

Neurotransmitter Production Support

Total Health's products are based on its proprietary method for formulating dietary supplements, known as N.P.S., the acronym for, "Neurotransmitter Production Support". N.P.S.-based products are designed to allow relatively small quantities of nutrients to substantially increase neurotransmitter synthesis via a synergistic effect. This unique approach allows the first products to be created for increasing the *amount* of a targeted neurotransmitter that the body produces, allowing the creation of dietary supplements that can produce *measurable improvements* in health and performance.

Overview of N.P.S. Approach to Nutritional Product Design:

N.P.S. is designed to increase production of selected neurotransmitters. N.P.S. is a proprietary method for formulating dietary supplements. N.P.S. - based products are designed to allow relatively small quantities of nutrients to increase neurotransmitter synthesis through a synergistic effect.

Neurotransmitters are chemical messenger molecules that are produced in the body. The levels of specific neurotransmitters affect various aspects of health including the cardiovascular system, musculoskeletal, and reproductive systems. Many pharmaceuticals increase levels of a deficient neurotransmitter by stimulating its release, inhibiting its re-uptake, or inhibiting its breakdown. Drugs however, are incapable of increasing *the amount* of a neurotransmitter the body produces.

Pharmaceuticals are therefore unable to correct the neurotransmitter deficiency they are used to treat. Rather than attempting to inhibit the breakdown of a deficient neurotransmitter or only stimulating its release, N.P.S. focuses on increasing neurotransmitter synthesis.

N.P.S. is designed to achieve synergistic effects by combining neurotransmitter precursors with ingredients that promote neurotransmitter release. The body keeps nerve cells "turned off" (inhibited from firing) until they are needed, to prevent neurotransmitters from continually being released.

In order for a neurotransmitter to be synthesized, two things need to happen. First, the nutrient the neurotransmitter is composed of (its precursor) must be available. Second, a neuron must be releasing a neurotransmitter in order to initiate neurotransmitter production. Triggering release of a neurotransmitter activates cellular intake of its precursor in order to replenish what was released by increasing neurotransmitter synthesis. This is the key to understanding N.P.S.'s synergistic actions.

N.P.S. is designed to increase the amount of a neurotransmitter being produced by administering neurotransmitter precursors along with ingredients that help activate the production process.

To illustrate the N.P.S. concept, imagine a factory. In order for a factory to convert raw materials into a finished product, the assembly line must be turned. If the assembly line remains inactive, the raw materials will not be converted into the finished product. N.P.S.-based products are designed to "turn on" cells that change the "raw materials" into neurotransmitters.

Previously, administering large quantities of neurotransmitter precursors has failed to produce significant increases in neurotransmitter synthesis. This is similar to delivering massive amounts of raw materials to a factory's loading dock and having them remain unused because the assembly line was not turned on. N.P.S. is designed to increase the amount of a neurotransmitter produced by supplying a neurotransmitter precursor and simultaneously promoting neuron firing.

N.P.S. addresses the crucial components that are essential for neurotransmitter synthesis to occur. N.P.S. targets the same process the body uses to activate neurotransmitter synthesis, allowing N.P.S. to significantly increase neurotransmitter synthesis using minimal amounts of the individual agents.

Targeting each of the crucial mechanisms needed to activate synthesis of a neurotransmitter is similar to opening a door locked with a combination lock. By entering the correct combination, the locked door opens easily. Attempting to promote synthesis of a neurotransmitter by administering multi-gram quantities of its precursor can be likened to opening the door by using a bulldozer.

N.P.S.-based products are formulated to normalize body functions. These products are not designed to stimulate or inhibit mechanisms within the body, as with drugs. Drugs can produce undesirable effects in a healthy animal by inhibiting or stimulating mechanisms beyond the normal range. Products based on N.P.S. principles are designed to only restore under-functioning mechanisms to within the normal range. This results in N.P.S.-based products having a tremendously greater margin of safety as compared to pharmaceuticals.

Side-Benefits versus Side-Effects

Total Health Enhancement products are designed to replenish substances produced in the body that have been depleted. Hence, the products can produce secondary positive results. By replenishing the depleted substance it will also help every other body part affected by that deficiency.

Nitric Oxide

Nitric oxide is a chemical produced in the body that keeps blood vessels open and increases blood flow. Nitric oxide also has a wide variety of other effects including killing bacteria and viruses and promoting healing of wounds and ulcers.

Stress, aging, injuries, intense exercise, and fighting disease-causing organisms can all deplete the body of nitric oxide. A horse that has insufficient levels of nitric oxide will be unable to perform to the best of its abilities. Depletion of nitric oxide may be involved in a variety of equine health problems such as laminitis (founder), gastric ulcers, infertility, and post-race bleeding. Just as a chain breaks at its weakest link, insufficient production of nitric oxide can affect the performance of all horses and surface in different ailments. For example, depletion of nitric oxide can cause one horse to develop gastric ulcers while causing "bleeding" in another similar horse. In one case, insufficient nitric oxide reduces blood flow to the stomach and in the other case insufficient nitric oxide allows blood pressure to rise excessively in the lungs. For a different horse, depletion of nitric oxide can result in decreased blood flow to the feet, resulting in laminitis/founder. For others, insufficient production of nitric oxide can reduce blood flow to the sexual organs, causing infertility in those mares or stallions.

Total Health's products contain proprietary blends of all-natural ingredients that are designed to stimulate production of nitric oxide in the body. The products are designed to nutritionally support production of nitric oxide to replenish that which is depleted by exercise or stress.

Nitric oxide is synthesized in the body from its nutrient precursor, the amino acid Arginine. Attempts to increase nitric oxide production by administering large quantities of Arginine have met with limited success. Additionally, administering substantial amounts of Arginine may have undesirable side effects, either through stimulating insulin release or by affecting other mechanisms.

There has been a need for a way to increase the amount of nitric oxide produced within the body using Microgram doses of Arginine. This was previously unattainable until the development of the N.P.S. proprietary product formulation methodology. The importance of this is that Arginine in large doses (multi-gram quantities) can stimulate an outbreak of herpes in those with the condition. It can also be an Insulin blocker in Multi-Gram quantities.

