# Defuse Stress and Calm Nerves Naturally

By Dr. Zoltan P. Rona, M.D., M.Sc. • www.mydoctor.ca/drzoltanrona

Very few people visiting a doctor's office can claim that they are not suffering from some of the consequences of stress. Complaints such as anxiety, chronic worry, panic attacks, insomnia, poor sleep and depression are all ultimately the end result of a stressful lifestyle. Relationship conflicts, the woeful economy, electronic pollution with Wi-Fi and job related turmoil all contribute to one's stress levels. Judging by the billions of dollars spent each year on tranquilizers, sleeping pills and anti-depressants; frazzled nerves have become a major problem in North America today. Are there any natural alternatives to all these drugs?

The answer is yes and there are several good choices. Many of you have heard of tranquilizing herbs such as valerian, kava kava and St. John's wort as well as the calming amino acids L-tryptophan and 5-HTP. These are all very effective and have very low side effect potential. But, perhaps more dramatically effective and with fewer side effects are the amino acids L-Theanine and Gamma-aminobutyric Acid (GABA) as well as the commonly deficient mineral, magnesium complexed with the amino acid L-glycine. Some combination of one or more of these can work wonders for the nervous system.

## L-Theanine

Green tea contains many health beneficial components. The one that gives green tea its relaxation or calming effect is the amino acid L-Theanine (gamma-ethylamino-L-glutamic acid). Between one and two percent of green tea leaves contains L-Theanine. It exerts its calming effect within 30 - 40 minutes of ingestion of 50 - 200 mg of theanine by stimulating the production of alpha waves in the brain. This phenomenon has actually been measured by meticulous scientists and is an established fact. Alpha waves are present in the wakefulness state when they are associated with a relaxed and effortless alertness. Some people call this a "zen" state but there is no specific religious significance to this.

While inducing a state of deep relaxation L-Theanine also enhances mental alertness comparable to that achieved through meditation. For people who do not have the luxury of spending several hours a day meditating, L-Theanine is an excellent alternative. Memory and learning is enhanced by L-Theanine and blood pressure is lowered naturally if elevated. I have had several patients able to reduce or eliminate their blood pressure medications just by taking L-Theanine on a regular basis.

L-Theanine is also being studied as a potential replacement for Methylphenidate, an amphetamine prescribed to children and adults for attention deficit disorder (ADHD). It is also being studied for its benefits in treating PMS (premenstrual syndrome) as well as in enhancing the immune system in conjunction with various cancer treatments.

L-Theanine also gets converted in the brain into the inhibitory neurotransmitter gamma amino butyric acid (GABA). GABA, in turn, optimizes the levels of two other neurotransmitters, dopamine and serotonin, producing further relaxation effects. Many of you who are familiar with psychiatric drugs know that the most commonly prescribed tranquilizers and antidepressants work by modifying the levels of these neurotransmitters. The only difference between these drugs and the natural compounds is the fact that the drugs are loaded with side effects too numerous to list here.

The nice thing about L-Theanine is that it can mitigate the effects of stress without sedation. In fact, it enhances awareness and has applications for learning disabilities and attention deficit disorders as well as various hyperactive states. It can offset the overstimulation that can result from drinking high caffeine products such as coffee and soft drinks.

Unlike prescription anti-anxiety agents, even a massive overdose of L-Theanine 100 times the recommended dose does not produce further relaxation or drowsiness. It is considered so safe that there are no limits to how much one can take before any possible toxicity occurs. Studies indicate that it crosses the blood-brain barrier quite easily. It competes for absorption in the small intestine as well as the brain with other amino acids so, to have maximal impact, L-Theanine should be taken on an empty stomach away from food.

The best time to take L-Theanine is at the first sign of stress at a dose of 50 - 200 mg every 4 - 6 hours as needed. For most adults, its effects can be appreciated in the body up to 10 hours after ingestion. The US FDA recommends a maximum dose of 1200 mg per day but this does not appear to be based on any evidence of potential adverse effects. Its safety in pregnant women has not yet been established.

## GABA

GABA (Gamma-aminobutyric Acid) is a non-essential amino acid used by the body as a neurotransmitter that inhibits excitatory nerve impulses and prevents overstimulation of the brain. This is the brain's natural calming agent, we all have certain levels of GABA in our brains at all times. GABA simply induces relaxation and reduces anxiety.

Perhaps some of you may have heard of Gabapentin, a prescription drug used to treat seizure disorders, chronic pain and bipolar illness. Well, Gabapentin is nothing more than GABA tweaked chemically so it can be patented as a drug. Drug companies are notorious at copying nature, altering a natural substance, then making huge profits off the re-engineered molecules. Unfortunately, this scheme causes the product they have created to have numerous side effects that would not occur with the natural compound.

There are no good dietary sources for GABA. In the body, GABA is made from glutamic acid and vitamin B6. If you want the body to manufacture more GABA, eat more foods containing glutamic acid. These include:

- Almonds
- Tree nuts
- Walnuts
- Spinach
- Oats
- Whole grains
- Pulses
- Brown rice
- Citrus fruits

GABA helps release Growth Hormone (GH), a property that can be put to good use by those with GH deficiencies. One study showed that a single 5-gram oral dose of GABA raised GH levels by as much as 550% within 90 minutes of ingestion. Some studies also indicate that enhanced GH levels play an important role in preventing some of the ravages of aging. This includes things such as sarcopenia (weakened muscles), metabolic syndrome, obesity, osteoporosis and the overall quality of life. Body builders commonly use GABA supplements to enhance their workouts and to replace fat with more muscle without any of the harmful effects of anabolic steroids.

Numerous studies have demonstrated a direct correlation between major depressive disorders and significantly decreased GABA concentrations in the brain. This is not to say that GABA deficiency causes depression but that it plays an important role as part of the overall treatment of depression, PMS, ADHD, bipolar disorder, panic, fear, mental blocks, a racing mind and anxiety. Doctors frequently prescribe benzodiazepines for most of these conditions but the major drawback to their use is that they can be addictive. GABA supplementation is not addictive and it is one nutrient that can be used to help facilitate withdrawal from benzodiazepines.

Research also shows that GABA can reduce the frequency and intensity of seizures seen in epilepsy. GABA also has a role to play in alleviating insomnia. While it is true that it does not induce sleep, GABA can generate enough calm in many people to allow sleep to occur. Since GABA helps sleep and controls anxiety it may also be an excellent adjunct to various high blood pressure treatments. While taking GABA can help lower blood pressure it does nothing to lower an already normal blood pressure. In other words, excessively high doses cannot bring the blood pressure down too low.

The optimal dose of GABA varies with the need and the individual. The usual anti-anxiety doses for most adults are between 500 and 5000 mg daily in divided doses.

## Magnesium Glycinate

Calcium is the mineral that has always had the most media attention, as well as overwhelming approval from the medical profession as a supplement that women should be taking. Despite a great deal of published medical and biochemical research, there is little, if any, attention paid to calcium's neglected cousin, magnesium, and most certainly no medical pronouncements that anyone should be supplementing this mineral in any serious way. Its under-utilization in clinical medicine is nothing short of scandalous, especially regarding its use as a life-saving cardiovascular tonic.

Magnesium is well absorbed from food sources such as legumes, whole grains, vegetables (especially broccoli, squash, and green leafy vegetables), seeds, and nuts (especially almonds). Magnesium is the central element of chlorophyll, the substance that gives plants their green colour. Hence, if it's green, consider the food as a potentially good magnesium source. Much of the popularity of health food supplements like spirulina, chlorella and barley green is due to the beneficial effects of the high magnesium content.

Water with a high mineral content, or "hard" water, is also a source of magnesium. So-called "soft water" (e.g. distilled or reverse osmosis water) is not only void of magnesium but may actually promote its loss from the body. Absorption of magnesium from supplements (i.e. bioavailability) varies. Magnesium glycinate, a combination of magnesium and the amino acid L-glycine is the

most bioavailable and the least likely to cause loose bowel movements or diarrhea.

Since magnesium is an anti-spasmodic or relaxant, one expects and sees symptoms of severe magnesium deficiency to include convulsions, confusion, muscle weakness, abnormal muscle movements such as spasms, tremors, myoclonus, and tetany.

Magnesium is often referred to as nature's calcium channel blocker. When intracellular levels of magnesium are low, this causes an increase in intracellular calcium. In addition to contributing to insulin resistance, higher intracellular calcium levels enhance calcium-mediated vasoconstriction, and inhibit cardiac and smooth muscle relaxation. The increased vascular tone can cause increased blood pressure. The pharmaceutical industry makes use of calcium channel blocking drugs to reverse this. Practitioners in the natural health care industry use magnesium to accomplish this with fewer side effects.

Magnesium supplementation has been demonstrated to be effective in the treatment of anxiety, ADHD, chronic fatigue, fibromyalgia, muscles spasms anywhere, muscle cramps, restless legs, migraine headaches, cluster headaches, heart beat irregularities, insulin resistance, metabolic syndrome and PMS.

Calcium supplements, when unbalanced by magnesium, can decrease the absorption of dietary magnesium, but only at very high doses (2600 mg per day). The advice here, especially for those at high risk for magnesium deficiency is to take calcium supplements at bedtime, instead of with meals, to avoid inhibiting dietary magnesium absorption. This may help explain the finding showing that people who used high doses of calcium supplements tended to have higher rates of heart disease. Magnesium, on the other hand, does not seem to affect calcium absorption.

If you use high doses of zinc, you might also need a magnesium supplement. Supplementation with high doses of zinc, 142 mg/day, decreases magnesium absorption and magnesium balance in healthy adult males. Alcohol abuse increases the risk for magnesium deficiency because alcohol impairs the ability of the kidney to conserve magnesium.

Magnesium is just one of numerous trace minerals that are highly important both for disease prevention and treating existing illness as far ranging as asthma, osteoporosis, migraine headaches, coronary artery disease and diabetes. Before reaching for that anti-spasmodic, analgesic or anti-inflammatory drug, you might be better off considering healthy doses of magnesium. The optimal doses depend on the health situation, the current magnesium level and other biochemical individuality factors. For anxiety the usually effective dose for most adults is between 300 and 600 mg of magnesium glycinate. If you are not sure what to do, consult a natural health care practitioner.

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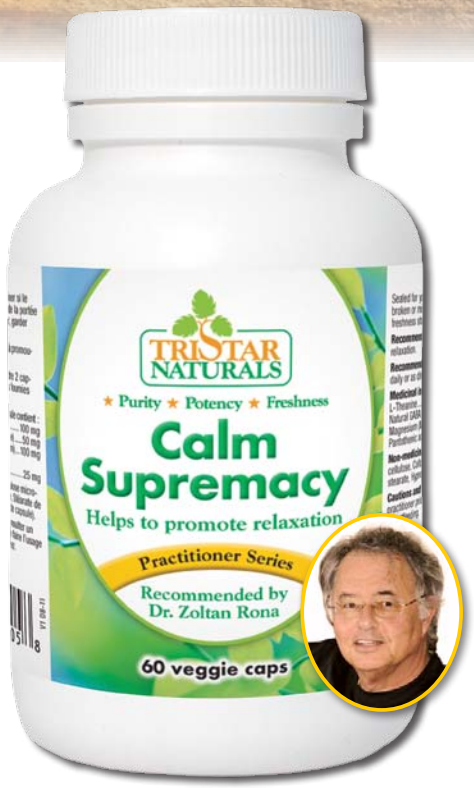


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