

NUTRITION AND PERFORMANCE

PROTEIN POWDERS / AMINO ACID SUPPLEMENTS

FICTION: claim to increase muscle mass and improve recovery time from training

FACT: weight training and resistance exercises do build bigger muscles

- Excess protein in the body gets stored as FAT, it also produces extra nitrogen in the body. Because the kidneys need additional water to excrete the increased production of nitrogen, excess protein may lead to dehydration.

Weight Gainer Supplements: powdered formulas high in calories. Should be used as a supplement to a meal not to replace it.

B Complex vitamins

Do not provide energy (calories).

Athletes do not need to consume large amount of vitamins and minerals.

A multi-vitamin and mineral supplement containing 100% - 200% of the RDA is adequate.

Doses 10 the RDA can be toxic.

CALCIUM SUPPLEMENTS:

Needed if an athlete does not consume dairy products or calcium rich soy and plant products. Calcium supplements can aid in bone density and muscle contraction. Calcium supplements should not exceed 1000 to 1500 mg per day.

BEE POLLEN, GINSENG, AND COENZYME Q-10:

Claim to increases energy, promote healing, and enhance performance... NO PROOF



ANABOLIC STEROIDS

Synthetic derivatives of the natural male hormone, testosterone. Testosterone is responsible for the androgenic and anabolic changes that occur in the body.

Physical and Psychological signs / side effects

- Rapid gain (20-30 pounds) of muscle mass in short period of time (6 months)
- A sculptured physique (in a short period of time)
- Acne on the face and back
- Breast development in men & decreased breast size in women
- Deepen voice in women
- Aggressive and delusional behavior



Benefits

- Taken along with a vigorous strength training program, athlete may observe significant increase in strength, power, and muscle mass
- Help athletes recover from injury faster
- Help an athlete train longer and harder (shorter recovery rate)

Risks

- shrunken testicles & reduced sperm production
- growth of breasts (men)
- balding (men)
- increased acne on face and back
- heart disease and stroke
- liver and kidney function
- stunted growth in adolescents
- decreased breast size (women)
- deepened voice (women)
- may lead to an increase to injuries to the body's joints
- Illegal (without Doctor's prescription)
- Banned by NCAA, IOC, ISOC, NFL, etc.
- If tested positive, stripped of medals, awards, suspension possible loss of scholarship

EPHEDRINE

Stimulant found in medications used to treat asthma and it is an ingredient in many over-the-counter nasal decongestants.

Supplements EPHEDRA OR MA HUANG, banned by the FDA and is no longer available in over-the-counter supplements. Also banned by the NCAA, IOC and USOC.

SIDE EFFECTS

- Increase blood pressure and heart rate
 - Athlete with high blood pressure, heart conditions, diabetes and thyroid conditions should not take ephedra
 - Never mix with other stimulants such as caffeine and amphetamines
- Dizziness, insomnia, tremors, and diarrhea

CREATINE

Creatine monohydrate supplementation is believed to enhance exercise performance during short-duration, high intensity activities (strength training, football, track & field)

WHAT: Creatine or methyguanidine-acetic acid is an amino acid that is found naturally in the diet. It is abundant in meats and fish. Creatine can be synthesized in the liver, kidneys, and pancreas from the amino acid precursor's arginine and glycine. Unfortunately, the body is not very efficient in this process of creatine synthesis.

How does it work?

- Dietary creatine and creatine produced in the liver, kidneys, and pancreas are carried to the muscles where it is combined with phosphate to form creatine phosphate.
- Creatine phosphate stores are needed during short-term, high intensity exercises – to regenerate the limited supply of ATP.
- Exercise performance may be limited if muscle stores are low in creatine phosphate and if creatine phosphate stores are depleted
- Increase in creatine phosphate in the muscle cells should allow for faster resynthesis of ATP resulting in improved athletic performance.
- During high intensity exercise, lactic acid quickly accumulates in the cells = muscle fatigue. Increased in creatine phosphate stores may reduce the accumulation of lactic acid

Who will benefit?

- those who have a low muscle creatine concentration

Research

Studies have shown that ingesting 20 grams of creatine a day subjects have shown increase in peak power output, total work production during exercise along with improvement in peak power during jump squats and an improvement in repetitions during multiple sets of bench press.

While other studies have shown no performance difference in 25, 50 and 100 meter sprint time or sprint time in 60 meter dash.

Creatine is currently not banned by any organizations, and there is little evidence of any harmful side effects. Creatine has shown to help those who have normally low muscle creatine content, however due to conflicting results in the current studies further research needs to be done to study the effect of creatine.



www1.ncaa.org/membership/ed_outreach/nutrition-performance/index.htm

www.drugfreesport.com/rec