

Healing your child from ADHD

a checklist for evaluation
and treatment

Erika Krumbek, ND



Healing your child from ADHD: A checklist for evaluation & treatment

By Dr. Erika Krumbeck, ND

Introduction:

A note from Dr. Krumbeck:



I hope you find this checklist informative! This checklist is based on my clinical experience and research in treating children with Attention Deficit Hyperactivity Disorder (ADHD) and related behavioral problems. I use a three-tiered approach when it comes to treatment of ADHD.

The first tier involves eliminating other possibilities and other potential diagnoses that could be mimicking ADHD. **(Is it really ADHD?)** It is truly astonishing how many cases of ADHD in children are actually misdiagnoses. Things like iron-deficiency anemia, thyroid disease, or heavy metal toxicity (especially lead or mercury) often look just like ADHD. The children in my practice are screened for these conditions first because in my experience at least 50% of the time I see kids have something other than ADHD.

Another part of the first tier is evaluating children for a source of pain. I have a hunch that a subset of kids with “ADHD” are actually feeling sick or hurting. Perhaps this sounds strange, but I think it actually makes a lot of sense; people who are uncomfortable are often restless to get their mind off of the pain. In kids I think it is even worse because they don’t have a good understanding of what different sensations mean. It can be scary for a child to be in pain and they may not even recognize it as such, especially if they have never experienced “normal” (pain-free) health.

The second tier involves asking the question **WHY is it ADHD?** I believe that ADHD symptoms are usually caused by something irritating the nervous system. So what is it? Leaky gut syndrome, sensitivity to food colorings and additives, genetic defects, oxidative damage, or poor sleeping habits can all cause irritation to the nervous system. In addition to removing these factors we need to add nourishing nutrients to help calm and soothe the nervous system and protect against future damage.

When all else fails we move onto the third tier: **Check the biochemistry.** Many naturopathic doctors I know start at this step because it is so effective. We can do a blood or urine test to check the levels of neurotransmitters and supplement the ones that are low or give cofactors to stimulate production. I use this as the last resort because changing the biochemistry in the brain doesn't address the underlying cause. It is always my goal for my patients to heal naturally and not be dependent upon supplements for the rest of their lives – when we follow steps 1 and 2 we are usually able to avoid that dependency. When we skip straight to step 3 it usually means that patients are dependent upon taking those supplements in the long term. Also, many of these biochemical imbalances resolve themselves just by following steps 1 and 2 – sometimes we can go crazy chasing lab results around because we forget that people are not lab results.

This list is quite long, but it is not completely exhaustive - you know your child the best and what could be possible triggers for his/her ADHD symptoms. I am excited for you and your family to start this healing journey!

Finally, I hope you will join me on [Facebook](#) or [Twitter](#). Ask questions on my Facebook page to get the fastest response - then I can share the answer with others who likely have the same question. (Please do not ask questions that could be considered confidential health information. Social media is not the place for diagnosis or treatment. See your doctor for that.)

In Health,

Dr. Erika Krumbeck

Disclaimer

This ebook and checklist is provided for educational purposes only and does not constitute medical advice. This eBook is not intended to be a substitute for seeing a physician and in fact the author highly advises using this checklist under a physician's supervision. Any symptoms, including ADHD, should be evaluated under the guidance of a doctor. The author does not assume any liability for the failure to seek medical advice or for any loss or bodily harm from following treatment ideas without consulting a physician. You should never delay seeking medical advice or treatment because of anything written in this eBook.

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Pre-treatment

Evaluating the effectiveness of each Tier.

I recommend using the **Vanderbilt ADHD** scale for parents to evaluate treatment effectiveness. Do a pre-treatment evaluation and after every month of significant treatment change (e.g., one month of food allergy/sensitivity elimination.)

Other pieces of evaluation that may be helpful:

1. Rating sleep quality/quantity (number of hours of sleep, how many times child interrupted parent, etc.)
 2. Assessing gut/intestinal symptoms (number of bowel movements per day, stool consistency, have a physician perform an abdominal exam and rate abdominal tenderness based on how deeply the physician can palpate). *Not all ADHD have abdominal symptoms, but many do.*
 3. Assessing the severity of other symptoms as an indicator of overall health (e.g., number of times using an inhaler for a child who also has asthma.)
 4. Rating school performance. Grades and teacher evaluations are a great way to assess effectiveness.
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Tier I:

Is it really ADHD?

Doctor's visit:

A physician should be seen to perform an in-depth physical exam to rule out major medical diagnoses.

- ☐ **Full screening physical exam.** Including neurological exam, abdominal exam, lymph node palpation, full skin check (examining all surfaces of skin), cardiovascular/respiratory, and EENT exam. **Encourage your doctor to inform you if anything is even slightly off.** These signs will be used to monitor treatment. If at all possible try to get quantitative measurements (e.g., physician could only palpate 1 inch due to tenderness of abdomen, or lymph nodes were enlarged to 1 cm x 1 cm.)
- ☐ **Rule out any cause of pain.** I very frequently see children with ADHD present with conditions that cause pain ("tummy" troubles, migraines, sore throats, etc). This must be ruled out and treated first!

Basic lab work:

Basic lab work is meant to rule out major medical diagnoses first. Ask your doctor to order:

- ☐ **CBC with differential + serum ferritin.** To rule out anemia and iron deficiency.
- ☐ **Whole blood lead.** To rule out lead toxicity. (Note: all children should be screened once in a lifetime. Whole blood lead is the most reliable test.)
- ☐ **Comprehensive Metabolic Panel (COMP).** Including glucose, serum electrolytes, liver function tests. To be completed once to rule out diabetes, electrolyte imbalances, screen for other rare metabolic problems.
- ☐ **Vitamin D (25,0H vitamin D).** To rule out vitamin D deficiency. (Extremely common in the northern half of the U.S.).
- ☐ **TSH.** To rule out thyroid problems. If other hypothyroid symptoms are present I recommend running a **Free T3, Free T4, anti-TPO and anti-TG antibodies.** The latter only need to be completed once to completely rule out the possibility of Hashimoto's thyroiditis.
- ☐ **If necessary: Random Urine Mercury,** if exposure is suspected.

Tier 2:

Why is it ADHD? (Evaluating for nervous system irritants)

How to follow the checklist of Tier 2:

I recommend doing **one** to **two** of these checkboxes at a time, starting with the permanent changes. This is to evaluate and carefully eliminate possible triggers of ADHD systematically. If you notice an improvement in your child's behavior then you should make the change permanent and add another checkbox if more improvement is needed. **I always recommend consulting a physician before trying any of these steps - they are not appropriate for all children.**

Diet, lifestyle and habits.

- Eliminate all caffeine.** Permanently. Eliminate sodas, coffee and energy drinks. Children should not have any source of caffeine. Teenagers who are used to caffeinated beverages can drink green tea or limited quantities of black tea, if absolutely necessary.
- Eliminate all soda.** Permanently. Caffeinated or decaffeinated. Consider using a [SodaStream](#) machine to make carbonated water and carbonated flavored water only if a substitute is absolutely necessary (flavored with juice or a squeeze of lemon/lime, do NOT use the artificial flavorings provided).
- Increase water intake.** Permanently. Urine color should be pale yellow (straw-colored) or clear. Herbal tea is a wonderful alternative to plain water and can be given warm or over ice. Herbal tea has the advantage increasing hydration because of the high mineral content of many of the herbs (e.g., mint, alfalfa, lemon balm, and others). I recommend NOT using juice as a substitute for water. If a child is absolutely insistent upon juice then start progressively watering the juice down until very little remains.
- Increase exercise,** if necessary. Permanently. Many children with ADHD already have high levels of activity, but some do not. Sedentary children should be encouraged to exercise one hour per day, preferably outdoors.



Optimize sleep. Permanently. Most children with ADHD have abnormal sleeping habits. Children must be put to bed at an age-appropriate time: 6:00-8:00 p.m. for preschoolers (1-4 years), 7:00-9:00 p.m. for school-aged children (5-10 years), 7:30-9:30 for pre-teens (11-13 years), and 8:00-10:00 p.m. for teenagers (14+). Note many teenagers have difficulty falling asleep early during this developmental change - this is normal (though not ideal, of course, as teenagers typically have to wake up for school quite early). Sleep will continue to improve as ADHD symptoms improve. Other tips for sleep improvement:

- i. Completely darken the child's room using black-out curtains as window-coverings. Unplug alarm clocks and nightlights, if your child tolerates this. The room should be pitch-black to stimulate melatonin production.
- ii. Expose child to bright light first thing in the morning. Use natural light whenever possible (sunlight outside). During the winter it may be necessary to use a [Happy Lite](#) or other similar broad-spectrum lightbox. This helps stimulate the pineal gland to produce melatonin during times of darkness.
- iii. Stop TV/Computer/Screen time at least 1 hour before bedtime.
- iv. Unplug all wireless devices (see "Eliminate wi-fi" below) during nighttime.



Trial of wi-fi elimination. x 1 month. Prefer to eliminate all sources of wi-fi, but this can be extremely difficult. Minimum: eliminate wi-fi exposure at night. Unplug wi-fi router; remove and unplug all wireless devices, power-down cellular telephones, turn off sound machines and alarm clocks in the patient's room. Allowed: one incandescent night-light.



Eliminate food colorings and additives. x 1 month (preferably permanently). Be sure to read food labels carefully to eliminate all artificial colorings and flavorings. Food-color induced neurotoxicity is actually quite common, and can be due to a combination of chemicals. Most common reactions are to Allura Red (Red #40), Sunset Yellow (Yellow #6), Carmoisine (Red #3), Tartrazine (Yellow #5), Ponceau (Red #5 and others), Quinoline yellow (Yellow #13), aspartame, preservatives like sodium benzoate, BHA, BHT, TBHQ and others. (Natural colorings are typically okay and include turmeric, beta-carotene, grape skin extract and others). *Check out the Feingold Association for more information on a food additive-free diet. After 1 month: **Reintroduce one at a time**, look for significant worsening in child's behavior or other symptoms (abdominal pain, headaches, etc.)*

Optional testing & further evaluation.

Often these testing options are completed based on the particular symptoms a child exhibits (e.g., food intolerance testing for a child with abdominal symptoms).



Food intolerance testing followed by Food Allergy/Intolerance

Elimination & Challenge Diet. I use U.S. Biotek labs IgG with or without IgA or IgE testing. This is a blood test that catches food sensitivities (IgG and IgA), or true food allergies (IgE). *The research on food sensitivity testing (IgG/IgA) is not conclusive.* Many research studies cite no support for using IgG or IgA blood tests, as there are many times in which the blood test does not match reported symptoms. Nevertheless, I have found the test CAN be helpful for patients whom a food allergy elimination diet is inconclusive, especially if they are sensitive to unusual foods (e.g., cranberry or asparagus). There IS good research (including a randomized controlled trial) for eliminating food allergens in children with ADHD. **The gold standard for food allergies/intolerances is to remove the food for one month and then challenge the food.** See instructions below:

- v. Remove suspected food allergies/intolerances (either according to IgG/IgA/IgE testing, or presumptively). If presumptively: recommend eliminating gluten, dairy and soy at a minimum. Other potentially problematic foods include eggs, nightshade-family vegetables (potatoes, eggplant, tomatoes), corn, soy, banana, strawberries, beef, garlic, peanuts, tree nuts, sesame, celery, sugar cane, fish, shellfish, and others. **Remove suspected foods for one month, minimum.** Note symptoms carefully.
- vi. Challenge foods one at a time, using a relatively large quantity of the suspected food (e.g., 3 eggs in one day). Wait 4 days between reintroducing foods - some reactions are significantly delayed. If your child reacts to a food, eliminate it from his/her diet and reintroduce 3 months later.



MTHFR/COMT/MAOA genetic testing. I use www.23andme.com to order salivary genetic testing for children. Once the results return you will need to unlock the data at www.mthfrsupport.com or www.geneticgenie.org. MTHFR defects can be treated with methylated folate, COMT and/or MAOA can be treated with niacin, B6, magnesium or other nutritional supplements to speed up the elimination of neurotransmitters. I absolutely recommend treating these under the supervision of a physician with significant experience in this field (a



knowledgeable naturopathic physician or integrative medical doctor). This step can have profound benefits.

Test for SIBO/Leaky Gut/Dysbiosis/Celiac disease. Children with a history of abdominal problems, frequent dental cavities, bad breath, constipation or diarrhea are good candidates for evaluation of these disorders.

SIBO (small intestinal bacterial overgrowth) breath tests can be performed at a gastroenterologist's office or with some naturopathic physicians who carry take-home breath tests. Leaky gut can be evaluated with a lactulose or mannitol test (a urine-collection test).

Further gut dysbiosis or poor function can be evaluated using a Comprehensive Digestive Stool Analysis, or CDSA. A CDSA looks at many different aspects of gut health, from pancreatic function, to markers of inflammation, to bacterial & parasitic overgrowth. Like the IgG food sensitivity test, a CDSA test is not always reliable - it should be interpreted in the context of the patient's symptoms and not used for definitive diagnosis.

Additionally, **I believe all children should be screened for celiac disease at least once in a lifetime.** Celiac disease must be tested for while the child is actively eating significant quantities of gluten for at least a few weeks.

- i. Rehabilitate the gut if necessary - high quality probiotics may be indicated. (Klaire Labs brand, Pharmax HLC brand, or Culturelle brand are the 3 that have the best research supporting them. Many other probiotics have incorrect strains or completely inactive bacteria.) 10-25 billion organisms *minimum* per day should be used in a multi-strain formula appropriate for the child's age.
- ii. Anti-inflammatory herbs like turmeric or ginger may be helpful to stop the inflammatory cycle and decrease gut injury.
- iii. Other nutrients may be helpful to regenerate the gut lining, if necessary: L-glutamine, N-acetyl glucosamine, deglycyrrhizinated licorice and others. Please seek physician guidance as some of these nutrients can trigger seizures or other problems in susceptible children.

- ❑ **Evaluate for learning disabilities, developmental delays and type of learning style.** This can be performed by a pediatric Physical Therapist and pediatric Occupational Therapist. Many children with ADHD are kinesthetic learners, meaning they must have hands-on activity in order to learn. Classrooms and teaching styles must be changed to reflect this type of learning (as most classrooms teach to visual and or auditory learners). Simple techniques like placing a hand on a child's forearm while giving directions can help a kinesthetic learner.
- ❑ **Evaluation by a pediatric chiropractor or physical therapist** to assess for spinal alignment and musculoskeletal balance that may contribute to chronic pain. Treat if necessary.
- ❑ **Random urine test for heavy metals, petroleum products or other xenobiotics.** I hesitate to recommend this step because chelation therapy (to remove heavy metals) should be done for children as an absolute last resort. Chelation therapy *does* have significant risks. That said, some children do have extremely high levels of heavy metals that should be removed safely. Heavy metals are known neurotoxins that can contribute to neurological irritability and behavioral or attention problems. Children who are suspected to be exposed to heavy metals or petroleum products should be tested. **The safest treatment for heavy metals, petroleum products or xenobiotic exposure is removal of the offending source.** Sweating and exercise is also safer than chelation therapy as it spares the kidneys from exposure to potentially nephrotoxic (kidney-toxic) heavy metals. Children along the gulf coast who swim in the ocean frequently may need to be tested for petroleum products (post Deepwater Horizon oil spill).
- ❑ **Blood testing for nutrient status.** For children who have poor nutritional habits or are known to have exposure to heavy metals I recommend testing for nutrients. Elements of this test can be unreliable, unfortunately, so it may need to be interpreted with "a grain of salt." Patients who have low nutrient status can do a trial of nutrient repletion to see if it has any effect. Most nutrients that need to be repleted are simple vitamins or minerals and are not harmful as long as they are not taken in excessive amounts for long periods of time. (Nutrieval by Genova is one such comprehensive test. Other single tests include MMA to determine B12 level, serum zinc, serum copper, or whole blood magnesium.)

Pre-treatment Tier 3: Before moving on to Tier 3 I recommend doing a period of nervous system supportive treatments to help optimize the function of the brain and reduce irritability. This can include nutrients like:

- **Phosphatidylcholine** and **phosphatidylserine**. These nutrients form the backbone of the phospholipid membrane that surrounds and protects all of our cells. Supplementing with phosphatidylcholine and phosphatidylserine can help regenerate the cellular membrane around the neurons, leading to less excitability or irritability. There is some new research supporting the use of phosphatidylserine for patients with ADHD.
- **High dose fish oil.** (I do **not** recommend fermented cod liver oil, recommended brands* are Nordic Naturals and Pharmax Finest Pure Fish Oil or Finest Pure Cod Liver Oil) Research is mixed on fish oil for ADHD - I believe it must be administered in high doses in from reliable sources in order to see any effect. There may be a subset of children for whom this treatment works very well.
- **L-carnitine.** L-carnitine acts as a “shuttle” to help fats move from the cytoplasm of a cell into the mitochondria where they can be burned as fuel. Carnitine is especially helpful in children (and adults) who have unexplained fatigue.
- **Magnesium, zinc and vitamin B6.** Magnesium, zinc and vitamin B6 are cofactors in many enzymatic processes in the body - most notably in the conversion of many neurotransmitters.
- For older children or children under significant stress it may be wise to do a period of adrenal supportive treatments as well. There are many herbs like **Eleutherococcus, Licorice, Rhodiola, Ashwagandha** and many others that help rehabilitate the adrenal glands during times of chronic stress. I find that many treatments have better, longer-lasting effects when the adrenal glands have been rehabilitated first.

Continue these for 2-3 months, as it can take quite a bit of time to notice the effects of these nutrients. As I stated before, these should be done under the guidance of a physician knowledgeable with these nutrients and herbs. Not all nutrients are appropriate for every person, and must be administered in relatively high doses to notice any significant change.

Tier 3

Test the biochemistry (and treat)

There are multiple reasons why I prefer to wait until all other options are exhausted to move to Tier 3.

First, as I previously stated, it is always my goal as a naturopathic physician to **uncover the underlying cause of disease** to allow the **body to heal itself!** When that happens there is a permanent restoration of health. This means that my patients are not reliant upon taking prescription medications, vitamins, supplements or herbs in the long term. (Other than, perhaps, an [occasional good-quality multivitamin!](#))

Tier 3 relies on modulating neurotransmitters and neurobiochemistry to achieve a desired behavioral result. In my professional opinion, using Tier 3 treatments is very close to using pharmaceuticals. It may also result in a patient becoming reliant upon taking these supplements in the long term.

Finally, testing for these neurotransmitters can be unreliable. The best test for neurotransmitters is a random urine test. However, neurotransmitters and their byproducts in the urine do not necessarily correlate with neurotransmitters in the brain. In support of urine neurotransmitter testing are a few research studies showing altered levels of these chemicals in the urine in ADHD patients compared with control patients. This is good news for testing - however, using these results to create individualized treatment plans has not been studied in research. **At this point I encourage you to look back once again at Tiers I and II to see if anything was missed in the initial evaluation.**

Why test at all then? This step can have profound benefits to children (and adults) with ADHD, anxiety, depression and other mood disorders. It can be a frustrating process of testing and retesting to fine tune treatment - but once a treatment plan is “dialed in” many patients note significant benefits. Treatment plans **must** be individualized at this step, working with and never against the patient’s biochemistry and their symptoms.

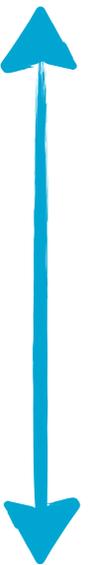
Neurotransmitters

Neurotransmitters are chemical molecules that are passed from cell to cell across a gap called a “synapse.” Neurotransmitters work by either increasing the chance that a neuron will then conduct a signal (excitatory), or decrease the chance it will pass a signal (inhibitory).

Testing:

- ☐ **Evaluate neurotransmitters** using a reliable laboratory. (I use Labrix urinary neurotransmitters, but I do not necessarily advocate using them over another reliable company.*) Follow the chart below to analyze the effects of low or high levels of these neurotransmitters. (Remember this is a gross over-simplification, so consult your doctor before doing any therapies.)

Excitatory neurotransmitters ("uppers")	Inhibitory neurotransmitters ("downers")
Dopamine	
Norepinephrine	
Epinephrine	
Glutamate	
Serotonin	(Serotonin can have some inhibitory effect)
Histamine	(Histamine can have some inhibitory effect)
(Glycine can have some excitatory effect)	Glycine
	Neurosteroids (progesterone, etc.)
	Melatonin
	GABA



Neurotransmitters

See the list below for cofactors that increase neurotransmitter production and nutrients that either speed elimination or encourage breakdown of neurotransmitters (listed as “decrease” below). Use this guide with your physician to come up with an individualized plan to balance your child’s neurotransmitters. **Please be aware that it is absolutely not safe to self-treat either yourself or your child with the list below. Increasing or decreasing neurotransmitters must be done cautiously.**

	Increase	Decrease
Dopamine	Vitamin B1, B3, B6, iron, SAmE, phenylalanine, tyrosine	Best to decrease by optimizing other neurotransmitters like serotonin, and having optimal diet.
Epinephrine	B12, folate, SAmE	(as above)
Glutamate	Zinc, Glycine, Glutamine	Magnesium, theanine
Serotonin	Vitamin B3, Vitamin B6, 5-HTP, tryptophan	Vitamin B5
Histamine	Vitamin B1, Histadine	Vitamin B6, B12, folate
Glycine	Taurine, Vitamin B3, Vitamin B6,	Folate
Melatonin	Serotonin, Vitamin B5, B12, folate	Typically not necessary to decrease. Light interferes with melatonin production (cell phone screens, tablets, TVs, etc.)
GABA	Taurine, Vitamin B6	Vitamin B1

The end?

Children with ADHD are never “done” healing. I tell some of my patients that they are like a Porsche compared to a Toyota. They will *always* need premium fuel instead of standard unleaded in order to maintain their health. Some children with ADHD are never able to “go back” to eating anything they want. They may be more sensitive to emotional stress, environmental toxins, poor diet, or viruses/bacteria than the rest of the population. Most children with ADHD will need regular “tune-ups” to stay healthy for the rest of their lives.

I hope this checklist was helpful for you in uncovering the underlying cause of your child's ADHD. If you are looking for a naturopathic physician to help you find answers to your child's ADHD you can contact the [Pediatric Association of Naturopathic Physicians](#).

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