

Great Results start with Great Nutrition

Wins, records and championships

are the sweet rewards of a great training program. But even the best conditioning program in the world won't enable athletes to reach their physical and mental potential if their nutrition falls short. If you are using the BFS program to fulfill your potential as an athlete, you'll want to make sure your nutrition is as solid as your physical training. These diet guidelines can help you leave your junk-food-eating competition in the dust!



Athletes must stay well hydrated for peak performance



Fruits and vegetables are the best sources of antioxidants

The first step of the BFS nutrition program is adequate hydration: drinking plenty of good, old-fashioned, pure water. Note that we did not say drink plenty of liquids, as in sodas or coffee. Consuming sugar and caffeine is counterproductive in your efforts to build optimal health and performance because it floods your system with stimulants that lead to fatigue after their initial effects dissipate. Adequate hydration is essential to health, productivity and superior athletic performance. Address this simple first step and drink several glasses of pure water per day—before you get thirsty, not after.

The second step is to eat a healthy diet, full of quality food (such as fruits, vegetables, fish, lean meats and nuts) and incorporating sufficient variety to provide a solid nutritional base. There simply is no substitute for a good diet. As beneficial as nutritional aids are, they cannot compensate for poor eating habits.

You must consume the proper amount of calories, fiber, protein, healthy (rather than processed) fats, and carbohydrates from a well-rounded diet, which will also provide a solid foundation of vitamins, minerals, phytochemicals and other micronutrients. Eat fruit for snacks to provide quick energy at a far more stable rate than candy and to provide needed minerals, such as potassium and magnesium, to prevent muscle cramping.

Hydration and a varied diet are your primary diet considerations. The third step is to be sure you are doing the most to protect your health long-term and to reach your full physical and mental potential as an athlete. This requires fine-tuning in the form of the addition of potent micronutrients to your diet that protect against disease, help your body maximize its energy output and metabolism, and protect against excessive oxidation from strenuous exercise and pollution, as well as from the normal aging process. Let's have a look at the best of these micronutrients and how they can help you.



the antioxidant effect Optimal health requires healthy DNA, and protecting yours from avoidable damage should be a goal of any healthy nutrition plan. Antioxidants help prevent damage to DNA in your cells by stopping free-radical reactions.

Free radicals are molecules that have an unpaired electron in their outermost ring, giving them a charge and causing them to troll around looking for a balanced molecule from which to steal an electron. This causes a chain reaction leading to ever more unstable and damaging molecules. Antioxidants easily donate extra electrons to stop these chain reactions from damaging the affected cells in your body. Antioxidants include vitamins E, A and C, the carotenoids, and such minerals as selenium, which works synergistically with vitamin E.

Another vitally important antioxidant, which was first classified as such in 1988 and which has only recently gained the recognition it deserves, is alpha-lipoic acid (ALA). ALA is a water- and fat-soluble nutrient.

Now, while that might not sound very exciting, it really is a fact of vital importance. Here's why:

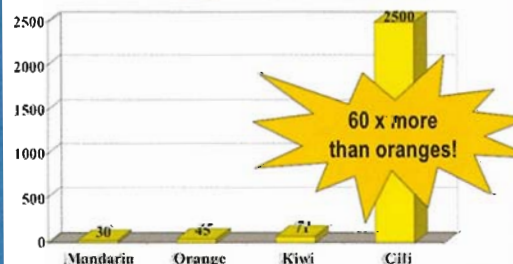
Some antioxidants, such as vitamins E and A, are only fat-soluble. What that means is that your cells can use them as antioxidants only in their membranes, which are primarily composed of fats. The inner part of the cells, the cytoplasm, goes unprotected. Here is where the water-soluble antioxidants come into play.

Because Nutrition Matters!

Jess Butterfield
Level 9 Gymnast, Utah State Champion Weightlifter

Not only does G3 have 60 times the vitamin C found in oranges and 10 times the vitamin A of carrots, it's packed with other antioxidants that help your body recover from hard workouts. Just two swigs a day (about 3 ounces) of this delicious fruit drink will give you a nutritional edge to help you achieve peak performance.

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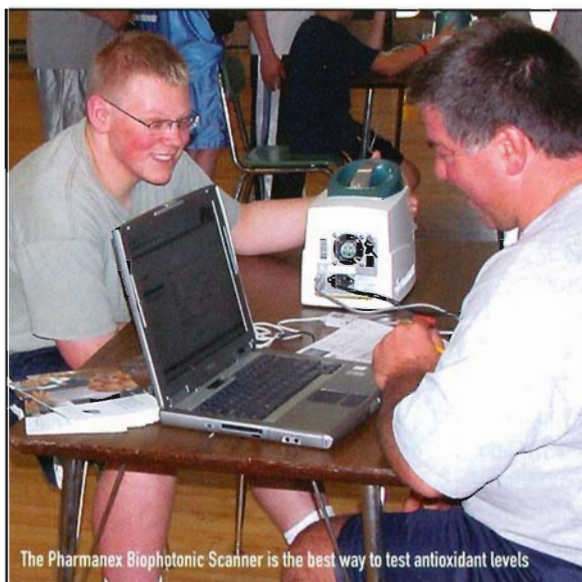
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Although the water-soluble antioxidants, such as vitamin C, can target this area, they cannot affect the fat-based areas of the cells in the body, including those of the brain, which is primarily composed of fats. But ALA covers all the bases; it protects all parts of the cells and passes effortlessly through the body tissues. And in its role as an antioxidant, ALA also works closely with vitamins C, E, and other antioxidants such as glutathione and co-enzyme Q10 (ubiquinone), "recycling" them, in effect, and thus making them far more effective.

In addition, the body requires ALA to produce energy. ALA plays a critical role in the functioning of mitochondria. Mitochondria (remember these from biology class?) are the energy-producing structures in cells. While your body actually makes enough ALA for its basic metabolic functions, ALA serves as an antioxidant only when there is an excess of it and when it is in the "free" state in the cells. Unfortunately, even with a good diet, there is typically little free ALA circulating in your body. The way to change this is by consuming it from nutritional aids (or by injection, which we do not recommend!). Foods contain only very small amounts of ALA, the best source of which is red meat.

Another group of antioxidants is the catechins, a subgroup of important phyto- (plant) chemicals. Catechins are found in apples, grapes,

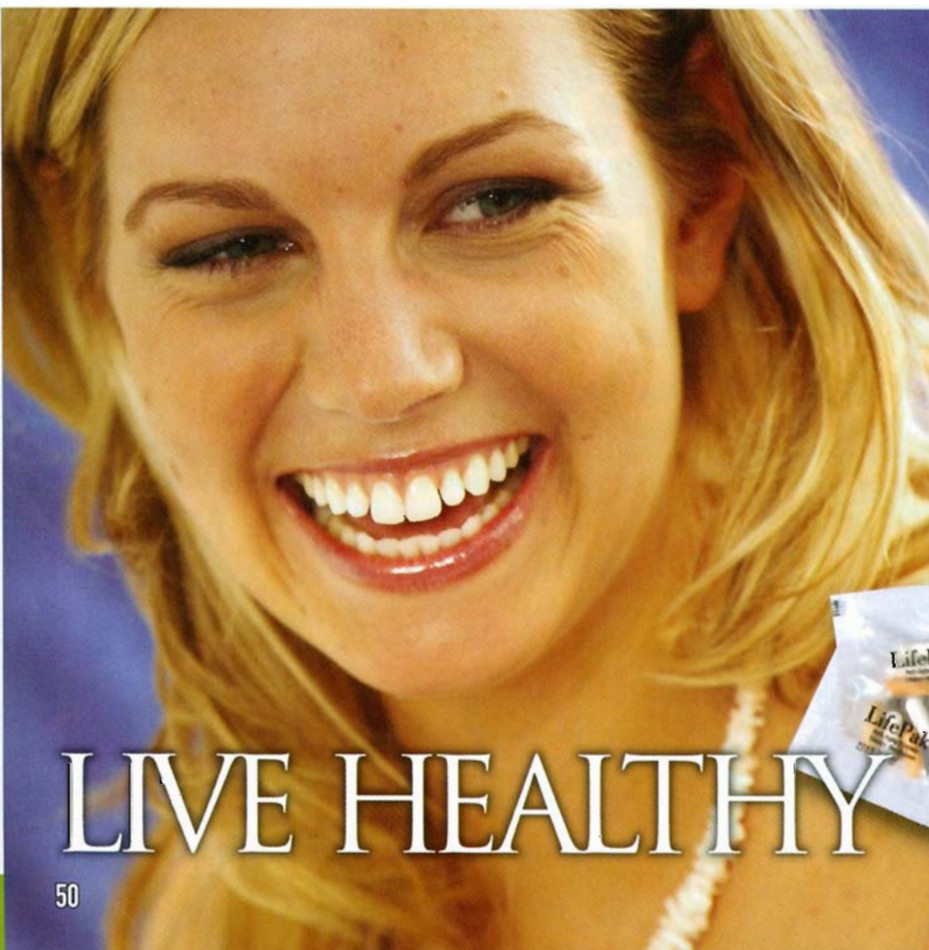
pears, green tea, soy, herbs and some additional plant foods. Their antioxidant effect is believed to help reduce the formation of plaque in the arteries and to prevent oxidative damage to the heart, kidney, lungs, skin cells and spleen.



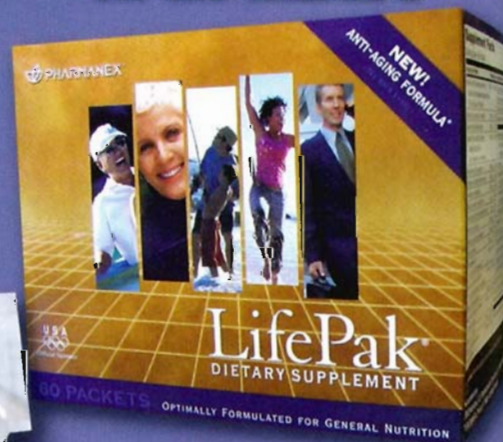
Researchers surmise that catechins help combat and suppress cancerous tumors. Long-term studies have shown that catechins lower the risk of lung cancer and other lung diseases. They also have been shown to protect against heart disease to such a degree that there is a direct, positive correlation between the level of catechins eaten and the number of deaths from coronary heart disease. This effect appears to result from lowered blood pressure and "bad" cholesterol levels.

Interestingly, catechins deactivate some of the enzymes responsible for digesting sugars in the body, resulting in reduced sugar absorption, less carbohydrate utilization, and possible weight loss. Catechins also have an anti-viral effect, meaning they will help protect you against colds and the flu, as well as other viral diseases. Now you know where the old saying "An apple a day keeps the doctor away" comes from.

Grape seed extract is another of the health biggies. It acts as an antioxidant in the body and is 50 times as powerful as vitamin E and 20

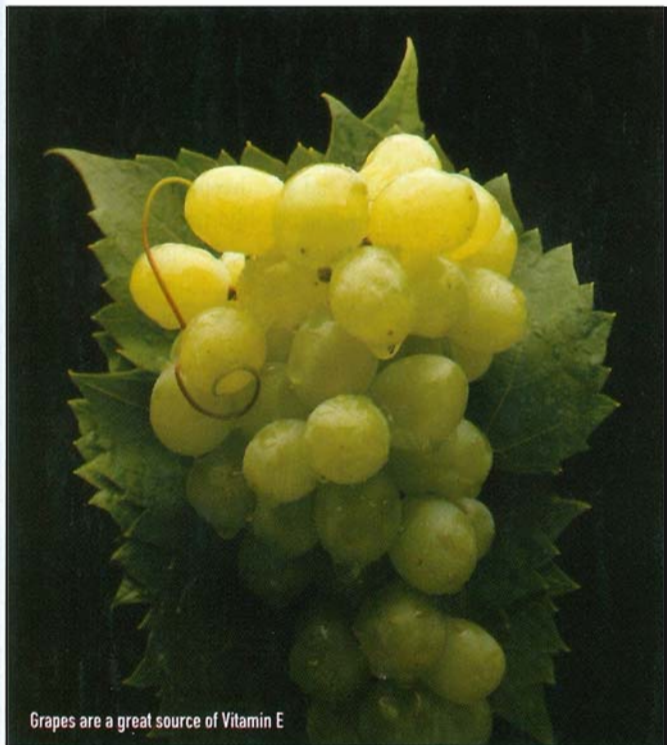


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Grapes are a great source of Vitamin E

times more potent than vitamin C. Rather than being lost quickly from the body like those vitamins, it remains for up to three days, doing its oxidant-scavenging work and protecting your body from damage, particularly in the brain, skin and eyes. It is one of the very few antioxidants that can cross the blood-brain barrier to protect the brain, potentially increasing mental alertness and protecting against age-related brain decline.

Grape seed extract is also anti-bacterial, anti-viral and anti-inflammatory in nature, meaning it can help protect you against illnesses and against excessive inflammation in the event of an injury. It has also been shown to offer excellent protection to the heart and is considered the explanation behind the "French Paradox"—the strange phenomenon that the French, while eating plenty of artery-clogging cheese and croissants, have a much lower incident of heart disease than Americans. This effect is attributed to their relatively high intake of red wines, loaded with grape seed extract from the processing. (Rather than drinking large amounts of red wine—which of course would be illegal for anyone in this country under 21, an athlete can get the benefits from this powerful nutrient with a quality nutritional aid.)

the super minerals An athlete's nutritional needs differ from those of non-athletes in some respects, and we don't just mean that you need more calories. Your body needs more of certain minerals responsible for endurance, muscle function and bone maintenance. Let's have a look at a couple of these:

Boron is a dietary trace mineral found primarily in fruits and vegetables that is critical for an athlete's health and for superior performance on and off the field. Boron has been shown in studies to influence the transport of calcium ions, which is necessary for muscle contractions and bone building. In addition, boron increases vitamin D levels in the blood (vitamin D is essential to protect against certain cancers and for bone development.) And adequate boron seems to be protective against arthritis. So, assuring that you get enough in your

diet is a good idea for all athletes, who are subjected to high levels of bone- and joint-challenging training. With the right raw materials available, your training will build and maintain strong bones and joints rather than break them down.

There is also some evidence that taking boron may improve mental function in the form of less drowsiness and increased mental alertness. Improved psychomotor skills were also noted in a study, along with improvement in both memory and attention span. Boron also acts as a metabolic regulator in the body's main enzyme systems and appears to be an important component of a fully functioning immune system by regulating the mechanism by which white blood cells kill microorganisms. Boron also appears to function as a component of the antioxidant network.

Another important mineral for athletes is vanadium. In a number of animal and a few human studies, vanadyl sulfate (a common form of vanadium) improved insulin sensitivity and reduced blood sugar in those with both type 1 and type 2 diabetes. Given the explosion of diabetes in the US over the last ten years, it is sensible to assure you get enough of this mineral in your diet.

Vanadium is also widely used by athletes to enhance performance. This use stems from the beneficial effect on blood sugar control. In addition, studies on animals indicate that vanadium may help lower and control blood pressure. Also, in one study of people with type 2 diabetes (the type that develops over time rather than the type with which one is born), vanadium lowered the subjects' total and LDL ("bad") cholesterol. (Note: It critical to use a quality nutritional aid that does not contain excessive amounts of this mineral. Sufficient amounts are critical to good health; an excess is not helpful and is possibly harmful.)

mushroom power *Cordyceps sinensis hyphas mycelium* has an exotic name, but don't let that fool you into thinking it isn't a fantastic diet addition. The cordyceps is a mushroom that has been shown to protect and improve lung function.

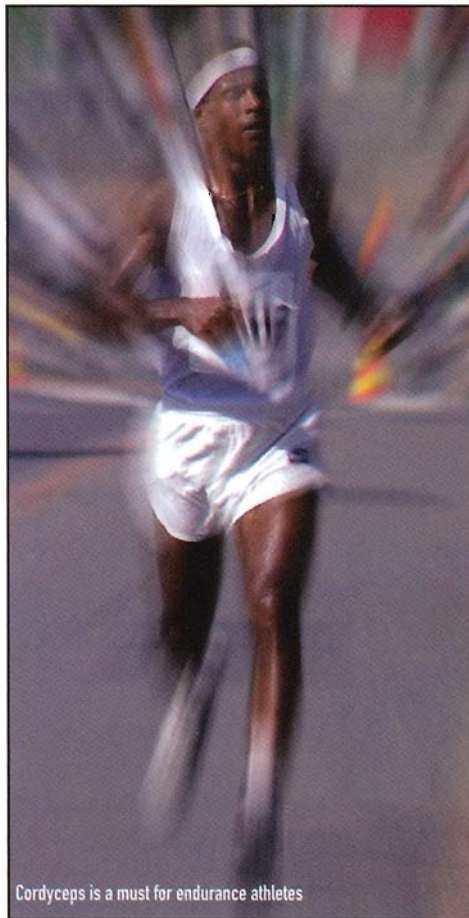
Lung function is of crucial interest now in the US. The incidence of



asthma in this country increased by 74 percent over the 15-year period from 1980 to 1995, and it continues to increase. It has truly become a modern epidemic, along with diabetes, affecting people of all ages. Scientists speculate that the increase in air pollution in cities and towns across the nation is responsible for the increase in this serious ailment. While asthma is a dangerous condition and can severely limit one's ability to participate in many activities, it is especially limiting and disheartening to athletes. Conventional management of asthma involves cortisone (a steroid) spray to decrease inflammation in the lungs and air passageways.

Extensive studies have indicated that cordyceps can protect the respiratory system against asthma and against chronic bronchitis and that it can decrease coughing, spasms and mucus production.

Anecdotal evidence also suggests that it can increase stamina and energy levels. In fact, you may remember cordyceps being mentioned in the news a few years ago when several Chinese athletes broke



world records in swimming and running. It was later learned that these athletes were following a regimen that included cordyceps. In 1999, a study presented at the American College of Sports Medicine's annual meeting, indicated that a cordyceps-based nutritional aid (CordyMax, by Pharmanex) significantly increases maximal oxygen uptake and anaerobic threshold, which may lead to improved exercise capacity and resistance to fatigue.

adding it all up Athletes need a total approach to building strong bodies and minds. BFS provides the ideal training program, but it's only half the equation. Optimal nutrition is a must, starting with a solid foundation and adding a few high-tech tweaks. For athletes who do the math, it all adds up to a powerful difference in performance, attitude and competitive results.



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