

Holistic Nutrition for Athletes

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There are numerous theories, books, studies and “experts” out there, each with their own understanding of what makes for the perfect athlete’s diet. Indeed, in the course of researching this topic, I looked at several different approaches and found that while they had many things in common, they also varied in significant ways. As a Holistic Health Practitioner and someone who has enjoyed exercising for the last 10 years, I found myself drawn predominantly to one of the theories more than to the others. As a result, what I write here will be primarily taken from that source: *Thrive*, by Brendan Brazier, Ultra Marathon Champion and professional vegan athlete...see above.

What is an Athlete?

According to the Houghton Mifflin Company Dictionary, an athlete is “a person possessing the natural or acquired traits, such as strength, agility, and endurance, that are necessary for physical exercise or sports, especially those performed in competitive contexts” (<http://www.answers.com/athlete>). I bring this out early, because it’s really important that you realize that this mini-course is going to be geared toward a relatively small population: People dedicated to sports and exercise in the context of competition. While much of the information here is generally helpful, some of it may actually be detrimental to those who are *not* interested in such “hardcore” athletic pursuits. This is not a mini-course on weight loss, nor is it directed at staying generally fit and healthy. Rather, this is about nutrition for serious training and is intended for your use as you encounter athletes who desire nutritional counsel.

That said, let’s get down to business.

Stress

You might find it strange that this mini-course on nutrition for athletes begins with a section on stress. I found that odd, too, as I worked my way through *Thrive*. There is wisdom, however, in taking this road, and you’ll find later that the nutritional aspects of this mini-course directly connect to the concept of stress and its effect on the body.

Stress is anything that causes strain on the body, regardless of its origin. There are actually many kinds of stress: pollutants in the air and water, job dissatisfaction, poor nutrition, relationship problems, exercise, etc. Stress isn’t necessarily a problem, though it certainly can be. “In amounts that our body is capable of adapting to, some stresses are beneficial. Exercise, for example, is a stress” (Brazier, pg. 14). If you exercise and then rest, your body will grow stronger. However, if you stress the body continually from multiple directions and it never gets a chance to recuperate or rest, you will find yourself swiftly on the road to ill health and a shorter life span.

According to Braizer, there are basically three categories of stress:

1. **Uncomplementary Stress:** This is stress that produces no yield, no benefit. This type of stress should be completely eliminated or reduced as far as possible. Examples include poor nutrition, worry, poor planning, and environmental stressors (such as toxins in the air and water).
2. **Complementary Stress:** This is stress that instigates growth and stimulates renewal within the body. Exercise in proper amounts and with adequate rest/recovery time is complementary stress; the right balance of exercise strengthens us, both mentally and physically, once we've recovered from it.
3. **Production Stress:** This is "a wise and necessary way to stress yourself to yield a positive payoff" (pg. 17). Examples include physically demanding exercise sessions to prepare for competition, working overtime, working on personal or family problems, and taking calculated risks. This kind of stress can be seen as a fun and challenging part of life, with a rewarding payoff – just viewing it this way can reduce its negative impact.

Stress breaks the body down in varying degrees. In some ways, this is good – it's how we grow stronger. If we have the resources to facilitate recovery from stress, then this process is healthy. If you lack the proper resources, it can be detrimental. All this to say that "it's not in our best interest to take on projects that ultimately slow our progress" (Brazier, pg. 20). A far better approach is to work on one aspect, become proficient, and then move on to the next.

In the context of nutrition for athletes, we need to recognize that *change* is a stressor...and so is changing one's diet. Unfortunately, what often happens is that those who are making positive changes actually are more likely to discontinue them than those who make negative ones! This is because those who see themselves as making a sacrifice to try and achieve better health want their investment to pay off quickly. Slow progress usually leads to dwindling interest. "Any physical deviation from the routine will be perceived as stress. Even if the change is a positive one, the body must first adapt" (Brazier, pg. 22). So, if an athlete changes his or her diet to improve performance, muscle tone, endurance, etc., the immediate result could be an unexpected detoxification: the body's way of eliminating toxins accumulated over years of poor quality food consumption. This means that the first few days on an optimal diet may actually *not* be pleasant ones. And naturally, the poorer the quality of the previous diet, the longer the detoxification process will last.

We know that optimal health is about balance. Brazier is quick to point out, however, that optimal performance is *not*. "To be a serious competitor in any demanding sport requires that health must occasionally be overlooked" (pg. 25). However, with proper precautions, a healthy athlete is actually able to train at unhealthy levels a few times throughout the year, in the name of performance. Such intense training does indeed stress the body and will actually lower its immunity to illness and toxins; during these high-stress times, optimal nutrition is of paramount importance. It is literally the difference between sickness and health.

Nutritional Stress

It is possible to put unnecessary stress on the body simply by eating foods that are not good for it. When not provided the nutrients that it requires to function optimally, the body tries to, in a sense, “self-medicate.” This is where cravings come from, which are the body’s way of making itself feel good. Giving into cravings, however, perpetuates a vicious cycle in which the source of the problem is never really addressed. Brazier writes: “The most effective way to permanently break the cycle is to reduce uncomplementary stress by eating a nutrient-rich, whole food diet; one which contains sources of easily digestible protein, fiber, whole grains and vegetables as a low glycemic form of carbohydrate, essential fatty acids from nuts and seeds, along with vitamins and minerals” (pg. 32). What this means is that the foods you eat need to be packed full of nutrition – not cheaply produced, mass-farmed foods. Otherwise, your body will develop cravings to fill in the gaps with things that will make it “feel good,” even if only temporarily.

For an athlete, energy is just about the most important thing there is. You need it to exercise and to perform. Without it, you cannot be an athlete at all. Brazier takes a novel approach to energy by suggesting that an intelligent athlete will increase his or her energy through *conservation*, not *consumption*. This requires that the athlete assess the energy provided by food by considering its net gain: what we are left with once the food has been processed for energy by the body. We all know that we get energy from food. But consider this: the more energy the body has to expend to digest, assimilate and utilize the nutrients in food, the less energy we are left with to use as we please.

“By consuming more easily assimilated foods, a large amount of energy can be conserved. There are two main reasons for this; the first being that the nutrient-rich easily digested foods can be assimilated with less expenditure, and the second is that when more nutrient-rich foods are present in the diet, the body does not have to eat as much as if it were ‘average’ foods” (Brazier, pg. 35). Essentially, this means that you need to eat less, and therefore digest less, but you end up with a huge net energy gain...to be spent however you choose. Or rather, however your body chooses, which will likely be to improve immune function and speed up the restoration of cells damaged by stress.

According to Brazier (pg. 36), the foods that offer a superior net gain in energy are:

- Alkaline forming, high in chlorophyll
- Rich in enzymes, raw and alive
- Rich in prebiotics and probiotics
- Best consumed in liquid form

Another way that many athletes self-sabotage their efforts is by taking too many supplements. While it may be common practice to take as many as you can afford (just to be sure you’re getting everything you need), an excess of synthetic fat-soluble vitamins (A, D, E, K) can actually load up the fat cells, and eventually lead to toxicity. Athletes who are concerned about getting their vitamins can rest easy if they consume whole foods on a daily basis. The fiber contained in the complete foods doesn’t permit over consumption, making them the best option.

Getting Younger, Getting Stronger

Now that we know how stress can keep us from our athletic goals, let's turn our focus on what we can do proactively to become the strongest, healthiest, most athletic versions of ourselves. One of the best things about exercising regularly is that it literally helps to "grow" a younger body, which is simply a body that has regenerated its cells more recently. (When exercised routinely, the body must regenerate its cells more quickly than when idle. Depending on our activity level, 6 – 8 months from now nearly 100% of our cells will have regenerated. The important concept here is that these new cells will *literally be made up of what we eat between now and then*. The body of an athlete is forced to regenerate rapidly, therefore it is comprised of "younger" cells – literally a younger body!)

Remember that exercise is little more than breaking down body tissue. Its ability to grow stronger comes as a result of the regeneration process when supplied with premium fuel. *Premium fuel*. That's a key concept, because the quality of newly-fabricated cells is completely and wholly dependent upon the fuel source supplied. "When rebuilding cells, the body can go one of two ways. If it has the right resources, the new cells will be strong and healthy. However, if the only available 'building blocks' are drawn from sub-standard resources, the body has no choice but to fabricate weaker 'filler' cells. This is called *degeneration*, more commonly known as premature aging" (Brazier, pg. 46; emphasis mine).

If an athlete consumes nutrient-poor food, then his or her exercise – which *should* be complementary stress – can actually convert into *uncomplementary* stress, simply by virtue of degeneration. In fact, according to Brazier, "performing strenuous exercise regularly without eating a nutrient-rich diet will actually speed degeneration of the cells and therefore the aging process" (pg. 47).

It cannot be stressed enough – especially in the case of "hardcore" training athletes – that what you eat today will literally be the stuff from which your body is made within a year. Your current body – right now! – has been constructed from the food you've consumed over the past year. However an athlete wants his or her body to look and perform depends entirely upon the food eaten, activity level, and how he or she deals with stress. The plain truth is that the more diligent an athlete's exercise program and the better the diet, the sooner he or she will have a "new and improved" body.

Nutritional Advice

So, here's the part you have all been waiting for, when I finally give you a list of the foods that you need to consume in order to become the fittest, strongest, most agile and flexible athletic self that you can be. Well, first a few guidelines.

- 1. The Alkaline Advantage.** Alkalizing foods are an integral part of the regeneration and repair process that takes place during the resting phase after exercise. Athletes in peak training are the most affected by excessively high acid levels (acidosis), as vigorous exercise causes a build up of lactic acid in the body. Stress of any kind only makes the situation worse. Maintaining an acidic body leads to fatigue, joint pain, muscular stiffness, and a whole host of unpleasantities, including heightened risk of cancer. Besides

consuming alkalizing foods, other steps to take that raise the body's pH level include: deep breathing, yoga, light stretching, and meditation.

- 2. Plant-Based Foods.** Raw plant protein is superior to animal protein in several ways. First, naturally occurring enzymes, present only in raw protein, are assimilated and used by the body far more easily and efficiently than processed proteins. Second, raw plant protein has a higher pH than many "manufactured" forms of protein, including whey and other isolates. Additionally, plant-based foods are digested easier; many whole plant foods have their own enzymes, which contribute to their quick and efficient digestion. The quicker nutrients can be extracted from food, the sooner the waste can be eliminated and the faster you can experience optimal health. Finally, according to Brazier, "the consumption of chlorophyll-rich, raw plant food combined with moderate exercise is the best way to create a biologically younger body" (pg. 56).

SuperFoods

The following foods can be very beneficial to the serious athlete, provided they are of high quality and are consumed correctly and in appropriate amounts. Interesting, perhaps, but not surprising in the least, is that the majority of the foods and ideas you'll find below are exactly what leaders in holistic nutrition have been saying for years and years.

[A note to meat eaters: Brazier is vegan and obviously does not believe that meat is a prime source of bioavailable protein. You will not find meat in the following list of foods that make for athletic excellence. Another book that I looked at is The Paleo Diet for Athletes, and it endorses animal sources of protein. It does, maintain, however, that the best sources will be those that are organically raised, free-range/grass-fed. If you choose to use meat as a source of dietary protein, your best bet is to consume only meat that is not loaded with chemicals and toxins, for all the obvious reasons, and the ones mentioned above.]

Foods rich in chlorophyll – these are paramount in the anti-aging process. The best sources are dark green vegetables and chlorella. Why chlorophyll? It helps maintain the alkaline balance in the body and also assists in the detoxification process. Additionally, it is the richest source of nucleic acids (necessary for RNA and DNA replication) in nature.

Fiber – this helps to control cortisol levels in the body by stabilizing insulin. Elevated cortisol levels inhibit the body's ability to really restore itself during sleep, a vital part of regeneration. Fiber also ensures that wastes leave the body quickly.

Raw, complete protein – an optimal facilitator of the regeneration process. Brazier recommends hemp and pea protein. The protein in hemp is complete, containing all 10 essential amino acids. This amino acid profile translates into boosted immune function and quicker recovery. Hemp foods also have natural anti-inflammatory properties, which help to speed the recovery of soft tissue damage caused by exercise.

Maca – this is an anti-aging root vegetable known to increase energy, assist in adaptation to stress and to balance hormones naturally. Brazier is very insistent that maca is what has given

him the cutting edge. When selecting maca, be sure to choose the gelatinized form for best results. This removes the hard-to-digest starchy component of the root, and allows the body to assimilate the nutrients more quickly.

Flax – “Out of the entire plant kingdom, flax contains the highest level of omega-3, an essential fatty acid” (Brazier, pg. 68). Omega-3s are vital to the athlete as they reduce inflammation and play a role in the metabolism of fat. According to Brazier, “a diet with a daily dose of 10 grams (about 1 tablespoon) of whole flax seeds will allow the body to more efficiently burn body fat as fuel” (Ibid.). Who doesn’t want that!?! For athlete’s this is especially important, as they need to spare muscle glycogen. Be sure to select whole flax seed, not flax seed meal.

Dates – these are high in glucose and have been called “nature’s fuel.” When consumed, the glucose is quickly converted to glycogen in the liver. Maintaining an adequate glycogen supply in both the muscles and the liver is imperative for sustained energy. Therefore, dates are best consumed shortly before, during, or immediately following exercise. (Extra bonus: dates are also alkaline-forming.)

What about Supplements?

Believe it or not, most reliable research does *not* justify the need for extra single or combination vitamin supplements except when the athlete is in a deficiency state (Dorfman, pg. 162). At first you might feel like this leaves you in a position where you’re limited in giving sports nutrition advice, but take another look at that sentence. It states that supplements are not needed *unless the athlete is in a deficiency state*. Most athletes that you speak with, unless you live in a very holistically-aware community, will probably be laboring under false sports nutrition beliefs. Taking time to get a full nutritional profile from them will allow you better understand in what ways their diets could be improved.

That said, let’s look at a few vitamins and minerals and see the role they play in athletic nutrition.

The B Vitamins – these are involved in energy production from carbohydrates and fats as well as with red blood cell production. According to Lisa Dorfman, MS, RD, LMHC, “the rationale for using supplements is due to their physiological effect on the athlete and the fact that prolonged deficiency can affect endurance performance. Since cooking and the use of certain medications can affect nutrient absorption, it may be likely that a secondary deficiency exists...Therefore, it seems logical that any activity requiring additional energy would justify the need for extra B’s” (pg. 162).

Vitamin C – easily the most popular supplement, this plays a role in many functions important to athletic performance including collagen and hormone synthesis, enhancing iron absorption, and the oxidation of food and energy production (Dorfman, pg. 133). Even slight deficiency can affect performance and immunity in an athlete.

Fat-Soluble Vitamins – athletes should really focus on getting these nutrients from foods, as this will reduce their chance of “overdosing” and the resulting toxicity. Dorfman maintains that

“supplementing with vitamins A, D, and K is not warranted” for vegetarian athletes (pg. 166). As for vitamin E, the research does not give support either way. As with the other fat-soluble vitamins, obtaining vitamin E from whole foods is probably the best way to get them.

Minerals – again, if an athlete is making wise food choices (chiefly, a vegetarian diet high in complex carbs, quality protein, and fruits and vegetables), he or she is probably getting enough minerals. Still, it is noted that athletes who may be at an increased risk for iron deficiency (such as regular and heavily menstruating females, endurance athletes, and low-body-weight and long-distance runners) may benefit from iron supplementation (Dorfman, pg. 167). Too much iron, however, can cause problems, so to improve iron intake and availability without supplementation: do not consume calcium and iron products together; limit the amount of fiber with high-iron meals; and take a citrus source of at least 100 milligrams of vitamin C with an iron-rich food to increase absorption.

Probiotics – Greek, meaning “for life,” probiotics are also known as the “friendly” bacteria that live in your body. A positive balance of friendly bacteria will help the body digest, process, and utilize complex carbohydrates and protein. Consider a dairy-free probiotic for use, daily.

Other Supplements – the jury is still out on a number of well-known and widely used supplements (such as creatine, L-carnitine, pyruvate, etc.), and it would be a disservice to only present one view here. Alas, because this is a “mini-course,” there isn’t room to give you all the available information on these supplements. Rather, I’d suggest you bring individual questions about supplements to the forum and we can explore them together...

Conclusion

Most people scoff at the very suggestion that an athlete can excel on a vegetarian (or vegan) diet. Yet it has been done and continues to be done today. As far as energy goes, getting it from fruits and vegetables really does eliminate the “middle man;” you can either eat your veggies or eat the meat from animals that have eaten veggies. Why not go directly to the source? Beyond that, the net gain of energy that comes from eating whole foods that are easier digested really does give an athlete extra energy from conservation rather than consumption. Anyone who wants to trim off the extra weight and yet receive more energy should read that sentence again.

Of prime importance for the holistic athlete are nutrient-rich, whole foods of organic plant origin. When consumed, these become the building blocks from which our bodies are actually re-made. An athlete who wants to excel in his or her chosen area of competition cannot afford to regenerate an unhealthy body.

The subject of nutrition is a vast and well-studied one, but many theories exist regarding the best way to eat, exercise, rest, and supplement the diet in order to excel as an athlete. The general information given in this mini-course was designed not to inundate with technical jargon, but to educate you on the benefits of making holistic nutrition choices for athletes. At this point, we need to open the discussion up, to explore the different theories and help you determine what nutritional advice is best for you or the people you are counseling.

References

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