and out in the same clothes each time to prevent inaccuracies. Drink 16-24 oz of fluids for every 1 lb lost.

WHAT SHOULD YOU DRINK?

- In general, I recommend sports drinks 1 hour before, 1 hour after, and during practices/games to help with not only fluids and electrolytes, but also carbohydrates to give you the fuel you need!
- Water will usually work fine all other times.

Note: In hot and humid climates, or if you are a very salty sweater who loses significant weight during practices and games, a sports drink in addition to water may help in order to replace glycogen stores and electrolytes/fluids.

Urine Color Chart



International Journal of Sport Nutrition, Volume 4, 1994, pages 265-279
Journal of Athletic Training 2000;35(2):212-224

Sleep and the High School Athlete

Navin Hettiarachchi, Director of Athletic Performance for the Washington Wizards sums sleep up nicely. He says, "Athletes spend hours in the training room on recovery modalities and treatments. They only get five to six hours of sleep. Sleep is the best recovery! Sleep is 90% of recovery, regeneration, and repairing the body and mind. Everything else is 10%." I would argue that sleep is the cheapest and most important thing you can do to recover and take care of your body. Sleep is overlooked and underappreciated and simply put, if you don't take sleep seriously then you don't take your sport seriously. Why? There is no point in training, eating right, hydrating, and recovering, if you aren't getting adequate sleep at night! It simply doesn't work that way! Put your phones away, turn off the video games, turn off the TV and computer, make your room dark, cool, quiet, and sleep your way to better performance!

HOW TO OPTIMIZE SLEEP

- | | | |
|--|--|--|
| <ul style="list-style-type: none">• Make your room like a cave! It needs to be dark, cool, quiet• Develop a routine! Try to do the same thing in the 30 minutes leading up to bed | <ul style="list-style-type: none">time and try to have the same bedtime and wake time!• Turn off the electronics! No TV, no cell-phones, no blue light! | <ul style="list-style-type: none">• Avoid energy drinks and/or coffee before bed• Get blackout shades to make room as dark as possible! |
|--|--|--|

CONSEQUENCES OF POOR SLEEP

- | | |
|---|---|
| <ul style="list-style-type: none">• Can increase risk of injury• Decreased reaction time• Decrease in growth hormone• Can decrease GPA and have impacts in the classroom | <ul style="list-style-type: none">• Can decrease max bench press, including leg press and dead lifts.• Great likelihood of fatigue |
|---|---|

HOW MUCH SLEEP DO YOU NEED?

Research shows that youth and adolescent athletes are getting between 7.5-8.5 hours of sleep per night. I know many athletes that don't come close to this! If you are an athlete that is between 7.5-8.5 hours, do everything you can to push this to 9 hours! It will help you both mentally and physically throughout the long season!

CAN I TAKE A NAP?

Yes, limit naps to 20-30 minutes at a time to prevent your body from hitting deep sleep, which could cause you to wake up more tired!

Dietary Supplements and Energy Drinks

There is zero reason that any high school athlete should be taking a dietary supplement or energy drink.

- The supplement industry and energy drink industry messaging can be dangerous and misleading.
- In 2007, there were 5,448 cases of caffeine overdose and 46% of those cases were kids under the age of 19.
- These companies market with their fancy claims and colorful cans, and they are marketed to YOU! Rarely do they actually do what they claim.
- Many energy drinks on the market have two to three times the amount of caffeine compared to a typical 8oz soda, and they have other ingredients like taurine and guarana that can have caffeine-like effects!
- Your “fuel” should come from your diet including lean proteins, healthy carbohydrates, and being well hydrated. Your fuel should NOT come from caffeine.

Athletes: Ask yourself these questions the next time you “feel” like you need an energy drink.

1. Did you sleep at least 9 hours last night?
2. Did you eat a good breakfast this morning?
3. Are you well hydrated?
4. Did you recover after practice the day before with a recovery shake or snack that contained carbohydrates and protein?
5. Did you eat a good snack before your lift, practice, or game?

If you answered “NO” to ANY of these questions, you should focus on doing those things better before you slam an energy drink or take a pre-workout supplement. Many athletes are not taking these preventative steps, which can cause them to be tired, lose focus, and not feel right. Maybe this is the cause of their fatigue? This state leads to the mindset of taking a pre-workout supplement or energy drink. Don’t slip into this habit! Many of the pro athletes that I have worked with DO NOT take energy drinks, because they focus on the things that will give them the natural energy they need, which were the focal point of those five questions. Sleep better! Eat a balanced breakfast! Hydrate! Recover! Snack with a good carbohydrate source before lifts, practices, games. Do these things and you won’t “FEEL” like you need an energy drink or pre-workout supplement.

There is zero reason that any high school athlete should be taking a dietary supplement or energy drink.

Travel Snack List

Don't be that athlete that does everything right before the game and then forgets that you have a two-hour bus ride or car ride to the game! You need to top off the fuel tank on the way to the big game so that you are ready to go! A pre-game meal is fantastic, but if you don't continue to fuel up, you run the risk of being depleted before the game by the time that you arrive and warm up. Don't let this be you. Below is a great list of things to have with you for that bus ride that contain more than just carbohydrates. We want something that is going to contain protein as well as carbohydrates so that you don't feel like you are starving before the game! Take a look at the options below. Don't be afraid to pack a lunch box as well and water bottle for the trip!

- **Protein Bites**
 - 1.5 cups of oatmeal
 - ¾ cup coconut flakes
 - ¾ cup peanut butter
 - ¾ cup dark chocolate chips
 - ½ cup honey
 - 1 teaspoon of vanilla extract
 - Stir all ingredients together in a bowl, let sit in refrigerator for 45 minutes, roll in to small balls about 1-2" in diameter. This recipe should make close to 40 balls!
- Beef Jerky
- Trail Mix
- P3 Protein Snacks
- Granola Bars
- Carrots and Celery with light ranch
- Cheese and Crackers
- Breakfast Bars
- Pita chips and hummus
- Whole grain bagel with low fat cream cheese
- Whole fruit (apples, peaches, pears, plums, bananas)
- Celery with peanut butter and raisins

Antioxidants and Reducing Inflammation

As high school athletes who are constantly practicing, playing games, lifting, and doing summer camps, it is important to do everything you can to reduce inflammation and keep your body healthy. Eat a VARIETY of colors in fruits and vegetables in order to fully maximize all of the potential antioxidants.

Green Fruits and Vegetables: Contain an antioxidant called Lutein, which helps with eyesight and can also help with dilation of blood vessels. Kale, collard greens, green beans, broccoli, spinach are all great options.

Purple, Blue, and Red Fruits and Vegetables: Contain phytochemicals that help with heart health, help reduce inflammation throughout the body, and can help support mental clarity. Also are loaded with Vitamin C! Look for berries, grapes, peppers, beets, and tomatoes!

Orange Fruits and Vegetables: Contain beta-carotene and Vitamin C to help support immune function and prevent you from getting sick! Sweet potatoes, mangos, grapefruit, and carrots are great options! Don't forget that it is important to sleep and rest as part of recovery and reducing inflammation as well!

FOODS THAT HELP FIGHT OFF INFLAMMATION

- Green leafy vegetables
- Nuts and seeds
- Salmon
- Olive oil
- Flax seed
- Walnuts
- Beets
- Tart cherries/Tart cherry juice
- Variety of fruits and vegetables
- Avocados
- Quinoa
- Brown Rice
- Broccoli
- Peppers
- Green Tea
- Grapes



Healthy Weight Gain and Weight Maintenance

Recommendations are to add an additional 500-1000 calories per day on top of regular daily intake of calories. This process of weight/mass gain is best done in the off-season. Don't overanalyze the process! Many athletes show up dehydrated and under-fueled to practices and games and they also don't recover properly after lifts and games. Focus on doing those things right and add another 1000 calories daily to your normal calories and you should see some results!

EAT 5-6 TIMES PER DAY!

You should be eating a breakfast, snack, lunch, snack, dinner, snack. Plan ahead, eat breakfast, pack snacks in your gym bag and school bag to keep with you throughout the day!

HIGH CALORIE SNACKS:

- Greek yogurt with granola (516 calories)
- PB&J with chocolate milk (733 calories)
- Handful of trail mix with an apple (619 calories)
- Bowl of cereal with KIND bar (500-600 calories)
- 1 cup of nuts (between 500-800 calories depending on nut)
- Whole wheat bagel with peanut butter and honey (500-600 calories)
- Bowl of power oatmeal with peanut butter, sliced almonds, honey, dried fruit (600-700 calories)
- Avocado (234 calories in 1 avocado)
- High-calorie bars including Clif Builder Bars, Rx Bars, Gatorade Bars and KIND bars

HIGH CALORIE SHAKES/SMOOTHIES:

Great way to find another 500-1000 calories per day. Easy to drink at night after dinner or make the night before and have it throughout the day.

Options include:

- Chocolate Banana Peanut Butter (1,065 calories)
- Cinnamon Almond (983 calories)
- Vanilla Cherry Banana (652 calories)

Recipes are in "Shakes and Smoothies" handout:

FOCUS ON PROTEIN!

In order to make sure that the weight that is being gained is actually muscle, we need to make sure that we not only boost up calories, but that we boost up protein as well! Make sure you are getting a variety of lean proteins including:

- Chicken, turkey, fish, bison, eggs, low fat dairy including yogurt and low-fat milk.
- Other sources of protein include beans, lentils and nuts/seeds

BEFORE BED SNACK:

Eat something before bed! It doesn't matter if you feel like you did well eating for the day, if your goal is to gain weight and muscle mass then you should eat something before bed! String cheese, bowl of cereal, chocolate milk, smoothie/shake!

Tips for Parents

It doesn't have to be complicated

It doesn't have to be expensive

I get questions all the time from parents that want to know what to keep around the house for their kids to eat and what they should be telling their athletes to eat before practices and games. Often times parents (like many of us) will resort to just going online and asking Google for recommendations. The problem with this is that sometimes the information you get on the internet is good, and sometimes it is not! Pulling the wrong information off the internet and applying it to what you are making and recommending for your kids to consume could potentially cause them to be dehydrated and under fueled before practices and games! This is a completely reasonable approach if you are looking for answers, but hopefully this handout can help give you the science and evidence-based answers you need to help you simplify and put your mind at ease about what you are giving and recommending to your kids before practices and games!

The Basics: Carbohydrates and Fluids

The two most important areas of nutrition for high school athletes in order for them to perform at the highest level is making sure they are getting adequate carbohydrates throughout the day and specifically around their practices and games.

Carbohydrates

- Carbohydrates are our body's fuel for both our muscles and our brain! It is the gas in the gas tank! No carbs = no energy.
- 55-60% needs are often times higher than adults because their bodies are growing, developing, and maturing plus with as active as they are with practices, lifting weights, and games it is important to land in this range. This means that with each meal, 55-60% of every meal should be from healthy carbohydrates. This means for breakfast we want to focus on items like yogurt, oatmeal, cereal with low fat milk, whole grain pancakes and waffles, hash browns, fresh fruit and low fat dairy! For lunch and dinner we can focus on items like baked potatoes and baked sweet potatoes, sandwiches, fresh fruits and vegetables, brown rice and quinoa, and pasta with red sauce, which is better the night before a game.

Fluids/Hydration

- Research has shown us that many high school athletes already show up to practices and games dehydrated. We know through practical application that many athletes can lose weight during practices and games, which is an indication that they are not hydrating properly during those events. Dehydration is preventable! I recommend that your children always have a water bottle with them. A 32 oz Nalgene is a great option for them. Encourage them to drink at least two full bottles per day!
- A lack of energy can primarily be caused by dehydration! High school athletes need:
 - 12-16 oz of water or sports drinks at least three to four hours before exercise
 - 7-10 oz of water or sports drinks every 10-20 minutes while competing
 - 16-24 oz for every pound lost during competition

- Monitoring fluid loss is important. As a parent who could be concerned with hydration status, don't be afraid to encourage your kids to weigh themselves before and after practices and games. It is very common for both male and female high school athletes to lose between 3-5 lbs of fluids per practice or games, which can impact their health, and performance. It is also very easy and inexpensive to help them stay healthy during the season.
- Another way to monitor fluid loss is encouraging your children to check the color of their urine. Gross? Yes. Effective? Yes. Urine color should be clear/lemonade and if it is darker than that, it is a sign of dehydration.

If you only take away the importance of carbs and hydration and can take some of these rules and apply them to your children, it will help keep kids healthy and performing at the highest level!

Recovery:

With proper planning, getting your kids recovered properly is not difficult or expensive! It is extremely important for a variety of reasons. Recovery nutrition is sometimes overlooked, but -- in my opinion -- next to sleep it is the most important thing you can do as a high school athlete. We want a 3:1 ratio of carbohydrates to protein within 30 minutes of coming off the field or court. The carbohydrates give our muscles energy, and the protein helps the damaged muscles get repaired. Some easy and inexpensive options include:

- Low fat chocolate milk
- Greek yogurt with granola
- Clif Builder Bar and piece of fruit
- Banana with peanut butter
- Turkey sandwich with apple slices
- Bowl of cereal with low fat milk

Dietary Supplements and Energy Drinks

I do not recommend dietary supplements or energy drinks for high school athletes. Energy drinks are dangerous, they are unregulated, the labels are rarely accurate, and they spend millions of dollars marketing to your kids. It isn't just the caffeine that we are concerned about. Often times, the labels are incorrect and there are numerous other ingredients including gaurana and taurine that can cause harm as well. Children could be getting three to four times the amount of caffeine in a product than what is listed on the label. Studies have shown that between 30-50% of adolescents and young adults have consumed energy drinks. My advice is to stay away from energy drinks and supplements! I often meet with athletes who feel that they need an energy drink for a variety of reasons but the main reason is because they want...ENERGY! From my experience, however, these same athletes probably aren't sleeping enough, are poorly hydrated and poorly fueled, and they usually aren't recovering properly after lifting weights and practices/games. All of those things cause poor energy. I recommend fixing those other things first and see if that solves the lack of energy problem! Energy drinks were not designed for athletes and they are dangerous for high school athletes.

Sleep

Parents, you are right! I know you tell your kids constantly that they need to "get to sleep" and they should be sleeping more. You are absolutely correct. Sleep is the cheapest and most impactful thing you can do to take care of your body. Sleep helps our bodies recover and get prepared for the next day. With some of the schedules that high school athletes have, it is amazing to me that they can make it through the long season sleeping as little as they do. Studies tell us that high school athletes are getting about

7.5 hours of sleep per night on average. High school athletes need nine hours of sleep per night! Many athletes that I meet with are getting less than that! Here are some statistics:

- Chronic sleep loss can increase the chances your son or daughter gets injured.
- Not sleeping enough makes you feel like you are working harder than you actually are!
- Not sleeping enough makes your reaction time slower.
- Not sleeping enough can impact muscle recovery and growth.

So what can we do to make sleep better?

- Their rooms should be like a cave! It should be dark, cool, quiet.
- TURN OFF ELECTRONICS!
- Develop a bedtime routine in order to help wind down!
- No energy drinks or food before bed.
- Try to encourage kids to go to sleep just 30 minutes earlier than usual. If they are getting 7.5 hour of sleep it will put them at eight hours. Work your way up from there!

Parents:

I have met with hundreds of high school athletes and many of them tell me the same thing. Many of them skip breakfast, aren't sleeping enough, are poorly fueled and hydrated, and are not recovering after practices, games, and lifting weights. These things wreak havoc on their systems, and they can genuinely cause them to be at an increased risk of getting sick and/or injured. Parents ask me all the time, "What can I do?" My advice? Cover the big things. Make sure they are sleeping better, make sure they are properly hydrated, make sure they are recovering and fueling properly. Make sure they stay away from dietary supplements and energy drinks, which can be extremely dangerous. As a parent, if you cover these things you will be way ahead of the curve and will set your kids up for success in sports!

Game Day Checklist

"Proper Preparation Prevents Poor Performance." Charlie Batch

As a high school athlete, you may be more gifted or work harder than your opponent which gives you an advantage when it comes to game days. The more likely scenario, however, is that there are many teams and many athletes that may be just as good as you are. When you play them on game days, you are going to have to do SOMETHING that separates you from them. Without a doubt, if you are fueled properly, hydrated correctly, sleeping well, and you have been recovering properly daily, then THAT can be the thing that separates you from them. How do I know that? I have seen first-hand at everything single level what happens to athletes that are dehydrated, under fueled, not recovered, and who are functioning on little sleep. It impacts their performance on game days in a negative way. They get tired more quickly than their opponents, they have lost muscle mass through the season, they are more prone to injury and get injured and sick more often. This impacts you as an athlete but you also let your teammates, coaches, and parents down as well -- all because you didn't prepare the right way and take care of your body the right way. Maybe you are such a gifted athlete that you can "get away" with not sleeping much or hydrating properly. It will catch up to you. It always does! Taking care of yourself isn't difficult if you plan ahead and make it a priority.

1. The first step actually starts the night before. Plan ahead and pack your lunch box/cooler for the day.
2. Make a morning shake/smoothie, if necessary. If you are short on time or have an early game/match, then make your shake the night before and have it ready to go for the next morning!
3. We need to focus on hydration, pre-game fuel, in-game fuel, and recovery.
4. Don't depend on the concession stand!

<u>Fluids</u>	<u>Pre-Game</u>	<u>In-Game</u>	<u>Recovery</u>	<u>Misc.</u>
Water Bottle	Fruit	Sports Drinks	PB&J	Cooler/Lunch Box
Water	Yogurt	Bananas	Chocolate Milk	Spoon
Sports Drinks	Cereal/low fat milk	Applesauce	RTD Protein Shake	No concession stand
	Goldfish	Fig Newtons	Bagel with PB	
	Animal Crackers	Pretzels	Piece of fruit and Clif Builder Bar	
	Turkey and cheese sandwich	Chews and Gels	Banana with PB	
	String cheese	Orange Slices	Greek yogurt and Granola	

Shake and Smoothie Recipes

High Calorie Gainer Shakes

These shakes are for the kids that are having a tough time maintaining weight through the season or having a tough time with gaining weight. We want to try and get in an additional 500-1000 calories per day in addition to their normal daily calories and place a focal point on protein as well. Having one of these shakes after dinner in the evening while doing homework is a great way to get these extra calories in! You can also make one of these shakes and have it ready in the refrigerator and drink it throughout the day.

Chocolate/Banana Peanut Butter	Calories	Protein
8 oz low fat chocolate milk	140	8g
1 Banana	105	1g
1 cup raw oats	360	12g
2 Tbsp peanut butter	190	7g
1/2 cup granola	270	6g
Blender plus Ice	0	0
Totals	1,065	34g

Source: USDA

Cinnamon Almond	Calories	Protein
1 Vanilla Ensure	220	9g
½ TSP cinnamon	3	0g
4 oz almonds	655	24g
1 banana	105	1g
Blender and Ice	0	0g
Totals	983	34g

Source: USDA

Vanilla Cherry Banana	Calories	Protein
1 Vanilla Rockin Protein Recovery (Rockin Refuel)	280	20
1 cup cherries	90	0g
1 Banana	105	1g
1 cup vanilla Greek Yogurt	177	20
Blender and Ice	0	0g
Totals	652	41g

Recovery shakes/Breakfast Smoothies

Great for post practice or post game. These smoothies are also great for adding fruits and vegetables into your diet to reduce inflammation and keep your immune systems strong. I recommend that you make one of these smoothies each night and drink it in addition to your breakfast. This is not to be used as a calorie replacement but more to supplement your normal calories and adding in items that will reduce inflammation.

Berry Banana	Calories	Protein
8 oz almond milk	35	1g
1 cup frozen strawberries	50	<1g
½ cup frozen blueberries	40	<1g
½ cup frozen raspberries	130	<1g
1 banana	105	1g
1 cup Greek yogurt	220	20g
1 Tbsp Honey	64	0g
Blender and Ice	0	0g
Totals	644	25g

Source: USDA

Green Anti-Inflammatory Smoothie	Calories	Protein
8 oz 1% Milk	96	7g
1 cup pineapple	82	<1g
1 cup spinach	7	<1g
1 banana	105	1g
1 avocado	322	4g
½ cup kale	17	1g
Totals	629	15g

Source: USDA

Pineapple Mango	Calories	Protein
8 oz Almond Milk	40	1g
1 cup pineapple	82	0
1 cup mango	99	1g
1 banana	105	1g
½ cup vanilla Greek yogurt	90	9g
Totals	416	12g