

# the amino acid boost

Learn how these essential nutrients help build muscle, improve erectile dysfunction, fight viruses, and more

By Jack Challem

**THE BASICS:** Amino acids form the building blocks of protein. Lest you think only of a thick steak, protein is the second most common substance (after water) in our bodies. Scientists consider 10 dietary amino acids essential because the body cannot make them. Another 10 dietary amino acids have been deemed “nonessential” because the body can make them. However, all of the dietary amino acids are crucial for health, and some people have difficulty making the nonessential amino acids. Many amino acid supplements provide significant health benefits.

**ALIAS:** The essential amino acids are arginine, histidine, isoleucine, leucine, lysine, methionine, phenylalanine, threonine, tryptophan, and valine. The nonessential amino acids are alanine, asparagine, aspartate, cysteine, glutamate, glutamine, glycine, proline, serine, and tyrosine. Often, an L precedes the amino acid, as in L-arginine.

**HOW THEY WORK:** Amino acids have diverse roles in the body. Their individual structure defines their function, as does their sequence in chains of

amino acids. They also serve as the immediate precursors to many compounds, such as the antioxidant glutathione and the neurotransmitter serotonin. Amino acids form more than 50,000 different proteins, the functions of which are defined by their amino acid building blocks and overall structure.

**HEALTH BENEFITS:** Supplemental amino acids have many important health benefits, including the following:

- L-lysine plays important roles in the manufacture of bone, skin, and collagen. Several studies have found it to be beneficial in reducing or shortening outbreaks of oral and genital herpes infections. Because it inhibits the replication of viruses, it may be helpful in fighting colds and flus as well. Try 500 to 1,000 mg daily.
- L-tryptophan, is the building block of serotonin, a neurotransmitter that counters feelings of depression and anxiety. It can also enhance sleep quality. The body converts tryptophan to 5-hydroxytryptophan (5-HTP), which then converts to serotonin. Try 500 to 3,000 mg of tryptophan, or 50 to 200 mg of 5-HTP daily.
- L-glycine accelerates the burning of blood sugar, and research dating back to 1932 has shown that supplemental glycine can reduce blood sugar levels in both healthy and diabetic subjects. In one study, researchers at the University

## DID YOU KNOW?

The amino acid L-tryptophan, which is found naturally in dairy foods, beef, poultry, barley, brown rice, fish, soybeans, and peanuts, is a drug-free sedative that can help induce sleep while boosting mood.

of Minnesota, Twin Cities, found that 3.6 to 5.4 g of glycine reduced postmeal elevations in blood sugar by 15 percent. Try 2 g of glycine with meals.

- L-leucine plays important roles in maintaining muscle mass. If you eat substantial amounts of animal protein, you probably get enough leucine. However, adding a little supplemental leucine may slow age-related decline in muscle mass. In a recent study, the addition of supplemental leucine helped seniors synthesize as much muscle as young men. Try 1 to 2 g daily.

- L-arginine is the precursor to nitric oxide, one of the most versatile cell-regulating molecules in the body. Via nitric oxide, arginine can improve blood vessel tone and flexibility, often lowering blood pressure. Because the same mechanisms are involved in erectile dysfunction, arginine may function as a natural (and safe) sexual enhancer for men. Try 1,000 to 2,000 mg daily.

- N-acetylcysteine (NAC), a form of the amino acid cysteine, is a precursor to glutathione, a potent antioxidant made by the liver. NAC can significantly reduce flu symptoms. Recently, researchers found it helpful in reducing cocaine addiction and obsessive-compulsive behavior.

## BACKGROUND CHECK:

Conventional dietitians usually assume that people get sufficient amino acids

when they eat dietary protein. However, seniors may require extra protein to counteract age-related loss in muscle mass. After all, muscles are made of protein. Supplements containing "free amino acids," which are not part of protein, may be particularly helpful. In addition, vitamin D helps the body make muscle.

**GLEANINGS:** In a study of 40 men with erectile dysfunction, a combination of arginine (1,700 mg daily) and Pycnogenol (40 mg daily), helped nearly all of the men improve sexual function after two to three months.

**HEADS UP:** Amino acid supplements are safe. However, take them with a specific purpose in mind.

**WHAT YOU SHOULD TAKE:** Follow either label directions or guidance from other reliable sources, such as your health care practitioner. ♦



### Product Examples

L-Tryptophan from Bluebonnet Nutrition features a free-form vegetarian source of the amino acid called TryptoPure.

Solgar Glycine Propionyl-L-Carnitine is a form of carnitine that has been bonded to the amino acid glycine for heart health.

Super Balanced Neurotransmitter Complex from Pain & Stress Center Products (not shown) contains all the essential amino acids and several nonessential ones.

## MORE STRENGTH FOR SENIORS

**Ruth and Mike** are in their early 70s, and like many people their age, they've lost muscle mass, a condition known as sarcopenia. Because they have less muscle, they also have less strength and stamina. They wondered whether these changes were just part of aging, or if they could be reversed.

They went to a nutritionally oriented naturopathic physician (an ND), who recommended an easy program for them to follow. This program included a multi-amino acid supplement, as well as a "branched-chain" amino acid supplement containing extra leucine, isoleucine, and valine. Their doctor also suggested 5,000 IU of vitamin D daily, as well as a program of light exercise (cycling, walking, and use of hand weights). During the next six months, both Ruth and Mike benefited from increased muscle mass, a decrease in flabbiness, and greater energy levels. They realized that loss of muscle does not have to accompany aging.

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