

ADHD: A World of Options

In writing this article, I have one goal in mind...to empower all of those parents who have been told that the ONLY solution for their children with ADHD (Attention Deficit Disorder) is psychiatric medication. Empowerment is borne out of the awareness that there are options from which to choose. It is important for parents to make educated decisions regarding the health of their child. These decisions can potentially affect the rest of the child's life.

If you are a parent of a child with ADHD, you may be well aware of the skyrocketing statistics of children with this diagnosis. Did you know that 78% of all pediatric prescriptions are written for attention disorders? There are recognized disadvantages with this approach, such as the side effects from these drugs. In addition, by merely focusing on the symptoms, this approach does not begin to address the underlying cause. Paralleling the increase in children taking drugs for ADHD is the frustration of parents who feel as though they are stuck without options.

So, what are the options of the parent of a child with ADHD?

I. Functional Testing

The first question that should be asked is, "Have all the proper medical tests been performed?" There are many legitimate, evidence-based tests that will not be ordered unless the parents actively request them. Why? The answer is because 'modern medicine' is a disease-based medicine. The majority of tests ordered by conventional medicine are either those that lead to a diagnosis or a drug. Let's look at some 'non-mainstream' tests that allow us to uncover the root cause of the problem. The results of these tests will lead to individualized treatment options.

Intracellular Analysis

This is the most sophisticated assessment of 30 different vitamins, minerals, and amino acids. The novelty of this test is that these essential nutrients are measured from inside the cells, intracellularly. Since this is where they function, it is logical that this is the ideal place for these nutrients to be measured. Did you know that the following nutrients have been found to be low in people with attention deficit disorders: Magnesium¹, Zinc², Vitamin B6³, B12⁴ and L-

¹ **The effects of magnesium physiological supplementation on hyperactivity in children with attention deficit hyperactivity disorder (ADHD).** Magnes Res. 1997

² **Double-blind, placebo-controlled study of zinc sulfate in the treatment of attention deficit hyperactivity disorder.** Prog Neuropsychopharmacol Biol Psychiatry. 2004 Jan;28(1):181-90.

³ **Improvement of neurobehavioral disorders in children supplemented with magnesium-vitamin B6.** I. Attention deficit hyperactivity disorders. Magnes Res. 2006 Mar;19(1):46-52.

carnitine⁵. Instead of blindly giving these nutrients, this test will allow the parent to target those key nutrients that their child is lacking. Once found low, these nutrients can be increased either through foods or supplements.

Neurotransmitter Assays

Neurotransmitters are substances in the body that relay messages throughout the neurological system. They play a central role in our ability to learn, behave, concentrate and remember. Extensive research reveals a close link between mental acuity and the levels of five neurotransmitters: dopamine, norepinephrine, PEA, epinephrine, and glutamate. Three more are associated with controlling impulsiveness: serotonin, GABA, and glycine. Through a simple urine sample these chemicals can be measured. Then, these levels can be safely adjusted by administering specific, key amino acids.

Food Intolerance Test

There has been a long recognized connection between behavior, concentration, and food sensitivities⁶. There is a blood test that can help detect an individual's reaction to specific foods. Different from traditional allergy testing, this profile assesses delayed food reactions which are much less apparent. 100 of the most commonly eaten foods can be measured. Not only will results yield the type of problematic food, but also how strong of a reaction the person is having to that food. Most recently, there is a laboratory that can use a drop of blood to perform a portion of this test.

Toxic Metal Analysis

Through a simple hair sample, many potentially toxic minerals can be assessed. In today's industrial society, we are all being exposed to various toxic metals. One medical study concluded that despite normal levels of exposure, children with ADHD did not detoxify from heavy metals, efficiently. The brain and its cognitive functions are much more sensitive to heavy metals than any other area of the body. Some of these metals, including mercury⁷, manganese⁸, aluminum⁹ and lead¹⁰, have been associated with learning difficulties.

⁴ [Experience with the administration of group B vitamins in children with the hyperkinetic syndrome] [Cesk Psychiatr](#). 1988 Aug;84(4):237-44.

⁵ **Efficacy of carnitine in the treatment of children with attention-deficit hyperactivity disorder.** Prostaglandins Leukot Essent Fatty Acids. 2002 Jul;67(1):33-8.

⁶ **ADHD and food sensitivity.** Altern Ther Health Med. 2002 May-Jun;8(3):18;

⁷ **Attention-deficit hyperactivity disorder and blood mercury level: a case-control study in chinese children.** Neuropediatrics. 2006 Aug;37(4):234-40.

⁸ **Hair manganese and hyperactive behaviors: pilot study of school-age children exposed through tap water.** Environ Health Perspect. 2007 Jan;115(1):122-7.

⁹ **The health effects of aluminium--a review.** J R Soc Health. 1991 Oct;111(5):163-8.

¹⁰ **Attention deficit hyperactivity disorder, infantile autism, and elevated blood-lead: a possible relationship.** [Mo Med. 1996]

II. Treatment Options

There are certain nutrients and supplements that can be safely administered to children with attention difficulties. **Remember, always check with your healthcare practitioner before administering any nutritional supplements to your child.** Here are some of the basics:

Fish oil

Considering that 60% of the brain is composed of fat, it is no wonder that most cognitive complaints improve with supplemental fish oil. Many medical studies have shown that fish oil can improve behavior and learning¹¹. In addition, children with ADHD have consistently tested low in these crucial nutrients. As opposed to plant-based essential fats, like flax seed oil, those found in fish are in a form that can be immediately used by the body. Fish oil is made up of two main fractions; EPA and DHA. It is the DHA (docosahexanoic acid) portion that supports brain function. Depending on the weight of the child, the optimal dose is around 500mg-1000mg per day of DHA. Be patient, since this may take time to see a difference.

DMAE (di-methyl-amino-ethanol)

This naturally-occurring amino acid has a long history of boosting brain power. In the 1960's and 1970's, DMAE was used as a treatment for ADHD. In one study it compared favorably to Ritalin®¹², while in another, DMAE resulted in improved test scores in children¹³. This amino acid works by increasing the brain's production of acetylcholine, which is the neurotransmitter associated with learning, recall, and memory. For dosages, an integrative physician should be consulted.

L-Theanine

L-Theanine is the amino acid found in green tea that is responsible for the calming effect of this beverage. It functions to quiet the central nervous system. Therefore, L-theanine has been found to induce deep states of relaxation without sedation¹⁴, promote sleep, increase focused attention and improve learning¹⁵.

These are just a few of the many tools that are available to the frustrated parent. In addition to these testing and therapies, there are many alternatives that can be safely tried. Some therapies that have not been covered by this

¹¹ **Omega-3 fatty acid status in attention-deficit/hyperactivity disorder.** Prostaglandins Leukot Essent Fatty Acids. 2006 Oct-Nov;75(4-5):299-308.

¹² **Deanol (DMAE) and methylphenidate in minimal brain dysfunction.** Clin Pharmacol Ther. 1975 May;17(5).

¹³ **Parasympathetic neurohumors. Possible precursors and effect on behavior.** Int Rev Neurobiol. 1959;

¹⁴ **Effects of L-theanine on the release of α -brain waves in human volunteers.** *Nippon Nogeikagaku Kaishi*. 1998;72:153-7.

¹⁵ **L-theanine—a unique amino acid of green tea and its relaxation effect in humans.** *Trends Food Sci Technol*. 1999;10(6-7):199-204.

article are craniosacral therapy, homeopathy, acupuncture/acupressure, and orthomolecular therapy. We are living in a society where we have access to global solutions. Having the knowledge about alternative treatments and testing will empower parents, which allows them to choose the best option for their children. This approach represents the evolutionary peice that moves medicine from a disease-centered model to an individual-centered one.

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