



BY: Dr. Jamie Nuwer
In cooperation with:
Julie Lanford, MPH, RD, LDN
Sierra Simmons, BS

Sports Nutrition

WHAT WE CHOOSE TO PUT IN OUR BODY GREATLY AFFECTS OUR PERFORMANCE

ON THE FIELD. IF WE DEVELOP HEALTHY DIETS AND FILL UP ON "PREMIUM FUEL", NOT ONLY ARE WE MORE LIKELY TO PLAY AT A HIGHER LEVEL, BUT WE WILL ALSO HAVE THE MENTAL CONFIDENCE OF KNOWING THAT OUR BODIES ARE PRIMED FOR HIGH PERFORMANCE. THIS ARTICLE WILL REVIEW BASIC SPORTS NUTRITION CONCEPTS, NUTRITION BEFORE/DURING/AFTER A TOURNAMENT, AS WELL AS SPORTS SUPPLEMENTS. THE PURPOSE OF THIS ARTICLE IS NOT TO REPLACE FORMAL MEDICAL ADVICE, BUT RATHER MEANT TO PROVIDE GENERAL INFORMATION REGARDING ATHLETE NUTRITION.

A BASIC UNDERSTANDING OF SUPPLYING and maintaining the energy stores in our bodies is necessary to maximize performance while playing Ultimate. The following sections break food into three groups, according to their energy potentials, and later discuss formulating plans at different times around a tournament to take advantage of these food groups and the uses our bodies have for them. Signs of and ways to cope with dehydration and salt loss are also mentioned.

Foods can be classified as carbohydrates, fats, and proteins and viewed in terms of their energy content. Carbohydrates are the most immediate source of energy. They are stored in the body as glycogen and released for use by the body as glucose. These stores can provide energy anywhere from thirty to ninety minutes during strenuous activity depending on genetics, body weight, and amount of exertion. Once carbohydrate stores are depleted, the body must get energy by using other sources or ingesting more carbohydrates.

Fats provide a longer-lasting but slower energy source. However, oxygen is required for their breakdown so they are not a great energy source during anaerobic activity. Proteins are not ideal to use for energy either. Protein is normally used for repairing and building damaged tissue. The best solution is to eat sufficient protein and carbohydrates so muscles are tended to and energy reserves are filled.

A meal eaten the morning of a tournament requires proper time to digest as playing on a full stomach can lead to cramps or discomfort. Three to four hours before the first game, both complex and simple carbohydrates mentioned below are good breakfast sources. Two to three hours before, breads, bagels, and simple carbohydrates will still be digested and an hour before the first game it is best to ingest liquid forms of carbohydrates such as sports drinks, juices, jams, jellies, energy gels, and also fruit and energy bars.

Examples of good sources of complex carbohydrates are whole grain breads, brown rice, whole grain pasta, cereals, and dried beans. Healthy choices of simple carbohydrates include fruit, fruit and vegetable juices, low-fat yogurts, and sports drinks. Good sources of proteins are meat, fish, dried beans, nuts, peanut butter, soy products, eggs, cheese, yogurt, and milk.

Throughout the tournament day, energy should be replenished often with foods high in energy and that are easily digested. Foods high in fat, like many meats, greasy food, and certain sweets like doughnuts, are slow and difficult to digest and should be avoided.

Immediately after play ends for the day there is a thirty-minute window when muscles are most receptive to replenishment and foods high in carbohydrate should be consumed. Studies done in marathon runners demonstrated that if you miss this 30-minute window, you can't recharge your energy stores to their full starting value.



P: MATT LANE

Make sure you get some carbs right away after the games finish. Additionally within a forty-minute window there is some evidence that protein might play a role in increasing glycogen storage capacity in muscles. Protein can be taken in liquid form like a non-fat chocolate milk, instant breakfast, or protein shake.

Dehydration makes you more susceptible to heat exhaustion and heat stroke. Signs of heat illness include excessive sweating, increased heart rate, cramps, dizziness, fatigue, and a decline in mental performance. Focus on hydration 48 hours prior to the first game by increasing water intake and decreasing caffeinated, alcoholic, and carbonated beverages. A good goal for water intake

is either 4 liters a day or enough water to make your urine clear. Don't go too overboard with hydration since there is a small risk of low salt from over-hydration.

An easy way to monitor your hydration status during a tournament is to be aware of urine color. Dark and strong smelling urine is suggestive of dehydration. Also if you go all day without urination, it is unlikely you're getting enough fluid. Another way to tell if you are remaining hydrated before

and after games in high heat conditions is to self-monitor weight before the first game and after the last game on each tournament day. A weight loss greater than or equal to 2% of body weight is a sign of significant dehydration.

You're probably wondering where sports supplements (drinks, gels, bars, and blocks) fit in. Hopefully you realized that you don't need them to stay well nourished for competition. However if you like them (like many do), here is some general advice. Read the labels. Everything has carbs, but look at other things like protein and caffeine. Protein may be a helpful additive, though more research is needed to prove it. Caffeine can enhance your performance, but it can also make you more dehydrated. If you like drinks like Redbull or other "energy drinks", make sure to drink water with it to balance out their effects on hydration and carb load. Taking a big boost of carbohydrates in a sports supplement such as gels or blocks will give you a short-lasting sugar high for 30-45 minutes. Beware of the sugar low drop-off though; that can really hurt your game if it comes at the wrong time.



P. MATT LANE



Recommended Reading: Sports Nutrition Guidebook by Nancy Clark

A nice handout for your team can be found at:
http://www.gssiweb.com/Article_Detail.aspx?articleid=676&level=5&topic=1

For past Injury Timeout articles and more visit
<http://www.injurytimeout.org>

References

- Elizabeth Quinn. Sports Nutrition Series
- "Eating After Exercise - Post-Exercise Meal" [Online] 26 February, 2008. <http://sportsmedicine.about.com/cs/nutrition/a/aa081403.htm>
 - "Eating Before Exercise - Pre-Exercise Meal." [Online] 14 October, 2007. <http://sportsmedicine.about.com/cs/nutrition/a/aa011201.a.htm>
 - "Proper Hydration for Exercise - Water or Sports Drinks" [Online] 23 January 2008. <http://sportsmedicine.about.com/od/hydrationandfluid/a/ProperHydration.htm>
 - "Recommendations for Water, Sodium and Potassium" [Online] 6 February, 2008. <http://sportsmedicine.about.com/od/hydrationandfluid/a/060704.htm>
 - "Sports Nutrition - How Carbohydrate Provides Energy for Exercise - Carbs" [Online] 2 December, 2007. <http://sportsmedicine.about.com/od/sportsnutrition/a/Carbohydrates.htm>
 - "Sports Nutrition - Protein Needs for Athletes" [Online] 2 December, 2007. <http://sportsmedicine.about.com/od/sportsnutrition/a/Protein.htm>
 - "Water Intoxication - Hyponatremia" [Online] 25 February, 2008. <http://sportsmedicine.about.com/od/hydrationandfluid/a/Hyponatremia.htm>
 - Michael N. Sawka, et al. American College of Sports Medicine. "Exercise and Fluid Replacement". [Online] 2007.