

Nutritional Supplements: Are they worth the price?

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Whether you are a high school athlete hoping to play in college or just trying to get back into shape, wouldn't it be nice if there was a safe and reliable nutritional supplement that could help you on your way? With scientific proof and when used properly, some nutritional supplements can be beneficial; however, there are potential dangers and pitfalls.

| What works? | Who | When | Why | Concerns |
|--|---|--|--|--|
| Multivitamins/Minerals | Athletes who restrict caloric intake or avoid certain food groups | Daily, when a documented pre-existing deficiency exists | Correct deficiency | Not a safety net – the best sources of vitamins and minerals are whole foods |
| Nutrient-Specific Vitamin/Mineral (e.g., iron, calcium) | Athletes who restrict caloric intake or avoid certain food groups | Daily, when a documented pre-existing deficiency exists | Correct deficiency | Vitamin/mineral toxicity; Gastro-intestinal (GI) upset; Constipation |
| Antioxidants (Vitamins C & E) | Athletes beginning high-volume/intensity training; extreme changes in heat/altitude | At commencement of a new training program; not necessary long term | Prevent exercise-related inflammation and cell damage | Excessive intake can cause pro-oxidant activity (inflammation and cell damage) |
| Creatine | Athletes desiring to increase muscle mass or marginally improve sprint time (high intensity/maximal effort activities lasting 30-60seconds) | With meals (various loading programs exist). You can get adequate creatine through meat consumption | Improve creatine levels in the muscle to improve stamina for "all-out" efforts | Long-term consequences of excessive intake/overuse unknown (potential liver/kidney damage); Weight gain |
| Bicarbonate/Citrate | Athletes participating in high intensity activities (not maximal, e.g.; 3-7 minutes) | Within 24hours prior to exercise (various loading programs exist) | Improve "buffer" against acidity in muscles, due to anaerobic metabolism | GI distress; Changes in urine pH may cause a positive drug test; Negative interaction with other supplements |
| Whey/Casein/Soy Protein | Athletes trying to preserve/increase muscle mass | Post-workout (with carbohydrate) or throughout the day. Adequate protein can be consumed through whole-foods | Provide protein needed for muscle repair/recovery | Protein requirements are limited – excess provides no benefit; Potential kidney damage |

Research the Source

Roughly 25% of nutritional supplements on the market today contain a banned or illegal substance. This is a highly unregulated market, and the nutrition label may not be all-inclusive. Excessive intake of certain substances can lead to very serious health consequences, not to mention potential loss of a scholarship for a college-aged athlete if s/he has a positive drug test. Companies producing nutritional supplements are not required to test products for purity. Some companies voluntarily run their products through a "certificate of analysis" process via a 3rd party, and then the products tested are either deemed safe and legal or inappropriate for individuals to consume. Choosing a product from a company that voluntarily goes through this testing would be the best bet. Be even more prudent when purchasing supplements online; and make sure the product is safely packaged and sealed before beginning use.

Research the Product

Numerous nutritional supplements are available with little-to-no research to back their "claims". Supplements are frequently expensive, and do you really want to spend \$70 on a 2-week supply of a product that has no true benefit? Look for products that have legitimate research supporting the manufacturer's claims. Additionally, check the dose in the product. While the company may be making a valid claim regarding a supplement's effectiveness, the dose may not be adequate to provide measurable results. This research can get very confusing. At the National Institute for Athletic Health & Performance at Sanford, our registered dietitian can work with you to evaluate the efficacy of nutritional supplements that you currently take or are considering adding to your regimen.



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