

*Interpreting Research for the Kidney Patient
December 2015, Vol 11, No 8*

The differences in essential amino acid supplements

It appears from the blogs that a number of kidney patients have a difficult time understanding the difference between using the essential amino acids and amino acids containing all the essentials (which are commonly sold in health food stores). Remember a protein is a chain of amino acids and there are 20 common ones, but most health food stores list 15 in their protein powders. These powders contain all of the essential amino acids and they are sometimes labeled as “contains all the essential amino acids” without mentioning in the bold print that the powder contains all the nonessential amino acids as well. These **will not work** to help your kidneys.

The essential amino acids stimulate protein building. ¹ The nonessential amino acids **do not** stimulate protein building. ² In fact, the non-essentials **make waste** (creatinine and BUN)³ when you take the protein powders sold by the health food stores (and yes, we know they’re cheaper).

Even more importantly, for you to avoid having waste from the essential amino acid mix, the mix must be “balanced”. When your body uses these building blocks to make proteins, it has to have the proper mix. If one of the essential amino acids is not present in sufficient quantity in the mix, the body runs out of the amino acids needed for building muscle. When that occurs, the **rest of the amino acids, both essential and nonessential, become waste for your kidneys** to handle. And you don’t have the muscle built that your body needs. In nutrition, that’s called the “limiting amino acid effect.” If you do not take a balanced formula containing only the essential amino acids on the low protein diet, **you are not lessening the load on your kidneys**, because your body has to deal with waste.

For many years plant scientists knew about this in animal nutrition and they bred corn that was higher in two amino acids that are “limiting” in plant protein used for human (or animal) nutrition. These two, lysine and methionine, are particularly bad tasting and although the “essential amino acid” mixtures in health food stores may contain all 9 of the essential amino acids and are marked as “extremely bitter”, they still do not contain enough of these amino acids to balance the formula for protein nutrition on the low protein diet. Dr. Walsler experimented with the health food store amino acid materials and could not get them to fulfill the need for protein building blocks in a kidney patient on a very low protein diet.

They would work to some degree for an athlete with healthy kidneys, but athletes are usually eating high amounts of protein (150-250 grams per day). They might work for a vegan who was eating large amounts of protein (think bread, beans and nuts), but they don’t work on the very low protein diet necessary for avoiding dialysis (bread (4-7 g of protein per slice), beans (8-18 g of protein per cup), and nuts (20-30 g protein per cup)). It doesn’t take many servings of these foods to get into the 80 g of protein per day level where you would have plenty of lysine and methionine, but when you limit yourself to 20 g of protein per day, **you must have a balanced formula of essential amino acids** or your serum albumin level (which should be above 4.0) will start to slip.

Like us on facebook - DialysAid and CalwoodNutritionals

*Calwood Nutritionals, LLC, 1288 Hay Meadow Lane, Sykesville, MD 21784
800.479.9942*