

## Health and Nutrition

Our diet, or what we eat and drink, plays a critical role in determining how well, and how hard we can perform on the soccer field. What we consume before a practice and/or a match directly affects the amount of energy we can expend. What we consume during a session or a game largely dictates whether or not our bodies can maintain a high work rate. Furthermore, the quality and timing of our food and fluid consumption after a training session or match, will decide how well our bodies can recover for tomorrow's performance. It is quite evident that the quality of a player's nutritional program can drastically impact their production on the field, increase or decrease the risk for injury, and ultimately, hamper or enhance a their development.

Nutrition is a constantly evolving component of athleticism. Innovative, cutting edge information is constantly surfacing making the soccer world even more talented and competitive. In efforts to make implementing a sound nutrition plan into your training regimen simple and efficient, we have broken the following information into three separate components: 1- the training diet, 2- the match diet, and 3- the everyday diet.

Please review these guidelines and suggestions. It is our hope that these tips may help elevate your performance, and give you that critical edge to accelerate your growth and reach your potential.

### I. THE TRAINING NUTRITION:

*What entails my training diet?*

1. The goal of the training diet is to adequately supply energy to enable you, the player, to perform several hard training sessions each week in efforts to enhance your technique on the ball, fitness, and ultimately, your overall performance.
2. Prior to an intense training session, carbohydrates are the primary fuel source, as fats cannot be burned fast enough. Prior to an easy, recovery type session (light jog, light swim, light bike ride), fat and carbohydrate are the chief energy providers. \*If or when glycogen stores run empty during an intense session though, the body must go back to fat oxidation, which reduces the level of intensity that you can perform, because again, fats just can't be used for fuel quickly enough. To maximize your practice time, and improve your game every time you step onto the field, your body must be properly fueled!
3. Still not clear? Your body's liver glycogen (the main form of carbohydrate storage, found mainly in the liver and muscle tissues) plays a vital role in giving a constant supply of glucose (also known as sugar!) to your brain, and muscles during training allowing you to perform at a high level! However, IF you do not maintain blood glucose (sugar) levels, you will experience that miserable, light headed feeling known as hypoglycemia...In English, you will crash or hit the wall, and not only be unable to perform at a high level, but your risk of injury increases due to poor form or mechanics caused by performing without proper energy.
4. How important is eating breakfast?
  - a- it will increase concentration and productivity, and it makes controlling your weight easier; breakfast will increase endurance and strength;
  - b- you are more likely to have lower cholesterol, and will reduce your sensitivity to insulin, which plays a crucial role in pre, during, and post training/match nutrition
5. "I am at school all day, I rush home, change into my training clothes, and go...I have 30 minutes before my session, but need a snack...what do I eat?" \*eat a tasty, rapidly absorbing snack that contains approx 30 grams of carbohydrates, and 5-6 grams of protein (energy bar; a banana with peanut butter; some toast with jelly & cup of 100% juice; sports drink & small bagel w/ peanut butter)
6. "What if I come home from school, and have three or so hours before my training session starts?" \*your goal is to top up muscle glycogen stores that have dropped while at school with low to moderate glycemic

index level carbohydrates (see chart A for examples)- these release Glucose into the bloodstream slowly, allowing for a steady release of carbohydrates into your bloodstream. \*you still may want to eat/drink something small about 60 minutes before the session (fruit, energy bar, sports drink)

## **II. THE MATCH DIET:**

*What should my match day diet consist of?*

1. The match diet is split into 4 Parts: pre-pre-game, pre-game, during the game, and post game.
  - a. 2 days before a game: \*boost carbohydrate intake to 70% of calories (this is on a scale of 5 grams of carbohydrates per pound of body weight—for ex., a 150 pound player would eat 750 grams of carbohydrates each day for the 2 days leading up to the match (\*NOTE\*- gram for gram, carbs contain less than half the calories of fat; using high carb drinks is a good way to supplement your carb intake)
  - b. Pre-Game (i.e.- 3-4 hours before kick-off) \*this meal directly contributes to the fuel available during the match! \*Medium and some low glycemic level foods should be your main choices (\*see chart A for examples)\*Stay away from high glycemic index foods, as these will cause a rapid rise you blood sugar level, causing your pancreas to secrete a large amount of insulin...you don't want this 3 hours before a game!
  - c. During the match: \*Choose high glycemic index foods, as these will cause a rapid rise in blood glucose, and an immediate insulin response...simply put, they will recharge and rapidly replenish muscle glycogen stores allowing you to play harder, stronger, and more effectively! (see chart below for examples)

## **III. POST GAME/TRAINING NUTRITION:**

*What & when you should I eat after I train or play in a match?*

1. The first 60 minutes after training
  - a. the goal is to replenish your stores of glycogen in liver and muscle tissues (\*choose high glycemic index foods)
  - b. eating/drinking foods/liquids that cause a rapid rise in blood glucose, and an immediate insulin response are better because they supply quick energy to working and recovering muscles
  - c. consume 1 gram of protein for every 4 grams of carbohydrate; consume 1 gram of carbohydrate for every pound of body weight (ex. 160 lb player= 160 grams carbs, 40 grams protein)
  - d. minimize fat intake because of its negative effects on gastric emptying
2. Two to four hours post-training:
  - a. consume another meal of 60-65% of calories from carbohydrate, 20-25% from fat, and about 15% from protein
  - b. this will increase available glycogen for training/game the next day
  - c. choose medium to high glycemic index foods
3. 3. Remaining 18 hours: throughout this 18 hours, you should consume enough carbs to equal a total intake of about 3-5 grams for every pound of bodyweight; (for ex., a 170 pound athlete would want to consume between 510 and 850 grams of carbs) (Burke)

#### **IV. THE EVERYDAY, REGULAR DIET:**

*What about normal, everyday diet?*

1. The player should consume 60% of calories from carbohydrates, 25% from fat, and 15% from protein.
2. There are SIX categories of nutrients that your body needs for survival

a. Water-1- involved in almost every function of the body

b. Carbohydrates- 1- the body's primary energy source; through digestion & metabolism carbs are broken down into glucose, which is either used immediately for energy, or stored as glycogen \*try to choose unrefined foods such as fruits, vegetables, peas, beans, pasta, whole grains

c. Fat- 1- some amount of dietary fat is good! A diet containing a moderate amount of fat is important for athletes who wish to maximize their performance and who need to increase their calorie consumption; training long, hard hours to stimulate their muscles' fat utilization, but omitting all fat from your diet sends a mixed signal to your muscles that building "extra machinery for metabolizing fat is a waste of cellular energy and space" (Burke). 2- essential fatty acids are good for rebuilding and making new cells, keeping sound nervous system function, and even reducing certain diseases a. examples include: fish, flaxseed, fish oils

d. Protein- 1- in order to maintain muscle mass, athletes need to consume enough to offset some of what is expended for energy during a training session or a game 2- examples include meat, fish, eggs, dairy products 3- when consumed in excess, it is often converted to fat

e. Vitamins- 1- organic compounds that regulate and facilitate the millions of chemical reactions that take place in your body 2- they break down and release energy from carbs, fat, and protein; your body can't make most of them, so you need to consume them through foods and supplements

f. Minerals- 1- derived from plant or animal matter; needed for muscle contraction and nerve function maintenance

#### **V. WATER...is it really that important? YES.**

*The goal is 1 gallon per day*

1. Water hydrates muscle tissues and cells, while preparing them for micro-tears caused from the stresses of training and competition
2. Water transports nutrients to cells, and improves the efficiency of the cardiovascular system
3. Proper water consumption reduces recovery time from injuries while helping to prevent muscle strains and pulls

#### **"Water vs. Soda."**

**WATER:**

1- 75% of Americans are chronically dehydrated

2- In 37% of Americans, the thirst mechanism is so weak that it is often mistaken for hunger

3- Even mild dehydration will slow down one's metabolism as much as 3%

4- One glass of water will shut down midnight hunger pangs for almost 100% of the dieters studied in a University of Washington study.

5- Lack of water is the #1 trigger of daytime fatigue

6- Preliminary research indicates that 8-10 glasses of water a day could significantly ease back and joint pain for many sufferers

7- A mere 2% drop in body water can trigger fuzz short term memory, trouble with basic math, and difficulty focusing on the computer screen or on a printed page

8- Drinking [just] 5 glasses of water daily decreases the risk of colon cancer by 45%, Plus it can slash the risk of breast cancer by 79%, and on is 50% less likely to develop bladder cancer

**AND NOW FOR THE PROPERTIES OF SODA:**

- 1- In many states in the USA, the highway patrol carries 2 gallons of soda in the trunk to remove blood from the highway after a car accident
- 2- You can put a T-bone steak in a bowl of soda and it will be gone in 2 days
- 3- To clean a toilet: Pour a can of soda into the toilet bowl and let it sit for an hour; then flush clean...the citric acid in the soda remains stains from vitreous China
- 4- To remove rust spots from chrome car bumpers: Rub the bumper with a rumped up piece of Reynolds Wrap aluminum foil dipped in soda
- 5- To clean corrosion from car battery terminals: Pour a can of soda over the terminals to bubble away the corrosion
- 6- To loosen a rusted bolt: Applying a cloth soaked in soda to the rusted bolt for several minutes
- 7- To bake a moist ham: Empty a can of soda into the baking pan, wrap the ham in aluminum foil, and bake. 30 minutes before the ham is finished, remove the foil, allowing the dripping to mix with the soda for a sumptuous brown gravy
- 8- To remove grease from clothes: Empty a can of soda into a load of greasy clothes, add detergent, and run through a regular cycle. The soda will help loosen grease.
- 9- It will also clean road haze from your windshield

**FOR YOUR INFO:**

- 1- The active ingredient in soda is phosphoric acid with a pH of 2.8. It will dissolve a nail in about 4 days. Phosphoric acid also leaches calcium from bones and is a major contributor to the rising increase in osteoporosis
- 2- To carry soda syrup (the concentrate) the commercial truck must use the Hazardous material place cards reserved for highly corrosive materials. The distributors of soda have been using it to clean the engines of their trucks for about 20 years! Now the question is; would you like a soda or a glass of water?

**Glycemic Indexes of Common Foods**

<u>High</u>	<u>Medium</u>	<u>Low</u>
Bagels	Baked beans	Apples
Baked potatoes	Bananas	Applesauce
Bread	Bran cereals	Cherries
Corn Syrup	Corn	Dates
Sugary cereals	Grapes	Figs
Crackers	Melba Toast	Yogurt/Ice Cream
Honey	Oatmeal	Milk
Maple Syrup	Orange Juice	Peaches
Raisins	Pasta	Peanuts*
Rice, white	Pineapple	Plums
Rice Chex	Chips (Baked)	Tomato Soup
Sports Drinks	Watermelon	Kidney Beans
Gummy Bears	Grain cereals	

*\*choose almonds first, then cashews, then peanuts*

## GREAT FOODS TO EAT!

<u>PROTEINS</u>	<u>CARBOHYDRATES</u>	<u>VEGETABLES</u>
Grilled chicken breasts	Baked potatoes	Broccoli
Turkey breasts	Sweet potatoes	Asparagus
Lean ground turkey	Yams	Lettuce
Haddock	Squash	Carrots
Salmon	Pumpkin	Cauliflower
Tuna (1x per week)	Steamed brown rice	Green Beans
Crab	Steamed wild rice	Green Peppers
Lobster	Pasta	Mushrooms
Shrimp	Oatmeal	Spinach
Lean Steak	Barley	Tomato
Lean Ground Beef (limit)	Beans	Peas
Soy Burgers	Corn	Brussels Sprouts
Soy Milk	Strawberries	Artichokes
Egg Whites	Melons	Cabbage
Low fat cottage cheese	Apples	Celery
Skim Milk	Oranges	Zucchini
Salad with grilled chicken	Light Yogurt	Cucumbers
Chefs Salad	Whole Wheat Breads	Onions
	Granola Bars	
	Pancakes	
	Waffles	

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### Care and Prevention

The best way to prevent injuries is to be prepared. Preparation begins with applying the rules and regulations set forth in the team management section.

- Proper equipment must be worn at all times
- No jewelry permitted
- Ample water
- Field surface is kept in proper condition
- Training area is away from heavy traffic areas
- Full rehabilitation of injuries need to be certified through a physician before players return to play
- Establish a risk management program that involves emergency information for each player
- Supply a first aid kit for training and games

In regarding care of injuries, it is vital that you handle every potential injury with patience and a calming effect. Avoid panic. Inform the parent as soon as possible. Inform the appropriate medical professionals if necessary. Always ERR on the side of caution. Some typical injuries to know:

<u>Injury</u>	<u>Symptoms</u>
Sprain	Injury to a ligament connects bone to bone, tenderness and inflammation
Strain	Tearing injury to a muscle or tendon, tenderness and inflammation.
Contusion	Injury that causes bruising/ hemorrhaging to muscles or tissues
Heat Exhaustion	Clammy skin, profuse sweating- move to cool area, elevate feet, and seek aid
Heat Stroke	Skin is hot and red, no sweating-move to cool area, seek aid immediately
Concussion	Head injury, seek immediate care if eyes are dilated, person is disoriented

Simple procedure to remember is RICE- Rest, Ice, Compress, and Elevate

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### **Safety During Stormy Weather**

NOSA follows State and National Referee Association guidelines for Electrical storms. The rule is cautiously referred to as the "30-30" rule. If there is less than thirty seconds between lightning and thunder, get off the field and wait thirty minutes until AFTER the last thunder is heard. If you can hear the thunder, but can't see the lightning, get off anyway. If you hear thunder again before the 30 minutes wait time has elapsed, then the clock to wait another 30 minutes starts all over again. For example, if thunder is heard in the 28th minute after the last lightning was seen, we have to wait another 30 minutes. If no thunder is heard again, then the total wait time is therefore, 58 minutes.

All safety precautions are the responsibility of the head coach.

## **Eating on the Go**

Between school activities and club training sessions, it is hard to take the time to prepare meals or snacks, let alone sit down and eat. I've heard horror stories about kids eating a cheeseburger after a middle school game on the way to a club training session. No matter where you are heading, you have time to grab a nutritious snack. The key is to plan ahead and be prepared. Whether you are in a hurry because you're late to training or just want a snack for later, here are some nutritious ideas.

Snacks to throw in your backpack:

It's a good idea to keep a stash of some of the following items to grab on the run:

- Bagel
- Graham crackers
- Raisin bread
- Trail mix
- Cheese sticks
- Raw veggies
- Popcorn
- Pretzels
- Fig bars
- Dried fruit
- Fresh fruit
- Cereal
- Muffin
- Granola bar
- Peanut-butter crackers
- Low-fat cookies
- Juice box
- Nuts

## **Vending machines:**

Almost everywhere you go; you can find a vending machine. It is not always easy to find nutritious snacks here, but some are better choices than others:

- Rice-Krispie treats
- Cheese crackers
- Graham crackers
- Zoo crackers
- Peanut-butter crackers
- Dried fruits
- Chocolate milk
- Pretzels
- Juices