



# LOOK AT THOSE GUNS

Five popular muscle-building supplements

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Looking to beef up your biceps or tone those abs? Some students turn to supplements for a muscle-building boost. But before downing a concoction of powders and pills, learn the facts. Here's a guide to five popular muscle-building supplements among college students. **JP**

## WHEY PROTEIN

**Form:** Powder

**How it works:** Lifting weights creates microscopic tears in your muscles. Protein, a major nutrient that the body needs to function, fills in these tears, which repairs and builds new lean muscle.

A 165-pound man needs about 60 grams of protein per day (and a little more if working out), the equivalent of a chicken breast, a steak and a glass of milk, says Amber Long, fitness coordinator for KU Recreation Services. Because the Food and Drug Administration doesn't approve most supplements, Long suggests getting your daily protein from food alone.

But some students find protein supplements more convenient on a busy schedule. "It's easier to drink protein than eat protein," says Matt Redlin, Bonner Springs senior, who has used whey protein for two years.

To get the most out of a workout, the body needs protein that absorbs fast — within an hour after exercise. Whey protein absorbs quickly, making it one of the best ways to get amino acids to your muscles, says Aaron Boos, owner of Lawrence Nutrition Center, 4931 W. Sixth St.

After using whey protein for a year and a half, Sean Reskey, Paola junior, put on about 20 pounds — most of which is muscle. In addition to drinking one protein shake per day, he works out regularly and tries to eat a healthy diet. "Protein's not going to do it by itself," he says.

**Possible side effects:** Any extra protein the body doesn't use turns to fat, which leads to weight gain. Taking too much protein can also strain the liver because of the increased processing needed for the extra protein, Long says.

**Tip:** Buy hydrolyzed whey protein or whey protein isolate instead of whey concentrate because they absorb faster, Boos says.

## PRE-WORKOUT NITRIC OXIDE

**Form:** Powder or pills

**How it works:** Pre-workout supplements increase blood flow, which helps pump oxygen and nutrients to the muscles at a faster rate. Increased blood flow plus the extra caffeine in the supplement boosts energy, giving a more efficient workout.

Taking pre-workout nitric oxide is becoming

a trend for weightlifters — especially in two main forms, says David Wilson, Lawrence junior and program manager of personal training at the Ambler Student Fitness and Recreation Center. One form, taken as a pill, contains the amino acid arginine, which breaks down and converts to nitric oxide. The other form, an all-in-one powder, is like the "super cocktail of nitric oxide," Wilson says. The powder contains nitric oxide plus creatine, branched chain amino acids, glutamine and other ingredients.

**Possible side effects:** The extra caffeine boost can cause jitteriness and increase blood pressure. Sometimes after taking nitric oxide, especially when working out at night, Nick Smith, Olathe junior, feels "tingly" and takes about four hours longer to fall asleep.

**Tip:** Take this supplement about 20 to 45 minutes before working out for maximum effectiveness.

## CREATINE

**Form:** Powder or pills

**How it works:** Creatine transports adenosine triphosphate (ATP), the molecule that energizes cells, which helps boost muscle performance, says David Wilson, Lawrence junior and program manager of personal training at the Ambler Student Fitness and Recreation Center. Supplementing creatine gives the muscles extra energy, enabling people to lift more.

Creatine monohydrate, a popular form of creatine, has been on the market for more than 15 years. To absorb in the body quickly, it requires consuming a carbohydrate source, such as Gatorade, that will give the body a fast insulin spike, along with it, says Aaron Boos, owner of the Lawrence Nutrition Center. This supplement can cause people to hold extra water weight.

Newer forms of creatine, such as creatine ethyl ester and Kre-Alkalyn, help maintain lean muscle mass while cutting fat, making it easier to lose weight than with creatine monohydrate. These new forms also absorb the creatine into the body without the inconvenience of taking an added carb.

**Possible side effects:** Creatine monohydrate can cause gastro-intestinal problems and side cramps if you don't drink enough water while using it.

## GLUTAMINE

**Form:** Powder or pills

**How it works:** Amino acids, the building blocks of proteins, make up muscles. As the most abundant amino acid in the body, glutamine plays a huge role in helping muscles recover after a workout, says David Wilson, Lawrence junior

and program manager of personal training at the Ambler Student Fitness and Recreation Center.

Supplementing glutamine helps you recover quicker, which allows you to workout more frequently and build more muscle.

Nick Smith, Olathe junior, takes glutamine pills throughout the day to help with recovery.

Glutamine works almost unnoticeably. It's known as the "silent worker" because people usually only feel its effects through healing muscle soreness, says Aaron Boos, owner of the Lawrence Nutrition Center.

**Possible side effects:** None. The body will purge any excess.

## BRANCHED CHAIN AMINO ACIDS (BCAA)

**Form:** Powder or capsules

**How it works:** Branched chain amino acids include isoleucine, leucine and valine, three amino acids that the body doesn't make naturally. These amino acids make up one third of the body's skeletal muscle. When intensely exercising, the body breaks down muscle to get those amino acids to use for energy. Supplementing BCAA prevents the body from breaking down muscle.

**Possible side effects:** None. The body will purge any excess.

**Tip:** Can use before, during or after a workout.



Photo illustration by Jerry Wang

Supplementing success: Many students feel a push to beef up that leads them to use muscle-building enhancements such as whey protein, nitric oxide, creatine, glutamine and branched-chain amino acids, all of which are available at local health food stores, but do pose some possible side effects.