

HOW SAFE ARE DIETARY SUPPLEMENTS?



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Contrary to what you may think, products marketed as dietary supplements and claimed to be effective as aids to weight loss, weight gain, relaxation, strength improvement, mental concentration, endurance performance, and even sexual stamina are basically unregulated by the Food and Drug Administration (FDA) or any other agency of the federal government. What this means is that the consumer has no assurance that any particular dietary supplement works as intended, is safe, or contains what is listed on the package label.

It is certainly true that some types of supplements—vitamins and minerals, protein powders, carbohydrate supplements, and others—have been used for many years with no apparent life-threatening effects when used according to the manufacturer's recommendations. But in the last few years there has been an explosion of supplements offered to the public, and concern has been raised about some of these products.

- The FDA has received many reports of serious side effects and even deaths strongly associated with the use of products that contain ephedrine, which is found in herbs such as Ma Huang (also known as Chinese Ephedra, Ephedra Sinica, Ephedra Equisetina, desert herb, and herbal ephedrine), Mormon Tea, and Sida Cordifolia, among many others. Ephedrine has amphetamine-like effects; because it can accelerate the body's use of energy (calories) and depress appetite, it is often a component of weight-loss products. It is especially dangerous when taken in larger-than-recommended doses and when combined with caffeine and aspirin.
- Consumer warnings have also been issued by the FDA about using dietary supplements containing kava, another herbal extract. Kava depresses brain function and is claimed to improve relaxation and reduce anxiety. Kava use, especially in Europe, has been associated with hepatitis, cirrhosis, and liver failure, sometime leading to the need for a liver transplant.
- Androstenedione and other "prohormone" supplements used in hopes of promoting muscle growth can decrease the blood levels of HDL cholesterol (the "good" cholesterol) and raise the levels of LDL (the "bad" cholesterol) and estrogen (female sex hormone), potentially increasing the risk of cardiovascular disease.
- Yohimbine, extracted from yohimbe bark, supposedly increases blood testosterone (thereby increasing muscle mass), decreases body fat, and serves as an aphrodisiac. Among the reported side effects of yohimbine use are high blood pressure, elevated heart rate, heart palpitations, and hallucinations.
- There are even more dangerous supplements on the market, like those that contain gamma butyrolactone (GBL), gamma hydroxybutyric acid (GHB), and 1,4 butanediol (BD). Such supplements are illegally marketed, unapproved drugs and have been associated with serious illnesses and deaths.
- Supplements may contain potentially dangerous ingredients—ephedrine, for example—without listing them on the package label.
- Supplements may contain non-listed substances—such as anabolic steroids—that are banned by sports governing bodies and have resulted in failed doping tests.
- Even generally safe supplements like vitamins and minerals can be toxic if taken in huge doses.
- Information about the safety and efficacy of dietary supplements can be found at www.supplementwatch.com and www.consumerlab.com.

Athletes and non-athletes alike should be very cautious before using any supplement. Investigate all supplements thoroughly and consult with a knowledgeable health professional before you buy.

SUGGESTED ADDITIONAL RESOURCES

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- Foster, S., Tyler, V.E. *Tyler's Honest Herbal* 4th ed. Binghamton, NY: Haworth Herbal Press, 1999.
- Haller C.A., and N.L. Benowitz NL. Adverse cardiovascular and central nervous system events associated with dietary supplements containing ephedra alkaloids. *New Engl. J. Med.* 343:1833-8, 2000.
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- King, D.S., R.L. Sharp, M.D. Vukovich, G.A. Brown, T.A. Reifnath, N.L. Uhl, and K.A. Parsons. Effect of oral androstenedione on serum testosterone and adaptations to resistance training in young men: a randomized controlled trial. *JAMA*. 281:2020-2028, 1999.

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