



Advanced Nutritional Solutions
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WHAT ARE NEUROTRANSMITTERS?

NEUROTRANSMITTERS are the brain chemicals that communicate information throughout our brain and body. They relay signals between nerve cells called “neurons.” The brain uses neurotransmitters to tell your heart to beat, your lungs to breathe, and your stomach to digest. They can also affect mood, sleep, concentration, weight, and can cause adverse symptoms when they are out of balance. Neurotransmitter levels can be depleted many ways. As a matter of fact, it is estimated that 86% of Americans have suboptimal neurotransmitter levels. Stress, poor diet, neurotoxins, genetic predisposition, drug (prescription and recreational), alcohol and caffeine usage can cause these levels to be out of optimal range.

There are two kinds of neurotransmitters – **INHIBITORY** and **EXCITATORY**. Excitatory neurotransmitters are not necessarily exciting – they are what stimulates the brain. Those that calm the brain and help create balance are called inhibitory. Inhibitory neurotransmitters balance mood and are easily depleted when the excitatory neurotransmitters are overactive.

Inhibitory Neurotransmitters

SEROTONIN is an inhibitory neurotransmitter – which means that it does not stimulate the brain. Adequate amounts of serotonin are necessary for a stable mood and to balance any excessive excitatory (stimulating) neurotransmitter firing in the brain. If you use stimulant medications or caffeine in your daily regimen – it can cause a depletion of serotonin over time. Serotonin also regulates many other processes such as carbohydrate cravings, sleep cycle, pain control and appropriate digestion. Low serotonin levels are also associated with decreased immune system function.

GABA is an inhibitory neurotransmitter that is often referred to as “nature’s VALIUM-like substance.” When GABA is out of range (high or low excretion values), it is likely that an excitatory neurotransmitter is firing too often in the brain. GABA will be sent out to attempt to balance this stimulating over-firing.

DOPAMINE is a special neurotransmitter because it is considered to be both excitatory and inhibitory. Dopamine helps with depression as well as focus, which you will read about in the excitatory section.

Excitatory Neurotransmitters

DOPAMINE is our main focus neurotransmitter. When dopamine is either elevated or low – we can have focus issues such as not remembering where we put our keys, forgetting what a paragraph said when we just finished reading it or simply daydreaming and not being able to stay on task. Dopamine is also responsible for our drive or desire to get things done – or motivation. Stimulants such as medications for ADD/ADHD and caffeine cause dopamine to be pushed into the synapse so that focus is improved. Unfortunately, stimulating dopamine consistently can cause a depletion of dopamine over time.

NOREPINEPHRINE is an excitatory neurotransmitter that is responsible for stimulatory processes in the body. Norepinephrine helps to make epinephrine as well. This neurotransmitter can cause ANXIETY at elevated excretion levels as well as some “MOOD DAMPENING” effects. Low levels of norepinephrine are associated with LOW ENERGY, DECREASED FOCUS ability, and sleep cycle problems.

EPINEPHRINE is an excitatory neurotransmitter that is reflective of stress. This neurotransmitter will often be elevated when ADHD-like symptoms are present. Long term STRESS or INSOMNIA can cause epinephrine levels to be depleted (low). Epinephrine also regulates HEART RATE and BLOOD PRESSURE.