

## *Non Medication Approaches For Children With Attention Deficit Hyperactivity Disorder*

### **Diagnosis**

More and more children are being officially and unofficially diagnosed with Attention Deficit/Hyperactivity Disorder (ADHD). The Health Resources and Services Administration's National Survey of Children's Health reported that the percentage of children ages 4-17 diagnosed with ADHD increased from 7.8 percent in 2003 to 9.5 percent in 2007.<sup>1</sup> Based on genetic and animal studies, the pathophysiology of the disorder is likely related to dysregulation of the dopamine and norepinephrine neural pathways.<sup>2</sup> These pathways are affected by the stimulant medications often used to treat the symptoms. The diagnosis is typically made based on observational behavioral surveys completed by families and teachers which reflect the DSM IV criteria.

**For a helpful checklist to aid in diagnosis from the Centers for Disease Control and Prevention, go to <http://www.cdc.gov/NCBDDD/adhd/widget/checklist/index.html>.**

In general, symptoms have an onset before age seven and persist for six months or longer. They must be present in more than one setting and their severity must be beyond the individual's developmental level. The symptoms of two subtypes of ADHD are listed below. The third subtype is a combination of the two.

#### **Inattentive ADHD Criteria (6 of 9 present)**

- Fails to give close attention to details
- Difficulty sustaining attention
- Does not appear to listen
- Has difficulty following instructions
- Difficulty with organization
- Avoids tasks requiring sustained attention
- Often loses things
- Easily distracted
- Forgetful in daily activities

#### **Hyperactive, Impulsive ADHD Criteria (6 of 9 present)**

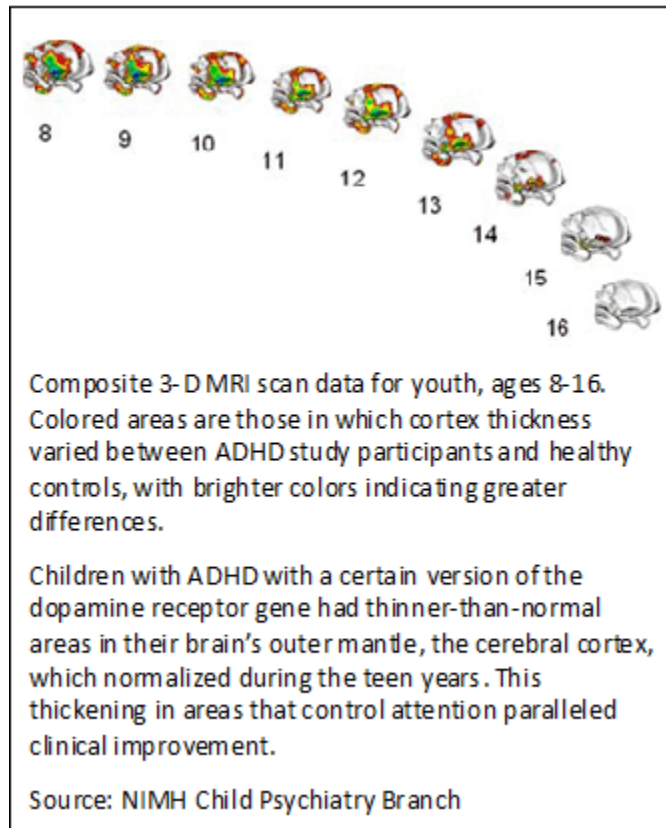
- Fidgets or squirms
- Difficulty staying seated
- Runs or climbs inappropriately
- Difficulty engaging in activities quietly
- Always "on the go," "driven by a motor"
- Talks excessively
- Blurts out answers
- Difficulty in waiting their turn
- Interrupts or intrudes upon others

There has been considerable controversy around whether or not ADHD is a truly disordered state. From the lists above, one can see a lot of typical behavior for children that are younger than age seven. Families may struggle to understand if their child is on one end of a spectrum of behavior or if there is truly a "diagnosis" present. Imaging studies have shown that children who carry a diagnosis of ADHD seem to have a delay (not an abnormality) of an average of three years in the development of certain areas of the brain, most markedly in the frontal cortex which controls the ability to suppress inappropriate actions and thoughts, focus attention, remember things moment to moment, work for



## Non Medication Approaches For Children With ADHD

reward and plan. The motor cortex, however, seems to mature faster than normal.<sup>3</sup> Taken together, the inability to sit still and the difficulty with focus are easily understood. However, with time, those differences seen on imaging resolve along the same time course as clinical symptoms often improve.<sup>3</sup>



### **Co-Morbidities**

The 1999 NIH Consensus Statement regarding ADHD left room for the possibility that, while it can be reliably diagnosed, it cannot be definitively considered a brain disorder.<sup>4</sup> At an American Holistic Medical Association's Holistic Health Now conference in Cleveland, Ohio, child psychiatrist Dr. Scott Shannon, MD, offered the perspective that ADHD may be more of a final common pathway for a number of processes--much like a fever is a measurable entity that we can treat but not an illness in and of itself. Looking for the more upstream etiology may be an important step in effectively treating the whole child.

For that reason, screening for other primary etiologies, co-morbidities and social and environmental factors that may influence behavior is crucial. At a minimum, assess for the following conditions:

- primary developmental delay (as a result of genetic disorders or traumatic insults)
- sensory processing disorder (Resources for more information on SPD include: <http://www.sensory-processing-disorder.com/> and Carol Stock-Kranowitz's book, *The-Out-Of-Sync Child: Recognizing and Coping With Sensory Processing Disorder, Revised*, Penguin Group, 2005.)
- learning disability
- depression



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## Non Medication Approaches For Children With ADHD

- anxiety
- sleep disorders
- abuse—verbal, emotional, physical, sexual
- neglect
- familial disruption/chaos

Even when the primary diagnosis is ADHD, many of these conditions have a high co-morbidity rate with that disorder and should therefore be continually screened for throughout treatment. It is easy to see that children who are feeling that they are continually failing to meet expectations at school and/or at home may begin to develop symptoms of depression, anxiety, etc. It is also easy to see that the stress of caring for a child who is struggling and whose behavior can be very challenging at home and at school can result in higher tension in that home between multiple family members and result in strained parental behaviors. It is also important to note that research has shown that children with such co-morbidities do not respond as well to stimulant medications<sup>5</sup> and will therefore need a broader range of interventions.

**Tell your child often, “I love you, no matter what.”** Cindy Francis

### Laboratory Tests

Medical conditions must be ruled out. If discovered, they should be treated and symptoms of ADHD then reassessed. Initial lab work to consider includes:<sup>6</sup>

- CBC to assess for anemia
- Serum ferritin to assess for iron deficiency (These children are not always anemic; see below.)
- TSH to screen for hypothyroidism
- 25-Hydroxy Vitamin D (Consider treatment if below 50ng/ml.)

When the diagnosis of ADHD has been accepted by providers and parents, standard therapy has been centered around the use of both stimulant and non-stimulant psychotropic medications. However, many families are hesitant to medicate their children due to concerns for both immediate and yet unknown longer term side effects. In addition, a significant number of children with ADHD do not improve with medication. Whether or not medications are used, many families are interested in alternatives or adjunctive therapies that can effectively support their children’s abilities to comfortably participate in both educational and social environments.

### Prevention

- **Chemicals**

There are no proven ways to prevent the development of ADHD. That being said, decreasing exposure to substances, starting in utero, that may adversely affect brain function may be helpful and have other benefits to health as well. The following list is taken from Dr. Kathi J Kemper’s book, *Mental Health, Naturally*.<sup>7</sup>

- Children whose mothers smoked while they were pregnant have a higher rate of ADHD. Tobacco smoke, alcohol, narcotics and illicit drugs slow cognitive function and decrease focus.
- Excessive levels of lead, arsenic and manganese can contribute to learning disabilities and ADHD symptoms.



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## Non Medication Approaches For Children With ADHD

- Polychlorinated biphenyls (PCBs. Although banned in the U.S., they persist in the environment.) and polybrominated biphenyls and polybrominated diphenyl ethers (both used in plastics, electronics and in flame retardants) can interfere with thyroid, and therefore brain, development.
- Formaldehyde, used in many building materials, can cause irritability and difficulty with sleep and memory.
- Avoiding exposure to persistent organic pollutants such as dioxin (byproduct of bleaching paper products), dieldrin (pesticide), atrazine (herbicide) and BPA (used in plastics and liners of food containers) may prevent some of their impact on learning disabilities and hyperactivity. Encourage the use of green cleaning products and organic gardening as part of a general precautionary principle.
- **Television**

Television viewing, especially excessive amounts in younger children, has actually been shown to be positively correlated with the development of ADHD. A 2004 study looked at 1,200 one-year-olds and 1,300 three-year-olds; by age seven, 10% had attentional problems, and the symptoms were associated with hours of television watched at those early ages.<sup>8</sup> A longitudinal study of 1,000 children in New Zealand looked at television viewing time at ages 5, 7, 9 and 11 years. The more television that was watched in these earlier years, the more likely the children were to have attention problems at ages 13 and 15 years. This was independent of television viewing at those later ages.<sup>9</sup> Current recommendations from the American Academy of Pediatrics is for children to be exposed to no television viewing before the age of two and to limit all screen time (television, movies, computers, video games, etc.) thereafter to one to two hours per day.

### Nutrition

- **Balance**

Rapid changes in blood glucose can be physically uncomfortable for any individual. In children, sugar “highs” and “crashes” may result in uncomfortable physical states that manifest as inability to be attentive or being fidgety. Meals such as sugary cereal with skim milk or a bagel with fat-free cream cheese may not provide nutrients that sustain a child through to the next meal. Including sources of fiber, healthy fats, whole grains and protein with meals, especially breakfast, may help prevent that discomfort. See our guide to understanding effects of various types of carbohydrates on blood glucose levels at [Glycemic Index & Glycemic Load](#). Breakfast combinations to consider include:

  - Steel cut oatmeal or millet with nuts and berries (mixed in or on the side)
  - Egg(s) cooked in a small amount of olive oil, whole grain toast with butter and a serving of fruit
  - Home-made, low sugar granola mixed with plain, whole fat yogurt sweetened with fruit or a bit of honey or real maple syrup.
- **Food Additives**

In the 1970’s Dr. Benjamin Feingold claimed that 60-70% of children with ADHD could be effectively treated with a diet that eliminated all artificial colors and flavors, several preservatives (butylated hydroxyanisole [BHA], butylated hydroxytoluene [BHT], tertiary butylhydroquinone [TBHQ] and sodium benzoate), and a number of whole foods that contain natural salicylates (e.g., apples, berries, cucumbers, tomatoes, etc.). For more specific information on this diet,



## Non Medication Approaches For Children With ADHD

visit: <http://www.everydiet.org/diet/feingold-diet>. His methods and conclusions have been a source of great controversy and thus have led to further scientific investigations since that time. Analysis of the research over the last thirty-five years regarding food additives and ADHD shows that there likely is indeed at least a subset of children with ADHD that favorably respond to the removal of several food additives including artificial food coloring, artificial flavors and preservatives. However, the percentage of children who benefit is not likely as large as Dr. Feingold initially claimed.<sup>10</sup> In any child with ADHD, a trial of avoidance of all artificial colors, flavors and preservatives in food and medications may be well worthwhile. Children should strictly avoid these substances for at least two weeks and the effects monitored. While planning for such dietary changes may be difficult at first, it may have the added benefit of shifting the child's diet toward fresher, whole foods and all the associated long term health benefits.

### FOOD ADDITIVES TO AVOID

- U.S. Food and Drug Administration (FDA) certified dyes indicated by a number (e.g., FD&C Yellow No. 5) or a trade name (e.g., tartrazine)
- Vanillin and other artificial flavors
- BHA, BHT, TBHQ and sodium benzoate
- Ingredients in some over-the-counter and prescription medications. Consult with a pharmacist about available medications and dosages without these additives, including those for ADHD.
- Look closely at most bakery items, soft drinks (including soda, "fruit" drinks, sports drinks, etc.), condiments, snack foods, soups, salad dressings, etc.
- In general, avoiding processed foods, soda and artificially colored food products will reduce the amount of these chemicals in the child's diet.

- **Food Sensitivities**

Research has also supported that some children with ADHD may have decreased symptoms with the elimination of certain foods in addition to the additives discussed above. Such children may have a history of colic, eczema, reflux, antibiotic use or a family history of atopy. They may have physical signs and symptoms raising suspicion of food sensitivities such as allergic shiners, long bone pain, abdominal pain/irritable bowel syndrome, bad breath, foot odor, runny nose and insomnia.<sup>6</sup> The most common foods to eliminate are listed in the table on page 6.

It is important, especially in children, to avoid creating "fear of food" or an unnecessarily restricted diet that avoids otherwise healthy, nutritious foods. Re-evaluation for effect after several weeks of an elimination diet and re-challenging the child with various food groups to narrow the list of foods to avoid are crucial steps. For a guide to prescription and implementation of an elimination diet, see our handout [Elimination Diet](#). Depending on the entire clinical picture of the child, offering a regimen to heal the gut through treatment for increased intestinal permeability may be appropriate in conjunction with the elimination of certain foods (See our clinician handout [Therapy for Increased Intestinal Permeability](#)).



## Non Medication Approaches For Children With ADHD

### THE MOST COMMON FOODS TO ELIMINATE<sup>10</sup>

FOOD	AVOID	SERVE
<b>Additives</b>	All artificial colors, flavors and preservatives	
<b>Milk</b>	All dairy including milk, cheese, yogurt and ice cream	Rice milk
<b>Chocolate</b>	Chocolate	
<b>Grains</b>	Wheat, rye, barley	Oats, rice, rice crackers, rice noodles
<b>Meats/poultry/fish/eggs</b>	Eggs, processed meats	Unprocessed meats, poultry, fish
<b>Fruits</b>	Citrus	All others—including sources of vitamin C such as strawberries, blueberries, raspberries, cantaloupe, watermelon, papaya, mango and kiwi.
<b>Vegetables</b>	Legumes (peanuts, beans, peas, etc), soy, peanut oils, corn, corn oil, corn syrup	All others including vegetable sources of vitamin C such as broccoli, tomatoes and peppers.
<b>Nuts</b>	Peanuts; nuts processed with peanut or soy oil.	All others

- **Omega 3 Fatty Acids and the Anti-Inflammatory Diet**

There is evidence that the omega-3 fatty acids docosahexaenoic acid (DHA) and eicosapentaenoic acid (EPA) play important roles in neurologic function. The former seems to be more important in neuronal structure (e.g., fetal development, Alzheimer's disease), while EPA may be more important for issues of function (e.g., depression). Omega-3 fatty acids have anti-inflammatory properties that affect central nervous system cell membrane fluidity, which in turn affects dopamine and serotonin neurotransmission. Higher omega-3 content of red blood cells has been linked to lower anxiety and better word reading, while higher omega-6 content has been associated with poorer reading, vocabulary, spelling and attention. This may be especially true in children with ADHD *and* learning difficulties.<sup>11</sup> A 2011 meta-analysis of 10 trials and 699 children showed a small but significant improvement in ADHD symptoms with omega-3 fatty acid supplementation. The EPA dose within the supplement seemed to be positively correlated with increasing supplement efficacy.<sup>12</sup>

As with many health concerns, this data above supports a role for lowering the omega-6/omega-3 fatty acid ratio in our diets in general. See our [Clinician Handout—The Anti-Inflammatory Diet](#) and [Patient Handout—The Anti-Inflammatory Diet](#). Eating two to three servings per week of cold water fish is an excellent way to increase intake of omega-3s. Searching the website of the [Environmental Defense Fund](#) for “seafood” provides a pocket chart of environmentally sensitive, low-contaminant, heart healthy seafood choices. Our handout [Omega-3 Fatty Acids](#) has more information. Doses of DHA + EPA used in the studies were 250mg to 1000mg with a common dose of about 700mg for children ages 7-12. To obtain the dose, add up the amount of EPA + DHA on the label and divide by the serving size to identify the amount in each capsule. The user can then take the correct number of capsules to insure 250-1000 mg. Supplements with a higher concentration of EPA may be more beneficial.





## Non Medication Approaches For Children With ADHD

### Sleep

Estimates indicate 30% of children with ADHD have sleep disorders such as daytime sleepiness, insomnia, delayed onset sleep, restless legs syndrome, fractured sleep and sleep-disordered breathing.<sup>13</sup> Therefore, screening for sleep issues and pristine sleep hygiene are extremely important in this population. Regular nighttime schedules, avoidance of media for a few hours before bed, dark bedrooms to increase melatonin production, avoidance of caffeine, etc. are a few suggestions. More information can be found in our handout [Improving and Maintaining a Healthy Sleep-Wake Cycle](#).

### Nutritional Supplements

- **Iron**

A recent MRI study showed that children with ADHD not only have significantly lower serum ferritin but also lower iron levels in the thalamus.<sup>14</sup> Other studies have also found significantly lower serum ferritin levels in children with ADHD<sup>15,16</sup> and treatment with iron supplementation improves many of those symptoms.<sup>17-19</sup> Most children in the studies were *not* anemic. The effect of supplementation may be related to iron's role in dopamine metabolism. Doses used in studies have been 5mg/kg/day for 30 days and 80mg of ferrous sulfate daily. Dietary sources of iron include lentils, tofu, kidney and garbanzo beans, spinach, dried apricots, blackstrap molasses and prune juice. Adding a source of vitamin C (citrus fruits, cruciferous vegetables, tomatoes, vegetable greens, etc.) when consuming iron rich foods, improves absorption.

- **Zinc**

Because of zinc's role in neurologic development and as a cofactor for the metabolism of neurotransmitters, it has been studied in relationship to ADHD. Zinc levels have been shown to be lower in individuals with an ADHD diagnosis<sup>20</sup> and to predict stimulant response.<sup>21</sup> Zinc supplementation has been shown to reduce hyperactive and impulsive behaviors at doses as high as 150mg per day and to be an effective adjuvant to therapy with methylphenidate at doses of 55mg of zinc sulfate daily (15mg of elemental zinc).<sup>22</sup> With excessive levels, however, zinc can cause gastrointestinal upset and headaches, and over time it can lower copper levels, immunity and HDL ("good") cholesterol. The safe daily upper limits of zinc for children aged 4-8 and 9-13 are 12mg and 23mg, respectively, for those not taking it for medical reasons under the care of a physician.<sup>23</sup> There has been some work using reasonable doses of zinc that showed improvement in mental performance in children in seventh grade. **Consider a 3 month trial of 20mg daily, 5 days a week.**<sup>6</sup> Of note, many of the positive trials were conducted in countries in which zinc dietary deficiencies may be common. The effect may be less in areas where this is not the case; however, given that poor nutrition is common in many households in the United States, we cannot assume zinc is automatically consumed in necessary amounts. Dietary sources of zinc include oysters, red meat, poultry, crab, lobsters, and fortified breakfast cereals. The overall health effects of these food sources and some of their associated contaminants need to be considered. Foods with lower levels of zinc per serving but more desirable profiles for regular intake include beans (e.g., green and garbanzo), nuts, dark chocolate, spinach, broccoli, whole grains and dairy products.

- **Acetyl-L-Carnitine**

Acetyl-L-carnitine plays a role in the metabolism of omega-3 and omega-6 fatty acids, removes potentially toxic metabolic intermediates, and likely influences cholinergic and dopaminergic neurochemical pathways. Several small studies have investigated this supplement for individuals with ADHD; results have been mixed. Doses used in the studies varied from 250 to



## Non Medication Approaches For Children With ADHD

1500mg twice daily of Acetyl-L-carnitine to 100mg/kg of L-carnitine up to a maximum of 4000mg daily.<sup>24</sup> The supplement is generally well tolerated but may cause gastrointestinal upset, restlessness, or a fishy odor to body fluids.<sup>25</sup> The main difference between Acetyl-L-carnitine and L-carnitine is the addition of an acetyl unit that increases the effectiveness on the central nervous system (brain and spinal cord). We obtain this amino acid through eating meat, and those who eat no meat or small amounts may benefit more from Acetyl-L-Carnitine supplementation.

### Herbal Supplements

- **Pycnogenol**

It is proposed the pycnogenol increases production of nitric oxide, which regulates dopamine and norepinephrine release and intake. Sixty-one children with hyperkinetic disorder, hyperkinetic conduct disorder, or attention deficit without hyperactivity were given either 1mg/kg/day of pycnogenol or placebo for four weeks. Significant improvement was found with the supplement compared to placebo on the teacher-rated child attention problems for hyperactivity and inattention. Symptoms returned to baseline after a four-week washout of the treatment. The formulation of pycnogenol used was a standardized extract from the bark of the French maritime pine tree (*Pinus pinaster*) with a dose of 1mg/kg.<sup>2,24</sup>



*“Children are living beings—more living than grown-up people who have built shells of habit around themselves. Therefore it is absolutely necessary for their mental health and development that they should not have mere schools for their lessons, but a world whose guiding spirit is personal love.” Rabindranath Tagore*

### Behavioral Therapies

The United Kingdom’s National Institute for Health and Clinical Excellence’s (NICE) guideline on ADHD released in 2008 stresses the importance of behavioral interventions for children with ADHD.<sup>26</sup> It states that drug treatment is not recommended for pre-school aged children and that in school-aged children, it should be reserved for those “with severe symptoms and impairment or for those with moderate levels of impairment who have refused nondrug interventions, or whose symptoms have not responded sufficiently to parent-training/education programmes or group psychological treatment.” Instead, the guideline recommends careful and clear coordination of care between families, providers and schools, and skills-based therapies. Parenting programs have been shown to benefit mothers as well—improving their psychosocial health.<sup>27</sup>





## Non Medication Approaches For Children With ADHD

Four major types of behavioral therapies have been studied:

- Structured family therapy, which focuses on helping families develop patterns of organization to help manage the affected child's behavior. This includes clear demarcation of the roles and responsibilities of parents and children within a supportive family environment.
- Parent training which assists caregivers in developing skills that will help them objectively examine positive and negative behaviors and the events that precede and follow them. This assists the parents in manipulating the interactions and events to positively influence the child's behaviors—"setting them up for success." These programs also stress parental education about the disorder and provide support for the caregivers.
- Coping skills training for children that teaches them problem-solving techniques and skills to help maintain attention that will, in turn, decrease impulsivity and aggressive behavior.
- School based behavioral programs that create a bridge by which interventions described above can be implemented in the classroom as well.

A 2005 Cochrane Review on family therapy found only two studies suitable for inclusion—one reported that medication is superior to behavioral intervention, the other that family therapy was slightly better than medication. Investigation of behavioral intervention is difficult in terms of blinding and adequate follow-up. However, there is promise in this route of treatment and it should be considered strongly. Parental training/education programs have also been shown to be beneficial. In general, they need to include education about the condition, diaries and checklists, ignoring more minor undesired behaviors, giving positive attention to desired behaviors, plans for discipline and assistance with problem solving. Of course, this method requires considerable time and commitment on the part of the care providers. Group based therapies can increase total time with therapist and provide a community among families, but individual sessions may be required for more severe negative behavior patterns <sup>28</sup>

### RESOURCES FOR BEHAVIORAL TREATMENTS

- **Local mental health providers.** The availability of skilled therapists and educational programs that use behavioral techniques will vary by community. Developing relationships with local mental health providers will help in making referrals that match the expectations of the family and the strength of the provider.
- **Local school system.** Contact the school system (e.g., guidance counselor, psychologist, social worker, or special education teacher) for names of therapists and programs within the school system or community.
- **Parent to Parent: Family Training on ADHD.** This is a 14-hour course, available on-line or in person (usually two hours/week for seven weeks). It provides educational information and support for individuals and families. The curriculum was developed by parents who have lived the experience and had access to skilled professionals. Courses are offered in communities across the country. For more information and to locate a class in your area, go to: [http://www.chadd.org/AM/Template.cfm?Section=Parent to Parent Program](http://www.chadd.org/AM/Template.cfm?Section=Parent_to_Parent_Program).
- **What We Know: Psychosocial Treatments for Children and Adolescents with AD/HD.** <http://www.help4adhd.org/documents/WWK7.pdf> Fact sheet from the National Resource Center on AD/HD. Provides information on parent training, school and child interventions.
- **American Academy of Pediatrics' ADHD Toolkit:** The toolkit provides information on the diagnostic criteria, medication management, and educational and behavioral intervention resources. Purchase through the [AAP Bookstore](#).
- **Additional resources.** See more resources on: pages 11-12 and in our [patient handout](#).



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## Non Medication Approaches For Children With ADHD

### **Meditation**

A 1987 study of 23 boys with ADHD in New York compared meditation training to medication and standard behavior therapy. The children attended 30 minute sessions twice weekly for four weeks and did a home practice three times weekly. At the end of four weeks, there was no difference in teacher rating scales between the medication and meditation groups.<sup>29</sup>

Introduction of meditation or centering practices can be kept very simple with children. In the above study, participants repeated the word “one” out loud and progressively more softly until the word was repeated silently. The actual meditation duration was gradually increased from one minute to eight minutes by the end of the four-week training period. [Kerry Lee MacLean's books](#) *Peaceful Piggy Meditation* and *Moody Cow Meditates* are lovely ways to introduce meditation to children. Many psychologists and yoga instructors have training in mindfulness and may be able to work with children individually to develop an appropriate practice. Local resources will vary.

### **Neurofeedback**

It has been reported that the electroencephalograms (EEGs) of 85-90% of patients with ADHD display signs of cortical “hypoarousal.” A smaller subset of individuals with ADHD display patterns more suggestive of “hyperarousal” and do not respond well to stimulant medications.<sup>30</sup> Neurofeedback (or EEG biofeedback) is a process by which individuals are trained to impact these brain wave patterns in such a way as to bring them more in line with unaffected controls and thereby decrease ADHD symptoms. A German study of 34 children ages 8-12 compared neurofeedback (n=22) to treatment with methylphenidate (n=12). Group assignment was determined by parental preference. After three months of treatments, both groups improved with no significant difference between them.<sup>31</sup> While reviews of the total body of literature have criticized the quality of the studies available to date,<sup>32</sup> this area holds significant potential for treatment of ADHD, and more studies with adequate controls and power are greatly needed.

Protocols used in the studies investigating neurofeedback for ADHD have included 20-40 sessions lasting 30-45 minutes each. This is a considerable time and financial investment. If a qualified therapist is available geographically and accessible financially, this option may be very beneficial.

### **Other General Tips**

In *Mental Health, Naturally*, Dr. Kemper gives a few more general suggestions that may be offered to help support children with symptoms of ADHD and their families:<sup>7</sup>

- Focus on the strengths of the individual—“high activity” can also be “filled with vitality;” “impulsive” can also be “adaptable.” Catch them being good.
- Regular exercise and movement throughout the day can improve ability to focus. Martial arts training may be especially good as it combines movement with discipline.
- Encourage regular time in nature as it can reduce hyperactivity and improve attention and self-discipline.
- Minimize media.
- Keep regular routines on which a child can rely.
- Problem shoot solutions to behavior, e.g., keep a wandering child closer to a teacher or near positive peer role models, etc.
- Break large jobs into smaller tasks and encourage and praise continued *effort*.
- Practice patience and delayed gratification—recognizing that, initially, waiting 15 seconds for an answer or a desired outcome may be a significant act of restraint.



## Non Medication Approaches For Children With ADHD

- Encourage learning and working activities that have some degree of physical involvement—jumping jacks while reciting arithmetic tables, spelling bees combined with a relay race, etc. In class, provide a child with a rubber ball to squeeze when he/she must be quiet. Some school environments may be able to provide “standing” desks which can be helpful for some children.

The tasks children face simply going through development are great, as are the influences that support and hinder those processes. When a child develops behaviors that inhibit his or her learning and social interaction, coordination of care between families, school staff (teachers, counselors, etc.) and health professionals (medical providers, psychologists, etc.) is essential. The health of the whole child and its impact on those who love that child must be fully taken into account.

***Above all, there can be no substitute for a sense of security at home and school and a source of obvious, unconditional love in a child’s journey through these most formative years.***

ADHD RESOURCES FOR FAMILIES, INDIVIDUALS, AND PROFESSIONALS		
Organization	Content	Website
American Academy of Pediatrics (AAP)	1. Clinical practice guidelines 2. Bookstore. ADHD Toolkit & more. 3. List of ADHD related websites	1. <a href="http://www.aap.org/">http://www.aap.org/</a> 2. <a href="#">AAP Bookstore</a> 3. <a href="#">ADHD websites</a>
Attention Deficit Disorder Association (ADDA)	Provides information, resources, networking opportunities to help adults, including college students, with ADHD lead better lives.	<a href="http://www.add.org/">http://www.add.org/</a>
Centers for Disease Control and Prevention (CDC), U.S. Government.	1. ADHD homepage provides a variety of information for families and health care providers. 2. A checklist to help determine if a child has ADHD. 3. Brief ADHD Fact Sheet. For posting or handing out. In both English and Spanish	1. <a href="http://www.cdc.gov/ncbddd/adhd/">http://www.cdc.gov/ncbddd/adhd/</a> 2. <a href="http://www.cdc.gov/NCBDD/adhd/widget/checklist/index.html">http://www.cdc.gov/NCBDD/adhd/widget/checklist/index.html</a> 3. <a href="http://www.cdc.gov/ncbddd/actearly/pdf/parents_pdfs/ADHDFactSheet.pdf">http://www.cdc.gov/ncbddd/actearly/pdf/parents_pdfs/ADHDFactSheet.pdf</a>
Children and Adults with Attention Deficit/Hyperactivity Disorder (CHADD)	1. National non-profit organization providing education, advocacy and support. Printed material to keep families and professionals current on research advances, medications and treatments. 2. The <b>National Resource Center on ADHD</b> is a CHADD program. <ul style="list-style-type: none"> <li>• "What We Know" sheets update families and professionals on new research, treatments and successful strategies for children and adults.</li> <li>• Health Information Specialists</li> </ul>	1. <a href="http://www.chadd.org/">http://www.chadd.org/</a>  2. “What we know” sheets: <a href="http://help4adhd.org/en/about/wwk">http://help4adhd.org/en/about/wwk</a>  Health Information Specialists: 1-800-233-4050 or <a href="http://www.help4adhd.org/info_request.cfm">http://www.help4adhd.org/info_request.cfm</a> (Contact if you cannot find answers to questions.)



## Non Medication Approaches For Children With ADHD

Organization	Content	Website
<b>National Dissemination Center for Children with Disabilities (NICHCY)</b>	<ol style="list-style-type: none"> <li>1. Information on disabilities in infants through youth. Includes easy-to-read info on IDEA, the law requiring early intervention services and special education.</li> <li>2. Look up your state to learn where to call for Early Intervention Services (birth to age 3).</li> </ol>	<ol style="list-style-type: none"> <li>1. <a href="http://nichcy.org/">http://nichcy.org/</a></li> <li>2. <a href="http://nichcy.org/state-organization-search-by-state">http://nichcy.org/state-organization-search-by-state</a></li> </ol>
<b>National Institute of Mental Health (NIMH), National Institutes of Health, U.S. Dept. of Health and Human Services</b>	A detailed booklet-- <i>Attention Deficit Hyperactivity Disorder (ADHD)</i> --that describes ADHD symptoms, causes, and treatments, with information on getting help and coping.	<a href="http://www.nimh.nih.gov/health/publications/attention-deficit-hyperactivity-disorder/complete-index.shtml">http://www.nimh.nih.gov/health/publications/attention-deficit-hyperactivity-disorder/complete-index.shtml</a>

See our corresponding [handout for patients](#) on this topic.

### References

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## Non Medication Approaches For Children With ADHD

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