

ADHD and ADD. The Hyperactive Child

By Dr Lendon H. Smith M.D. [1921-2001]

Author of *The Hyperactive Child*

The "diagnosis" (pseudo-or quasi-) of hyperactivity or Attention Deficit Disability with and without hyperactivity has increased to the point that on any school day in the United States about 4,000,000 children receive a dose of Ritalin --- the favored drug --- so that they will settle down in the classroom and not upset the class routine and also allow these wild and disruptive children to concentrate and learn.

The use of this prescription drug has increased exponentially in the last few decades. The only diagnostic criterion we prescribing pediatricians and psychiatrists have is: "If the Ritalin works, the child needs it." It suggests that the child has a Ritalin deficiency. There is no doubt that Ritalin or other stimulant drugs have a calming effect on these over-sensitive and hyper-responding children (and adults). As time went on in my practice, I realized that many of these children came from the same mold: they were often fair, ticklish, and had obvious food sensitivities. As infants, many of them had ear infections and colic which turned out to be related to a cow milk sensitivity.

In an effort to make a more scientific diagnosis, I tested these children for nutrient deficiencies, and found that most were deficient in magnesium, especially, and calcium. Some also needed zinc, vitamin B6 (pyridoxine) and essential fatty acids. Supplementing the diets of these children plus removing dairy products and sugary nothings made a big difference in their ability to focus and sit still. Many of these children have low blood sugar from eating "junk food." Diet changes were slow to accomplish the desired results; Ritalin works in about 20 minutes. Dr. Billy Crook, Dr. Doris Rapp, and the late Dr. Ben Feingold have solved most of these children's problems with diet changes and the addition of supplements.

It is well known that our topsoil is deficient, and the foods that come from these soils are not giving most of our population what we all need for health, mental and physical. I am beginning to believe that the condition of hyperactivity is at a comparable stage to the situation in 1950 when Dr. Hoffer and Dr. Osmond gathered enough information to show that much schizophrenia was a deficiency of vitamin C and B3 in people with a genetic need for huge doses of those nutrients.

The pharmaceutical industry and psychiatrists are making this condition of ADHD a diagnosable disease, like pneumonia. It is not a disease, but a multifactorial condition and nutrition can help these children function in the over-controlled classrooms. I am a retired pediatrician who learned from Dr. Charles Bradley here in Portland of the paradoxical effects of stimulant drugs on hyper kids. It has been assumed that these children do not have enough norepinephrine in their limbic systems. This is the part of the brain that helps to screen out unimportant stimuli.

The global statement: These children are unable to disregard unimportant stimuli. Everything comes into the cortex or conscious part of the brain with equal intensity. They are goosey, ticklish; they notice everything and have to respond to those incoming stimuli.

Someone drops a pencil; he has to go pick it up. This distractibility is what gets him into trouble and makes the teacher report him to the parents. This message gets to the pediatrician or the psychiatrist who feels that medication is appropriate. The science here is that the child is not making enough of a brain chemical that helps him ignore unimportant stimuli. Is it a disease or a nutritional deficiency?

In my practice I treated thousands of these children with stimulant drugs. I soon noticed a pattern. They were usually boys (5 to 1, boys to girls) and there was a strong history of obesity, diabetes, and alcoholism in the family. That suggested a sugar problem. My first therapeutic trial was to stop all foods with sugar. (That is tough) I then noticed that they were difficult to examine: ticklish, and sensitive. I could hardly do a hernia check, or look in their ears. With suitable blood and hair tests I found that all hyper kids were low in calcium and magnesium, despite excessive consumption of dairy products. They were not absorbing the nutrients they needed to correct their "neurological" problem.

My results: 60 to 80 percent of these children were 70 to 100 percent better and did not need stimulant drugs when the whole family followed these diet and supplement rules: Eat six to 10 small meals daily, consume no sugar, eat fruits and vegetables, chicken, fish, soy; take 1,000 mg of calcium daily (no cow milk), and most important, 500 mg of magnesium daily. A Mars bar for lunch is guaranteed to make the child hyper or put him to sleep.

The use of Ritalin might be used as a therapeutic test. If it works, the child needs more of that chemical (norepinephrine) in his limbic system. Essential fatty acids, zinc, B6 and other nutrients may all be necessary to help the body produce its own neurochemicals. There seems to be a monetary motivation for diagnosing ADD. The psychiatrist labels this a "disease." He gets paid and the school gets federal funds for counseling the "diagnosed" child. Doctors make diagnoses.

This is not a disease; it is a nutritional deficiency. Children are not eating foods that have magnesium in them. It is not like pneumonia, a disease, in which case a shot of penicillin might resolve cure it. ADD is multifactorial in origin and can last a lifetime. Taking measures to control the problem during childhood should help prevent the all-so-common bad self-image --- which could last a lifetime. Teachers and parents try to help control the behavior of these children with constant calls to "Sit still," "Pay attention," "Don't do that," and "What are you doing now?" Questions and commands are downers to children, who eventually get to hate themselves. It is easy to see why many hyper children end up in crime. Or police work. Or as talk show hosts.

Parents need to be advocates for their children, and work with the professionals in the school system and wherever a referral takes them. The treatment for the child usually involves counseling, nutrition, and finding an activity in which the child will succeed and then be able to feel good about himself. Home schooling may be the best choice for the affected child.

Who is the best person to diagnose the problem? The mother may realize that something is amiss even before birth. As the child grows she can usually sense that a child is not responding to discipline, does not seem to "take" to suggestions or commands, and she is

the one who notes that the child does not have a good built-in stabilizer or timer. She sees that the child either over- or under-reacts to his environment. The father may not quite understand what is going on and feels that the child was not disciplined properly as he was maturing. The pediatrician may notice that the child is a terror in the office, over-reacts to the exam, and is very touchy and goosey. "What's that? What are you going to do? Will it hurt?" The teacher has the opportunity to compare the child with the thirty or so others in the classroom. The neighbors may figure that the child is a "Dennis the Menace." The psychologist and the psychiatrist may evaluate the history from the others. They want to try Ritalin or some stimulant. "If it works, he needs it."

What are the hereditary factors? My study of these hyper children indicates that most --- at least in my practice --- are blue-eyed blondes or green-eyed redheads, Nordic types. I had the feeling that the Northern Europeans were restless in the old country, and when faced with the prospect of marrying the girl next door and farming for rest of his life, he decided to emigrate to the United States. Their restlessness forced them to keep on moving West until the Pacific Ocean stopped them. But American Indians are commonly affected. They are usually boys; the ratio is 5:1, boys to girls. There is a higher than usual proportion of diabetes, obesity, and alcoholism in the families of these children so afflicted. That suggest that sugar metabolism is part of the picture. Migraine headaches, allergies, and anti-social behavior are well represented in these children's families.

How about pregnancy and birth factors? Dr. Charles Bradley who studied this phenomenon in the 1930s discovered that most of his clients had a difficult birth, had been born prematurely, had the cord around their necks, a collapsed lung, or suffered from a bilirubin excess, or other insults. These stressors can hurt the "self-control" part of the brain, but do not necessarily interfere with cognitive or intellectual functions. He was the one who stumbled on the paradoxical effects of stimulant drugs on these children. No one had ever thought of using a stimulant on children who already seemed over-stimulated. (His nurse made a mistake and gave a child Benzedrine instead of a bromide, and the child went to sleep!)

We also know that if a pregnant woman tries to lose weight during the pregnancy or gains less than twenty pounds during the nine months, the child is more likely to have the problem. Similarly if she has mercury/silver amalgam fillings either put in her cavities or removed, the child is at greater risk for this problem. Lead, cadmium, toluene, paint fumes, formaldehyde, pesticides, tobacco smoke, aspartame, etc. are dangerous for the fetus. Less than one year spacing from the next older child may not have allowed the mother to regain her nutrient and psychological health from the stress of the previous pregnancy.

Genetics are a factor, but attention problems and academic difficulties will only show up if nutritional, visual, auditory, traumatic, or emotional insults are added to the compromised nervous system. Just as Abram Hoffer discovered with his schizophrenic patients. It is multifactorial.

Sickness or injuries during childhood. The mother was unable to breastfeed him. He is sensitive to cow milk, leading to ear infections with prescriptions for many antibiotics, and subsequent yeast infections. He might have had dehydration, high fevers, inhaled objects, and meningitis. He had all the vaccines, which adversely affects some children. He has

eczema, or dry skin. He was put in a walker as an infant, so did not crawl and creep in those early months of life. (Important for later reading skills.) Head injuries are common in the history of these children. He might have had fainting spells or convulsions. He complained of muscle cramps or growing pains. He awakened with night terrors. He has Jekyll and Hyde behavior.

Were there developmental delays? He might have been slow to smile, turn over, sit without support, crawl, stand, walk alone, feed self, use spoon, understand "no-no." Is he clumsy? Cannot catch a ball, accident-prone, has odd gait, stutters, stammers, lazy eye, keeps head close to paper, cannot understand what is said, handwriting atrocious, right-left confusion, gets lost frequently, and is forgetful but not necessarily. There may be sleep abnormalities: cannot get to sleep, awakens frequently, deep sleeper, bed-wetter, or restless sleep with the bed torn up.

Were there problems with food? They often have a history of colic and formula changes and often gas, cramps, sloppy stools. He prefers candy and sweets, eats a lot and stays thin, loves chocolate and peanut butter (may indicate a magnesium deficiency), loves pickles and sour food (may indicate alkalosis), Jekyll and Hyde behavior (good and bad behavior indicates blood sugar fluctuations). Food allergies and sensitivities are often indicated by gas and abdominal pains, a red ring about the anal opening, a rash at the corners of the mouth, red ear lobes, dark circles under the eyes, hives, and constant stuffy nose, and a frequent throat clearing noise (zoning). When the blood sugar bounces around, the person may have disorders of thought, feeling and behavior. The brain is dependent upon the sugar that is flowing through it. If the supply cuts down, the person operates from the reptile part of the brain --- which is selfish, mean, and anti-social. The cortex of the brain has the conscience and is the center for learning. Eating sugar or foods to which one is sensitive may lead to aggression (like road rage?), irritability, tantrums, sleeplessness, and poor ability to concentrate.

Is the problem due to a psychological condition? The following conditions are often thought to be emotional or psychogenic, but could all come from a hurt to the nervous system triggered by a food sensitivity, low blood sugar, or lack of the vitamins and minerals that allow for the optimal nervous system connections. They are never satisfied, they are frustrated easily, blame others, lie, cheat, steal, light fires. The world owes him a living, he wants revenge, he has no friends, is a bully, surly, laughs at discipline, does bad things, says "Sorry," then does it again. He may run away. He has anxiety for no obvious reason. He may be a worrywart. These should disappear after a few weeks if the proper nutritional therapy has been initiated. Psychotherapy always helps (it can help most of us), but may not be necessary

What are the chief symptoms of the ADD condition? Hyperactivity: easily stimulated in crowds or classroom, or with stress. Motor driven. Responds to stimuli with a motor action. Often needs to touch things. Short attention span; Distractible, unable to disregard unimportant things; Ticklish; Impulsive; Foot or finger tapping, sucks thumb, picks nails, twists hair, chews on buttons; These rhythmical activities and hair tests indicate that these children are low in calcium and magnesium. Many drink quarts of milk daily, as if their bodies are crying out for the calcium, but because of a sensitivity to dairy, they cannot absorb the calcium from those products. Their craving for peanut butter and chocolate

suggests that they are low in magnesium, which is found in these foods. (Chocolate has more magnesium than any other food on our planet.) Magnesium deficiency is the chief cause of muscle cramps, over-sensitivity to noise, insomnia, anxiety, and an inability to disregard unimportant stimuli, which causes his distractibility. Magnesium is important for enzyme production, and here, especially, for the enzyme that manufactures the norepinephrine these people lack in their limbic, filtering system. He may be focused when in a one-to-one situation, but in a classroom full of kids just breathing, passing gas, and dropping pencils, they are unable to concentrate on the task at hand. Mood swings are the cardinal symptom when the blood sugar shoots up and then plummets. This can come from the eating of sugar, but is also observed if a person is eating foods to which he is sensitive. Sugar cravings are associated with alcoholism. (Ninety percent of alcoholics have this hypoglycemia.) The person so touched with this varies between sweet compliance and surly disobedience. If he is involved in a fight on the school grounds it is usually just before lunch because he only ate a candy bar and a bottle of pop for breakfast. Some get headaches, some fall asleep, and our hero of this story will become hyper.

The brain is a busy organ; it is the busiest one of the body. It has no storage for energy like the muscles or the liver. It is dependent upon the sugar flowing through it at the time. When the blood sugar plummets, the cerebral, thinking, social conscience part of the brain nods off, and the reptilian part of the brain takes over. It is easier to learn if the brain lights are on. What is the parent supposed to do? If the teacher notes the hyperactivity --- or hypoactivity --- plus the distractibility and the short attention span, the hallmark of the ADD child, the parents must take the evaluation seriously.

The child needs a check-up and a search for anemia, pin worms, allergies, and some evidence of a neurological or psychological disturbance that may explain the academic failure. Before the child is put on some drug, like Ritalin, Dexedrine, Cylert, or caffeine, an effort must be made to evaluate and treat the more blatant manifestations. If there is any evidence of episodic periods of consciousness lapses, an electroencephalogram might be worthwhile. (Epilepsy?) If there is any history of food sensitivities, the dairy, corn, soy, wheat and eggs must be proscribed for at least three weeks.

If there is evidence of mood swings, sugar and white flour products are not to be allowed. Twelve small meals daily are the solution. Ticklishness and distractibility can be combated with magnesium, 500-mg. daily. Without the milk, the child needs 1,000 mg. of calcium daily. If he has trouble with dream recall, he needs 25 to 50 mg. of vitamin B 6. If he has dry skin and any evidence of eczema, he needs flaxseed oil, one tablespoon daily. This helps the brain, also. If he has white spots on his nails, he needs zinc, 15 to 25 mg. daily. If he has more than a cold once a year, he needs vitamin C, 1,000 mg. daily. This would be increased to several times a day if he gets sick with anything. All the B complex vitamins should be given daily at the 50-mg. level. Folic acid and B12 at the 1 mg. level. Pantothenic acid, at about the 500 mg. level daily will help control allergies. Homeopathic remedies are safe and can work wonders. Phytochemicals from fruits and vegetables are producing good results. (The Mannatech Company has some positive research in this regard.)

How long before you see results? Two to three weeks should see some response. The distractibility and the mood swings should be under control. If dyslexia continues, then he

needs reading therapy. Some children are hyper because they are frustrated because of their poor reading skills. Some people will try a prescription of Ritalin for a few days. If there is immediate improvement, it means that the child does not have enough norepinephrine in his limbic system. This is the neurotransmitter that is responsible for a person's ability to screen out unimportant stimuli. But many children are able to concentrate better when they are given Ritalin. If every sensation comes into the thinking part of the neocortex with equal intensity, the brain cannot focus on the most important one, the teacher. I believe that the drug should only be used as a diagnostic test, and not as long term therapy. But the results may lead to a false conclusion.

The diet that serves these children best consists of grazing, or nibbling, on raw fruits and vegetables. Chicken and fish, along with whole grains will balance out the diet. Breakfast might be a soft-cooked egg, or a bowl of hot oatmeal with rice, soy, or goat milk, along with some applesauce or banana. Some raisins and a few almonds as a mid-morning snack should keep the blood sugar at the right level for cerebral efficiency. Lunch might be whole grain bread with old-fashioned peanut butter along with some fruit. Another snack of raw vegetables in mid afternoon might carry the child over until supper.

Dr. Ben Feingold found that many children are hyper or non-functioning because they are sensitive to salicylate-containing foods. Apples, apricots, blackberries, cherries, cucumbers, grapes, oranges, peaches, plums, raspberries, strawberries, tomatoes, and BHT and BHA. If the diet is rotated these might be less of a problem.

If a child has had a number of infections requiring antibiotics, he may be harboring the yeast, Candida. It could hurt his immune system, and even contribute to his ADD. It can be treated. My results show that if a child has these symptoms mentioned above, and the parents follow the outlined diet, he/she will be 60 to 100 percent better in a few short weeks. Florence Scott, RN, who works in Woodburn, Oregon, has discovered that children who have been hurt can be helped to regrow nerve fibers to repair the "break" in the central nervous system wiring. Many of these children did not crawl or creep as infants. This activity is necessary to help myelinate the nerves so critical for reading. Even at his advanced age, crawling and creeping for several minutes daily will improve his reading skills.

As you can see, the problem is multifactorial: hereditary, pregnancy factors, birth trauma, oxygen deprivation, food sensitivities, emotional, poor teaching, crowded classrooms, low blood sugar, nutrient deficiencies, heavy metal poisoning, and even boredom. Some children do much better with home teaching. Start with the diet and the supplements, and then go stepwise until you find the right combination for your child. Stimulant drugs would be the last thing on the list. These children do not have a Ritalin deficiency.

The following came to me by e-mail from Dan Beeson, DC: (September, 1998)

Dose Of Reality: Too many schools give students easy access to prescription drugs. At least once a day at Barrington Middle School, Stephen LeClair sees them- fidgeting students lined up outside the nurse's office, waiting for the prescription medication they need to control the symptoms of attention deficit hyperactivity disorder. LeClair, principal of the rural school on the edge of New Hampshire's seacoast region, says that only the nurse

is allowed to dispense such medication. The drugs, which include stimulants such as Ritalin, Dexedrine, and Cylert, are otherwise locked in the health clinic. Though such safeguards seem like common sense, a new survey of mostly rural schools in Wisconsin suggests many schools aren't nearly so careful. The lack of strict controls is troubling, the survey's researchers say, because the potential for abuse is considerable.

In their research, published recently in *The Journal of Developmental and Behavioral Pediatrics*, as many as 16 percent of the students taking stimulants for ADHD said classmates had asked them to give away, sell, or trade their drugs. "The message is: Don't have your head in the sand," says Dr. Frederick Theye, one of six study co-authors and a practicing neuropsychologist at the Marshfield Clinic's Medical Research Foundation in Marshfield, Wisconsin. "If you don't think abuse of these drugs is going on at your school, you're probably wrong." Stimulants have been used for decades in the treatment of ADHD, a disorder marked by impulsivity and an inability to concentrate. The disability affects as many as 5 percent of children in the United States, according to estimates.

A boost in the early 1990s in the production of Ritalin, a trade name for methylphenidate and the most widely used drug for ADHD, prompted some fear that the drug was being abused. The Marshfield Clinic researchers surveyed 53 elementary, middle, and high school principals in the rural areas and small towns the clinic serves. They also asked 73 area students taking Ritalin as part of a long-term clinic study to fill out anonymous questionnaires. Those students ranged in age from 10 to 21. Most of the schools --- 83 percent --- had a policy for dispensing prescription drugs at school, the researchers found. But 44 percent of the students and 37 percent of the principals said medications were stored unlocked during school hours. And 10 percent of the schools allowed students to carry around and administer the drugs themselves. Teachers dispensed the medications in a quarter of the schools surveyed. Only 4 percent of the schools followed Barrington Middle School's practice of requiring a school nurse to administer the medications. Barrington, which was not part of the Marshfield survey, requires students to bring their medications to school in the original prescription containers --- a routine followed by only half the Wisconsin schools surveyed.

Though Ritalin is less addictive than some other drugs, the researchers say the findings surprised them. They contend the results point to the need for school boards and state legislators to set and enforce policies controlling medication use in schools. DEBRA VIADERO The "Research" section is being underwritten by a grant from the Spencer Foundation.

(From August/Sept issue of *American Teacher*) Hyperactive kids check list: Questions to ask: Difficult or tumultuous delivery? Blue? Collapsed lungs, second of twins, cord around neck? Small for date? Does mother have mercury fillings? Weight gain during pregnancy; should be close to 30 pounds for the nine months. Allergies in family; alcoholism, obesity, hypoglycemia, diabetes. Massaged as an infant from the newborn period? Breastfed or cow milk? Ear infections, antibiotics, yeast infection, leaky gut? Food cravings, especially dairy or chocolate? Now: distractible, hyperalert, ticklish --- low magnesium, and calcium. Hair test for minerals. Jekyll and Hyde behavior from eating sugar or allergenic foods. Best to eat good foods every three hours. Rotate the diet. Poor dream recall usually means B6

deficiency. If skin dry or eczema, it may mean the need for essential fatty acids. White spots on nails and cuts are slow to heal may mean the need for zinc.

If Ritalin helps, then you know it is a biochemical mix-up. Stimulants should stimulate. Use Ritalin as a diagnosis and a temporary control. Do the diet and supplements simultaneously. Diet changes and supplements worked on about 80% of the children when the parents were conscientious and followed the rules. But what about the 20 % or so on whom it did not work. I have since found out that these things work: Homeopathy can work wonders. Chiropractic cranial adjustment can help. After one of these, the teacher called the mother and said, "I don't know what you are doing, but it is working. Do it again." It had started to wear off. Smith rule: If something works, it will not work forever. Try another approach. Neural therapy. Crawling and creeping and vestibular stimulation

What Supplements: how much and how long? For the hyper kids: better on 1,000 mg calcium, 500 mg of magnesium, and 50 mg of B6. If it works, then after a while it stops working, maybe getting too much. PICA: eating non-foods. It is not a dirt deficiency. Looking for iron or zinc deficiency. One girl loved \$5 bills. If a pregnant woman is eating the wall, do you call the cops? Take her to a health food store and get "Wall in a bottle." Calcium and magnesium are usually needed. Pregnant women often eat starch. Send husband out on the 6th month of the pregnancy to get some ice cream for the baby. "Don't forget the pickles." The baby is asking for calcium, she knows instinctively that the calcium must be acidified.

Instinctual nutrition. (Severen L. Schaeffer, Bologne) food has been denatured. We no longer get the right messages from our noses and tongues. Could explain some obesity. The victim is trying to get vitamins and minerals. To do so, they get too many calories in this useless search.

Doping our kids Prescription drugs at root of violence, says expert David M. Bresnahan © 1999 WorldNetDaily.com Mind altering drugs may be the cause of violence among school children, according to some doctors and other experts. Millions of children are legally taking drugs similar to cocaine in schools every day. The drugs are Ritalin, Prozac, and others. The claims that behavioral drugs cause violence in children came after news reports that Eric Harris, one of the shooters in the Columbine High School shooting, was reported to have been taking such medication. Harris was also rejected by the Marines for medical reasons. The Marines would only say that anyone who is currently being treated by a doctor would be rejected. Other shootings and violent acts at schools across the nation have been committed by children receiving psychiatric care, counseling, and drugs such as Ritalin, according to several groups.

At least two organizations claim that over-use of Ritalin is to blame for the escalating incidents of children committing acts of violence on other children. They claim the problem has reached pandemic proportions and will get worse before it gets better. Other experts place the blame on inadequate parenting, while legislators propose new laws. A report issued in 1995 by the Drug Enforcement Agency warned that Ritalin "shares many of the pharmacological effects of ... cocaine." There are some experts who claim Ritalin can cause psychotic reactions resulting in violent behavior toward others and suicide. Defenders of the drug claim those reactions are symptoms of the condition, not the drug

itself. Support for the claim that the use of Ritalin can cause psychotic reactions can be found in medical literature and studies. A simple search on the Internet revealed extensive volumes of medically credible documents listing a vast number of warnings and side effects to the drug, which is classified by the U.S. government in the same category as cocaine and heroin.

One Internet site provides frequently asked medical questions with answers from doctors. Drug Infonet warns that there are "no studies in animals or humans" and that "risks are unknown currently." Among the side effects the doctors warn about are "psychotic thought processes." "The use of Ritalin on children has no purpose other than to slow them down, shut them up, and make it more difficult for them to move around," described Dennis H. Clarke, Chairman, Executive Advisory Board, Citizens Commission on Human Rights International. He believes that Ritalin is an easy way out for parents and teachers, rather than dealing directly with behavior problems in children. Clarke also points to the "Diagnostic and Statistical Manual of Mental Disorders, Third Revised Edition," published by the American Psychiatric Association, as supporting his claims of the dangers of Ritalin in children. All the critical information about Ritalin has been removed in the more recent edition, which he says supports his claim that the industry is engaged in a cover up. Proponents of the use of the drug claim the change was simply made in error.

Clarke claims that children who take Ritalin in elementary school are often switched to Prozac and other drugs as they grow older. The effects of Ritalin can cause problems long after the prescription is stopped, he added. "When they go through puberty, this becomes true speed," explained Clarke. "They get these flashbacks and their thinking goes out of control. They're now looking for downers. They want the anti-depressants. They want the tranquilizer." Clarke is not alone.

Dr. Ann Blake Tracy, director of the International Coalition for Drug Awareness is equally concerned. "They are switching lots of these kids from Ritalin to Prozac -- the frying pan into the fire routine," she told WorldNetDaily. "Kip Kinkel in the Oregon shooting last summer was a perfect example of the effects. The chances the boy in Arkansas was on it are great." She also pointed out that adults who use such drugs also commit violent crimes at a higher rate. Dr. Tracy is from Utah where the use of Ritalin and Prozac are reported to be at a rate three times greater than the rest of the country per capita. She said Utah's rate of murders and suicides has also increased by a similar amount. Dr. Tracy confirmed news reports that Harris reportedly was taking the drug Luvox, a drug in the same classification as Prozac. She said many people who take that drug are confronted with compulsive sexual behavior, in addition to exhibiting violent behavior.

The stories of violent children leave many shaking their heads in disbelief and shock. Texas law would not even permit the arrest of two boys who allegedly abducted, beat, and sexually abused a 3-year-old girl because they are too young -- seven and eight years old. An 11-year-old was arrested in the incident, but children under 10 may not be detained.

There have been numerous incidents in which young children have brought various weapons to school. Young children have recently held students at bay with guns at schools in Utah and Idaho. Some have used them, and one incident in Arkansas brought international attention when four school children and one teacher were shot dead at a

middle school. Even peaceful students who were saying prayers outside their school fell victim to a classmate who gunned them down. The high number of incidents involving violent children, as well as an increase in children who commit suicide, can be attributed to an ever-increasing number of children who are being given drugs to control their behavior, according to Clarke. He agreed that the evidence for his claim is hard to come by. Medical information about the children in these incidents is typically confidential and never made public. He said he comes by his information through comments and remarks made to the press and in court, even though the actual medical records are not available to him. "We do know, for example, that the 13-year-old in Jonesboro was being treated. Apparently they were saying he had been sexually abused as a child. They were saying he was now a sexual abuser. He had a hyperactivity type label put on him as well - or 'attention deficit disorder.' So we had several different things working with him. There is no chance under the sun, moon, or stars that this kid was not on drugs," described Clarke.

Clarke went beyond his claims of psychotic side effects to the drug. He also claims that pharmaceutical companies go to great lengths and expense to cover up the problems that take place. When an incident of violence occurs, the pharmaceutical "crash teams" go to work to keep things quiet, according to Clarke. Teams of psychiatrists are sent to the places where incidents take place and quickly work to see that medical records are kept sealed, doctors are convinced to remain silent, and victims are given monetary payments to prevent them from ever going to court. "It's all being covered up, and it's deliberate. There are billions and billions of dollars at stake here," explained Clarke. He compared the cover up to the tobacco companies and the deceptions which are now apparently coming to light. Pharmaceutical companies respond to claims by Clarke and others by saying there is no credible proof to substantiate the claims.

Credible proof would require a double blind controlled study, which the scientific community could also duplicate, and that type of study would be illegal, according to Clarke. "You can't run an experiment to see if somebody is going to take an AK-47 and shoot up everyone he knows. You can't run an experiment to find out if a child is going to kill himself," explained Clarke. A thorough review of medical literature was also performed by Mary Eberstadt of the Heritage Foundation's Policy Review magazine, found in the April edition. She points out that the drug has doubled in use since 1990 and has become popular for abuse by teens who have ready access to it. "Ritalin works on children just like cocaine and other stimulants work on adults -- sharpening the short-term attention span when the drug kicks in and producing 'valleys' when the effect wears off," Eberstadt points out.

Teachers, school administrators, and even doctors hold to the belief that if a child responds well to Ritalin, then it is safe to conclude that the child suffers from ADD. A study by the National Institute of Mental Health disputes that assumption. That study shows that all children and adults who are given Ritalin will display improved performance and attention span, regardless of whether they are diagnosed with ADD or not.

Utah is reported to have the highest per capita use of Ritalin in the nation. A call to a local elementary school found a teacher who believes strongly in the use of the drug to control otherwise difficult children. She did not want her name published, but confirmed that she routinely makes recommendations for children in her classes to be given the drug. All the

children she has recommended have ended up with the prescription, and their parents have expressed gratitude. She said 11 of the 29 children in her first-grade class are now taking the drug in school each day.

Clarke predicts the future will see an even greater number of violent children. Unless the correlation of the use of Ritalin with violent acts is openly established, Clarke says the general public, health officials, and parents will fail to recognize the true nature and the extent of a pandemic he says is already sweeping the nation. "Warning: sufficient data on the safety and efficacy (effectiveness) of long term use of Ritalin in children are not yet available," warns CIBA Pharmaceutical Company in a product information release. The warning is intended to serve as a protection from liability. The drug has been on the market for 50 years. "In other words, if you have a child on Ritalin, and leave the child on for a 'long term,' which is not defined but can be assumed to mean over three weeks, you are on your own as far as CIBA Pharmaceutical Company is concerned.

They have warned you," described Clarke. "Ritalin only exists to slow down the fast kids and give us quieter and less active children. We now have at least 14 quieter less active children there in Colorado. This is the product that we're going to be seeing over and over again. These children are being devastated by the drugs," he warned. Herbert S. Okun, a member of the International Drug Control Board for the United Nations held a news conference recently to issue a warning. He said his board is very concerned that methylphenidate, or Ritalin, is greatly over-prescribed in the U.S. He said there are 330 million daily doses of Ritalin taken each day in the U.S., compared with just 65 million for the rest of the world. Ritalin is prescribed for children diagnosed with ADD. The condition has never been fully proven to even exist, and the criteria for diagnosis are so general that virtually anyone would qualify for a prescription.

David M. Bresnahan, a contributing editor for WorldNetDaily.com, is the author of "Cover Up: The Art and Science of Political Deception," and offers a monthly newsletter "Talk USA Investigative Reports." He may be reached through e-mail and also maintains a website. Sue Parry, occupational therapist for 22 years speaks on behalf of Support Coalition International, an organization for psychiatric survivors. She wonders also if the over-use of Ritalin is due to economics or the increased scientific "discovery" of the condition. She points out the wide variation of the incidence of the condition in different areas of the country. Is it due to shortcomings in public education, or the need of psychiatrists to add to their diagnostic categories so that insurance companies will compensate them for "treating" this problem?

Psychiatrists have added hundreds of diseases to their list, apparently so that insurance companies will compensate them for diagnosing these "diseases." Did you know that if you are bad at math, you have the disease called "Dyscalculia?" If your mother says go to bed and you refuse, it is called Oppositional Disorder. For each of these disease categories that they have pulled out of the air, the school gets \$400 or more for counseling for that child. No wonder more parents are opting for home schooling. These children are diagnosed, categorized and drugged to make them conform to someone's idea of normality. We are diverse people and the schools and teachers should be able to work around and with these different lifestyles. For six hyperkinetic children 50 mg. of pyridoxine helped control their unacceptable behavior.

If children with ADD have low whole blood serotonin levels, supplementation with vitamin B6 for three weeks increased serotonin levels and, like Ritalin, showed trends suggesting that it was more effective than placebo in decreasing the hyperkinesia. 25 mg of pyridoxal-5-phosphate or 50 mg of pyridoxine. The dose is moved up or down depending on response in activity or the serotonin level.

ADHD on the Rise in the United States

by [Susan Brady](#), Last updated August 18, 2011

The National Center for Health Statistics released a new report today on the prevalence of Attention Deficit Hyperactivity Disorder (ADHD) in the United States. Confirming recently published private studies, ADHD, the most commonly diagnosed childhood psychiatric disorder, is on the rise.

The NCHS study found the percentage of children ever diagnosed with attention deficit hyperactivity disorder (ADHD) increased from 7 percent to 9 percent from 1998–2000 through 2007–2009; that non-Hispanic white children had higher ADHD prevalence compared with all other race groups; and, Mexican children had the lowest prevalence. The report also confirmed that the prevalence is higher among boys than it is girls.

The NCHS report also included more specific geographic and income-based information. For example, the Midwest and South regions of the U.S. experienced a higher than normal increase in ADHD prevalence during this period, as did children who live below the poverty level and those whose income is between 100 and 199 percent of the poverty level.

While the exact cause of ADHD is not known, evidence to date indicates that there are many underlying factors that lead to the inattention, impulsiveness and hyperactivity seen in ADHD, among them social causation, as well as genetic and neurobiological vulnerabilities.

On average, at least one child in every classroom in the United States needs help for ADHD. More than half of ADHD children will continue to display characteristics of the disorder throughout adolescence and adulthood.

The results of the NCHS research closely match those of a decade-long study from the U.S. Centers for Disease Control and Prevention released in May of this year. Conclusions from the CDC included the rising rates of developmental disabilities among American children, which increased by 17 percent between 1997 and 2008. The most notable upticks in occurrence were with autism and ADHD.

Utilizing data from annual National Health Interview Surveys for years the 1997-2008, CDC researchers also found that boys had a greater likelihood of having a developmental disability than girls; Hispanic children were less likely to be diagnosed with a number of such disabilities than both white and black children; and, children having public insurance, such as Medicaid, were more likely to be diagnosed with disabilities than those having private insurance.

Since all children show some of the behaviors associated with ADHD, at one time or another, a diagnosis requires that the behavior is at such an elevated degree that it is inappropriate for the child's age. The symptoms must also be persistent and present in a

number of settings; at home, in school or during extracurricular activities. It is important to have a professional diagnosis of a child suspected of having ADHD.

If your child has been observed, evaluated, and found to be suffering from ADHD, the next step is treatment. There are a wide range of treatment protocols, ranging from psychotherapy and behavioral therapy, to social skills training and drug therapy.

ADHD: Childlike Behavior or Serious Condition?

If you have a child who suffers with ADHD or ADD, or are an adult with this challenge, this report will provide you with powerful insights that will help you take control of this problem without expensive or dangerous medications.

According to the National Institute on Drug Abuse (NIDA), ADHD is diagnosed in the U.S. in an estimated 8 percent of children aged 4-17, and in about 3 percent to 4.4 percent of adults.[i]

The average age of onset is usually just 7 years old, although symptoms may appear in infancy.

Of concern is a 2008 study that found the percentage of older children diagnosed with ADHD is rising by about 4 percent each year.[ii]

Some experts feel the increase could be due to doctors taking a greater interest in the possibility of ADHD in older kids with concentration problems, but I think you'll find it interesting that this latest trend also coincides with an increased marketing of ADHD drugs to teens and adults!

What Exactly is ADD/ADHD?

Attention Deficit Disorder (ADD) and Attention-Deficit/Hyperactivity Disorder (ADHD) involve a cluster of symptoms that include inattention, hyperactivity, and impulsive behaviors. Often, children with the conditions may struggle in school and with relationships, and suffer from low self-esteem.

The term ADD has largely been replaced with ADHD, as it describes two of the most common symptoms of the condition, inattention and hyperactive-impulsive behavior.

Most children display a combination of these two traits, and may show the following symptoms:[iii]

- Frequent fidgeting or squirming
- Feels restless or often runs and climbs excessively, or leaves his or her seat in the classroom when not appropriate
- Has difficulty playing quietly
- Talks excessively, interrupts often, and may blurt out answers to questions at inappropriate times
- Always seems on the go
- Has difficulty waiting his or her turn

As you can see, many of these "symptoms" could describe most all children at one time or another. As such, those who display these symptoms at school but not at home or with friends are not considered to have ADHD. Likewise, with children who display symptoms at home but not at school.

Only children who struggle with inattention and hyperactive or impulsive behaviors around the clock are deemed to have ADHD, and if not dealt with properly the symptoms can continue well into adulthood.

What Causes ADD/ADHD?

Many parents and spouses are at their wit's ends trying to cope with the relentless and upsetting behaviors caused by their unhappy, troubled children, teens, or adults. Adding to their frustration is not knowing the cause of the symptoms, nor what to do to fix them. It is no surprise that those dealing with ADD/ADHD-affected individuals can become desperate for answers.

But most experts are just as perplexed as everyone else.

One theory behind ADD/ADHD is that it is caused, at least in part, by inherited genetic factors. Some scientists are now aiming their research at finding genes that may make a person more susceptible to this disorder.[iv]

Another plausible theory is exposure to environmental toxins.

A 2006 study found that a mother's use of cigarettes, alcohol, or other drugs during pregnancy could increase the risk for ADHD. [v]

That same research also suggested that exposure to lead may cause ADHD symptoms, and the industrial chemicals polychlorinated biphenyls (PCBs) have also been named as a potential culprit.

But as usual, few are focusing on nutrition, which I believe is a key factor. We know food choices of most children -- and adults -- today are incredibly poor. How can you possibly expect a child to have normal behavior if he is fed refined grains, sugars, processed foods loaded with chemicals, and juices and sodas instead of pure water?

Add to that the substandard amount of vegetables in most people's diets -- up to 90 percent fewer than what is required for health -- an overabundance of omega-6 fats and a deficiency of omega-3 fats, and you can see a real pattern emerging.

If you are a nutritionist or dietician, you will know this is a recipe for disaster. You simply cannot have a child or adult with a healthy functioning brain, when the proper ingredients to develop or maintain a healthy brain are not being given!

Renowned children's health expert Dr. Lendon Smith, who passed away several years ago, was really one of the pioneer physicians in this area, and he had been effectively using nutrition and dietary interventions to help relieve the symptoms of ADHD for decades.

He realized that drugs like Ritalin were not the answer for ADHD right from the start. As he said in an interview I did with him back in 2001:[vi]

“It is too bad psychiatrists have failed to recognize that if a stimulant acts as a calming agent, then they must shore up the flagging enzyme that is under-producing. This all fits with the damage that we have done to the top soil. It is washing and blowing away and with it, the magnesium. The psychiatrists have made ADD/ADHD a disease, like pneumonia.

It is actually a syndrome due to a defect in the screening device of the brain. I understand that since they had made it a disease they can be compensated for treating it. Another rule they have used: 'If the Ritalin works, they need it.' Sort of like a Ritalin deficiency.”

According to Dr. Smith, stimulant drugs like Ritalin have a calming effect in children with ADHD because there is not enough norepinephrine, a hormone and neurotransmitter, in their limbic system, the part of the brain that is supposed to filter out unimportant stimuli.

Because of this, one common denominator that Dr. Smith often used as a diagnostic criterion for ADHD was being extremely ticklish.

In other words, they were unable to disregard unimportant stimuli.

Some people may also have ADD/ADHD symptoms due to allergic reactions to chemicals in the environment or their food. Chemically-sensitive people who have their clothing washed with perfumed and chemical-laden soap that they not only breathe in, but that their skin comes into close contact with daily, could likely have ADHD symptoms.

In addition, a number of people may be allergic to the chemicals that are added to clothes in the manufacturing process, such as permanent press or stain-resistant products. These too may initiate ADHD or ADHD-like reactions in sensitive individuals.

Would You Give Your Child Cocaine?

For years, drug companies have been churning out various medications to try to stem this growing epidemic.

Ritalin®, Concerta®, Adderall®, and Strattera® have been the main drugs of choice.

These products, with the exception of Strattera®, all contain different formulations of methylphenidate, a powerful psychostimulant drug that is in the same class as cocaine.

In fact, a 2009 study shows that methylphenidate behaves similarly to addictive drugs like cocaine.

Investigators, funded by the National Institute on Drug Abuse, showed that methylphenidate can cause physical changes in neurons in the “reward” regions of mouse brains -- and in some instances, these effects overlapped with those of cocaine.

The researchers exposed mice to two weeks of daily injections of cocaine or methylphenidate, after which reward areas of the brain were examined for changes that have been implicated in the long-term actions of addictive drugs.

Both drugs showed evidence of addiction in the brain, although each drug's pattern of expression was unique. Interestingly, in some cases, methylphenidate produced even greater effects than cocaine![vii]

Ritalin has the same pharmacological profile as cocaine, yet its effects are even more potent. Using brain imaging, scientists have found that, in pill form, Ritalin occupies more of the neural transporters responsible for the "high" experienced by addicts than smoked or injected cocaine!

Over One Billion Spent on Ritalin

Strattera®, which contains atomoxetine hydrochloride, carries the warning that use has been linked to an increased probability of suicidal thoughts and behavior.[viii]

Possible side effects include nausea, constipation, dry mouth, sexual dysfunction, hives, problems urinating, problems sleeping, liver problems, blood pressure problems, and heart irregularities.[ix]

Meanwhile, a 2006 U.S. statistical report showed 3 million prescriptions being written for ADHD drugs every month -- 2 million for children, and 1 million for adults.[x]

This means millions of people daily are becoming legalized -- and most likely addicted -- drug users!

What a great boon to drug companies, who clearly love to see their profits soaring and who don't appear to care that one of the "side effects" of their greed are the millions of people who become physically dependent on their products, while the symptoms of their disease fail to improve.

Matthew Emmens, chief executive of Shire Pharmaceuticals (a British manufacturer of Adderall®, a drug mix of Ritalin® and amphetamines) stated in a 2005 article, "The adult market is three times the size of the \$1.14 billion-a-year children's market, and is ripe and moving in the right direction." [xi]

This should be a telling statement for anyone under an illusion that these drugs are created for the betterment of society.

A Shocking Number of U.S. Kids are Taking These Dangerous Drugs

Every year there are 6 million prescriptions filled for Ritalin. U.S. pharmacists distribute five times more Ritalin than the rest of the world combined, according to Dr. Samuel Epstein's Cancer Prevention Coalition (CPC).

In fact, CPC states that the United Nations International Narcotics Control Board has on two recent occasions written to U.S. officials expressing concern about the six-fold increase in Ritalin usage since 1990.[xii]

In all, 60 percent to 90 percent of U.S. kids with attention deficit disorders are prescribed this powerful drug, which amounts to 3 percent to 5 percent of U.S. children and teens on Ritalin.

By definition, Ritalin stimulates your central nervous system, leading to side effects such as:

- Increased blood pressure
- Increased heart rate
- Increased body temperature
- Increased alertness
- Suppressed appetite

Further, when taken over a period of years, as Ritalin often is, the drug may cause even more severe health problems such as cancer.

A small University of Texas study conducted in 2005 showed damage to the chromosomes of 12 children who had taken Ritalin for just three months.[xiii]

The potential of Ritalin to cause cancer has been known for much longer though, as back in 1993 The National Toxicology Program released results that showed feeding mice Ritalin at levels close to those routinely prescribed to children induced liver tumors, including rare and highly malignant cancers.

Meanwhile, while researchers used to believe that Ritalin was a short-acting drug, studies have shown it has the potential for causing long-lasting changes in brain cell structure and function and may lead to stunted growth.[xiv]

Ritalin is the drug prescribed most often to kids with ADHD, but again there are others, with equally disturbing risks. ADHD drugs other than Ritalin have been linked to hallucinations, heart attack, stroke, increased aggressive behavior, suicide, and even sudden death!

Many People May Be Misdiagnosed

ADD/ADHD can be hard to diagnose due to its many diverse symptoms, leaving it open to much interpretation -- or misinterpretation. That means that countless numbers of children or adolescents who could simply be bored or immature may be misdiagnosed with ADD/ADHD.

For example, a teacher in charge of 2 to 4 year olds in a daycare setting may ignore a particular child's developmental needs in preference to maintaining a prescribed level of classroom conformity. Children who "act up" are seen as problems that need to be resolved.

With the advent of drugs such as Ritalin® and Concerta®, it is easier than ever for a teacher, caregiver, or doctor to decide that a merely restless, distracted student requires "drug intervention" to solve their behavior issues.

Few caregivers know enough to challenge a doctor's diagnosis even if it were wrong, and even fewer want to spend additional time trying to solve the complex problems of a hyperactive or otherwise bothersome child.

That's when suppressant drugs can be inappropriately prescribed and other therapies overlooked.

Are These Drugs Helping or Hurting?

In one study, after three years of treatment the researchers concluded that drugs such as Concerta® and Ritalin® worked no better than behavioral therapy. In fact, the co-author of the latest study, Professor William Pelham, said there was no indication these drugs worked any better than "nothing" in the long term.[xv]

Further, there is a growing body of evidence showing these drugs are more than just ineffective -- they are harmful.

The long list of side effects from taking them include stomach problems, insomnia, fever, aggression, restlessness, high blood pressure, headaches, and irregular heartbeat, to name just a few.

And as I mentioned earlier, one Florida doctor, Dr. Nelson Mane, is warning that long-term use of ADHD drugs can stunt growth. The research study included children, those in late adolescence, and some adults.

The height deficit of research participants during the first 1-3 years of treatment amounted to about 1 centimeter, or .39 of an inch per year.[xvi]

Dr. Mane adds that the American Heart Association also recommends each child get a heart check prior to being put on drugs like Concerta and Ritalin. He said there had been reports of sudden death and heart problems from the drugs in Canada.

And even in the U.S. such deaths have been occurring.

A Michigan 14-year-old named Matthew died suddenly on March 21, 2000. According to Dr. Ljuba Dragovic, chief pathologist of Oakland County, Michigan, upon autopsy Matthew's heart showed clear signs of small vessel damage caused from the use of methylphenidate (Ritalin).

The cause of death stated on Matthew's death certificate? "From long-term use of methylphenidate, Ritalin®." [xvii]

In 2006, the FDA recommended a "black box" warning on Concerta® and Ritalin®, among other drugs, after the public release of a 2004 FDA report stating that 25 people taking ADHD drugs between 1999 and 2003 had died suddenly, and 43 had experienced serious cardiovascular events including strokes, cardiac arrest, and heart palpitations. Children accounted for 19 of the deaths and 26 of the nonfatal cardiovascular

conditions.[xviii] Statistics also showed 51 total deaths from patients taking Ritalin® or related medications since 1999.[xix]

In the U.K., nine children reportedly died in 2005 after taking ADHD drugs.[xx]

Yet despite the utter failure of these drugs, medical and press reports from drug companies remain glowing and positive.

In contrast, the vast number of children and adults being harmed, perhaps for life, by the unnecessary drugging of this condition is truly heartbreaking.

As Dr. Smith said:

“Maybe, a small percent, like 10 percent or less of 'hyper' children, may need the drugs to calm them, mainly because they have had some sort of injury to their nervous system that diet will not touch.

Many of those, however, can be still be salvaged with neurodevelopment therapy. I have seen the work of those therapists and know of the miracles they can perform. Homeopathy is a well-known and sometimes surprising type of treatment that has saved many of these "throw away" children before they give up and go into crime for their kicks.

There are so many side effects from the stimulant drugs, I would recommend that diet modifications ... should be tried first. These children realize they are not so bad and will even start to smile and laugh.[xxi]”

A Natural Way to Calm: Animal-Based Omega-3 Fats

There are a number of simple, safe, and healthy options to help calm a physically or mentally restless child or adult. While some people are reluctant to adopt unproven alternatives, the great news is that scientific proof supports many non-drug, non-invasive alternatives.

For example, research by the University of Adelaide in Australia confirmed that omega-3 fat improves the symptoms of ADHD without any of the side effects of drugs like Ritalin® and Concerta® -- and more effectively, at that![xxii]

In the study, they gave 130 children with ADHD, between the ages of 7 and 12, omega-3 fats daily. The children’s behavior improved dramatically within three months.

They also found that:

After seven months, the children were not as restless and showed improvements at school

Improvements in concentration and attention improved by one-third

After 15 weeks, 30-40 percent of the children taking fish oil had improvements

After 30 weeks, 40-50 percent improved

Children taking placebo capsules were later switched to omega-3 fats, and subsequently also experienced improved behavior.

Improvements were still being seen after the study ended, which suggests that animal-based omega-3 fats may have long-term effects.

There are a number of different options for animal-based omega-3 fats.

I used to recommend taking fish oil (and I still do in some cases), but aside from the potential of mercury contamination in the oils, both fish oil have other drawbacks, which I've covered in more depth in previous articles.

With fish oil you have the issues of over-fishing, along with it being low in antioxidant content (and by consuming fish oil you actually increase your need for even more antioxidant protection).

And as for cod liver oil, I've recently updated my recommendations and am now advising against it in most cases, as in addition to omega-3, modern cod liver oil also contains vitamins A and D, but in inverse, and potentially unhealthy, ratios to each other.

Many natural health advocates have started promoting green mussel extracts as the latest and greatest source of healthy omega-3's.

Some are even going so far as to try to convince you that you're starving wildlife if you're taking krill oil supplements, in an effort to get you to make the switch to mussels. I recently wrote about the flawed assumptions that led to that misguided warning.

In my view, krill oil is clearly your best option. It contains essential EPA and DHA in a double chain phospholipid structure that makes it far more absorbable than the omega-3s in fish oil.

Krill oil also contains vitamin E, vitamin A, vitamin D and canthaxanthin, which is a potent antioxidant. Research has shown the antioxidant potency of krill oil is, in terms of ORAC (Oxygen Radical Absorbance Capacity) values, 48 times more potent than fish oil.[xxiii]

Other Powerful Tools to Virtually Eliminate ADHD!

Dietary interventions can be incredibly effective in helping alleviate the symptoms of ADHD. As Dr. Smith said in our interview:

“When I became familiar with nutrition, I found that if a stimulant drug had a calming effect [as is the case with ADHD], it meant that the child did not have enough norepinephrine (a stimulant) in his limbic system, and that I could help with a good diet and some supplements which should shore up the enzymes in his brain that make that neurotransmitter.

If he had ever had ear infections, I stopped his dairy products, and added calcium -- 1,000 mg -- usually at bedtime.

If he was ticklish, I added magnesium -- 500 mg is usually safe for a child or adult.

If he was a "Jekyll and Hyde" type of person (severe mood swings), he had intermittent low blood sugar and he needed to nibble all day to keep his blood sugar up. Or at least eat some additional protein and fewer carbohydrates for better maintenance of blood sugar levels. No sugar or white-flour junk food.

If he could not remember his dreams, he needed vitamin B6 -- 50 mg is about right.

If he ever had eczema or dry scaly skin, he is to take the essential fatty acids [omega-3 fats like krill oil].

If he had dark circles under his eyes, he was eating something to which he is sensitive. Milk, wheat, corn, chocolate, eggs, citrus. Usually it is his favorite food."

So in place of harmful drugs, if you are a parent of a child with ADHD, or struggle with the symptoms yourself, these are excellent pearls of wisdom to try out.

The following powerful dietary and lifestyle suggestions can be extremely helpful as well:

Eliminate most grains and sugars from your/their diet. Grains and sugars both tend to cause allergies in sensitive individuals. Even organic, whole grain can cause problems in many children so it would be wise to give them a grain holiday and see if their behavior improves.

Replace soft drinks, fruit juices and pasteurized milk with pure, clean water.

Increase omega-3 fats by taking an effective form of omega-3 oil. Again krill oil is my favorite because it contains a range of antioxidants, and the antioxidant potency of krill oil is, in terms of ORAC (Oxygen Radical Absorbance Capacity) values, 48 times more potent than fish oil.[xxiv]

Minimize your use of nearly all processed fats, especially trans fats as they disrupt nerve cell intercommunication.

Avoid all processed foods, especially those containing artificial colors, flavors and preservatives, which may trigger or worsen symptoms.

Clear your house of dangerous pesticides and other commercial chemicals. Pesticide exposure has been linked with ADHD. [xxv]

Avoid commercial washing detergents and cleaning products used on clothes, and replace them with naturally derived cleaning products with no added perfumes, softeners, etc.

Also, be cautious and read labels carefully when you buy clothing for someone diagnosed with ADD/ADHD. Chemicals are often added to fabrics in the manufacturing process that can cause allergic reactions similar to ADD/ADHD symptoms. The person's symptoms may even subside after the clothing is out of contact with their skin.

After one hyperactive, very difficult 5-year-old had his clothes gently removed, he was instantly a calmer child, sucking his thumb and going to sleep in his mother's lap! He bore no resemblance to the angry and aggressive child that had been previously wreaking havoc all over the room.[xxvi]

This is clearly an allergic reaction, not ADD/ADHD, when symptoms are only present when clothing containing chemicals or even soap residue, is touching the skin. Or likewise when symptoms arise after eating a certain food or food group (such as pasteurized dairy).

For further information in this area it would be wise to review some of the many books that Dr. Doris Rapp has written on this subject. She is a pediatric allergist who has specialized in the treatment of ADD and has had success with many thousands of patients. She is also one of my early mentors.

Additional Helpful Techniques

Here are some useful suggestions to further help you in improving many ADD/ADHD symptoms:

Spend more time in nature.

Researchers have found that exposing ADHD children to nature is an affordable, healthy way of controlling symptoms.[xxvii]

Investigate sensory therapy and emotional wellness tools.

Instead of looking for a quick fix, encourage ADHD sufferers to talk, and find out what emotions are causing issues. You may want to consider the energy tapping techniques to improve emotional coping and healing.

If your child or other loved one has been on drugs for an ADD/ADHD disorder, have the drugs really solved their problems, or only made them worse? Perhaps you are reading this because the drugs have had disappointing results. It's never too late to switch to natural therapies, and once you have, you will be very glad you did.

A good portion of the drugs that make up the multi-billion dollar industry of pharmaceuticals are simply doing nothing, and many are making us sicker. Unfortunately, most of the population has been brainwashed to believe that taking a pill will make them feel better. But once you become dependent on a drug, you then require it just to feel normal.

While it may not always be easy to choose the drug-free approach for problems like ADD/ADHD, using natural therapies will ensure that you treat the whole person rather than just a set of symptoms.

Most cases of ADHD will resolve naturally when you follow the recommendations above. So rather than relying on a dangerous quick-fix like Ritalin, teach your child that they can excel in life, and overcome their symptoms, by taking control of their health.

Remember to be patient when making these dietary and lifestyle changes, as the beneficial effects can take days or even a few weeks to kick in. But in exchange for a bit of patience, you will not only be avoiding the dangerous side effects of drugs, but will be assisting in the natural and healthy healing process that nature intended.

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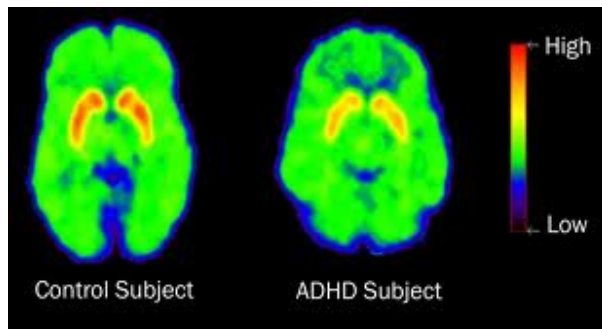
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Causes of ADHD



What is ADHD

Attention Deficit Hyperactivity Disorder (ADHD) is a common behavioral disorder that affects an estimated 8% to 10% of school-age children. Boys are about three times more likely than girls to be diagnosed with it.

Kids with ADHD act without thinking, are hyperactive, and have trouble focusing. They may understand what's expected of them but have trouble following through because they can't sit still, pay attention, or focus on details.

Of course, all kids (especially younger ones) act this way at times, particularly when they are anxious or excited. But the difference with ADHD is that symptoms are present over a longer period of time and occur in different settings. They impair a child's ability to function socially, academically, and at home.

Because attention deficit hyperactivity disorder (ADHD) symptoms—inattention, impulsiveness, and/or hyperactivity—affect a child's capacity to learn and get along with others, some people think an ADHD child's behavior is caused by a lack of obedience, a chaotic family life, or even too much TV. It has also been determined that some environmental factors may play a part as well.

ADHD has become an epidemic in our world today, effecting millions of children across our great nation. Therefore, we hope this article provides some insight as to the causes of ADHD and what one can do about it. Also, the article does not intend to help cure ADHD, but simply offers some opinions as to how to possibly help with symptoms.

Nutrition

Certain dietary products may affect behavior, and a recent Australian study suggested that adolescents with diets high in fat, refined sugar, and sodium were two times as likely to be diagnosed with ADHD as other kids. Additional studies have also linked diets deficient in omega-3 fatty acids, which are important for brain development and function, to ADHD symptoms.

There are a lot of factors that go into ADHD, but from a simplistic standpoint, nutrition is where it all starts. Our children are ingesting food that is 85% less nutritious than what it was when we were children. For example, 3 servings of fruits and vegetables, 25 years ago, were considered enough nutrition for the

day. Today, it is at ten. This isn't because our bodies need more of the nutrients, it is because our soils have been depleted and food is being produced at the least amount of expense as possible.

Therefore, it is imperative that we supplement our children's diets with whole food products.

Additives to Food

Many European countries have forbidden certain preservatives after research associated hyperactivity in young children to food with mixtures of some artificial food colors and the preservative, sodium benzoate.

The FDA says food additives are safe when used "properly," and most additives are not required to be clearly labeled on packaging. Experts think only a small number of children will benefit from avoiding brightly colored processed foods, which tend to have more additives.

Reducing consumption of these additives may or may not help hyperactive behavior; again, many factors play a role in ADHD, but finding a whole food source of nutrition is a key to avoiding these additives.

Sugar

Sugar can cause hyperactivity in children. The problem is that our children are malnourished and the easiest action to take to get the energy they are looking for is to grab that sugar filled "fruit rollup" from the cupboard. Slowly, over time, our children's bodies become addicted to this substance setting them up for diseases such as Diabetes down the line.

If our bodies are getting the nutrition that they need, sugar becomes an afterthought or a special occasion consideration, not a staple of a diet. Again, finding a source of nutrition that is NOT processed food is essential in battling the sugar monster.

Pesticides

Research does suggest a possible link between ADHD and pesticides.

A 2010 study in Pediatrics found that children with higher urine levels of organophosphate, a pesticide used on produce, had higher ADHD rates. Another 2010 study showed that women with higher urine levels of organophosphate were more likely to have a child with ADHD.

The studies suggest a possible link, but cannot prove that pesticides cause ADHD. Marcy Rosenzweig Leavitt, PsyD, who works with ADHD patients in

private practice in the Los Angeles area, recommends buying organic varieties of fruits and vegetables, especially those prone to high levels of pesticides (or scrubbing nonorganic produce before eating). This is a great way of avoiding pesticides, BUT, the food is normally grown in the same soil that non-organic food is grown in, therefore, they may not be getting the pesticides in their diets, but also are not receiving the amount of true trace minerals, enzymes, amino acids, vitamins, major minerals, glyconutrients, etc that their little bodies need.

Bad Habits during Pregnancy

Fetal exposure to alcohol and tobacco is thought to play a part in ADHD. The research suggests that children exposed to tobacco smoke prenatally are 2.4 times as likely to have ADHD as those who are not.

“Fetuses exposed to alcohol can develop fetal alcohol effects or fetal alcohol syndrome, and the prominent features for both are the symptoms you see in ADHD,” says Mark L. Wolraich, MD, chief of the section of developmental and behavioral pediatrics at the University of Oklahoma Health Sciences Center, in Oklahoma City.

Lead Products

Lead, a neurotoxin, has been removed from most homes and schools, but traces of it are still everywhere. A 2009 study found that children with ADHD tend to have higher blood-lead levels than other kids.

“Lead can be toxic to developing brain tissue and may have sustained effects on the behavior of children exposed to these substances at early ages,” says Leavitt, who practices under the supervision of Richard Oelberger, PhD. “Still, it is unlikely that such exposure accounts for differences in brain development in the vast majority of children and adolescents with ADHD.”

Video Stimulation

There is no proof YET that too much TV or video-game time causes ADHD, although research has found that school and college age students who spent more time in front of a TV or video game had more attention problems than those who did not. Some believe that the amount of visual stimulation can present a problem when not in front of the screen.

The constant stimulation of TV and video games may make it harder for kids to pay attention. But experts emphasize that screen time alone cannot explain ADHD. “There IS an association between (ADHD and) the number of hours young children watch TV or play video games, but more study is required to determine if it is a lower relation or it’s because children with ADHD gravitate more toward those activities,” says Dr. Wolraich.

Could it also be that those that spend ample amounts of time in front of the screen do not burn as much energy during the activity and, in turn, have a ton of energy to expend after, not knowing how to release it in positive ways? When we were children, most of us were dead tired by the end of a long day PLAYING outside. I know for me, when I hit the pillow at night, I was OUT!

Subpar Parenting

ADHD symptoms can be confused with rebellious or bad behavior, so it's not unusual to try to fault the parents for a child's demeanor. But according to the National Resource Center on ADHD, there is no strong confirmation that parenting approach contributes to ADHD.

"While it's true that parenting style and social circumstances may aggravate ADHD behaviors, parental style is not the cause of ADHD," says Leavitt, who says parents who set consistent behavioral limits, use reward and consequence behavior tools, and provide a clear set of expectations can help reduce ADHD symptoms.

Then again, a home full of stress or parents who refuse to accept ADHD as a diagnosed condition can make the symptoms worse if a child has already been diagnosed with ADHD.

Damage to the Brain

"Brain injury that results from a serious blow to the head, a brain tumor, a stroke, or disease can cause problems with inattention and poor regulation of motor activity and impulses," says Leavitt.

According to the National Institute of Mental Health (NIMH), children who have suffered certain types of brain trauma may demonstrate symptoms comparable to ADHD. But because only a small segment of children with ADHD have suffered a traumatic brain injury, it is not considered a major risk factor.

Genetics

There is strong evidence that the parents' genes could be a part of the problem.

"There is a very strong genetic correlation to ADHD," affirms Smith. "It may be one of the most heritable psychiatric disorders." In truth, a child with ADHD is four times as likely to have had a relative who was also diagnosed with ADHD, and results from studies of multiple twins indicate that ADHD often runs in families.

Continuing research is trying to find the genes responsible for ADHD. A new study by scientists at Cardiff University in Wales found that children with ADHD are more likely to have missing or duplicated segments of DNA.

Chemicals

Boston University School of Public Health researchers found a link between polyfluoroalkyl chemicals (PFCs)—industrial compounds widely used in products like stain-resistance coatings and food packaging—and ADHD. Phthalates—found in items like toys, food packaging, and cosmetics—have also been linked to ADHD.

The evidence only points to a correlation and cannot prove that these chemicals add to ADHD. We do know that chemicals, that are foreign to the body, do cause problems in the health of all of us. Therefore, not only our children, but all of us, should be detoxifying our bodies consistently. There are products on the market that help with this including; antioxidants, colon cleanses, and whole food supplements. Exercise is also plays a big role is relieving the body of these Free Radicals.

Diagnosis

Because there is no objective ADHD test, parents, doctors, and educators continue to debate over whether ADHD is over diagnosed and literally tagged on children who do not show a specific reason why the symptoms exist.

There are those that say doctors are too quick to diagnose a child's behavioral problems as ADHD without taking into consideration other possible causes. North Carolina State University researchers found that children who are several months younger than their peers could be mistakenly diagnosed with ADHD when, in fact, they are just less mature than their classmates.

However, according to Dr. Wolraich, “most of the evidence is that ADHD is under diagnosed and undertreated.”

What Can We Do?

Obviously, there is a lot of information in this article pertaining to ADHD. The bottom line is that we should all do as much as possible to avoid those items that correlate with this disease. There are several possible natural remedies for ADHD that are summarized in the next few paragraphs.

For example, if you are currently pregnant, PLEASE do not smoke or ingest drugs/alcohol. Save that for destroying your own body! Sorry, but I have seen alcohol destroy too many people not to use strong words here.

Secondly, limit the time that the kids are in front of a screen. Motivate your kids to partake in sports or after school activities. As I stated above, if the kids are expending energy all day playing, it is less likely they will want to spend time with video games and/or TV. Everyone should be getting some sort of exercise not only to stay healthy, but also release those “feel good” endorphins that are produced during exercise.

Also, make sure that the chemicals/substances mentioned above; Lead, polyfluoroalkyl chemicals, and Phthalates are as far away as possible from our children.

Finally, make sure you are providing your children with Whole Food Nutrition.

Child Have ADHD? Stop Feeding Them This

By Dr. Mercola

There's evidence suggesting that gluten sensitivity may be at the root of many neurological and psychiatric conditions, including attention deficit hyperactivity disorder (ADHD).

What is gluten?

It's a protein found in grains such as wheat, rye and barley, which causes significant damage in people with celiac disease, triggering an immune reaction that damages your small intestine and prevents absorption of nutrients.

It has long been known that people with celiac disease are also more likely to suffer from ADHD, another condition that is heavily influenced by dietary habits.

However, while the treatment of celiac disease is a completely gluten-free diet, with ADHD the most oft-cited dietary villain is sugar, whereas grains are often overlooked (even though they act much like sugar in your body).

It turns out, though, that there may be a closer link between the symptoms of celiac disease and ADHD than was previously recognized, and that connection is gluten.

A Gluten-Free Diet May "Cure" ADHD

Many children with ADHD do not respond well to most grains, especially wheat. This could be because they have full-blown celiac disease, which impacts an average of one out of every 133 people in the United States (although some studies have found that this number may be as high as 1 in 33 in at-risk populations) -- or because they have a less obvious condition known as gluten sensitivity.

People with gluten sensitivity, which may comprise 10 percent of the U.S. population or more, experience many of the same symptoms as celiac disease causes, including headaches, fatigue, muscle and joint pain, gas and more, but may be unaware that the culprit triggering these symptoms is wheat and other gluten-containing grains. It's also very possible to have celiac disease and not know it ... as researchers state, "in many cases, the disease may be clinically silent despite manifest small bowel mucosal lesions."

But the psychological and behavioral symptoms of ADHD are now overlapping so often with those of celiac disease and gluten sensitivity that it's recommended "celiac disease ... be included in the ADHD symptom checklist." This suggestion was prompted by a new study, which found people with ADHD who tested positive for celiac disease improved significantly after following a gluten-free diet for at least six months. The researchers noted:

"After initiation of the gluten-free diet, patients or their parents reported a significant improvement in their behavior and functioning compared to the period before celiac diagnosis and treatment ... "

It may sound strange to you that eating a grain that wreaks havoc on your *gut* would manifest as symptoms related to your *brain*, rather than your digestion, but grains are inherently pro-inflammatory and will worsen any condition that has chronic inflammation at its root -- and not just inflammation in your gut, but anywhere in your body. Chronic inflammation in your body can wreak havoc in your brain, and the importance of reducing inflammation when dealing with mental health issues is well known. It is very common for people to experience a wide variety of mental health and emotional improvements upon eliminating gluten from their diet.

Why Even Whole, Sprouted Wheat is a Problem

I recommend that *everyone* following my beginner nutrition plan eliminate all gluten from their diets, whether or not they have celiac disease or ADHD, because many experience health improvements upon doing so. Among the most important foods to avoid are those gluten-containing grains that contain gliadin molecules, such as wheat.

When gliadin in gluten becomes water soluble, it is free to bind to cells in your body. If you are sensitive, your body will make antibodies to gliadin and attack the cells gliadin has attached itself to, treating those cells as an infection. This immune response damages surrounding tissue and has the potential to set off, or exacerbate, many other health problems throughout your body, which is why gluten can have such a devastating effect on your overall health.

Wheat also contains high amounts of wheat germ agglutinin (WGA), a glycoprotein classified as a lectin, which is largely responsible for many of wheat's ill effects. Other grains high in lectins include rice, spelt, and rye. Interestingly enough, the highest amounts of WGA is found in whole wheat, including its sprouted form, which is touted as being the most healthful form of all.

Lectins are actually designed to withstand degradation through a wide range of pH and temperatures, which is why sprouting, fermenting and cooking will NOT negate its ill effects. WGA lectin is particularly tough because it's actually formed by the same disulfide bonds that give strength and resilience to vulcanized rubber and human hair.

Furthermore, because lectins are so small and hard to digest, they tend to bioaccumulate in your body, where they can interfere with biological processes. WGA is particularly troublesome in this regard. Studies indicate it has a number of health-harming characteristics and activities:

Pro-inflammatory--WGA stimulates the synthesis of pro-inflammatory chemical messengers (cytokines) in intestinal and immune cells, and has been shown to play a causative role in chronic thin gut inflammation.

Immunotoxicity--WGA induces thymus atrophy in rats , and anti-WGA antibodies in human blood have been shown to cross-react with other proteins, indicating that they may contribute to autoimmunity. In fact, WGA appears to play a role in celiac disease (CD) that is entirely distinct from that of gluten, due to significantly higher levels of IgG and IgA antibodies against WGA found in patients with CD, when compared with patients with other intestinal disorders.

<p>Neurotoxicity-- WGA can cross your blood-brain barrier through a process called "adsorptive endocytosis," pulling other substances with it. WGA may attach to your myelin sheath and is capable of inhibiting nerve growth factor, which is important for the growth, maintenance, and survival of certain target neurons.</p>	<p>Excitotoxicity-- Wheat, dairy, and soy contain exceptionally high levels of glutamic and aspartic acid, which makes them all potentially excitotoxic. Excitotoxicity is a pathological process where glutamic and aspartic acid cause an over-activation of your nerve cell receptors, which can lead to calcium-induced nerve and brain injury. These two amino acids may contribute to neurodegenerative conditions such as multiple sclerosis, Alzheimer's, Huntington's disease, and other nervous system disorders such as epilepsy, ADD/ADHD and migraines.</p>
<p>Cytotoxicity—WGA has been demonstrated to be cytotoxic to both normal and cancerous cell lines, capable of inducing either cell cycle arrest or programmed cell death (apoptosis).</p>	<p>Disrupts Endocrine Function—WGA may contribute to weight gain, insulin resistance, and leptin resistance by blocking the leptin receptor in your hypothalamus. It also binds to both benign and malignant thyroid nodules, and interferes with the production of secretin from your pancreas, which can lead to digestive problems and pancreatic hypertrophy.</p>
<p>Cardiotoxicity—WGA has a potent, disruptive effect on platelet endothelial cell adhesion molecule-1, which plays a key role in tissue regeneration and safely removing neutrophils from your blood vessels.</p>	<p>Adversely effects gastrointestinal function by causing increased shedding of the intestinal brush border membrane, reducing the surface area, and accelerating cell loss and shortening of villi. It also causes cytoskeleton degradation in intestinal cells, contributing to cell death and increased turnover, and decreases levels of heat shock proteins in gut epithelial cells, leaving them more vulnerable to damage.</p>

Why ADHD Symptoms are Closely Linked to Gut Health

A variety of behavioral problems are linked to problems in your gut, not only from gluten, WGA and other components of grains but also due to the gut-brain connection. The gut-brain connection is well recognized as a basic tenet of physiology and medicine, so this isn't all that surprising, even though it's often overlooked. There's also a wealth of evidence showing gastrointestinal involvement in a variety of neurological diseases.

With this in mind, it should also be crystal clear that nourishing your gut flora is extremely important at all life stages because in a very real sense you have two brains, one inside your skull and one in your gut, and each needs its own vital nourishment.

Your gut and your brain are actually created out of the same type of tissue. During fetal development, one part turns into your central nervous system while the other develops into your enteric nervous system. These two systems are connected via the vagus nerve, the tenth cranial nerve that runs from your brain stem down to your abdomen. This is what connects your two brains together, and explains such phenomena as getting butterflies in your stomach when you're nervous, for example.

As explained by Dr. Natasha Campbell-McBride, a medical doctor with a postgraduate degree in neurology, in the video below, toxicity in your gut can flow throughout your body and into your brain, where it can cause symptoms of autism, ADHD, dyslexia, dyspraxia, depression, schizophrenia and other mental disorders.

Total Video Length: 1:13:21

[Download Interview Transcript](#)

She believes the epidemic of autism and other learning disorders originate in the gut, and manifest as a condition known as Gut and Psychology Syndrome (GAPS).

GAPS may manifest as a conglomerate of symptoms that can fit the diagnosis of either autism, or attention deficit hyperactivity disorder (ADHD), attention deficit disorder (ADD) without hyperactivity, dyslexia, dyspraxia, or obsessive-compulsive disorder, just to name a few possibilities ... Fortunately, it is possible to identify GAPS within the first weeks of your baby's life, which can help you make better informed decisions about vaccinations, as if your child has the metabolic characteristics of GAPS, they should NOT be immunized until that is reversed.

What are the Keys to Treating ADHD with Dietary Changes?

It is my sincere hope that people will begin to realize that drug therapy, if at all necessary, should be a very last resort, after all other options have been exhausted, when it comes to behavioral problems such as ADHD. The *first* route of treatment should actually be dietary changes, including:

- **Eliminate most grains and sugars, including fructose, from your child's diet.** Grains and sugars both tend to cause allergies in sensitive individuals. Even organic, whole, sprouted grain can cause problems in many children so it would be wise to give them a "grain holiday" and see if their behavior improves.
- **Replace soft drinks** (whether diet and regular), fruit juices, and pasteurized milk with pure, clean non-fluoridated water.
- **Increase omega-3 fats** by taking a high quality animal-based omega-3 oil. Research has confirmed that animal-based omega-3 fat can improve the symptoms of ADHD *more effectively* than drugs like Ritalin® and Concerta®. In my view, krill oil is the best option for this. It contains essential EPA and DHA in a double-chain phospholipid structure that makes it far more absorbable than the omega-3s in fish oil.
- **Minimize your use of nearly all processed fats**, especially trans fats as they disrupt nerve cell intercommunication.
- **Avoid all processed foods**, especially those containing fructose, artificial colors, flavors and preservatives, which may trigger or worsen symptoms. Gluten is also commonly hidden in processed foods like ready-made soups, soy sauce, candies, cold cuts, and various low- and

no-fat products, as well as refined grain products like bread, pizza crust, pasta, cookies and pastries.

I also recommend you have your child follow a gluten-free diet to see if this eliminates their symptoms. Your best bet when deciding to eliminate gluten is to primarily base your diet on lean proteins, vegetables and raw dairy products, as described in my nutrition plan, and stick with the grains, seeds and flours available that are naturally gluten-free.

This includes:

Rice	Corn (only eat organic, non-GM corn)
Quinoa	Sorghum
Soy (but I don't recommend eating this for other reasons)	Flax and amaranth seed
Buckwheat and millet do not contain the gliadin molecule that can provoke the inflammatory reaction from gluten. Therefore, they are usually safe to eat as well.	

Gluten-free options are becoming much more in demand and as a result are showing up in grocery stores, restaurants and from caterers. But keep in mind, particularly if you are relying on processed gluten-free foods that cross-contamination can and does occur, most likely during processing, and many companies simply aren't testing to make sure the final product is still gluten-free.

One study found that of the 22 naturally gluten-free products tested, seven of them would not be considered gluten-free under the proposed FDA rule for gluten-free labeling, which requires products labeled as 'gluten-free' to contain less than 20 parts per million (ppm) of gluten. So again, to be sure your diet is truly gluten-free, it should be based on whole foods, not processed ones.

Finally, the benefits of a gluten-free diet do not always appear overnight. Some do experience improvements rapidly, but in others it can take 9 to 12 months before the lining of your small intestine is fully healed. Generally, allow 6 to 9 months of following a gluten-free diet before you expect symptoms to resolve.

Children, ADD/ADHD, and Chiropractic

by Dr. Christopher Kent

Controversy surrounds the medical treatment, indeed the very existence, of Attention Deficit Disorder (ADD), and Attention Deficit Hyperactivity Disorder (ADHD).

Psychiatrist Peter Breggin wrote, "Hyperactivity is the most frequent justification for drugging children. The difficult-to-control male child is certainly not a new phenomenon, but attempts to give him a medical diagnosis are the product of modern psychology and psychiatry. At first psychiatrists called hyperactivity a brain disease. When no brain disease could be found, they changed it to 'minimal brain disease' (MBD). When no minimal brain disease could be found the profession transformed the concept into 'minimal brain dysfunction.' When no minimal brain dysfunction could be demonstrated, the label became attention deficit disorder. Now it's just assumed to be a real disease, regardless of the failure to prove it so. Biochemical imbalance is the code word, but there's no more evidence for that than there is for actual brain disease." [1]

The use of psychotropic drugs in children has exploded in recent years [2]. The number of prescriptions written for methylphenidate (Ritalin) has increased by a factor of five since 1991. The production of Adderall and Dexedrine, also used to treat ADHD, has risen 2,000% in nine years. The increased use of these drugs in the U.S. is at variance with the rest of the world. According to the U.N., the U.S. produces and consumes 85% of the world's production of methylphenidate. (3)

The use of Class II controlled substances to alter the behavior of children is disconcerting to many parents and chiropractors, as is the issue of whether ADD/ADHD can be properly considered a disease.

While chiropractors do not "treat" ADD/ADHD, the effects of chiropractic care on children diagnosed with learning disorders and hyperactivity have been described in a growing body of scholarly publications.

A study published in 1975, compared chiropractic care with drug treatment in children with learning and behavioral impairments due to neurological dysfunction. It was reported that chiropractic care "was more effective for the wide range of symptoms common in the neurological dysfunction syndrome in which thirteen symptom or problem areas were considered." The author also reported that chiropractic care was 24% more effective than commonly used medications. [4]

Giesen et al conducted a study involving seven subjects. All subjects were of school age and had clinical findings evidencing vertebral subluxation complex.

Following chiropractic care, 57% showed an improvement in chiropractic radiographic findings; 71.4% showed a reduction in overt behavior activity; 57% showed improvement in level of autonomic activity, and 57% showed improvement in parental ratings of hyperactivity. [5]

In addition to these small studies, case reports have been published which describe improvement of objective and subjective findings in children with ADD/ADHD and related disorders. [6-14].

More research exploring the relationship of subluxation correction to brain function is needed. Yet, the dramatic changes that have been reported in children medically diagnosed with ADD/ADHD following chiropractic care must not be ignored.

Every child with a vertebral subluxation needs chiropractic care, regardless of whether or not symptoms are present. By correcting nerve interference, function is improved, with greater expression of human potential. Many report terminating drug therapy, and seeing the personality, will, and soul of the child unfolding.

As Maria Montessori wrote, "It is easy to substitute our will for that of the child by means of suggestion or coercion; but when we have done this we have robbed him of his greatest right, the right to construct his own personality." [1]

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Fish oil 'calms children better than Ritalin'



A daily dose of fish oil is better at treating hyperactivity than Ritalin - the 'chemical cosh' linked to the deaths of children, stunning research has revealed.

Just six capsules a day of the naturally-occurring oil can vastly improve children's behaviour without any of the side-effects of Ritalin and related drugs.

The controversial drugs can cause heart problems, dizziness and insomnia and have been blamed for the deaths of nine children in the UK and dozens more in the US.

The new study provides a natural alternative - and gives fresh hope to the parents of the 30,000 British children prescribed Ritalin and similar medicines such as Concerta.

Last night, experts accused doctors of being too quick to boost the coffers of large drug companies by writing out prescriptions - and urged parents to look into the value of improving their child's diet.

Psychiatrist Dr Sami Timimi (CORR) said: 'It stands to reason that using a natural supplement that has few dangers or side-effects must be preferable to using drugs which have considerable dangers associated with them.

'This is a non-toxic way of doing something that might make a difference.'

Last year, a study by Durham Local Education Authority showed that omega 3 can improve the brainpower and concentration of hyperactive children.

The latest findings, from the University of Adelaide, are the first to show that omega 3 fish oil may be better than medication at treating Attention Deficit Hyperactivity Disorder.

The compound, which occurs naturally in oily fish such as salmon, mackerel and tuna, is responsible for a range of health benefits, from combating heart disease to boosting intelligence.

Despite this, most people eat just a fifth of the amount recommended for good health.

The Australian researchers looked at the effect of eye q (CORR) fish oil capsules on a group seven to 12-year-olds with ADHD.

Some were given the capsules, while others took a placebo or dummy capsule.

Within three months, the behaviour of those on the fish oils had dramatically improved and, by seven months, many of the children were less restless and doing better at school.

The most striking improvement was in concentration or attention, which improved by a third.

When those taking the dummy capsules switched to the fish oils, they also saw their behaviour improve.

Researcher Natalie Sinn (CORR) said: 'Many of those who had children who showed improvements commented that their children were calmer, were doing better at school and were able to concentrate longer and were therefore reading more.'

'Overall, 30 to 40 per cent of children over 15 weeks and 40 to 50 per cent of children over 30 weeks had improvements.'

She added that week-on-week improvements were still being seen at the end of the study - suggesting the results of an even longer course of treatment, may be even more dramatic.

The researchers also compared their results to those from studies of Ritalin and Concerta and found fish oils are more effective, a Sydney conference on omega-3 will hear this week.

British experts said the research, which is to be published in the Journal of Developmental and Behavioral Pediatrics (CORR), underlined the value of exploring alternative treatments to Ritalin.

The number of hyperactive children on medication is soaring, with a staggering 330,000 prescriptions written out each year, or 6,350 a week.

Nine British children have died after taking the drugs. Two died of heart problems, while others suffered illnesses including strokes and swelling of the brain. Dr Timimi, a consultant child and adolescent psychiatrist at Lincolnshire NHS Trust, said: 'Drugs like Ritalin have considerable dangers associated with them, including insomnia, changes in personality and cardiotoxicity - they are bad for the heart and can cause heart attacks, strokes and sudden death.'

'It must be preferable to that.'

Nick Giovannelli(CORR), of the Hyperactive Children's Support Group, urged parents to consider using natural alternatives to Ritalin.

He said: 'GPs seem to be too quick to prescribe medication.'

'This new study adds to the mounting evidence that nutrition is safer and more effective than stimulant medication.'

Dr Madeleine Portwood, the educational psychologist who led the Durham trial, said: 'This study shows once again that omega 3 can have a very beneficial effect for children with concentration and behaviour problems.'

The Royal College of Psychiatrists said the findings were 'promising' and warranted further research.

Other studies have shown that omega 3 is also effective in children without ADHD or learning difficulties, boosting their grasp of the three Rs and improving their GCSE grades.

Concerta's manufacturers, Buckinghamshire-based Janssen-Cilag (CORR), said the drug is part of a package of care which should include attention to diet.

Dr Tony Donovan, the firm's associated medical director, said Concerta had a good safety record but did not suit all children.

He advised parents considering switching their child to fish oil to consult their child's specialist.

'It is not a decision to make off your own bat,' he said. 'I would advise a parent to have a discussion with their specialist about the benefits or otherwise about changing medication before making any changes.'

How is ADHD diagnosed?

1. If the child exhibits six (or more) of the following symptoms of inattention have persisted for at least 6 months to a degree that is maladaptive and inconsistent with developmental level:

Inattention

- a. often fails to give close attention to details or makes careless mistakes in schoolwork, work, or other activities
- b. often has difficulty sustaining attention in tasks or play activities
- c. often does not seem to listen when spoken to directly
- d. often does not follow through on instructions and fails to finish schoolwork, chores, or duties in the workplace (not due to oppositional behavior or failure to understand instructions)
- e. often has difficulty organizing tasks and activities
- f. often avoids, dislikes, or is reluctant to engage in tasks that require sustained mental effort (such as schoolwork or homework)
- g. often loses things necessary for tasks or activities (e.g. toys, school assignments, pencils, books or tools)
- h. is often easily distracted by extraneous stimuli
- i. is often forgetful in daily activities

2. Or six (or more) of the following symptoms of hyperactivity-impulsivity have persisted for at least 6 months to a degree that is maladaptive and inconsistent with developmental level:

Hyperactivity

- a. often fidgets with hands or feet or squirms in seat
- b. often leaves seat in classroom or in other situations in which remaining seated is expected
- c. often runs about or climbs excessively in situations in which it is inappropriate (in adolescents or adults, may be limited to subjective feelings of restlessness)
- d. often has difficulty playing or engaging in leisure activities quietly
- e. is often "on the go" or often acts as if "driven by a motor"
- f. often talks excessively

Impulsivity

- a. often blurts out answers before questions have been completed
- b. often has difficulty awaiting turn
- c. often interrupts or intrudes on others (e.g., butts into conversations or games)

JVSR study: Chiropractic may help adults suffering from attention deficit

A pilot study, published in the *Journal of Vertebral Subluxation Research* suggests that chiropractic care may help adults suffering from concentration problems and attention deficit (ADD/ADHD). The study was performed by Yannick Pauli, DC, director of the "Centre Wellness NeuroFit" in Lausanne, Switzerland. Dr. Pauli is a chiropractor specializing in wellness neurology.

"In this pilot study, we used objective outcome measures to evaluate attention in nine adult patients before and after two months of wellness chiropractic care. All patients experienced significant improvement in concentration and 88% normalized parts of the test," explained Dr. Pauli. "Although the results are preliminary and more research is needed, the outcome of the study suggests that patients suffering from attention deficit benefited from chiropractic care."

Research has shown that the ability to concentrate is affected in a number of disorders such as Attention-Deficit/Hyperactivity Disorder (ADHD), traumatic brain injuries, dementia, Alzheimer's disease and Parkinson's disease.

In the United States, between 1-6 percent of adults and 3-10 percent of children suffer from ADHD. Problems with attention go far beyond the ability to concentrate. Epidemiological studies have shown that individuals suffering from ADHD suffer greater risks associated with daily living such as higher rates of car accidents, increased risk of substance abuse, greater risk of failing school, increased likelihood of divorce and even greater difficulty managing money.

According to Pauli, concentration problems affect all parts of our life and even possibly our ability to heal. Although most people think of attention as the ability to focus on the external world only, new health paradigms indicate that we can direct our attention inward as well. The clinical experience of Pauli and his colleagues suggests that our ability to heal is highly dependent upon the ability of our brain to pay attention to what is going in the body.

"Studies done with people suffering from post-traumatic stress disorder (PTSD) suggest that those patients suffer when parts of their brain become deactivated, such as the prefrontal cortex, while others become hyperfunctioning," Pauli noted. "Our hypothesis is that this leads to an inability for the brain to pay attention to the body's internal processes, resulting in decreased body awareness and decreased ability to access healing resources. Our study is part of a first attempt to document whether chiropractic care could be helpful to improve attention, and therefore all areas of life that are dependent upon this crucial cognitive function."

Usually, attention deficit is a clinical diagnosis. But to avoid potential subjectivity, Pauli used an objective measure of attention, called a continuous performance test. "It is a computer-based evaluation that objectively measures various parameters of attention" he explained. "This system is also used by some neurologists and psychiatrists to find the

exact dosage of medication they are going to prescribe for attention deficit sufferers. Our preliminary results suggest that attention can be improved naturally with chiropractic."

The connection between attention, a process occurring in the brain, and chiropractic, which is generally associated with spinal health, is not readily obvious to most people. Yet, the research emphasizes the direct link between the spine and brain activity.

"As a chiropractor specializing in wellness neurology, I understand that the spine is as much about neurology as it is about biomechanics" Pauli states.

The articulations and the muscles of the spine are rich in mechanoreceptors, which are sensors that send information to the nerve system. "Each time we work with the spine, we activate neurological circuits in the direction of the brain and bring the nerve system into balance," the researcher says.

Pauli also notes that chiropractors affect, in particular, a small part at the back of the brain called the cerebellum. Studies have shown that this structure is involved in attention. "Higher parts of the brain are also dependent upon the proper balance and function in the cerebellum," he elaborated. "If the cerebellum does not function at par, the rest of the brain becomes somewhat clumsy and by activating the spinal receptors and balancing the cerebellum, we help the brain function better."

According to Matthew McCoy, DC, editor of the *Journal of Vertebral Subluxation Research*, "this preliminary study is exciting. It is part of an increasing amount of research suggesting that chiropractic care may be an effective natural choice for people suffering from ADD/ADHD. It offers the possibility of a new option for millions of children and adults that are seeking to manage their conditions naturally."

The Journal of Vertebral Subluxation Research is a peer-reviewed scientific journal devoted to subluxation-centered chiropractic research and is affiliated with the World Chiropractic Alliance, an international organization representing doctors of chiropractic and promoting the traditional, drug-free and wellness-oriented form of chiropractic.

New Warning About Everyday Poison Linked to Alzheimer's, ADHD, and Autism

Posted By [Dr. Mercola](#) | March 20 2010

Dr. David Ayoub is a radiologist and a physician, and has become a specialist on the additives and preservatives used in vaccines. He was a presenter at the National Vaccine Information Center (NVIC) Conference in Washington D.C. last year.

Here he discusses the practice of using aluminum as an adjuvant, and why he believes aluminum may be far more toxic than thimerosal in vaccines.

Dr. Ayoub was, as many of you are, very concerned about mercury (thimerosal) in vaccines for a number of years, and attended a number of autism conferences that featured physicians who were highlighting the dangers of mercury.

However, a few personal encounters heightened his interest in another toxic metal frequently used in vaccines, namely *aluminum*.

Parents of autistic children kept pointing out the fact that their children's heavy metal toxicity profiles showed high amounts of aluminum, and they wanted to know what that meant.

Secondly, a well respected nutritionist who deals with industrial aluminum toxicity showed him toxicity profiles of middle school children who had ADHD. In his estimate, 90 percent of the children in one particular school had developed ADHD during the course of a single year, and their toxicity profiles showed massive amounts of aluminum.

In addition, he did a pilot study with Dr. Usman, who treats autism with biomedicine, and when he evaluated the aluminum burden of these autistic children, he found that high percentage of them also had very high aluminum burdens.

All of these events led him to look deeper into the aluminum issue, which we discuss at length in this interview.

Why is Aluminum Used in Vaccines?

Mercury (thimerosal) exposure has declined significantly since it was eliminated from the single-dose vials of most childhood vaccines, yet autism rates have continued to skyrocket. This has led many to assume that mercury isn't a problem, and anyone questioning the safety of vaccines is considered to be a hysterical wingnut.

However, while mercury use has decreased, the use of aluminum additives has increased!

Aluminum, like any other adjuvant, is added to the vaccine in order to boost the host's immune response to the antigen. The antigen is what your body responds to and makes antibodies against (the virus being injected). By boosting your body's immune response, the vaccine manufacturer can use a smaller amount of antigen, which makes production less expensive.

Interestingly enough, according to Dr. Ayoub, even our modern medical literature admits that how this happens exactly is still a mystery. And it's not a consistent finding. He mentions a couple of studies on the more recent HPV vaccine, which found that the aluminum adjuvant had no effect at all on the immune response...

So, although aluminum is frequently added to vaccines for this particular purpose, no one knows with any degree of confidence that it actually makes a more effective vaccine.

Is Aluminum a Heavy Metal?

Aluminum is by many considered to be a heavy metal. However, based on the Periodic Table, it's just shy of a heavy metal. So it's called a "light metal."

But regardless of its precise classification, aluminum is in the metal grouping, and it's a common compound.

You will find aluminum in the earth's crust, and in air, soil and water. However, although aluminum is a common, "natural" substance, it's important to realize that it has *absolutely no biological role inside your body*.

In fact, we already know that [aluminum is a poison](#).

Which Vaccines Contain Aluminum?

Many vaccines contain aluminum, including:

- Hepatitis A
- Hepatitis B
- DTaP (diphtheria, tetanus, pertussis)
- Hib vaccine
- Pneumococcal vaccine
- Gardasil (HPV vaccine)

This is NOT an all-inclusive list, however. Your best bet is to read through the package insert of each vaccine in question.

You can find a comprehensive [list of approved vaccines on the FDA's website, with links to each package insert](#).

The amount of aluminum in each vaccine will vary. However, according to Dr. Ayoub, it's important to realize that the toxicity is not entirely dependent on dose, but also on how it's distributed in your body.

For example, a small dose released rapidly from the injection site into your body can cause a rapid rise in blood aluminum levels. So a small dose released quickly may be much more toxic than a large dose that ends up staying longer in the tissue at the injection site.

The variables of personal differences and differences in how the injection is given are too numerous to count, and they may play a role in how toxic a shot ends up being once injected into your body.

How Much Aluminum is Your Child Getting Through Vaccines?

Dr. Ayoub has identified one vaccine in particular as being one of the absolute worst in terms of aluminum content – Pediatrix. It's a combination vaccine, which contains 850 mcg of elemental aluminum.

The average aluminum content per vaccine ranges between 200 to 400 mcg. Others contain less, such as Prevnar, which has 125 mcg of aluminum.

Adding to the problem, however, is the fact that many children end up receiving multiple vaccines at a time. In effect, children are getting concentrations of aluminum that are 10 to 20 times higher than mercury.

Based on the number of vaccines given, children today are receiving 17 shots that contain aluminum, compared to four vaccines in the 1970s into the mid-80s. According to Dr. Ayoub's calculations, the milligram dose of aluminum received has more than doubled in that time.

This can have significant implications, as aluminum is not only toxic in and of itself, but it also impairs your body's ability to excrete mercury, and it impairs glutathione synthesis. As a consequence, aluminum will make whatever amount of mercury you have in your system even more toxic.

Remember, you and your children are exposed to [mercury from other sources as well, not just vaccines. Fish](#) and [amalgam dental fillings](#) are two major sources of mercury exposure as well.

Problems with the Legal Limits on Aluminum

In the U.S., the FDA sets the guidelines for what and how much aluminum is allowed in vaccines. According to the FDA, the maximum amount of allowable elemental aluminum is 850 mcg per vaccine.

Clearly, it makes a major difference if this amount is injected into a small infant or an adult, but the FDA makes no distinction to that effect.

In fact, when Dr. Ayoub dug deeper into the FDA regulations on aluminum, he discovered that the limitation of 850 mcg per vaccine is based on *the effectiveness of the adjuvant role of aluminum* and has nothing to do with limitations based on safety whatsoever!

Shocking?

Yes! But not surprising, at this point.

However, it may be wise to keep this fact in mind, as those who argue that the amounts of aluminum in vaccines is a “legally safe dose” are really just citing a regulatory guideline that is based solely on the efficacy of the vaccine, and NOT based on any safety data whatsoever.

Approach to Treatment and Prevention of Aluminum Toxicity

1) Avoid/minimize exposures

- Test drinking water with and without filter
- Avoid cooking with aluminum utensils/pans
- Never store food in contact with aluminum
- Use non aluminum baking soda, deodorant, toothpaste
- Avoid aluminum-containing vaccines, or separate multiple aluminum- containing vaccines by 2-4 weeks, only take single formulas/shots
- Avoid drinks in aluminum pouches/cans, especially if they contain citrates/ascorbates which enhance aluminum absorption
- Take vitamin C and fruit juices on an empty stomach
- Minimize exposure to calcium carbonate-containing medicines

2) Testing for body levels

Blood aluminum only useful in cases of large, acute exposures (i.e., acute vaccine reaction) for chronic exposures: hair analysis, post-provocative (EDTA or DFO) urine metals, urinary porphyrin testing

3) Treatment of deleterious actions of chronic aluminum exposure maintain normal serum vitamin D levels

- Melatonin has powerful antioxidant properties and is particularly depleted from aluminum exposure
- Curcumin
- Supplements or foods that drive the methylation process (methionine cycle), i.e., B6, B12, folic acid, folinic acid, etc
- Natural chelation like cilantro

Medial Chelation:

Calcium disodium EDTA pulls lead and aluminum. It is also contaminated with aluminum, as many calcium-containing products are. Oral dose is easiest but rectal suppository is available.

(Detoxamin) and may have the added benefit of low absorption of the aluminum contaminant that requires iron-transport system found mostly in small bowel as opposed to the rectum. Intravenous EDTA can be used by healthcare professional.

Medical chelation has been performed for many years using deferoxamine (DFO). This is a potent chelator for iron and aluminum and has been used mostly by nephrologists in treating aluminum toxicity from oral phosphate binders once used in patients with chronic renal failure. This is potent enough to reverse severe acute neurotoxicity from aluminum poisoning but has potential serious side effects and can only be used by a physician..

Learn More About the Health Implications of Aluminum!

I strongly urge you to listen to the interview with Dr. Ayoub in its entirety to learn more about the dangers of this common vaccine adjuvant. Clearly, aluminum stands poised to take over mercury as one of the worst offenders against health.

Also, the articles listed below will give you more information about the potentially devastating health effects of this dangerous toxin.

Recent Study on Milk and ADHD

Changes in our diets can be used as a treatment intervention for ADHD. And according to a recent study from Norway, it seems that at least a sub-group of children with ADHD have a particular type of protein imbalance that may be contributing to a child's ADHD symptoms, or may be causing that child's ADHD problem entirely.

The study began back in 1996 as a group of researchers and educators in Norway began a study of 23 children with ADHD. They placed the children on a milk free diet and have followed the performance of the children since. The researchers wanted to see if the ADHD symptoms in the children, particularly hyperactivity and impulsivity, would improve by avoiding milk, or more specifically the casein in the milk.

Since a one of our long-held ADHD diet recommendations has been to stop drinking cow's milk for two weeks, then add it back in to the diet and see if there is any adverse reaction to it, we were very interested in the observations from this study.

Milk is one of the most common food allergens in children. Studies in several countries around the world show a prevalence of milk allergy in children around 2% to 5%. Some estimates are much higher, as the researchers in this study propose. Cow's milk contains at least 20 protein components that may cause allergic responses. The milk proteins casein and whey are the main problems. Caseins give milk its "milky" appearance and is the protein in milk that makes it possible to make cheese. Whey makes up the remainder of the milk substance.

We have been familiar with the theories of Dr. Kalle Reichelt and have offered Dr. Reichelt's thoughts on diet, particularly milk and gluten, and mental illness to our readers for several years on our websites. So I have always been interested in studies that have investigated these positions. This study caught my eye.

The group was working under Reichelt's theory that a metabolic disorder making it difficult to break down certain proteins might cause mental problems including ADHD.

All twenty-three children in the long-term study had symptoms of ADHD and had been shown to have abnormal levels of peptides in their urine. The children followed a strict casein-free diet a year, and 22 of the 23 children showed "clear improvements" in their behavior and attention span.

Not drinking cow's milk is certainly a simple and safe intervention to try. And, as we like to say, if what you are doing works, don't mess with it. But if it doesn't work, try something else.

Study: ADHD linked to pesticide exposure

By Sarah Klein, Health.com
May 17, 2010 7:10 a.m. EDT



Detectable levels of pesticides are present in a large number of fruits and vegetables sold in the U.S., according to the U.S. Department of Agriculture.

STORY HIGHLIGHTS

- Kids with above-average levels of a common pesticide byproduct had twice ADHD risk
- Direct cause-and-effect link "really hard to establish," expert says
- Study is first to examine the effects of pesticide exposure in population at large

Is enough being done to protect us from chemicals that could harm us? Watch ["Toxic America,"](#) a special two-night investigative report with Sanjay Gupta M.D., June 2 & 3 at 8 p.m. ET on CNN.

(Health.com) -- Children exposed to higher levels of a type of pesticide found in trace amounts on commercially grown fruit and vegetables are more likely to have attention deficit hyperactivity disorder than children with less exposure, a nationwide study suggests.

Researchers measured the levels of pesticide byproducts in the urine of 1,139 children from across the United States. Children with above-average levels of

one common byproduct had roughly twice the odds of getting a diagnosis of ADHD, according to the study, which appears in the journal *Pediatrics*.

Exposure to the pesticides, known as organophosphates, has been linked to behavioral and cognitive problems in children in the past, but previous studies have focused on communities of farm workers and other high-risk populations. This study is the first to examine the effects of exposure in the population at large.

Organophosphates are "designed" to have toxic effects on the nervous system, says the lead author of the study, Maryse Bouchard, Ph.D., a researcher in the department of environmental and occupational health at the University of Montreal. "That's how they kill pests."

The pesticides act on a set of brain chemicals closely related to those involved in ADHD, Bouchard explains, "so it seems plausible that exposure to organophosphates could be associated with ADHD-like symptoms."

Environmental Protection Agency regulations have eliminated most residential uses for the pesticides (including lawn care and termite extermination), so the largest source of exposure for children is believed to be food, especially commercially grown produce. Adults are exposed to the pesticides as well, but young children appear to be especially sensitive to them, the researchers say.



Video: Study: ADHD linked to pesticides

Detectable levels of pesticides are present in a large number of fruits and vegetables sold in the U.S., according to a 2008 report from the U.S. Department of Agriculture cited in the study. In a representative sample of produce tested by the agency, 28 percent of frozen blueberries, 20 percent of celery, and 25 percent of strawberries contained traces of one type of organophosphate. Other types of organophosphates were found in 27 percent of green beans, 17 percent of peaches, and 8 percent of broccoli.

Although kids should not stop eating fruits and vegetables, buying organic or local produce whenever possible is a good idea, says Bouchard.

"Organic fruits and vegetables contain much less pesticides, so I would certainly advise getting those for children," she says. "National surveys have also shown that fruits and vegetables from farmers' markets contain less pesticides even if

they're not organic. If you can buy local and from farmers' markets, that's a good way to go."

A direct cause-and-effect link between pesticides and ADHD "is really hard to establish," says Dana Boyd Barr, Ph.D., a professor of environmental and occupational health at Emory University. However, she says, "There appears to be some relation between organophosphate pesticide exposure and the development of ADHD."

This is the largest study of its kind to date, according to Barr, who researched pesticides for more than 20 years in her previous job with the Centers for Disease Control and Prevention but was not involved in the study.

Bouchard and her colleagues analyzed urine samples from children ages 8 to 15. The samples were collected during an annual, nationwide survey conducted by the CDC, known as the National Health and Nutrition Examination Survey.

The researchers tested the samples for six chemical byproducts (known as metabolites) that result when the body breaks down more than 28 different pesticides. Nearly 95 percent of the children had at least one byproduct detected in their urine.

Just over 10 percent of the children in the study were diagnosed with ADHD. The kids were judged to have ADHD if their symptoms (as reported by parents) met established criteria for the disorder, or if they had taken ADHD medication regularly in the previous year.

One group of pesticide byproducts was associated with a substantially increased risk of ADHD. Compared with kids who had the lowest levels, the kids whose levels were 10 times higher were 55 percent more likely to have ADHD. (Another group of byproducts did not appear to be linked to the disorder.)

In addition, children with higher-than-average levels of the most commonly detected byproduct -- found in roughly 6 in 10 kids -- were nearly twice as likely to have ADHD.

"It's not a small effect," says Bouchard. "This is 100 percent more risk."

To isolate the effect of the pesticide exposure on ADHD symptoms, the researchers controlled for a variety of health and demographic factors that could have skewed the results.

Still, the study had some limitations and is not definitive, Bouchard says. Most notably, she and her colleagues measured only one urine sample for each child, and therefore weren't able to track whether the levels of pesticide byproducts

were constant, or whether the association between exposure and ADHD changed over time.

Long-term studies including multiple urine samples from the same children are needed, Bouchard says. She suspects such studies would show an even stronger link between pesticide byproducts and ADHD.

EPA spokesman Dale Kemery said in a statement that the agency routinely reviews the safety of all pesticides, including organophosphates. "We are currently developing a framework to incorporate data from studies similar to this one into our risk assessment," Kemery said. "We will look at this study and use the framework to decide how it fits into our overall risk assessment."

Kemery recommended that parents try other pest-control tactics before resorting to pesticide use in the home or garden. Washing and peeling fruits and vegetables and eating "a varied diet" will also help reduce potential exposure to pesticides, he said.

"I would hope that this study raises awareness as to the risk associated with pesticide exposure," Bouchard says. "There's really only a handful of studies on this subject out there, so there's room for more awareness."

This Powerful Nutrient Improves Concentration by 60% and Fights ADHD

Posted By Dr. Mercola | December 20 2010 | 155,464 views

A clinical study in children with ADHD showed that they significantly improved both their clinical scores and identified EEG patterns when their diets were supplemented with krill oil for a period of 13 weeks.

The EEG patterns of the study participants were compared to a database of more than 400 children with an established ADHD diagnosis, providing ample comparative data.

Dr. Hogne Wik said, "This is an important observation identifying positive effects on the central nervous system (CNS) after supplementation of krill oil in humans. For the first time objective EEG-measurements -- before and after a 90 day intervention period with krill oil—have confirmed observed improvements in a clinical CNS condition."

NPI Center reports:

"... Krill is a pure, natural source of the health-promoting EPA & DHA omega-3 essential fatty acids and the naturally occurring antioxidant astaxanthin."

Dr. Mercola's Comments:

I first started hearing about the benefits of krill oil -- a high-quality source of animal-based omega-3 fats -- for attention-deficit/hyperactivity disorder (ADHD) back in 2006.

The following year, in 2007, a clinical study examining the effects of krill oil on adults diagnosed with ADHD also showed positive results. In that study, patients improved their ability to concentrate by an average of over 60 percent after taking a daily 500mg dose of krill oil for six months.

They also reported a 50 percent improvement in planning skills, and close to 49 percent improvement in social skills.

These latest findings, which involve children and teens with ADHD, have not yet been published, but the results are again very promising. Additional clinical follow-up studies are also planned, to further investigate the beneficial impact of krill oil on attention deficit disorder (ADD) and attention-deficit/hyperactivity disorder (ADHD).

This is all great news!

Granted, of the 4.5 million American children who have been diagnosed with ADHD, an estimated 20 percent have likely been misdiagnosed, but an enormous amount of children do have neurological problems -- the exact cause of which has yet to be teased out by science.

Diet and Brain Health

Unfortunately, the conventional drug treatments most often employed can do far more harm than good. Safe, effective treatment options are sorely needed for the millions of children and adults stricken with ADHD.

I've repeatedly said that one of the key factors to effectively treat ADHD is nutrition, and healthful omega-3 fats are a MAJOR component of a brain-healthy diet.

We know the food choices of most people today are incredibly poor, and you simply cannot expect a child to have normal behavior if he is fed refined grains, sugars, processed foods loaded with chemicals and genetically engineered ingredients, and juices and sodas instead of pure water.

Our modern diet also contains an overabundance of highly processed, damaged omega-6 fats while being deficient in omega-3's.

Not only are processed omega-6 fats harmful in and of themselves, but making matters even worse, they also interfere with your body's attempt to utilize the tiny amount of omega-3 fats that it gets.

When you add all these dietary factors together, neurological and behavioral issues are not far behind...

You simply cannot have a healthy functioning brain when the proper ingredients to develop or maintain a healthy brain are not provided, and animal-based omega-3 fats are essential for a well-functioning brain.

Krill Oil Benefits Those with ADD/ADHD

Certainly, we already know omega-3 fats are essential for proper brain function and as I mentioned earlier, krill oil, specifically, has now been shown effective for both children and adults with ADHD.

Previous research using fish oil has also confirmed that animal-based omega-3 fat can improve the symptoms of ADHD more effectively than drugs like Ritalin® and Concerta®!

If that's not cause for hope, I don't know what is!

This latest study included 18 boys, aged 7 through 11, who had been diagnosed with ADHD. The youngsters received daily krill oil supplements for a period of 13 weeks. When their EEG's were compared to EEG patterns from a database of 400 other children with ADHD, the researchers were able to confirm beneficial changes in the children's EEG pattern, and the parents also reported improved behavior.

According to Hogne Vik MD, PhD:

"This is an important observation identifying positive effects on the central nervous system (CNS) after supplementation of krill oil in humans. For the first time objective EEG-measurements—before and after a 90 day intervention period with krill oil—have confirmed observed improvements in a clinical CNS condition," the NPI Center reports.

Omega-3 Deficiency and Hyperactivity

In this previous article, Theresa Gallagher discusses research from Purdue University, which found that children deficient in omega-3 had significantly higher incidence of hyperactivity, learning disorders, and behavioral problems.

Part of the explanation for this is likely due to the fact that dopamine and serotonin both play a role in ADD/ADHD and other mood disorders, and your dopamine and serotonin receptors are composed of the animal-based omega-3 fat DHA.

If you don't have sufficient amounts of DHA in your blood, then your dopamine/serotonin receptors end up using man-made trans-fat molecules as a construction material instead.

However, trans-fats (damaged omega-6 fats) are shaped differently than DHA: they are straight while DHA is curved. This causes your receptors to become deformed and not work very well.

Now, if this scenario is repeated day after day, year after year, you could easily wind up with problems like depression and problems concentrating. But this problem can be far more severe than that in a child whose brain is still developing, which is why a healthful diet during the prenatal and infant stage is so incredibly important.

Signs of Omega-3 Deficiency

Omega-3 deficiencies have also been linked to a number of other health problems, such as:

- Dyslexia
- Violence
- Depression
- Memory problems
- Weight gain
- Heart disease and cancer
- Eczema and allergies
- Inflammatory diseases and arthritis

As related by Gallagher, there are more than 2,000 scientific studies demonstrating the wide range of problems associated with Omega-3 deficiencies.

Remember, the ideal ratio of omega-3 to omega-6 fats is about 1:1. But our Western diet, so chock full of processed fast food, has skewed this ratio to about 1:20 or even 1:50!

Common signs that you have an imbalance in these two fats include:

Dry skin Alligator skin "Chicken skin" on backs of arms
Dandruff Lowered immunity Dry eyes
Frequent urination Fatigue Poor wound healing
Irritability Dry, unmanageable hair Frequent infections
Attention deficit Hyperactivity Learning problems
Soft nails Brittle, easily frayed nails Patches of pale skin on cheeks
Allergies Excessive thirst Cracked skin on heels or fingertips
All Omega-3 Fats are Not Created Equal

Many insist that omega-3 from plant-based sources (ALA) are interchangeable with animal-based omega-3 (EPA and DHA), but this is simply not the case.

Plant-based omega-3 fats are highly beneficial and should also be consumed, but the evidence is very clear that they are not an acceptable substitute for animal-based omega-3 fats.

This is primarily related to the fact that your body does not easily convert the ALA in plant-based fats to the longer fats of EPA and DHA needed for brain and heart health. And if you have diabetes, are overweight, have high blood pressure or high cholesterol or are elderly, your body has even more difficulty converting these fats.

That said, even among animal-based omega-3 fats, there are differences that can impact performance.

What's the Best Type of Animal-Based Omega-3 Fat?

In a perfect world, you'd get all the animal-based omega-3s you need from eating seafood. Regrettably, industrial pollution has contaminated most of the world's fish stocks with a variety of dangerous toxins like mercury and PCBs.

This leaves marine oils, mainly purified fish oil, or krill oil, as alternatives. Personally, I take krill oil every day, and I'm convinced that it's the best option for most people, for several reasons.

Omega-3 in krill oil is bound in a phospholipid structure, making it far more bioavailable than fish oil. In fact, nearly 100 percent of the DHA and EPA in krill oil are immediately available to your body.

The omega-3 in fish oil, on the other hand, are in a triglyceride molecule that has to be broken down in your gut into its base fatty acids EPA and DHA. Once the fatty acids are absorbed into your bloodstream, your liver then has to attach it to phosphatidyl choline molecule for it to be used by your body.

Because of this, your body can only absorb about 15 to 20 percent of it, while the rest is eliminated in your intestine. (This is also what causes so many people to "burp up" the fish oil taste, and not tolerate the fish oil very well.)

Krill oil naturally contains the powerful antioxidant astaxanthin, which prevents the perishable DHA and EPA from going rancid. The vast majority of fish oil being sold is actually rancid before you even open the bottle, as it doesn't contain this protective antioxidant, which prevents the DHA and EPA from oxidizing.

Krill oil works at a lower dose. For the reasons mentioned above, krill oil is effective at far lower dosages, so you may only need one 500 mg capsule per day.

For more in-depth information about the inherent benefits of krill oil over fish oil, please see my recent interview with industry expert Dr. Rudi Moerck.

Additional Strategies to Relieve ADHD Symptoms

It is my sincere hope that people will begin to realize that drug therapy, if at all necessary, should be a very last resort, after all other options have been exhausted – especially when it comes to behavioral problems such as ADHD.

Clearly, animal-based omega-3 such as krill oil should be high on your list of natural treatment strategies. But there are also a number of other lifestyle changes that can significantly help.

So please, before you consider drugs, consider implementing the following strategies first:

Eliminate most grains and sugars from your child's diet. Grains and sugars both tend to cause allergies in sensitive individuals. Even organic, whole grain can cause problems in many children so it would be wise to give them a grain holiday and see if their behavior improves.

Replace soft drinks (diet and regular), fruit juices, and pasteurized milk with pure, clean non-fluoridated water.

Minimize your use of nearly all processed fats, especially trans fats as they disrupt nerve cell intercommunication.

Avoid all processed foods, especially those containing artificial colors, flavors and preservatives, which may trigger or worsen symptoms.

Clear your house of dangerous pesticides and other commercial chemicals. Pesticide exposure has been linked with ADHD.

Avoid commercial washing detergents and cleaning products used on clothes, and replace them with naturally derived cleaning products with no added perfumes, softeners, etc.

Spend more time in nature. Researchers have found that exposing ADHD children to nature is an affordable, healthy way of controlling symptoms.

Investigate sensory therapy and emotional wellness tools. Instead of looking for a quick fix, encourage ADHD sufferers to talk, and find out what emotions are causing issues. You may want to consider the energy tapping techniques to improve emotional coping and healing.

New Warning About Everyday Poison Linked to Alzheimer's, ADHD, and Autism

Posted By [Dr. Mercola](#) | March 20 2010

Dr. David Ayoub is a radiologist and a physician, and has become a specialist on the additives and preservatives used in vaccines. He was a presenter at the National Vaccine Information Center (NVIC) Conference in Washington D.C. last year.

Here he discusses the practice of using aluminum as an adjuvant, and why he believes aluminum may be far more toxic than thimerosal in vaccines.

Dr. Ayoub was, as many of you are, very concerned about mercury (thimerosal) in vaccines for a number of years, and attended a number of autism conferences that featured physicians who were highlighting the dangers of mercury.

However, a few personal encounters heightened his interest in another toxic metal frequently used in vaccines, namely *aluminum*.

Parents of autistic children kept pointing out the fact that their children's heavy metal toxicity profiles showed high amounts of aluminum, and they wanted to know what that meant.

Secondly, a well respected nutritionist who deals with industrial aluminum toxicity showed him toxicity profiles of middle school children who had ADHD. In his estimate, 90 percent of the children in one particular school had developed ADHD during the course of a single year, and their toxicity profiles showed massive amounts of aluminum.

In addition, he did a pilot study with Dr. Usman, who treats autism with biomedicine, and when he evaluated the aluminum burden of these autistic children, he found that high percentage of them also had very high aluminum burdens.

All of these events led him to look deeper into the aluminum issue, which we discuss at length in this interview.

Why is Aluminum Used in Vaccines?

Mercury (thimerosal) exposure has declined significantly since it was eliminated from the single-dose vials of most childhood vaccines, yet autism rates have continued to skyrocket. This has led many to assume that mercury isn't a problem, and anyone questioning the safety of vaccines is considered to be a hysterical wingnut.

However, while mercury use has decreased, the use of aluminum additives has increased!

Aluminum, like any other adjuvant, is added to the vaccine in order to boost the host's immune response to the antigen. The antigen is what your body responds to and makes antibodies against (the virus being injected). By boosting your body's immune response, the vaccine manufacturer can use a smaller amount of antigen, which makes production less expensive.

Interestingly enough, according to Dr. Ayoub, even our modern medical literature admits that how this happens exactly is still a mystery. And it's not a consistent finding. He mentions a couple of studies on the more recent HPV vaccine, which found that the aluminum adjuvant had no effect at all on the immune response...

So, although aluminum is frequently added to vaccines for this particular purpose, no one knows with any degree of confidence that it actually makes a more effective vaccine.

Is Aluminum a Heavy Metal?

Aluminum is by many considered to be a heavy metal. However, based on the Periodic Table, it's just shy of a heavy metal. So it's called a "light metal."

But regardless of its precise classification, aluminum is in the metal grouping, and it's a common compound.

You will find aluminum in the earth's crust, and in air, soil and water. However, although aluminum is a common, "natural" substance, it's important to realize that it has *absolutely no biological role inside your body*.

In fact, we already know that [aluminum is a poison](#).

Which Vaccines Contain Aluminum?

Many vaccines contain aluminum, including:

- Hepatitis A
- Hepatitis B
- DTaP (diphtheria, tetanus, pertussis)
- Hib vaccine
- Pneumococcal vaccine
- Gardasil (HPV vaccine)

This is NOT an all-inclusive list, however. Your best bet is to read through the package insert of each vaccine in question.

You can find a comprehensive [list of approved vaccines on the FDA's website, with links to each package insert](#).

The amount of aluminum in each vaccine will vary. However, according to Dr. Ayoub, it's important to realize that the toxicity is not entirely dependent on dose, but also on how it's distributed in your body.

For example, a small dose released rapidly from the injection site into your body can cause a rapid rise in blood aluminum levels. So a small dose released quickly may be much more toxic than a large dose that ends up staying longer in the tissue at the injection site.

The variables of personal differences and differences in how the injection is given are too numerous to count, and they may play a role in how toxic a shot ends up being once injected into your body.

How Much Aluminum is Your Child Getting Through Vaccines?

Dr. Ayoub has identified one vaccine in particular as being one of the absolute worst in terms of aluminum content – Pediatrix. It's a combination vaccine, which contains 850 mcg of elemental aluminum.

The average aluminum content per vaccine ranges between 200 to 400 mcg. Others contain less, such as Prevnar, which has 125 mcg of aluminum.

Adding to the problem, however, is the fact that many children end up receiving multiple vaccines at a time. In effect, children are getting concentrations of aluminum that are 10 to 20 times higher than mercury.

Based on the number of vaccines given, children today are receiving 17 shots that contain aluminum, compared to four vaccines in the 1970s into the mid-80s. According to Dr. Ayoub's calculations, the milligram dose of aluminum received has more than doubled in that time.

This can have significant implications, as aluminum is not only toxic in and of itself, but it also impairs your body's ability to excrete mercury, and it impairs glutathione synthesis. As a consequence, aluminum will make whatever amount of mercury you have in your system even more toxic.

Remember, you and your children are exposed to [mercury from other sources as well, not just vaccines. Fish](#) and [amalgam dental fillings](#) are two major sources of mercury exposure as well.

Problems with the Legal Limits on Aluminum

In the U.S., the FDA sets the guidelines for what and how much aluminum is allowed in vaccines. According to the FDA, the maximum amount of allowable elemental aluminum is 850 mcg per vaccine.

Clearly, it makes a major difference if this amount is injected into a small infant or an adult, but the FDA makes no distinction to that effect.

In fact, when Dr. Ayoub dug deeper into the FDA regulations on aluminum, he discovered that the limitation of 850 mcg per vaccine is based on *the effectiveness of the adjuvant role of aluminum* and has nothing to do with limitations based on safety whatsoever!

Shocking?

Yes! But not surprising, at this point.

However, it may be wise to keep this fact in mind, as those who argue that the amounts of aluminum in vaccines is a “legally safe dose” are really just citing a regulatory guideline that is based solely on the efficacy of the vaccine, and NOT based on any safety data whatsoever.

Approach to Treatment and Prevention of Aluminum Toxicity

1) Avoid/minimize exposures

- Test drinking water with and without filter
- Avoid cooking with aluminum utensils/pans
- Never store food in contact with aluminum
- Use non aluminum baking soda, deodorant, toothpaste
- Avoid aluminum-containing vaccines, or separate multiple aluminum- containing vaccines by 2-4 weeks, only take single formulas/shots
- Avoid drinks in aluminum pouches/cans, especially if they contain citrates/ascorbates which enhance aluminum absorption
- Take vitamin C and fruit juices on an empty stomach
- Minimize exposure to calcium carbonate-containing medicines

2) Testing for body levels

Blood aluminum only useful in cases of large, acute exposures (i.e., acute vaccine reaction) for chronic exposures: hair analysis, post-provocative (EDTA or DFO) urine metals, urinary porphyrin testing

3) Treatment of deleterious actions of chronic aluminum exposure maintain normal serum vitamin D levels

- Melatonin has powerful antioxidant properties and is particularly depleted from aluminum exposure
- Curcumin
- Supplements or foods that drive the methylation process (methionine cycle), i.e., B6, B12, folic acid, folinic acid, etc
- Natural chelation like cilantro

Medial Chelation:

Calcium disodium EDTA pulls lead and aluminum. It is also contaminated with aluminum, as many calcium-containing products are. Oral dose is easiest but rectal suppository is available.

(Detoxamin) and may have the added benefit of low absorption of the aluminum contaminant that requires iron-transport system found mostly in small bowel as opposed to the rectum. Intravenous EDTA can be used by healthcare professional.

Medical chelation has been performed for many years using deferoxamine (DFO). This is a potent chelator for iron and aluminum and has been used mostly by nephrologists in treating aluminum toxicity from oral phosphate binders once used in patients with chronic renal failure. This is potent enough to reverse severe acute neurotoxicity from aluminum poisoning but has potential serious side effects and can only be used by a physician..

Learn More About the Health Implications of Aluminum!

I strongly urge you to listen to the interview with Dr. Ayoub in its entirety to learn more about the dangers of this common vaccine adjuvant. Clearly, aluminum stands poised to take over mercury as one of the worst offenders against health.

Also, the articles listed below will give you more information about the potentially devastating health effects of this dangerous toxin.

What Does ADHD do to the Brain?

Last updated by Daniel P. McGoldrick on November 30, 2010

Neurologists and neuroscientists are working to uncover the underlying neural mechanisms that are associated with ADHD. Advances in technology, especially the results of the brain scan imaging discussed below, helps them learn increasingly more about what ADHD does to the brain.

Overview

So what does ADHD do to the brain? Scientists and researchers have carried out extensive research over the last decade or so to find out. They have scanned the brains of individuals with ADHD and compared them to scans of people who don't have the disorder. Since the brain is such an intricately complicated organ with so many interconnected parts and overlapping functions, even the scientists can't agree conclusively on all the findings. But let's start with some generally accepted conclusions suggesting that the brain of someone with ADHD is structurally different to the brain of someone without it.

Pathophysiology

Pathophysiology is defined as the study of the physical and biologic manifestations of disease (or in the case of ADHD, a disorder) as they correlate with the underlying abnormalities and physiologic disturbances. As this relates to ADHD, we're going to discuss exclusively what it does to the brain. Let's start with what scientists know (which can also be stated as what they think they know). First, we'll start with the more obvious characteristics such as what's smaller or what's missing, and then we'll move onto more complex issues about what that means and the interplay of complex functions.

Brain scanning is the manner in which this evidence is created so that researchers can make their conclusions based on what they see. Previously, brain scans could only take a snapshot of the brain at a given time but now the technology has advanced significantly to allow for brain imaging to see it as it functions. These functional imaging machines such as fMRI (Functional Magnetic Resonance Imaging) and CT (Computerized Tomography) can track brain activity when it's in progress, and see what areas "light up" when tested.

Unfortunately, just because they can see this doesn't mean they know exactly what it means. There are competing theories, just as there are about what causes ADHD; but rather than getting bogged down in complex arguments, we'll try and focus on what's generally accepted at this point. We look forward to following this issue as it develops and more research unfolds to prove a given hypothesis.

A person with ADHD has a smaller prefrontal lobe, which is the part of the brain responsible for planning, reasoning, and problem solving (what is known as executive functions). It's generally about 10 % smaller. The anterior temporal lobes, caudate

nucleus, and globus pallidus are typically smaller too. The smaller right frontal lobe may be a cause of inattentive behavior in ADHD since it's generally considered that the right side of the brain is involved in the attention process. Impulsivity and stimulus processing are also believed to be modulated there. An excessive amount of grey matter in the inferior parietal cortices has been noted in ADHD individuals as well.

Less Activity in the Brain

The more we learn about brain chemicals and the workings of neurotransmitters, the closer we get to answering the question: what does ADHD do to the brain? As far as brain chemicals are concerned, one study found that children with ADHD had excessive amounts of the brain stimulant glutamate and conversely, a lower than average amount of another brain chemical that is known to help control impulses.

The neurotransmitters dopamine (DA) and norepinephrine (NE) are certainly involved in the pathophysiology of ADHD. Dopamine is associated with mood, risk taking, impulsivity, and reward. Norepinephrine is believed to moderate attention, arousal and mood. Brain studies have suggested that defects in receptors genes and transporter proteins for both of these neurotransmitters plays a part in the abnormal functions of an ADHD brain.

Research has also indicated that the frontal lobe, basal ganglia, caudate nucleus, cerebellum, and other areas of the brain, play major roles in ADHD since they are all involved in complex behavior regulating processes (what we pointed out as the executive functions above). These functions also include such processes as self-monitoring, internal dialogue, inhibition, memory, motor control, and emotional regulation. And according to a popular theory in the ADHD research community, the core deficit in the disorder relates to problems in response inhibition. The effects and problems with the other executive functions stem from there.

Although all these studies aren't necessarily conclusive, the best interpretation of the research is that brain scan images have clearly demonstrated to the world that ADHD is a very real disorder. As more is discovered and understood, doctors will be better able to treat ADHD patients effectively.

Sources

Zametkin AJ, Liotta W The neurobiology of attention-deficit/hyperactivity disorder. J Clin Psychiatry. 1998;59 (suppl 7): S17-S23