

Sports Safety Guidelines: Supplements

Washington County Schools Athletic Training

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Dietary supplements are relied upon by athletes who believe they cannot get enough nutrients through a proper diet. Typically, they believe the supplements will enhance their athletic performance, improve overall health and appearance, boost energy levels, or help with weight loss or gain. Unfortunately, more emphasis has been placed on potential short-term boosts than serious long-term health risks.

Dietary supplements are not approved by the FDA for safety or effectiveness before they are available to consumers. Supplements are only restricted when they present a significant or unreasonable risk of illness or injury. There is little research on the long-term health effects of many, especially to adolescent athletes. The lack of data providing any significant benefit to most athletes also contributes to the National Federation of State High School Associations (NFHS) to recommend that these not be used by young athletes.

Lack of Safety & Effectiveness:

- As they are not FDA regulated, there is no guarantee the dosage and content listed on the label accurately represents the contents, or the quality of ingredients. There is also no limit on the serving size or amount of nutrients in any form of dietary supplement.
- Many studies are based on animal models and not tested on humans prior to hitting the shelves.
- There is a lack of evidence that performance is actually improved in most traditional sports.
- In some cases, dietary supplements have unwanted effects, especially if taken with other supplements, energy drinks, or prescription medications. Some supplements have fatal interactions with medications, or when used in combinations improperly.
- Many governing bodies and sports organizations ban the use of supplements.
- Some dietary supplements have been found to be mislabeled or contaminated.
- Some manufacturers have paid millions of dollars in legal settlements for their deceptive advertising and adverse effects on users.

Quick Facts on Common Performance Supplements:

	Creatine Phosphate	Androstenedione	Gakic Hardcore	Nitric Oxide	Stimulants
What is it?	A synthetic version of a compound produced by amino acids in the body. Also available in diet from meat & fish.	Adrenal hormone that converts to testosterone.	Glycine-L-Arginine-Alpha-Ketoisocaproic Acid Calcium	A synthetic version of a neurotransmitter responsible for relaxing blood vessels	Caffeine, Ephedrine, Amphetamine, Methylphenidate, etc.
How it works?	Increases creatine levels in skeletal muscles.	Short-term increases in testosterone levels	Blocks the build-up of fatigue causing ammonia from accumulating in muscles	Widens blood vessels delivering more blood to muscles. Usually includes Arginine which may stimulate HGH	Increases blood pressure, metabolic rate, respiration, heart rate, diuretic
Proposed Benefits	The increased stores enable more intense short-term work	Allows one to train harder and recover from exercise more quickly	Delays muscle fatigue and boosts energy.	Increased strength, endurance, muscle size and faster recovery	Increases workload, endurance, and energy
Known Side Effects	Nausea, GI distress, muscle cramps, strains, sprains, decrease in body's creatine production	Significantly increased risk of Heart Disease and Cancers. Enhancement of female characteristics in males and male characteristics in females.	Sleeplessness, headache, constipation, bloating, dizziness, heart palpitations, shortness of breath, mouth sores, arrhythmias	Nausea, Diarrhea, Weakness & Fatigue, affects kidney function	Nervousness, dehydration, nausea, tremors, heart palpitations, diarrhea, cardiac arrest
Long Term Effects	Unknown	Liver and Heart Disease, stroke, changes in gender characteristics, infertility	Unknown	Excessive NO damages brain cells, potential for cardiovascular damage	Addiction, withdrawal symptoms such as headaches, irritability, fatigue, upset stomach
Age Factors	Concerns exist about extra load on kidneys and other organs and the effects on muscle/bone junctions in youth	Unknown	Unknown	Unknown	Unknown
Who Bans it?	No governing body	WADA, NCAA, NFL, MLB, NBA, PGA, LPGA	No governing body	No governing body	WADA, NCAA, NFL, MLB, NBA, PGA, LPGA
OTC	Yes	No	Yes	Yes	Some

For more information, talk to your Athletic Trainer or Healthcare Provider