



## The Importance and Benefits of Amino Acids to Your Health

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Proteins comprise 75% of the dry weight of the human body. (Shipman, J., Wilson, J., Todd, A., An Introduction to Physical Science, 7th Ed., D. C. Heath, 1993) All proteins are composed of amino acids, the building blocks of life. Amino acids, alone or in combination with fatty acids, minerals and vitamins, are used by the body to build and repair cells including muscles, skin, hair, nails, bones, organs and glands. Such proteins are classified as structural proteins. In addition, amino acids are the essential elements used to make metabolic and digestive enzymes; neurotransmitters, critical for brain and nerve function; hormones, produced by the thyroid, pituitary, ovaries, testes, pancreas, kidneys, adrenals; and other carrier and messenger cells. These are the functional proteins.

Scientists have isolated twenty-two amino acids of which ten are considered “essential” for humans. An essential amino acid is one which cannot be produced from other amino acids within the body and therefore must be gotten from dietary or supplemental sources.

There are an estimated 100,000+ proteins found in the human body made from combinations of essential and non-essential amino acids. Structural and functional proteins build and renew every cell, organ, and system in your body. Total Amino Solution™, combined with healthy eating and adequate water intake, provides the nutritional support needed to maintain metabolic balance, build muscle, counteract the catabolic effects of exercise, infection, inflammation, and aging, and repair damaged cells. It is designed to improve and stabilize mood, support and protect nerve function, balance your immune system, keep your heart healthy (5) and more.

The value of using our complete amino acid supplement is to ensure all of the essential amino acids are available when they are needed. The amino acids found in Total Amino Solution™ are in the most rapidly absorbed form, ready to supply the essential elements to restore and maintain whole body health. Unlike amino acids derived from food sources, the free-form pharmaceutical grade amino acids used to make Total Amino Solution™ require no digestion. Absorption is rapid and complete.

Total Amino Solution™ is suitable for pregnant and nursing women (6-10), seniors needing extra nutritional support (2;11-14), and athletes following intense physical exercise (1;15-17). It may also be used to increase the benefits of fitness training and body building in young and old when taken just prior and after your workout. (1-4). It assists with recovery from eating disorders (18-20), acute or chronic infectious disease or inflammation (21-28) as well as aiding in the balance and/or control of mood, especially depression or anger.(29-31)

When you experience emotional or physical stress, including injury, inflammation, or infection, your body requires an increased supply of essential and conditionally essential amino acids to support, defend and repair. Having these nutrients readily available in a form requiring no digestion for assimilation provides broad-based amino acid nutritive to prevent or improve conditions such as heart disease, diabetes, hypoglycemia, depression, immune system over or under activity, and more.

Eric Braverman, M.D., one of the foremost authorities on amino acid research and author of the bestselling book, *The Healing Nutrients Within, 3<sup>rd</sup> Ed. How to use amino acids to achieve optimum health and fight cancer, Alzheimer's Disease, depression, heart disease and more.*, Basic Health

Publications, Inc, 2003, has proven in his clinical work amino acids are significant contributors to overall health. Clinical improvements in many biological parameters from the immune system to cardiovascular health have been documented.

### **The Role of L-Tryptophan**

This patent-pending full-spectrum amino acid supplement is among the first to include free-form pharmaceutical grade L-tryptophan since 1989. L-tryptophan, an essential amino acid, is the required precursor for the production of niacin, serotonin, and melatonin.

Julia Ross, M.A., states in her book, *The Mood Cure*, Penguin Publishing, 2003, "Our generation is experiencing an epidemic of L-tryptophan deficiency leading to depression and sleep disorders." She believes L-tryptophan is the best natural mind-body modifier available. Her view is supported in clinical research.

L-tryptophan catabolism, (breakdown) is increased during stress, both physical and mental, and whenever inflammation is present in the body.<sup>(22;32-34)</sup> Inflammation leading to a high turnover of available tryptophan may occur during healthy aging, rheumatoid arthritis, post-pregnancy depression, cancer, chronic infectious and non-infectious diseases, fibromyalgia, seasonal affective disorder (SAD), Parkinson's disease and autoimmune disorders.<sup>(5-7;13;35-42)</sup>

Recent research indicates obesity is linked to chronic inflammation and as long as inflammation continues the rapid destruction of tryptophan continues. This tryptophan catabolism lowers brain serotonin and may be responsible for continued carbohydrate cravings during and after weight loss.<sup>(43)</sup>

Free-form, pharmaceutical grade L-tryptophan has been used as an additive in baby formulas and parenteral nutrition for many years and has been proven scientifically safe. Its biological end products, including serotonin and melatonin, may help people control attention deficit disorders and other neuropsychological disorders<sup>(44-48)</sup> including anorexia and bulimia and the anorexia associated with cancer and cancer treatments.<sup>(18-20;49-52)</sup> L-tryptophan has also been found important in understanding and treating addictions including alcohol, nicotine and cocaine.<sup>(30;53-58)</sup>

Total Amino Solution™ is the perfect addition to your supplement program for overall health and prevention as well as when your nutritional needs increase due to any form of physical, psychological or environmental stress.

### **About Genesa, Inc.**

The term "GENESA" means unlimited potential and new beginnings and it is the core value of Genesa, Inc... Our goal is to share with others ways to reach their full natural health potential. All of Genesa Inc.'s products and educational resources are the vision of Dr. Daniel S. Smith's, D.C., who for twenty-five years, has worked tirelessly and creatively to improve the health of his patients. Genesa Inc.'s mind-body modifiers are designed to help healthcare professionals and customers in their quest to live a healthier and happier life. For more information about Genesa products, please visit [www.genesaliving.com](http://www.genesaliving.com). Dr. Dan Smith specializes in wellness approaches designed to achieve optimal health for all age groups. He is available for lectures to health professionals and groups on the topic of "Natural-Organic-Living: Enrichment for the Nervous Systems."

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