

THREE ESSENTIAL NEUROTRANSMITTERS FOR PAIN RELIEF

Neurotransmitters (NTS) are chemicals that derive their name from the fact that they “transmit” chemical and electric signals inside the nervous system to cause specific actions and functions. NTS work primarily by attaching to “receptors,” which are small protein masses that “receive” the NTS. Receptors carry out a wide variety of nervous system functions, one of which is your own built-in internal pain control and relief system.

There are 3 neurotransmitter-receptor systems that are key for control and relief of pain: dopamine, serotonin, and gamma aminobutyric acid (GABA) systems. You may already be taking a synthetic medication like those listed below, whose sole purpose is to stimulate one or more of these systems.

PHYSIOLOGIC FACTS ABOUT THESE 3 NEUROTRANSMITTERS

They are stored in nerve cells and released to relieve pain. Storage can deplete with constant pain so every person with IPS must regularly take amino acids to make an NTS and/or a surrogate of the NTS. Daily intake of amino acids supplements may not always be necessary.

TABLE OF ESSENTIAL PAIN-RELIEVING NEUROTRANSMITTERS

	<u>Neurotransmitter</u>	<u>Amino Acid Precursors*</u>	<u>Some Non-pain Functions</u>	<u>Some Synthetic Surrogates</u>
1	Dopamine-noradrenaline	Phenylalanine* Tyrosine*	Energy, motivation, alertness, attention	Amphetamine salts (Adderall®), methylphenidate, modafinil, phentermine, mucuna pruriens*
2	Gamma Aminobutyric Acid (GABA)	Glutamine* Taurine*	Anxiety relief, blood pressure, energy, muscle relaxation	Gabapentin, topiramate, pregabalin (Lyrica®), diazepam, clonazepam, carisoprodol, Valerian root*, Pure GABA*
3	Serotonin	Tryptophan* 5-Hydroxy Tryptophan(5HTP)*	Sleep, depression relief, enjoyment	Duloxetine (Cymbalta®), amitriptyline, nortriptyline

*Non-prescription. Note: Pure GABA can be obtained as a chewable or “under-the-tongue” tablet.

Neurotransmitters are so critical that testing is now available (Neurotransmitter Panel) through Life Extension (1-800-208-3444)

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