

# Inositol Health Benefits Everyone Can Enjoy

*"Inositol reduced the incidence and severity of panic attacks & brought about measurable improvement in the symptoms of obsessive-compulsive disorder."*

If your patients are not sleeping well, they're not repairing and recovering. So let's consider a product that's inexpensive and has multiple benefits, sleep being just one of them: inositol.

Many of the primary messengers such as hormones and neurotransmitters are hydrophilic, they can't cross the bi-lipid layer of the cell. So these primary messengers have to pass the signal to another secondary messenger inside the cell which will carry and in many cases amplify the signal to the nucleus or targeted organelle. I was surprised to learn all the major neurotransmitter systems, dopamine, norepinephrine, serotonin, acetylcholine, etc. use inositol as a major component of this secondary messenger system. The potential importance of inositol in the way we think and feel is pretty profound when we consider the number of receptor types/subtypes that interact with this signal transduction pathway.

Carl Pfeiffer, MD, PhD, studied the effects of inositol on the quantitative brain waves of patients in a normal population.



Since inositol is so highly concentrated in the brain, spinal cord nerves and cerebral spinal fluid, Dr. Pfeiffer believed it would have a calming effect on the brain. The studies of Dr. Pfeiffer showed inositol to have an anti-anxiety effect similar to that of librium. Inositol was included in his treatment program with anxiety / depressive patients who were frequently able to stop their usual daily dose of valium or anti-anxiety medications.

Later researchers found that myoinositol occurs in reduced levels in the brains of those suffering from depression. This spurred Dr. Joseph Levine and

his colleagues to investigate the benefits of inositol.

In Levine's study, published by the American Journal of Psychiatry, 12 grams daily were given to patients suffering from treatment-resistant depression. By the fourth week, patients experienced significant improvement in mood, insomnia, anxiety, agitation, and hopelessness. Levine and other colleagues found that 12 grams daily of inositol reduced the incidence and severity of panic attacks and 18 grams inositol brought about measurable improvement in the symptoms of obsessive-compulsive disorder.

Newer research on methylation adds to the inositol puzzle. Dr. Bill Walsh is the author of a landmark book on brain chemistry and nutrient cofactors called "Nutrient Power". He has gathered data on close to 30,000 people, ranging from autism to depression. Building on Dr. Pfeiffer's work and his own data, Dr. Walsh finds 70% of the people he has studied are normal methylators, 22% undermethylators and 8% overmethylators.

Methylation is a very complicated subject. However, an over methylated person has an excess of neurotransmitters. And an undermethylated person tends to be depleted in neurotransmitters, particularly serotonin, dopamine and norepinephrine.

The tests Dr. Walsh finds most useful to determine methylation are serum histamine and to a lesser extent absolute basophils. Reference ranges for serum histamine with common labs like Quest or LabCorp is 40-70 mcg/dL. The reference range for absolute basophils 30-50 mcg/dL. Patients with serum histamine greater than 70 mcg/dL and / or absolute basophils over 50 mcg/dL are undermethylators. Low Histamine reflects over-methylation.

Dr. Walsh has found inositol is especially helpful for the 22% of people who have high histamine, the undermethylators. Undermethylators have low neurotransmitters like serotonin, so many of these patients have anxiety, depression or insomnia and benefit from inositol.

On the flip side, he finds that overmethylators taking inositol may feel an aggravation of symptoms and suggests patients pay attention to how they feel. If they feel worse, they're probably overmethylators and should stop taking it.

Remember inositol is one of the key second messengers in intracellular neurotransmission, so it's surprising that it isn't more commonly used.

Drs. Pfeiffer and Walsh have found inositol especially useful in reducing anxiety and enhancing sleep. To enhance sleep for a 160 lb person, 650-2000 mg is recommended as needed. People who have difficulty falling asleep should take Inositol 30-60 minutes before sleep. People whose main problem is waking up in the middle of the night should take inositol immediately before sleep.

Dr. Walsh's colleagues find undermethylated people respond beautifully when given as much as 3-4 grams/day throughout the day. He suggests large doses are probably not necessary if other methylation support is given such as methionine, calcium, B-6, magnesium and vitamin C.

Inositol exists in nine isomer forms. Biotics' product is the myoinositol form which is the most common in the body. Myoinositol and its three common metabolites are also important for blood sugar regulation particularly low blood sugar, sugar craving, brain fatigue, fat metabolism and gene expression. Many of the commercially available forms of inositol come from corn. Biotics makes a form of inositol that comes from rice.

Inositol from Biotics Research Corporation comes in both tablet and powder form. Two tablets supply 650 mg whereas each 1.5 tsp of the powder supplies 5 grams.

The powder is 1/2 as sweet as sugar and mixes well in water or juice and is by far the best value. So whether we are talking about secondary messaging systems or undermethylation, Inositol plays a larger role with neurotransmitters than most of us have understood. And hopefully this topic is a good reminder that sometimes we can use simple things to make profound differences in people's lives.

Thanks for reading this week's edition. I'll see you next Tuesday.