

Tulane University Athletics

Nutrition Manual

2004-2005

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Introduction to Nutrition

“How to Build a Champion”

It all begins in the off-season. The intensity is starting to escalate, motivation is starting to build, and the aspirations of winning a national championship lingers in your mind until the start of the season. Would you believe that it all starts with “Nutrition”?

As a student athlete, you put your body under stress with the daily task of attending class, studying, practicing, lifting, and performing. In order for your body to perform all of these tasks efficiently and effectively, it requires two important components:

(1) Proper Nutrition

(2) Rest

Picture your body as a new car. When you first buy a new car, it sounds like a purring cat, without any unusual sounds. As time goes by, repairs are made, parts break down, regular oil changes are needed, and proper refueling is essential for your car to run. As you continue to push your car, it begins to wear down and eventually break or requires a new engine.

As you continue to push your mind and body, it begins to fatigue. As your body continues to experience significant amounts of stress (Lack of sleep, practice, lifting, studying, and performing), it begins to break down and eventually stop.

The only way to keep your body from breaking down and fatiguing is fueling your body with proper nutrition. This manual is designed to help you understand nutrition as a whole. Our primary concern in the area of nutrition is to enhance the quality of your life, not just enhance your performance. If you improve your quality of life, your on-field and in-class performance will be optimal.

To reach your full potential physically, you must develop a disciplined approach to eating, training, and getting proper rest (at least 8 hours a night). How disciplined and knowledgeable are you in the area of nutrition?

Remember, long-term poor eating habits lead to poor health, a lower quality of life, and poor performance. Your interest in good nutrition can help you avoid some of those problems.

There are no magic pills or potions available that will give you more energy, make you run faster, or improve your skills. Having the discipline and motivation to eat a well balanced diet of normal foods each day is the only “Secret Formula”.

Here is a diagram I truly believe is essential for winning a National Championship



As you can see, good nutrition is just the beginning phase of preparing to win a National Championship. It sets you up for success, not just for your body, but also for your performance. It's not only an individual effort, but also a team effort. If everyone is on the same page nutritionally, the fourth quarter or second half becomes much easier to play. If your opponent is lacking proper nutrition and conditioning, you will out perform him/her as time progresses.

General Nutrition Guidelines for the College Athlete

- As an athlete, you'll maximize your energy stores by taking in appropriate amounts of carbohydrate and protein frequently throughout the day. Try to eat a meal or snack every 3-4 hours.
- Carbohydrates are the major source of fuel for muscles. Athletes should consume high quality carbohydrates throughout the day to maintain optimum energy levels.
- High quality carbohydrates include whole grain breads, crackers, cereals, rice, potatoes, beans, and fresh fruit.
- Consuming high quality protein throughout the day is essential for effective recovery and repair of damaged muscle tissue.
- High-quality lean sources of protein include fish, chicken, turkey, egg whites, and lean beef, such as round, sirloin, and filet.
- Fat is not an efficient fuel source – it takes a long time to digest and break down into energy. Fat intake should be moderate
- Drink Plenty of fluids – this will help prevent dehydration, fatigue, and muscle cramps
- RULE OF THUMB ~ undereating or eating too few calories is not a safe and recommended method for weight loss. Eating too few calories can decrease your metabolism, strength, and performance which will affect your overall performance on the field and in the classroom.
- Remember – you're goal is to eat to
 - 1) Improve your overall quality of life
 - 2) To optimize your energy levels and performance
 - 3) To practice good nutrition habits
- Well-balanced eating is a way of life ~ not something you do only as an athlete. After your playing days, what you eat will be one of the major contributors to specific diseases such as cardiovascular disease, diabetes, high blood pressure, cancer, and stroke ~ all caused by being overweight or obese.

Classes and Function of Nutrients

Six Classes of Nutrients: There are six basic nutrients in the foods you eat. A balanced daily diet will provide you with more than enough of these essential nutrients. Look no further than the grocery store to find all six.

1. **Carbohydrates**
2. **Fats**
3. **Proteins**
4. **Vitamins**
5. **Minerals**
6. **Water ~ See Hydration**

Carbohydrates

Carbohydrates are your best source of energy. The body can break carbohydrates down into a usable source of energy rapidly. Consider carbohydrates the gasoline for your body (fuel source). Approximately 55%-65% of an athlete's diet should come from carbohydrate.

Good sources of carbohydrates include wheat bread, whole grain hot and cold cereals and waffles/pancakes, pasta, fruits, vegetables, peas, beans, corn, 100% fruit juice and brown rice. These are also known as complex carbohydrates.

Poor sources of carbohydrates include cakes, pies, cookies, chips, pastries, candy, punches and non-fruit juices, and sodas. These particular foods are high in sugar, which will cause an increase in insulin levels and then an immediate decrease in blood sugar. Circulating insulin levels lead to "FAT STORAGE" and low blood sugar leads to fatigue and poor performance.

In the section titled "Grocery List", you will see specific carbohydrate foods to stock at home and to have when traveling on the road.

Fats

Fat is not a good source of energy. It takes the body a long time to break down fat into usable fuel. If the body cannot break it down to a usable source of energy, it stores it as fat in the body. There are three types of fat, saturated, unsaturated, and trans fat. Saturated fats include animal fats, which may cause an increase in blood cholesterol and cause plaque buildup around the arteries if consumed on a regular basis. Unsaturated fats are heart protective and less harmful and may be beneficial in preventing heart disease. Trans fatty acids are similar to Saturated Fats in the sense that they can damage the heart function if

consumed on a regular basis. Remember, there are no advantages to adding excess body fat to your body. Approximately 20-30% of your diet should come from fat, which will depend on your level and type of training and sport you participate in.

Types of Saturated Fat

Butter
Lard
Cream
Whole Milk
Fast Food
Fried Foods
Salad Dressings
Shortening
Pastries/Cookies
Chocolate
Deli Cheese

Types of Unsaturated Fats

Mayonnaise
Oils ~ *Olive, Canola, and Peanut Oil*
Natural Peanut Butter
Nuts ~ *almonds, pecans, walnuts, cashews*
Salad Dressings
- *Light Done Right*
- *Just 2 Good*

Types of Trans Fats

Chips
Cookies
Peanut Butter
Margarine

Protein

Protein is primarily used to rebuild and repair muscle. After intense training or lifting, your muscles are broken down and damaged. In order for your muscle tissue to repair and recover, it needs high quality protein. During a meal, protein is broken down into amino acids for the muscles and other tissues to use. Protein is a poor source of energy and most people consume far more protein than they need. Excess protein is converted to fat, stored in the body, or released as a waste product in your urine. Increased dietary protein alone will not increase mass,

Your best choices of protein are lean sources of protein. The leaner source of meat not only gives you a good source of protein, but also less fat, especially saturated fat. See below for examples. Each ounce of meat will provide you with approximately 7 grams of protein (ex. 4 ounces of chicken breast = 28 grams of protein).

Lean Sources of Meat/Protein

Beef: Ground Sirloin, Filet, Round, and Lean Ground Beef (93 and 96% lean)

Fish: all fish unless fried

Chicken/Turkey: skinless ~ (grilled, baked, broiled)

Pork: Center Cut, Lean

Eggs: Egg Whites/Egg Substitutes

Veggie Burgers: Boca/Morningstar Farms

Sausage/Hot Dogs: only those made by Healthy Choice or Fat Free Bryan

Deli Meats: Lean Turkey, Ham, or Roast Beef

Cheese: 2% sliced cheese (borden/kraft), parmesan cheese, low fat cream cheese

Medium and High Fat Sources of Meat/Protein

Eggs: Regular Egg

Most Beef: T-bone, ribeye, porterhouse, ground beef 85% or 80% lean, roast (rib, chuck, rump), and corned beef

Pork/Sausage/Hot Dogs: ground pork, spareribs, regular hot dogs

Fish: Anything Fried

Cheese: American, Blue, Swiss, mozzarella, and most deli cheese

Other: Luncheon Meat: bologna, salami

Sausage: Polish, Italian smoked

There is no magic source of protein that will help you get bigger and stronger overnight. Consuming adequate amounts of protein and eating enough calories to support your level of training will help optimize your training and performance goals. Protein Pills and Amino Acids formulas are a waste of money and not the answer to eating more protein. Excess protein intake may actually be harmful on your kidneys and some research even indicates too much protein may cause calcium release from the bone.

Vitamins and Minerals

As stated above, there are no magic pills to make you faster, stronger, bigger, and better. Eating a well balanced diet and getting plenty of rest (at least 8 hours) are the two most important components to optimize your performance as a collegiate athlete.

Vitamins and minerals are necessary for many metabolic processes in the body, as well as to support growth and development. Vitamins and minerals are required in a number of reactions involved with exercise and activity, such as energy, carbohydrate, fat, and protein metabolism, oxygen transfer and delivery, and tissue repair (critical for building lean muscle tissue).

Importance of Hydration

Drinking enough fluids is essential for top athletic performance. Unfortunately, many college athletes pay little attention to proper hydration and fail to include adequate fluids in their diet. Lack of adequate fluids leads to early fatigue and may affect your performance.

If you sweat heavily and lose too much fluid, you reduce your ability to provide adequate circulation to both the muscle and body surface. This not only affects your performance but also endangers your health because body fluids have important jobs. Fluid in the blood transports glucose to the muscle and carries away lactic acid (which builds up during intense resistance training or weight lifting).

By using the following tips, you can keep your body well hydrated:

FLUID NEEDS DURING TRAINING

Make sure you drink enough fluid on a daily basis. You can easily determine if you have had enough to drink by monitoring the volume and color of your urine.

1. You should urinate every 2 to 4 hours throughout the day. The color of your urine should be clear and in significant quantity. If your urine is dark, concentrated, or scanty, you need to consume more water, juice and other fluids (sports drinks such as gatorade/powerade). Note: if you are taking Vitamins ~ your urine may be a dark color. Monitor by the quantity and *darkness* of color.
2. To be aware of sweat losses during exercise, weight yourself before and after practice, training, or conditioning. Each pound lost = 16 ounces of sweat. For every pound you lose, you should drink at least 16 ounces of fluid. Remember, you also lose electrolytes such as sodium and potassium, so a mixture of water and sports drink is essential for adequate replacement of these nutrients. Lack of potassium and sodium in the body could lead to cramping.
3. Drink 8-10 ounces of fluid every 15-20 minutes of exercise.
4. In addition to drinking proper fluids, have high potassium foods such as oranges, bananas, and juice available. Not only will these help with hydration, but also recovery.
5. **BE AWARE:** Coffee, tea, beer and alcoholic beverages have a dehydrating effect: They cause you to urinate and lose fluids. See the chapter on Alcohol and it's effects on performance.

FLUID NEEDS BEFORE HARD EXERCISE

1. The day before an event or game, drink extra water, juice, or sports drinks to be sure your body is well hydrated.
2. The morning of the game/event, drink at least 16 ounces of fluids up to two hours before the start. The kidneys will require 45-90 minutes to process liquids so you can empty your bladder before the start of the game/event.
3. Five or ten minutes before start-time, drink up on another 8-16 ounces (1-2 small cups) of water or sports drink.

FLUID NEEDS AFTER EXERCISE

1. Drink to quench your thirst, and then drink even more. Your thirst mechanism doesn't indicate whether or not you've taken in enough fluids, so you'll have to judge by monitoring your urine. If several hours pass without using the bathroom, you are still dehydrated. **KEEP DRINKING!**

WATER VS SPORTS DRINK

For a moderate exerciser water is convenient and satisfies their body's needs. For a competitive college athlete who exercises intensely for an hour or more, and for endurance athletes (soccer, swimmers, long distance runners, tennis, basketball) who expend large amounts of energy for more than 60-90 minutes, a sports drink will optimize fluid absorption and retention, and can enhance stamina and endurance. The beverage should offer 50-80 calories per 8 ounces plus a little sodium and potassium. Be sure to experiment during training to learn which flavors of sports drink settles in your stomach. Some athletes have difficulty with stomach discomfort so try them out during training only and not before an event.

SODIUM REPLACEMENT

Sweat contains not only water but also small amounts of sodium (an other electrolytes) that keep you body under fluid balance. You lose small amounts of sodium when you sweat, but you do not deplete your body's stores – except possibly under extreme circumstances such as exercising for more than 4-6 hours in the heat. Then again, you can easily replace sodium losses by eating pretzels, yogurt, popcorn, 1 slice of pizza, or lightly sprinkling some table salt on your food. The sodium in sports drinks is added to enhance absorption and retention, not to replace losses after an extreme event (3-4 hour football practice in the heat, marathon or triathlon).

SIGNS AND SYMPTOMS OF HEAT STROKE

While practicing in a hot and humid environment, your risk for dehydration increases, which in turn increases your risk for heat stroke. Athletes who practice in the heat can sweat 1-2 Liters an hour and most college athletes drink less than they sweat. The result is dehydration. Dehydrating just 2% of your body weight – just 5 pounds in a 250 pound athlete—can decrease performance. Dehydration also increases heart rate, which requires extra work by the body.

Heavier athletes are at greater risk for heat stroke because extra body fat is an extra load the body has to carry which increases heat production.

Tips to “Beat the Heat”

1. Recognize the early warning signs of dehydration

These include: dark yellow urine, loss of energy, dizziness, loss of coordination, cramps, headaches, or unusual fatigue.

Signs of Heat Exhaustion: Dizziness, Light headedness, Chills, and Loss of Coordination

Signs of Heat Stroke: High Body Temperature, Confusion, or Unconsciousness Unusual Thinking, Behavior (talks nonsense, blank stare), Physical Decline, Nausea, Vomiting, Very Heavy Breathing, tingly fingers

2. Allow for acclimation.

Acclimation is the body’s ability to adapt to a hot environment. If you are not a familiar with the Southern climate, be sure to become acclimated to it before you begin serious conditioning and practice drills. It usually takes about 2 weeks for your body to adjust to the rigors of training in a hot environment. Most cases of heat illness occur in the first 2 to 3 days of training.

3. Drink Up

Once acclimated, fluid intake needs to be greater because sweat losses will be higher.

4. Don’t rely on Thirst

Drink before, during, and after training/practice to minimize losses in body weight but don’t over drink.

5. Favor Sports drinks over water and be sure to drink them.

This will allow your body to recover quicker in addition to providing your body and cells with a source of energy. Sports drinks also contain the electrolytes sodium and potassium, both which you lose in sweat. Don’t pour it drink it. Pouring fluid over your head may make you feel better but won’t help with hydration or lowering body temperature.

Recovery Nutrition

To recover from the high demands of strenuous exercise/training, you should refuel your muscle with high carbohydrate foods as soon as you can tolerate eating. Remember, carbohydrates are the gasoline for your body. They keep your body's fuel tank FULL. You will recover faster and minimize fatigue.

The trick is to plan ahead and have the right foods and fluids available. Grabbing extra fruit from the performance buffet is one way to ensure you have a good carbohydrate source available to eat immediately after exercise. If you neglect your recovery, you may have a tendency to eat whatever's available. This may mean eating:

Too many greasy, fatty foods ~ donuts, burgers, pastries, nachos, fries, chips, and other high fat choices that FAIL to refuel your body.

Too much PROTEIN ~ by filling up on steak, chicken, rather than a potato, pasta, rice, and whole wheat bread at dinner time. Remember, protein can help with recovery, but will not help restore glycogen (your gas tank) if quality carbohydrate foods are not available.

Too few Calories ~ this is very common amongst weight conscious athletes. They may mistakenly believe carbohydrates are fattening and may refuel with protein rich cottage cheese, tuna, turkey and fish. The rest of the diet (salads and vegetables) offers too few carbohydrates to replace depleted glycogen stores.

An optimal recovery diet is important if you train or compete more than once a day. The following tips can help you design an effective recovery diet into both your daily training program and after game/event meals.

Focus your recovery meal on carbohydrates and eat within the 1st hour after Training

Your muscles need carbs to make glycogen (your gas tank), the fuel need to sustain exercise. Muscles don't make glycogen from protein and fat. Eating within the first hour of training will increase recovery time.

Eat carbohydrates as soon as tolerable after a hard practice/training session

Bread, cereal, pasta, fruit, juices, whole grain crackers, pretzels, rice, bagels, potatoes.

Here are some good combination recovery meals/snacks:

- Bowl of cereal, low fat milk, and fruit (breakfast)
- 2 slices of wheat bread and fruit
- Pasta, rice, potato, or bread at Dinner
- Yogurt and Fruit or Pretzels (small bag)

Common Carbohydrate Foods for Recovery

Food	Amount	CHO (g)	Amount of food Equal to 100 g CHO
Rice, cooked	1 cup	50	2 cups
Pasta, cooked	1 cup	34	3 cups
Bagel	1	31	3 medium
English muffin	1	30	3
Bran muffin	1 large (4oz)	49	2
Oatmeal, regular	1 cup	24	4 cups
Raisin Bran	1 cup	42	2 ½ cups
Grapenuts	1 cup	89	1 cup
Muslix	1 cup	60	1 ¾ cups
Low-fat granola cereal	1 cup	85	1 ¼ cups
Whole-wheat bread	1 slice	12	8 slices
Cornbread	4" square	56	2
Bun, hamburger	1	21	4
Pancakes	2 (4" diameter)	18	12
Granola bar	1	16	6
Fig bar	1	10	10
Date square	1 (60g)	30	3
Banana Bread	1 slice	33	3 slices
Pizza (cheese) *	1 slice	39	2 ½ slices
Bean burrito	1	32	3
Kashi Go Lean	¾ cup	30	2 ½ cups
Raisins, seedless	½ cup	59	¾ cup
Applesauce	1 cup	60	¾ cup
Grapes	1 cup	37	2 cups
Fruit cocktail	1 cup	28	3 cups
Banana	1	27	4
Potato, mashed	1 cup	35	3 cups
Sweet potato	1 large	28	3
Corn	1 cup	42	2 ½ cups
Green peas	1 cup	24	4 cups
Lima beans, cooked	1 cup	39	2 ½ cups
Kidney beans	1 cup	40	2 ½ cups
Baked beans	1 cup	52	2 cups
Split pea soup	1 cup	28	4 cups
Chunky bean/ham soup	1 cup	27	4 cups
Milk, skim or 1%	1 cup	12	8 cups
Frozen yogurt, low fat	1 cup	34	3 cups
Pudding, chocolate	1 cup	60	1 ¾ cups
Low-fat vanilla shake	1 serving	72	1 1/3 serving
Gatorade	8 oz	14	7 cups

Allsport	8 oz	19	5 ¼ cups (42 oz)
PowerAde	8 oz	19	5 ¼ cups (42)
Orange juice	1 cup	26	4 cups
Apple juice	1 cup	28	3 ½ cups
Cranberry juice	1 cup	36	3 cups
Power bar	1 (63g)	41	2 ½ bars
Crunchy granola bar	1 (46g)	16	6 bars
Chewy granola bar	1 (28g)	21	5 bars
Boost chocolate crunch bar	1 (50g)	30	3 ½ bars

Popular Energy Bars

Balance Bar	1	19	5 bars
Bumble Bar*	1	20	5 bars
Clif Bar	1	52	2 bars
Harvest Bar	1	45	2 ¼ bars
Met-Rx High Protein	1	57	2 bars
Protein Plus Power Bar	1	40	2 ½ bars
PR Bar	1	21	5 bars
Source One (Met-Rx)	1	22	4 ¾ bars
Zone Bar	1	22	4 ¾ bars

Determining Your Carbohydrate Needs After Exercise

g= grams * = foods high in fat

After exercise Carbohydrate needs based on Body weight

Body Weight	Carbs (grams)
100 lb	46
120 lb	55
140 lb	64
160 lb	73
180 lb	82
200 lb	91
220 lb	100
240 lb	109
270 lb	125
300 lb	140

*** REMEMBER THAT 60 ounces OF GATORADE (2 LITERS) WILL PROVIDE APPROXIMATELY 105 GRAMS OF CARBOHYDRATE.

**** Food in bold letters are ones that you can pack in your bag if you have class or study hall after practice and are unable to eat at the Performance Buffet. Make sure you don't wait too long (more than 1-2 hours) to eat after practice as this will slow the recovery of your muscles.**

The Effects of Alcohol on Performance

The effects of alcohol can depend on the amount consumed, the context, and on the individual. Daily consumption of two to four drinks may have a protective effect on the cardiovascular system. On the other hand, people most commonly drink more than the recommended amount.

Alcohol and Athletics Doesn't Mix

Alcohol has a wide variety of negative effects on the body, from societal to physiological, accounting for approximately 100,000 deaths yearly in the United States. From a physiological perspective, two situations are critical for the collegiate athlete who consumes alcohol. Moderate consumption of alcohol can have a negative effect on motor skills and physical performance. Chronic use may impair physical performance, cause muscle damage, and weakness. Bottom line is regular consumption of alcohol (3-4 days/week) and more than 2-3 drinks, can decrease or prevent improvement in strength and performance.

Alcohol has been named the most abused drug by the NCAA. Each gram of alcohol provides seven calories. If you are trying to maintain or lose weight, consumption of alcohol can make reaching that goal, very difficult. One serving of alcohol is considered:

6. 12 ounces of beer
7. 5 ounces of Wine
8. 1 ½ ounces of spirits (vodka, gin, rum, bourbon)

Calories contained in Alcohol

12 ounce beer = 90-110 calories (light beer) 120-200 calories (dark beer)
1 oz of liquor = 100-120 calories
5 ounces of wine = 200-250 calories

Imagine drinking 8-10 beers (800-1000 calories), 6-7 mixed drinks (bourbon and coke) ~ with approximately 2 ounces per serving = 1200-1400 calories, or 5 glasses of wine = 1000-1250 calories. If you drink two-three times/week, that's an additional 2500-3500 calories and 3500 calories = 1 pound of fat.

In addition, alcohol consumption causes dehydration. It functions as a diuretic pushing water out of the cells, which puts you in a dehydrated state. As you already know, dehydration decreases performance and puts you at risk for heat stroke.

NOTE: There are no benefits of alcohol consumption and performance. Avoiding alcohol will provide you with a greater advantage to achieve your performance goals.

Grocery List

Carbohydrates (Starches)

Whole Wheat Bread
Whole Wheat Buns
Baked Potato
Sweet Potato

Whole wheat pasta
Regular Pasta or Spaghetti noodles
White or Brown Rice
Baked Beans
Refried Beans
White Beans
Red Beans
Quaker Instant Oatmeal
Pancakes
English Muffins
Eggo Multigrain Waffles
Wild Rice
Corn
Peas

Other Important Carbohydrates

Cereals

Uncle Sams
Special K
Multigrain Cheerios
Cheerios
Kashi Go Lean
Total
All Bran
Wheaties
Corn Flakes
Shredded Wheat
Kashi Heart to Heart

Soups

Campbell's Health Request
Soups by Healthy Choice

Fruits

All Fresh Fruit
Fruit Cocktail
Fruit Juice
Canned Fruit (packed in
Juice ~ not syrup)

Drinks/Fluids

Water
Skim, 1% or 2% Milk
Crystal Light
Sugar Free Kool Aid
Diet V8 Splash
100% Fruit Juice

Vegetables

Artichoke
Mixed Vegetables
Green Onions
Broccoli
Cauliflower
Green Beans
Green/Red Pepper
Mushrooms
Tomato
Carrots
Celery
Cabbage
Zucchini
Cucumber
Onions
Lettuce (Romaine or Spinach Leaf)
Asparagus
Collard/Mustard Greens
Spinach
Artichoke

Protein Foods

Chicken Breast (skinless)
Turkey Breast or Lean Ground Turkey (skinless)
Lean Turkey Deli Meat
Lean Roast Beef/Deli Meat
Healthy Choice Hot Dogs
Lean Ham/Deli
Tuna-can in water
Chicken-can in water
Salmon-can in water
Baked, Grilled Fish, or Boiled Fish (Tuna, Salmon, Trout, Crab, Shrimp, Lobster, Halibut, Talapia)
Lean Ground Beef (At least 90-96% lean)
Other Lean Beef Choices (sirloin, eye of round, flank, filet, top round)
Canadian Bacon
Lean Pork Tenderloin, Center Cut Pork Chops –Grilled or Baked
Deer or Venison Sausage
Egg Whites, Egg Substitute
Reduced Fat Peanut Butter or Natural Peanut Butter (try Smucker's All Natural/ or Almond Butter (this is a natural peanut butter)
Low-fat Cottage Cheese (Light N Lively)
Low fat sliced or cream cheese
Veal-baked or grilled
Veggie Burgers (any product made by BOCA or MORNINGSTAR FARMS) ~ make good sausage patties (1 minute in microwave)

Condiments

Fat-Free or Low fat Mayonnaise
Mustard
Ketchup
Low Fat or Fat Free Sour Cream
etc.)
Lite Margarine
Hot or Creole Mustard
Horseradish
Relish
Salsa
Pickles, dill, unsweetened
Soy Sauce
Foods
Low Fat Salad Dressing

Healthy Fats

Olive Oil
Canola Oil
Low-fat Mayo
Nuts/Seeds (peanuts, almonds,

Low/Reduced Fat Dressing
Peanut Oil
Avocado
Brummel and Brown Butter

Bad Fats to avoid (Saturated)

Butter, Bacon, Coconut, Fried

Heavy Whipping Cream, Salt,
Pork, Coffee Creamer, Fast
Food, Pastries, Cakes, Pies,
Cookies, Chips, Candy, Whole
Milk, High Fat Meats

Snacks (You can stock these in your pantry)

Triscuits, Crackers, Low Fat Ice Cream (No Sugar Added ~ 1 cup), Healthy Choice Popcorn, Soy Chips, Baked Chips, Hummus, Low Fat veggie Dips, Low Fat Yogurt), Nature's Valley Granola Bars, Nutrigrain Bars

Other Grocery Products to Avoid and Ideas for making dinners more NUTRITIOUS (**most Frozen Meals are extremely high in Salt/Sodium and Fat**)

TV dinners or Microwave Dinners, Frozen Pizzas and products with added seasoning packets (Ramen noodles, hamburger helper, yellow rice, boxed macaroni and cheese). You can cut your salt intake by 50-75% by eliminating the packet and adding spices to your meal (basil, oregano, thyme, garlic or onion powder, and pepper). You can also add fresh vegetables such as onion, garlic, red or green pepper, and green onions for added flavor.

Some of these products are more expensive than natural fresh products. You can make regular spaghetti and melt fresh cheese in to make a natural macaroni and cheese instead of processed.

Dinners by Lean Cuisine and Healthy Choice are still high in sodium but would be more nutritious for you than other TV and Microwave dinners. These can be used for convenience.

If you have an OVEN ~ you can make PIZZA at home by using BOBOLI CRUST and adding sauce, veggies, and lean meat to your pizza. After adding your favorites, add a little low fat shredded cheese on top during the last 5 minutes of cooking. Follow the directions on the back of the BOBOLI crust package for cooking and heating instructions.

Fast Food & Restaurant Guide

With the responsibility of training, practicing, and studying, it is very common for college athletes to select the most convenient methods to eating. Usually, fast food restaurants are an athlete's #1 choice when looking for a quick hunger fix. On the other hand, over indulging in fast food on a daily basis is one of the main reasons college athletes gain an extra 5-10 or maybe 20 pounds during the off-season. One reason is that the majority of Fast Food VALUE MEALS contain anywhere from 1200-2200 calories per meal. That's right ~ for some of you, that's your entire caloric need for the day. Make smart selections when eating at your favorite fast food restaurant. Not only do you have to be aware of Fast Food Restaurants, but also a few of your favorite chain restaurants can be just as dangerous with the amount of calories contained in their foods.

According to Restaurant Confidential, one Bloomin Onion with the Dipping Sauce contains **2130** calories and 163 grams of fat! Leave out the sauce and you still consume 1690 calories and 119 grams of fat, 57 of them saturated. The average Chinese restaurant serving of General Tso's Chicken contains 1600 calories and 59 grams fat. Kung Pao Chicken has 1620 calories and 76 grams fat. A Double Quarter Pounder with Cheese Combo at McDonald's with a coke is approximately 1700 calories.

Here are a list of fast food restaurants local restaurants and items that are lower in calories and fat. Be sure to choose from this list when eating at a fast food restaurant. Fast foods are extremely high in calories, fat, and salt and are not a healthy choice.

Be sure to make smart substitutions to avoid eating a high calorie/fat meal. Try not to super size if getting a value meal. This will add an additional 400-500 calories. Also, instead of having fries, choose a salad with light or low fat dressing, or order only small fries. Drink Water with meals or Unsweetened Tea.

Burger King

Hamburger no mayo/cheese
BK Broiler- no special sauce
Chicken Whopper Jr- no mayo
Whopper Jr – no mayo
Chicken Caesar or Garden Salad
Light or Fat free Dressing

McDonald's

Small Hamburger
Grilled Chicken Sandwich-no mayo
Grilled Chicken Salad-fat free dressing

Egg McMuffin
Caesar Salad
Chef Salad

Taco Bell

Bean Burrito
Regular Soft Taco/Chicken Soft Taco

Wendy's

Chili – larger or small
Grilled Chicken Sandwich no mayo or special sauce
Grilled Chicken Salad
Spring Mix Salad/Mandarin Chix Salad
Hamburger- no mayo

KFC

Tender Roast Chicken Sandwich

Super Popeye's


Grilled Skinless Chicken Breast
1 potato
Salad or side of fruit

Subway

any of the low fat subs are fine
Light mayo, baked chips, with water
Add all vegetables

Bud's Broiler

Grilled Tuna
Hamburger
Grilled Chicken



on wheat bun

Chick-Fil-A

Grilled Chicken Sandwich
Water, small waffle fries

Eating on the Road

One of the major decisions you have to make as a college athlete when traveling is balancing a healthy diet into your daily schedule. This can be difficult depending on your situation: time management, events scheduled, pre and post event snacks or meals, and what healthy choices to make when eating out.

Pre-Game Meals

3-4 hours before event

Majority of meal should be a good source of carbohydrates

Pre-Game Meal Guidelines: Eat a carbohydrate rich meal. This provides your body with the proper fuel necessary to keep your engine running. A low carbohydrate meal before an event, especially an event that last for more than 1 hour, could have a negative effect on your performance. If you have a meal 4-5 hours before an event, you may want to have a small snack two hours before the event starts. The small snack will help keep your blood sugar in control and will improve your stamina and endurance. Before an afternoon or evening competition, eat a well balanced breakfast (see below)

Breakfast Ideas

(whole grain cereal- cheerios, multigrain cheerios, total, Wheaties, Special K), bagels, oatmeal, grits, wheat toast, waffles and pancakes (add a little syrup), ham, Canadian bacon, egg whites, reduced fat peanut butter or cream cheese (use lightly (1-2 tablespoons), FRESH FRUIT, yogurt, skim or 1% milk), 100% Fruit Juices (orange, apple, cranberry, V8 Splash)

Lunch Ideas

Starches: pasta, baked or sweet potatoes, rice (preferably brown), Whole grain breads, tortillas, pita bread)

Meats: Grilled/Baked/Broiled- Not Fried

Lean Meat Choices: See choices under ***Classes of Nutrients ~ under Lean Meats***

Fluids: Water or Juice

What to avoid?

Foods high in FAT and SUGAR (High fat foods take longer to digest and will keep you full for a longer period of time and possibly can affect your performance).

-*Breakfast* (bacon, sausage, egg yolks (yellow ~ have only 1 or 2), butter, biscuits, cinnamon rolls, doughnuts, other pastries or sweets (honey buns, cakes), whole milk, Cereals with a high sugar content-Frosted Flakes, Corn Puffs, Fruit Loops, Raisin Bran, Honey Almond Crunch, Coco Puffs, etc.

- *Lunch and dinner* (FAST FOOD, hamburgers, fried chicken sandwiches or dinners, foods with a cream sauce, appetizers unless it specifies grilled/baked, French fries, fried onion rings, desserts, fried seafood, High Fat BEEF ~ RIBEYE, T-Bone, Porterhouse, meals prepared with butter)

Fluids: Avoid beverages containing caffeine ~ these put you at risk for dehydration (drinks such as Soft or Cold Drinks and Diet Drinks)

Healthy Tips When eating at Restaurants

- Always ask for salad dressing and dressings for your potato on the side.
- Ask Waiter/Waitress how meats/vegetables are prepared-although it's grilled/baked/steamed-may be in butter/hollandaise/bordelaise/cream sauce-these are high in fat
- Most appetizers are fried or high in fat-have soup or small salad instead
- Ask for the "Light-side" of the menu
- Drink Plenty of water
- If trying to lose or maintain your weight ~ eat ½ of your entrée
- Watch out for entrées that indicate ~ creamy, deep fried, pan fried, alfredo sauce, hollandaise, rich ~ all words that indicate meal is high in fat

What can you do to better prepare for ROAD TRIPS

- *This can be extremely important for athletes who participate in multievents, matches, games.*
- Bring Snacks (trail Mix, triscuits, energy bars, fresh fruit, bagels, peanut butter)
- Plan ahead (make a few sandwiches for the bus ride or pack some snacks so you don't go too long without eating)
- Have a water bottle available to refill when thirsty
- Sports Drinks (Gatorade or Powerade)

Nutrition for the Vegetarian

An increasing number of college athletes and active individuals are adopting vegetarian diets for a variety of health reasons. Vegetarian diets can easily provide the nutritional requirements for all athletes if they contain a variety of plant foods.

SPORTS NUTRITION CONSIDERATIONS

Vegetarian, especially vegan athletes often have difficulty meeting their energy or calorie needs due to the energy density of plant based diets. It is extremely important to follow the same guidelines as the non-vegetarian athlete and consume approximately 6 small meals per day including snacks. The type and amount of food will differ depending on your nutrition and performance goals. Below is a sample 3000 calorie Vegetarian Menu.

Breakfast

- 1 Cup of Special K
- 1 cup of Skim or 1 % Milk
- 2 slices of whole grain toast
- 2 TBSP of Soy Margarine
- 1 Morningstar Farms Sausage Patty
- 6 ounces of Fruit Juice

Lunch

- Veggie whole wheat Pita stuffed with Shredded Spinach, sliced tomato, 1 slice of 2% cheese, and 2 TBSP of olive oil.
- 1 apple
- 2 small oatmeal cookies
- Water

Dinner

- 3 ounces of grilled Tuna
- 1 cup of cooked spaghetti
- 1 TBSP of Olive Oil
- 1 TBSP of Parmesan Cheese
- 2 slices of wheat bread
- 1 cup of steamed broccoli

Morning Snack

- ½ Peanut Butter Sandwich
- 8 –12 ounces of Water

Afternoon Snack

- ½ Bagel
- 1 TBSP Peanut butter
- Water or 6 ounces of Juice

Nighttime Snack

- 1 piece of fresh fruit
- 1 piece of string cheese
- 10 Peanuts/Almonds

The biggest challenge for vegetarian athletes is consuming adequate protein. Below is the nutrient content of available protein foods for the Vegetarian.

Food	Protein (g)	Fat (g)	CHO (g)	Cals	Calcium (mg)	Iron (mg)
Black Beans, 1 cup	15	1	41	227	46	3.6
Chickpeas, 1 cup	14.5	4	45	270	80	4.7
Kidney Beans, 1 cup	15	1	40	225	50	5.2
Lentils, 1cup	18	1	40	230	38	6.6
Pinto Beans, 1cup	14	1	44	234	90	4.5
Tempeh, 1 cup	16	6	14	165	85	1.9
Tofu, firm, 1cup	20	11	5	183	258	13
Tofu, soft, 1cup	10	6	2	94	130	6
Vegetarian Patties						
Advantage 10/ Southwestern	8	1	24	140	40	4.2
Boca Burger, original	12	0	9	84	50	1.4
Gardenburger, original	8	3	18	130	80	trace
Gardenburger, vegan	11	0	23	140	20	0.7
Morningstar grillers	14	6	5	140	40	1.4
Morningstar Garden Veggie patty	10	2.5	9	100	40	0.7
Vegetarian Hot Dogs						
Morninstar Hot Dogs	11	0.5	6	80	0	2.7
Yves Tofu Weiners	9	0.5	2	45	20	1.1
Meatless Slices						
Lightlife, Turkey Style,	9	0	1	40	20	2.7
Lightlife, Country Ham style	10	0	2	50	0	5.4

Athletes should consume approximately 1.5 grams of protein per kilogram of body weight. How do you turn pounds into kilograms, you take your body weight and divide by 2.2. If you are 175 pounds, then $175/2.2 = 79.5$ kg.

$79.5 \text{ kg} \times 1.5 \text{ g/protein} = 119$ grams of protein per day.

Rule of thumb = a 3 ounce piece of meat contain about 21-25 grams of protein

Concern of Calcium and Iron Deficiency in Vegetarians

Deficiency of Calcium and Iron is a major concern, especially in vegan and vegetarian athletes. Vegan athletes usually refrain from eating red meat and calcium rich foods such as cheese, yogurt, and milk. Lack of dietary calcium may slow bone growth and development and may be a contributing factor to stress fractures, decreased bone mineral content, and decreased bone density, especially in female athletes who do not experience a menstrual cycle on a regular basis. College athletes, especially those who run and jump continuously, put extra stress on the lower limbs. When bones of the lower limb lack bone strength and density, a higher risk for stress fractures occur. Research has demonstrated that calcium is lost in the sweat during intense training, suggesting that additional calcium may be required to offset the loss. On the other hand, vegan athletes may not need extra calcium due to the lower intake of animal protein and total protein intake, both of which stimulate calcium loss in the urine.

Good sources of calcium for the vegetarian athlete include

- Dairy Products (milk, cheese, yogurt)
- Tofu
- Soybeans, Tempeh, Pinto Beans, Chickpeas
- Almonds, Almond Butter, Brazil Nuts, and Tahini
- Calcium Fortified Orange Juice
- Soy Milk
- Vegetables (bok choy, spinach, kale, mustard greens, broccoli, cabbage, turning greens)
- Soy Cheese
- Figs
- Hummus
- Whole grain bread

For the Vegan Athlete ~ all of the above excluding dairy products

All athletes, particularly female endurance athletes, are at risk for iron depletion and iron deficiency anemia. Most of the iron in a vegetarian diet is Non-Heme iron, which has a very low absorption rate. In most cases, vegetarian athletes can achieve proper iron status without iron supplementation. See below for resources.

IRON CONTENT OF FOODS

Kidney and Baked Beans, Cereal (total, 100% fortified) Cream of wheat, Raisin Bran, wheat germ, spaghetti (enriched), refried beans, veggie burgers (Boca and morningstar Farms).

NOTE: Vitamin C enhances Iron absorption. Plan to eat Vitamin C rich foods along with meals high in iron, such as orange juice with cereal, tomato on a sandwich or having a citrus fruit (strawberries, grapefruit, oranges) with your meal.

Sample Meal Plans

Below are a few sample meal plans that will give you a guideline, as to how you should properly fuel your body. These meal plans may not apply to your caloric needs and are not intended for **Weight Loss or Weight Gain** so be sure to meet with the Nutritionist to have a meal plan specifically designed to meet your performance needs.

Sample 2500 Calorie Meal Plan

8:00	Breakfast	2 Eggs 1/2 cup of grits or oatmeal 2 slices of wheat bread 1 cup of juice
12:00	Lunch	4-5 ounces of sliced lean beef 1 cup of green beans 1 cup of mashed potatoes or corn 1 cup of milk or juice 1 cookie
3:00	Snack	Nature's Valley Granola Bar Fresh Fruit and Water
6:00	Dinner	4-5 ounces of Grilled Fish 1 Cup of Salad with Vegetables 2 Tablespoons of light dressing Medium Baked Potato ~ light on toppings (ex. Butter, cheese) 1 cup of juice and water
9:00	Snack	5 Cups of Light/Low Fat Popcorn 2 pieces of string cheese Water

Sample 3500 Calorie Meal Plan

7:30 AM	Breakfast	1 cup oatmeal with skim milk 1 cup of low fat yogurt Banana
11 AM	Lunch	Turkey/Ham Sandwich 1 piece of fresh fruit 2 cups of juice Small bag of baked chips 1 cookie
2-4 PM	Workout	3-4 cups of Sports Drink
4:30 PM	Snack	½ Peanut Butter Sandwich Small Bag of pretzels Gatorade/Powerade
6:30 PM	Dinner	4-5 oz of grilled chicken breast 1 cup rice or pasta 1 cup of broccoli Salad with light dressing 1 piece of wheat toast ~ teaspoon butter 1 cup of low fat milk or Water
Snack		6-8 Triscuits with 1 tablespoon of Peanut butter Fresh fruit