Strategies For Winning Nutrition

When competing in college athletics there are three factors that contribute to a successful performance: genetics, hard work, and nutrition. Since we can only control two out of the three it is important that we do so. As athletes, taking care of your body will enhance your performance by keeping you energized for maximum physical capacity, protect you from injury and sickness, and maximizes recovery of muscles and body. Our game plan will involve six basic nutrients and three keys to achieving optimal health.

Four Major Nutrients for High-Performance

A nutrient is a substance we obtain from food and use in the body for growth, maintenance, and repair. Foods are made up of many different nutrients; there are six that are essential to achieving and maintaining optimal health and performance.

Carbohydrates

Carbohydrates are one of the three major sources of energy supplying 4 calories per gram. You should get 60% of your daily intake of calories from carbohydrates. They are the primary energy source for high intensity exercise. Adequate carbohydrate intake is necessary especially during heavy training to replenish and maintain the body's relatively limited glycogen stores. Athletes who do not consume enough carbohydrates to meet their daily needs for hard practices and training feel tired and lethargic due to the depletion of glycogen in their muscles. A common symptom is when your muscles start to feel heavy and your pace slows, also known as "hitting the wall".

Proteins

Protein is essential for building and repairing muscles, red blood cells, hair and other tissues, and for synthesizing hormones. Protein from food supplies 4 calories per gram. They are broken down into amino acids, which are then rebuilt into proteins in the muscles and other tissues. Protein does not like to be used for energy, but will be if there are inadequate carbohydrates available (like during exhaustive exercise). About 15% of your daily intake should be from protein rich foods. It is important to recognize that proteins are essential in the diet for many reasons but over consuming protein does not build muscle bulk, strength training does. In fact extra protein is stored as fat or burned for energy when carbohydrates are scarce.

Your best bet for building strong muscles is a combination of strength training and a diet adequate in protein and enough muscle fuel (carbohydrates) to let you exercise to full capacity. This will ultimately eliminate the utilization of that hard-earned protein (muscles) for energy.

Fat

Fat is the most calorie dense food providing 9 calories per gram. It is a source of stored energy that is burned mostly during low-level activity (reading or sleeping) and long-term exercise (long runs and gentle bike rides). Fat comes in two forms saturated and unsaturated. Saturated fats are animal fats like butter, lard, fat in meat, and when not moderated can contribute to heart disease and even cancer. Unsaturated fats are mainly plant derived (olive oil, canola oil), and are generally less harmful. Fats play many roles in the body; they provide the biggest energy reserve, surround and protect vital organs, provide thermal insulation from cold, and act as a transport medium for fat-soluble vitamins (ADEK). Approximately 15% of males' and 25% of women's bodies are fat. Carbohydrate stores run out in about 1-½ hours where as fat stores provide energy for up to 120 hours. "Fat burns in a carbohydrate flame", you can't use fat for energy without carbohydrates present (this spares protein). Well-trained athletes generally utilize fat for energy better than the average person. Athletes should try to limit daily fat intake to 25-30%.

Water

Water is one of the most important nutrients in an athlete's diet. Dehydration is one of the biggest factors inhibiting your ability to exercise or perform at your maximum potential. Just one percent dehydration roughly 1.5 pounds of water lost, will cause increased body temperature, while three percent dehydration around 4.5 pounds of water lost, will impair performance. Five percent dehydration around 7.5 pounds of water lost can cause heat cramps, chills, nausea, clammy skin, rapid pulse, and a 20-30% decrease in endurance capacity. The average water loss during training and competition without replacement is between 2-5 pounds. It is important to realize that you lose water in other ways besides just sweat. One way is respiration, every time you exhale you are losing water in your breath. It is normal to lose 3 pounds of water per hour through respiration alone. For an athlete, who breathes relatively hard and sweats a lot this all must be taken very seriously. Proper hydration cannot be emphasized enough; here are some tips to follow when trying to achieve this goal.. When properly hydrating your body, consuming water not only after training or competition is important, but before and during as well. Before training or competition you should "hyperhydrate" by consuming 12-24 ounces 20 minutes before. During training or competition you should consume 8-10 ounces every 10-15 minutes. After competition you should consume as much water as possible and just because you don't feel thirsty doesn't mean you have drank enough.

Alcohol and Its Effect on the Athlete

Many college athletes take their sport very seriously and never consume alcohol, knowing the performance impairing effects it has on the body. For those who do not believe that the consumption of a 12 pack of beer the night before training or competition will affect them, here are few things to consider. Alcohol provides 7 calories per gram commonly called "empty calories" yielding no vitamins, minerals, or anything of use to your body. Your body cannot store calories in the form of alcohol. Meaning, all the alcohol you take in must be burned, leaving everything else you consume (fats, proteins, and carbohydrates) to be stored. This is not a good thing, since most people tend to eat a lot when intoxicated. Using alcohol as an energy source is not the most optimal choice. It takes almost twice as much oxygen to burn one gram of alcohol than a normal carbohydrate. This dramatically impairs your performance by putting more strain on your muscles and body, which leads to early fatigue. Alcohol dehydrates your body by blocking your antidiuretic hormone (ADH) from telling your body to conserve water rather than excrete it. It inhibits you from getting proper sleep, even though you may think that you were passed out. When you have alcohol in your blood you never truly reach the third stage of sleep leaving you tired and sluggish the next day (hangover). Performing the morning after ingesting alcohol has shown that muscle glycogen levels are significantly lower, there is a decreased glucose (energy) output in the body and a decrease in the uptake of glucose (energy) by muscles, which leads to a much faster burn out. Athletes need to understand that drinking will not only affect them the day after consumption but up to three days after as well! Most likely due to burning alcohol for energy, lack of sleep, and by not allowing their muscles to fully recover and reestablish normal glycogen levels. Athletes who drink usually have what is considered to be "Bad Mondays" the day they should return to practice well rested.

The Pre-Event Meal

The pre-event meal is an important component to any competition or training program. The goal of the meal is to boost glycogen stores, prevent low blood sugar, and to over hydrate your body. A few things to consider when planning this meal are the time, size and components of the meal. The night before the event is the most important meal and should be high in carbohydrates usually something you like that is moderately low in fat, like pastas, potatoes, and rice dishes. If your event is an afternoon or evening eating a high carbohydrate snack before going to bed like oatmeal raisin cookies and juice or fruits and bagels will be beneficial. Most importantly, drink as much fluid as possible; preferably water, the night before an event. The day of your event you should eat a small high carbohydrate meal 3-4 hours prior. This meal should be something you enjoy to eat and that will satisfy you. Try to limit proteins and fat from this meal because they tend to slow digestion and leave you feeling heavy and slow. By eating three hours in advance there should be adequate enough time for proper digestion meanwhile preventing "hunger pangs".

The Post-Event Meal

The most important purpose of the post-event meal is to rehydrate your body and replenish your glycogen stores. Research shows that the first 20 minutes to 10 hours after competition are the most crucial for recovery. The biggest problem is that most athletes are tired and fatigued during this time and do not feel like eating. In the first 20 min after competition or intense training you should optimally eat a high glycemic snack containing at least 400 Kcal or 100g of carbohydrate. At this time your body has depleted all of your glycogen stores (energy sources) and will better replenish them to full capacity. Some good choices would be a tall glass of orange juice and a medium bagel, 12-ounce soft drink and an 8-ounce fruit yogurt, or 16 ounces cranberry juice. Most athletes who have followed this regimen have shown dramatic increases in energy levels and performance the next day. After the first hour an athlete should eat and drink whatever sounds good! This is a good time to eat proteins and fats, they will help rebuild your muscles and promote storage of nutrients. Don't forget that along with replenishing your glycogen stores you need to replenish as much fluid to your body as possible!

Supplements

One little magic pill or shake is not going to necessarily make us run faster, jump higher, or get stronger. Offering of such items for sale is highly unethical and in some cases illegal however, most highly competitive athletes will pay a high price for improved performance. Most improvements seen from the use of these products results from higher confidence due to taking the supplement and the belief it is helping them. This is commonly called the "placebo affect" a highly mental effect. Your mind being your most powerful tool can push you far beyond your expectations enhancing your performance. No scientific data proves any of the following effects; protein supplements help build strong muscles, Bee pollen provides energy, or ginseng makes you faster. Your best bet when analyzing a product that has a certain claim is that if it sounds to good to be true like " lose ten pounds in two days" it probably is. The Best energy enhancer is to consume a well-balanced diet rich in carbohydrates and maintain proper hydration before, during, and after exercise while allowing adequate rest for your muscles to recover. There is no substitute for hard work and smart nutrition!

Proper Weight Gain

Some athletes might find themselves a little skinny and wish to add a few pounds in hopes of filling out their physiques or just want to add some meat to their bones to repel being pushed around in their sport, most commonly basketball, football, and water polo. Most athletes usually males want to gain weight by building their muscles. The key to gaining weight is to eat more calories than expended in correlation with appropriate muscle building activities. When planning the weight gain diet it is important to maintain the ideals of a healthy diet in the proper consumption of carbohydrates, protein, and fat, as opposed to consuming every high fat meal and desert on the menu. One pound of fat equals 3500 calories typically; you need to consume 500 more calories a day than you expend to gain one pound a week. Diet and weight training are the two best ways to achieve weight gain. Many athletes believe the way to gain weight is to eat a high protein diet. But you do not store excess protein as muscle rather fat. The best diet is one that is calorie rich while maintaining the proper balance of nutrients. Carbohydrates should be the bulk to ensure you have the proper fuel for your muscles to perform intense muscle-building exercise. By overloading the muscle with weight lifting and other resistance exercises (not protein), the muscle fibers will increase in size and generally get bigger. To increase your caloric intake substitute foods that are more calorie dense (not high in fat) for example, dried fruits, nuts, pizza, granola, grape nuts, wheat chex, fruits, fruit juices, oatmeal, beans and legumes peanut butter and jelly sandwiches, hearty soups filled with veggies and meat, lean cuts of meat, milk, vegetables stir fried in oil, potatoes, and last but not least deserts with nutritional value like fig newtons, chocolate pudding, oatmeal raisin cookies, low-fat frozen yogurt, muffins, corn bread, banana bread and other sweet breads. Snacks are also helpful for people trying to gain weight, since some cannot take in all the calories they need in three meals. Good snacks would be fruit, yogurt, pretzels, english muffins, bagels, bran muffins, peanut butter crackers, granola bars, fruit smoothies, sandwiches, nuts, and dried fruit. Another way to help add extra calories is to add bigger portions to your typical meal. By including the muscle building resistance training you will help to enhance muscle growth instead of fat deposit growth. Don't worry if you are not gaining weight it just might not be part of your physique and

you will have to use your others virtues such as speed to get by the slow pudgy competitors. Keep in mind that people gain weight with age and if you are still in your 20’s your bulk may still be coming!