

Sports Nutritional: Peak Performance - Part II

Peak performance. Every athlete wants it, yet few actually achieve it. Finding the "right" combination of variables to elevate your performance to that **peak-performance level** can be a difficult and sometimes endless venture. Considerable variation exists within and among athletes relative to their performance potential. This results from a number of factors, some of which are outside your control, but others are well within your grasp. However, aside from the limits imposed by heredity and the physical improvements associated with training, no single factor seems to play a bigger role in overall sport performance than diet.

"DIET! #\$\$^&*(). You've got to be kidding me." No, I'm not. Though it may not be all that apparent in our sport, across the board, sport science has determined that sport nutrition, not sport psychology, is one of the biggest, if not the largest factor influencing an athlete's peak performance. Don't shoot the messenger if you don't believe me, I'm only delivering the information my fellow colleagues have been discerning for decades. But, let's look at it so we can all understand it better.

Since athletes place considerable demands on their bodies every day they practice, train, and compete, it is vital the body be as finely tuned and energized as possible. This, by necessity, encompasses optimal sport nutrition. Too often, athletes spend considerable time and effort perfecting their technical sport skills or manicuring their equipment, only to ignore the substantially more important variables of physical conditioning, proper nutrition, and rest. It is not uncommon to trace the deterioration of an athlete's performance back to one of these three.

In Search of Peak Performance

Bowlers have most recently become notorious for seeking the "right" or "perfect" combination of equipment, drilling patterns, surfaces, ball motion, entry angles, breathing techniques, and concentration in search of that elusive peak performance. I remember Leonard Nemov in one of my favorite television shows of all time, In Search Of describing various quests for lost treasure, mythical relics, or sacred legends. A very exciting and seemingly impossible task for those who would undertake it. For bowlers, that same seemingly impossible task or undertaking is managing your energy levels without sport nutrition.

Sports that demand extreme strength or endurance, or very low levels of body fat, often require specialized diets for the athlete to reach their peak performance. For example, a weight lifter's personal energy requirement may be more than 5,000 calories a day on a high protein diet. Distance runners often consume an average daily plan of 3,000-5,000 calories with a majority of them coming from complex carbohydrates. Other elite athletes use the glycemic index as a guide for their carb intake.

Many professional and collegiate team-sport programs employ sport nutritionists to accommodate their athletes' needs. Elite swimmers, track & field athletes, cyclists, and even tennis and racquetball players all have specific nutritional habits. It's no longer debated whether or not sport nutrition should rise to the forefront of the sport science community. It has done so on its own. Nevertheless, what about bowling? Where does sport nutrition fit into the preparation tactics of the bowler-athlete? I've asked myself that question for several years now and I keep coming back to the same answer. It's ENERGY MANAGEMENT.

Sport nutrition in bowling leans largely toward energy management. You see, since bowling is an anaerobic sport requiring many short bursts of energy over often long periods of time, storing large amounts of energy and keeping that energy replenished daily are your primary needs. Storing large amounts of energy and replenishing it frequently. That differs from many other sports, which are geared toward maximal output of an athletes entire energy stores. For you though, storing as much energy as possible and then stretching it out and replenishing it as often as possible is our goal.

A bowler athlete who rolls only three games a week, shouldn't be overly concerned with detailed sport nutrition and caloric intake (unless attempting to lose or gain weight for health or other reasons). However, those of you who regularly practice, physically train and compete should pay close attention to your body's energy requirements.

When bowling many games over longer periods, especially in a competitive environment, energy can become a critical factor to your performance. Your physical execution, your thought processes, your focus and deepening concentration all use what energy you have stored. When your levels get low, your performance declines. It's that simple. You don't want to "run out of gas" at the end of a long tournament, or when needing to strike out in the tenth frame to win a match. It's all about ENERGY MANAGEMENT.

Sport science has revealed time and time again, the meals an athlete consumes in the days prior to competition influence performance.

Last month we mentioned competitive bowling is both tiring and fatiguing, often leaving you utterly drained. We determined complex carbs have the greatest nutritional and energy value, and that you have the ability to store a **large large large** amount of them in your body. However, in order to do so, you must train the body to expand its energy stores. You also learned physical conditioning increases the body's capacity for carbs (glycogen) storage, and the body of a trained athlete is capable of holding nearly twice as much energy as that of an untrained individual.

High Performance Eating

Though there has been little research or scientific inquiry of the energy and nutritional demands of the bowler athlete, sport science has devised many common practices among competitive and elite athletes. Sport science has revealed time and time again, the meals an athlete consumes in the days prior to competition influence performance. That's the concept of energy management. Rather than trying to load up on carbs and energy a day or two before a tournament, work toward a more consistent carb intake in each of your meals daily.

A high-performance eating plan is one that provides adequate quantities of vitamins, minerals, water, and protein as well as optimal quantities of high-energy foods consistently from meal to meal. It is this eating plan that is designed for optimal or peak performance, by making energy systematically available to the muscles and nerves. Your ultimate goal is to optimize muscle glycogen. Your practical goal of high-performance sport nutrition is to **work toward a diet that is about 65% carbohydrates**.

A high-performance eating plan is the best nutritional preparation for training and competition. Not by gorging on high carb foods a day before or even a couple hours before a bowling tournament, but instead a consistently steady, healthy high-carb intake will condition your body to the process. This means adapting your style or eating habits in an attempt to increase your carbohydrate intake, and more specifically from last month, your complex carbohydrate intake. The amounts of carbohydrates you consume increase somewhat, but your total caloric intake should remain nearly unchanged. You don't have to eat more because the key is to decrease your fat intake while increasing your carb intake. No additional foods, no additional calories, no additional spending. One offsets the other.

Optimal muscle glycogen levels are a result of consistent high-performance eating.

You see, simply adding more carbs to your diet will not produce the desired results, because the typical American diet is extremely high in fat. An ideal high-performance diet is one that plans for a reduction of fat. For you, the need to reduce fat is even greater than the non-athlete, because you need to replenish muscle glycogen between daily workouts and practice sessions, and fatty foods just won't do.

Increasing Carb Intake

The real trick over the years to a successful high-carb diet has been to understand the importance of eliminating fat whenever possible, and then substituting high-carb foods. Substituting wholesome foods for those high in fat or sugar is never easy. Last month we learned high fat and high sugary foods are the sweet tasting items we usually crave. Taking them away and replacing them with more natural, foods such as fruits and vegetables, is often physically difficult. Many low-fat substitutes require an individual to cultivate a new taste and will be much easier if done gradually, in phases.

Here are some simple suggestions to get you started:

- Use Pam or other spray-type, vegetable based products to coat pans for cooking.
- Reduce the number of egg yolks in omelets or scrambled eggs.
- Minimize high-fat cookies, cakes, and candy.
- Substitute butter, whole milk, ice cream, mayo, or yogurt with items such as margarine, skim milk, mustard, and non-fat dairy products.
- Replace high-fat bologna with leaner turkey meat.
- Dump the high-fat cheese for reduced-fat cheese.

- Minimize the hamburger meat by maximizing your lower-fat meats such as skinless chicken or fish.

Managing your energy levels through systematic carbohydrate intake and a reduced fat intake is the best way to prepare for your every bowling tournament. You need energy for a long period of time; therefore storing more energy should be one of your primary goals. Keep in mind your body won't store additional energy unless you tell it. That message is sent and received through physical conditioning to enhance your storage compartments. Consuming complex carbohydrates, from last months issue, in each of your meals and replacing many of those fatty foods with additional carbs is a sound method of preparation. Don't let the lack of sufficient energy prevent you from reaching your peak performance.