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## A Review Of Potential Therapies In Care Of The Hyperactive Child

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Rheumatoid Disease

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The attention deficit hyperactive disorder (ADHD) is now epidemic in American elementary schools. Considering its long-term sequelae, it is arguably one of the leading health problems of our times. Dr. Lendon Smith, well known pediatrician, has estimated that 6 to 8% of children in today's classrooms are hyperactive, whereas in the 1950s there were less than 1%. There appears to be a consensus among veteran teachers that this dramatic change came about largely during and following the 1970s.

Before addressing therapy for this disorder, we must first ask what are its causes. No one knows all of the answers to this question, but there is growing evidence that there are three major causes:

- Massive increases in neurotoxic environmental chemicals.
- Commercial food processing and adulteration with chemical additives which are rarely if ever thoroughly tested for their safety. Also there are often pesticide residues.
- Excessive use of antibiotics in treatment of childhood illnesses.

In our opinion, any treatment program which does not take measures to correct these three basic causes will not gain long-term success. These and other problem areas will be reviewed in the following:

### (1) Volatile Organic Compounds (VOCs)

VOCs, or solvent-type of chemicals, are basically toxic, some extremely so. Very commonly today VOCs are present at high levels in indoor air of buildings. The U.S. Environmental Protection Agency has designated this problem as the "sick building syndrome." The causes are two-fold: First, there has been a massive increase in commercial production of VOCs estimated to be over 150-fold in the past 50 or so years and, second, the energy-efficient building codes adopted following the Arabian oil embargo in the 1970s which has resulted in little or no ventilation of buildings with outdoor air. (It may be more than coincidental the adoption of these building codes coincide with the dramatic changes in childhood behavior previously mentioned).

VOCs are fat or lipid-soluble, and therefore have an affinity for the lipid tissues of the body. The brain is a prime target because of its high lipid content and rich blood supply. Children are especially vulnerable to exposures, a vulnerability as much as 10 times greater than for adults.<sup>1</sup> Childhood exposures can and frequently do lead to learning disabilities, behavioral problems, fatigue, mood changes, poor motivation, as well as increased susceptibility to common respiratory infections.

Common sources of VOCs may include new buildings which commonly have high ambient levels in indoor air of formaldehyde, plastic vapors, glues, adhesives, and paints. New wall-to-wall carpets may outgas a number of harmful chemicals. Also included are pesticides when used (pesticide sprays may remain in indoor air 21 days or more following application), tobacco smoke when not

prohibited, recent renovations such as indoor painting, heavy use of disinfectants, and new mattresses which may exude toxic fire-retardant fumes. Many other potential sources could be mentioned, but these are the more common ones.

Buildings high in dust and mold can bring about fatigue, mental lassitude, and adverse mood changes in susceptible individuals.

In our office parents or guardians are provided educational materials as to common sources of VOCs and safer alternative methods and materials. Handouts are also provided for control of dust and mold when these are a problem in the home. In a residence it is usually neither difficult nor expensive to reduce harmful VOC exposures, but there may be perplexing problems in schools when there is a lack of understanding by school officials, which we have found sometimes to be the case.

### (2) Toxic Heavy Metals

These include lead, cadmium, mercury, and others. In our office we have used the hair test as a primary means of screening for these metals. Throughout the medical community most concern has been justifiably centered around the dangers of lead. When elevated hair lead is found, we follow it with a blood test.

Although we have not yet found a child with blood levels officially designated as toxic, it would be our policy to refer the child to a medical center for treatment. We have found a fair number with lower levels. These we treat nutritionally recommending foods high in organic sulfur (traditionally a cleanser) such as garlic, onions, beans, and lentils. Supplements such as blue-green algae, deodorized garlic, and mineral nutrients including calcium, magnesium, zinc, and selenium may be recommended. Parents are advised to check their home for possible sources of lead including tap water and leaded paint in older homes.

### (3) Nutrition

Emphasis should be placed on plain, unprocessed foods without chemical additives and on the reduction of sugar. Sweets should be limited to special occasions and should not be an every-meal indulgence.

Special emphasis is placed on the avoidance of chemical additives, especially MSG (monosodium glutamate), the artificial sweetener, aspartame, and artificial food colorings and flavorings. Numerous animal experiments in a variety of animal species have shown that MSG and aspartame are capable of causing brain and retinal damage.<sup>2</sup> There is no reason for believing that this does not also take place in humans. Artificial food colorings and flavorings have been shown to be a leading cause of allergic food reactions in hyperactive children.<sup>3</sup>

### (4) The Candida Syndrome

Candida is a yeast which normally inhabits the human intestinal tract and the vagina of females. It is known that antibiotics may cause invasive overgrowth in these areas, especially with heavy or prolonged use. Dietary sugar may also promote this overgrowth, as may cortisone-type of drugs when used in sufficient quantities to depress the immune system. Symptoms may include digestive problems, vaginitis, fatigue, mental sluggishness, depression, nervous irritability, worsening of allergies, and hyperactivity in children.

Few medical issues today have been more controversial than the Candida Syndrome, probably because no one fully understands its nature. It probably involves far more than just the invasive overgrowth of Candida in the digestive tract and the vagina. It may in part be caused by direct injury from antibiotics to the intestinal immune system (the secretory IgA system), sometimes referred to as "antiseptic paint" coating the intestinal lining. It may also involve overgrowth of other pathogens as well as Candida and a reduction of beneficial intestinal micro-organisms. The overall result may be an increased intestinal permeability, (the so-called "leaky gut syndrome") leading to an increased proneness to food allergies and other sensitivities.

For diagnosis we depend on the medical history -- it is always

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Antibiotics should be limited to more serious illnesses. Although this may sound drastic, many leading medical researchers and practitioners are coming to a similar conclusion. It is in the area of minor childhood sinus, ear, and bronchial infections that "natural therapies" have a great potential in carrying the child through the illness without a need to resort to antibiotics. More often than not they will be successful, although if there are indications of more serious complications, a doctor should be consulted and the decision on antibiotics left to the professional. In our office in these situations we have utilized an herbal tincture with Echinacea, Myrrh, and Phytolacca, ear drops with mullein and garlic oils, zinc lozenges or a liquid zinc preparation, vitamin C, and homeopathics. The number of potentially valuable natural agents is almost endless.

**(5) The Dysfunctional Family**  
Unquestionably family problems frequently play a major role as underlying contributory causes of childhood behavioral problems and ADHD. In such situations family support and psychological counselling at some level may be indispensable.

#### **(6) Food and Inhalant Allergies**

Classic studies have shown that food allergies play a major role in provoking adverse behavioral changes in a large portion of ADHD children.<sup>3,4</sup> Common inhalant allergies (pollen, dust, mold, etc.) may also be contributory.

Identifications of food allergies include a history of dark circles under the eyes, red ears and cheeks accompanied by mood changes after eating, a history of colic during infancy, and abdominal pains and digestive disturbances in later childhood.

Identifications of food allergies may be obtained by blood tests, elimination and rechallenge diet, or by skin tests done in our office. If food allergies appear to be a problem, the doctor will help the parents decide which approach is best for their child.

Once offending foods are identified by one of these means, treatment involves eliminating or reducing the problem foods and, when indicated, sublingual (under-the-tongue) food neutralization drops based on the skin tests. [See "Allergies and Biodetoxification for the Arthritic," <http://www.arthritis-trust.org>.]

#### **(7) Drug Therapy Versus Nutritional Supplements**

The standard medical treatment today for the hyperactive syndrome is ritalin or other drugs, often given as a sole means of therapy. This is partly understandable. Even an hour with a hyperactive child during a rampant outburst can be exhausting to parents or teachers, and these drugs usually do have a calming effect. However, they can have adverse side effects including decreased appetite and delayed growth and development. More to the point, long-term studies have shown negligible benefits in later adolescent years in terms of continued social and scholastic problems when ritalin is used as a sole therapy.<sup>5,6</sup>

We do not believe that, from the standpoint of the child's welfare, ritalin is the best answer. As with antibiotics, it should probably be held in reserve for the more serious cases or when other measures have failed.

In our opinion nutritional supplements hold great promise in this area. It can be expected that critics of this approach will say it is all anecdotal, lacking in scientific proof. This may or may not be true, but when parents see their children being helped, they do not

need scientific proof.

The following nutritional supplements appear to be of special value:

- Nutrient minerals are commonly deficient due to today's norm of diets consisting largely of refined foods. Mineral supplements may be required to support enzyme function in the body.

- Flax seed oil supplements provide a rich source of fatty acids necessary for growth and development of the brain, nervous system, mucous membranes, and cell membranes. As with trace minerals, these are almost universally deficient in modern diets, partly due to food processing which tends to destroy the fatty acids and partly due to food choices. [See "Essential Fatty Acids are Essential," <http://www.arthritis-trust.org>.]

- Blue-green algae, we believe, may prove to be of special value for the hyperactive child. Among other advantageous qualities, they contain easily assimilated amino acids which, serving as neurotransmitters, may have a steadying and calming effect on the nervous system.

- Pycnogenol holds promise as an alternative to ritalin. Its primary mechanism of action appears to be that of a powerful antioxidant which scavenges harmful free-radicals generated by foreign toxic chemicals and possibly by other sources.

#### **Additional Comments**

For many families these approaches may be new, and at first glance they may appear overwhelming. If one takes one step at a time, making changes without too much haste, they are not as difficult as they may appear.

Organic foods pose a special problem. If genuine, these foods are free of chemicals, have better flavor and higher nutritive value. The problem lies in that they are not always readily available, and even when they are, they are usually more expensive and beyond the financial means of many young families. If such is the case, do the best you can with regular market foods according to the guidelines previously outlined. For most this will be sufficient. One other alternative: if you have the time and appropriate grounds, grow your own garden according to proven organic methods.

The ultimate question is, do these methods work? We should answer yes, as we have seen the results. Also it can be said that large and growing numbers of parents are seeking these approaches throughout the land, and this would not be the case if they had not witnessed or experienced favorable outcomes.

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