

Amino Acids and Neurotransmitters

Amino acids, the building blocks of protein, are the precursors (raw materials) for neurotransmitters and other mood-regulating compounds. Neurotransmitters are 'manufactured' in the brain from the amino acids we extract from foods, and their supply is entirely dependent on the presence of these precursor amino acids. Inside the brain are billions of neurons that are connected by messengers that transmit electrical impulses from one cell to another, allowing communication and thought to occur in the brain. A neurotransmitter is the chemical messenger used by these neurons to communicate with other neurons.

Certain neurotransmitters, when depleted, may cause you to be easily agitated or angered, experience mild to severe anxiety or depression and have sleep problems. Depression, for example, can result if certain neurotransmitters such as serotonin, are in short supply. It is possible to reverse depression by 'loading up' on these specific amino acid precursors. Studies with humans and animals over the past three decades have shown that Serotonin nerve circuits promote feelings of well-being, personal security, confidence, relaxation, calm and concentration. Serotonin neural circuits also help counterbalance the tendency of overaction (e.g. due to stress or genetics). The amino acid L-tryptophan is the precursor to serotonin.

Dopamine and Noradrenalin are stimulatory neurotransmitters. High levels of these catecholamine neurotransmitters will cause an excited firing of the post synaptic neuron. When these neurotransmitters are imbalanced they can encourage anger, tension, over-arousal, fear, stress, aggressive behaviors, violence impulses, obsessive compulsive actions and thoughts, anxiety and sleep disturbances. There are many disorders now connected to excess production and excretion of neurotransmitters including hyperactivity and anxiety syndromes such as ADD/ADHD, OCD and others. The amino acid dl-Phenylalanine and L-Tyrosine are the amino acid precursors to dopamine and noradrenalin.

A number of antidepressant drugs, while temporarily increasing synaptic neurotransmitter levels, can cause an overall depletion of the vesicle pool available for secretion resulting in lowered numbers of postsynaptic receptors. The postsynaptic neuron fires when sufficient numbers of its receptors are engaged by the neurotransmitters. If the number of receptors is low, higher levels of the neurotransmitters are required to cause the neuron to fire and relay a signal. Studies have shown that long term use of Serotonin Reuptake Inhibitors, (SSRI), such as Prozac will in time reduce the amount of serotonin available and eventually render the drug ineffective.

Orthomolecular Psychiatry describes the practice of preventing and treating mental disease by providing the mind with optimal amounts of key substances (e.g. amino acids) which are natural to the body. In the orthomolecular view, it is

possible that the strategic provision of certain vitamins, amino acids, minerals, trace elements or fatty acids in amounts sufficient to correct biochemical abnormalities, nutritional deficiencies or erroneous eating habits will be therapeutic in preventing or treating many psychiatric and emotional disorders.

Advanced Health Institute has always realized the need for non-toxic (non-drug) and safer methods of building health and treating disease. We have also recognized the difference between building health as opposed to merely masking the symptoms of ill-health and disease. The use of dietary measures often concomitant with vitamin, mineral, enzyme, herbal, and other forms of natural medicine have proven both life building and life –saving for literally millions of people.

At Advanced Health Institute we believe in incorporating the most cutting edge modalities in natural health care. The time has come for nutritional and complementary medical centers to offer what was once considered alternative medical services to the public out of sheer demand by a more educated public. Almost overnight a general awareness of natural and nutritional medicine has swept throughout America. The reasons for this renaissance are complicated and range from overwhelming scientific studies, or clinical results from thousands of health care providers delivering these services to millions of people. Whatever the reasons for the growing awareness and use of natural medicine today one thing is certainly clear ...public consciousness has changed and the paradigm of health maintenance and disease treatment is evolving towards a non-drug, nutritional philosophy and practice.

For the past two years Radhia Gleis PhD. C.C.N, the certified clinical nutritionist at Advanced Health Institute has been studying and applying the use of amino acid supplementation to assist mental health clients in balancing their neurochemistry. Radhia, recognizes biochemical individuality and assesses a person's nutritional needs thru biochemical tests such as comprehensive hormone, neurochemistry and amino acid profiles.

The 24,-hour urine amino acid analysis has the highest probability of detecting abnormalities, if renal function is normal. The 24-hour test indicates what is high and low over the course of a day, reflects blood and tissue amino acid pools, and is not affected by circadian rhythm. Healthy kidneys efficiently conserve essential amino acids; therefore, urine levels of amino acids decrease first and tend to give an earlier indication of inadequacy than do plasma levels.

Advanced Health Institute uses Doctor's Data Laboratory for this amino acid assessment. After this assessment has been completed, Radhia may have an oral custom amino acid supplementation (from Metabolic Maintenance

Company), made to assist the client in restoring their individual amino acid needs. While simultaneously, working on digestion and assimilation of their diet so that they can eventually utilize their protein from their food.

When testing neurotransmitters, like hormones, some neurotransmitters show marked circadian variation. As such, urine collection is standardized to a specific time-frame to increase test accuracy. The morning urine sample, in contrast, reveals neurotransmitter levels that correlate with clinical presentation and offers the most useful information for initiating and monitoring therapies. Advanced Health Institute uses Neuroscience Laboratory, which specializes in hormone and neurochemical analysis, for the clients neurochemical and hormonal assessments. Based on the test results, a specific oral supplement protocol may be recommended.

Oral supplementation certainly is the most convenient way to deliver nutrients to our clients. However, the use of intravenous and intramuscularly delivered nutrition may be appropriate for some patients that simply cannot be achieved through diet, oral nutritional supplements and other types of natural therapies. The integration of intravenous and intramuscular therapies, along with other health care modalities, offers exciting options for those who find that oral protocols alone are not as effective.

Radhia is working closely with Dr. Philip Zbylot MD, on exploring the transmission of amino acid therapy through IV, for those patients that need a more direct delivery system.

It is the opinion of Advanced Health Institute that the majority of medical and nutritional offices provide incomplete health care services; either they deliver excellent nutritional consultation services or they provide IV /IM services to the exclusion of a balanced approach including dietary and nutritional supplements. There is no reason balance of natural lifestyle approaches and clinically applied nutrition cannot include IV /IM therapies.

Complementary medical centers that possess knowledge and skills of natural health care as well as medically-applied IV /IM nutrition, will be in a unique position to meet the needs of expanding public consciousness. The marketability of a complementary medical clinic should be self-evident: cost-effective, natural solutions that actually work. For more information please contact our office at (512) 416-1810, or visit our website at www.advancedhealthinstitute.com.