

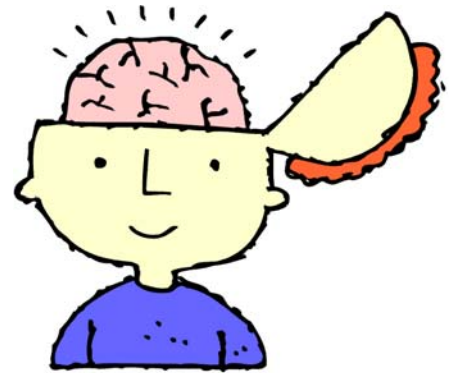
# OPTIMAL HEALTH UNIVERSITY™

Presented by Patrick Ryan, DC

## New Findings About ADHD: Part I The Brain and ADHD

*Attention deficit hyperactivity disorder (ADHD) is one of the most commonly diagnosed conditions in children. And recent research on brain development has uncovered some surprising ADHD-related results.*

*Standard ADHD treatments use stimulant drugs. But do they cause more harm than good? Dr. Ryan believes that the upward trend of medicating children for attention issues warrants further examination.*



### What Is ADHD?

Youngsters with ADHD are not simply overly energetic or rambunctious. They have severe difficulty paying attention, can be disruptive and make careless mistakes at school. In addition, it's hard for them to focus and follow instructions.

Children with ADHD lack organizational skills and frequently misplace or lose things. Easily distracted and extremely forgetful, many kids with ADHD can't sit still and fidget constantly.

Some ADHD kids talk nonstop, interrupting and blurting out answers to questions. They're also impatient, and become extremely frustrated when asked to wait.

### Overdiagnosis Dilemma

Dr. Ryan and other child wellness advocates are concerned that ADHD is grossly overdiagnosed — and dreadfully overtreated. Some experts estimate as many as 15 percent to 26 percent of all youngsters have ADHD. But more generally accepted rates fall between 3 percent and 5 percent, al-

though some argue that even this estimate is high.

Alarming, some educators and health-care providers are quick to apply the ADHD label to any active child, and recommend medication — even though these professionals may not be adequately trained in diagnosing the disorder. If you suspect that your child might have ADHD, talk to Dr. Ryan about how and where to have your child properly evaluated.

### Old Findings: Brain Differences in ADHD

For years, there has been controversy about brain development in children with ADHD. Some researchers say that ADHD is caused by developmental delays, while others suggest that the ADHD brain is fundamentally different from birth.

Maryland researchers recently used special techniques to analyze the brains of 56 girls, aged 8 to 12 years old; 21 had ADHD, and 35 did not. There was no denying that kids with ADHD had striking differences in their brains. Certain key areas were thinner and smaller than the same brain regions in the control group (*Hum Brain Mapp* 2007 Epub). These researchers trace ADHD's origins to the early stages of brain development.

A new study by the National Institutes of Mental Health (NIMH) looked at 36 children with ADHD. The children's brains had smaller volume than those of kids without the disorder (*Am J Psychiatry* 2007;164:647-55). These types of differences had not been noted before.

### New Findings: Delayed Development

Some of the same NIMH researchers evaluated brain function in 223 children with ADHD. They confirmed that brain areas associated with attention and motor planning weren't normal-sized (*Proc Natl Acad Sci U S A* 2007;104:19649-54). **However, researchers felt this was the result of delayed development, not an abnormal brain.**

If this developmental delay is only temporary, then medicating young children for ADHD symptoms may be a serious mistake.

### Stimulants, and Plenty of Them

Stimulant-based treatment for ADHD began in 1937 when a doctor "discovered" that this type of medication produced a calming effect on hyperactive children (*J R Soc Med* 2004;97:531-5).



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Today, a whopping 90 percent of US children with ADHD receive the stimulant medication methylphenidate (*Am J Public Health* 1999;89:1359-69). Methylphenidate is marketed in several forms under brand names such as Ritalin<sup>®</sup>, Concerta<sup>®</sup>, Metadate<sup>®</sup> and Daytrana<sup>®</sup>, which comes as a transdermal patch. One nonstimulant medication for ADHD called Strattera<sup>®</sup> affects the norepinephrine receptors in the brain.

Today, even as ADHD rates in children remain stable, treatment with central nervous system stimulants continues to skyrocket. Usage rates doubled in recent years.

Beside methylphenidate, other stimulate drugs prescribed for ADHD include the amphetamines Adderal<sup>®</sup>, Dexedrine<sup>®</sup>, Focalin<sup>®</sup>, Attenade<sup>®</sup> and Cylert<sup>®</sup>.

And an increasing number of ADHD kids are receiving additional medications, including anti-anxiety and antidepressant drugs, which may be a dangerous combination (*Am J Public Health* 1999;89:1359-64).

### **ADHD Medications: More Harm Than Good?**

It may be hazardous to take ADHD stimulants in conjunction with antidepressant drugs (monoamine oxidase inhibitors), blood thinners or anti-seizure medications. They are contraindicated for anyone with glaucoma, Tourette's syndrome, irregular heartbeat, a seizure disorder or anyone who is pregnant.

Chilling cautions warn that stimulant ADHD drugs may be habit-forming, and can cause sudden death in children with heart problems or defects. There are also lengthy usage and overdose alerts.

Check out this list of "minor" side effects for a generic ADHD stimulant:

- Nervousness
- Difficulty falling asleep
- Dizziness
- Nausea
- Vomiting

- Loss of appetite
- Stomach pain
- Diarrhea
- Headache
- Painful menstruation

A second list advises an immediate call to the doctor for any of these occurrences: fast or irregular heartbeat, chest pain, shortness of breath, excessive tiredness, slow or difficult speech, weakness or numbness of an arm or leg, seizures, changes in vision, agitation, abnormal thoughts, hallucinating, motor tics, depression, mood changes, fever, sore throat, unusual bleeding, muscle pain, hives, rash, itching or difficulty breathing.

Many scientific studies show other disturbing problems with this type of medication. Read on for details.

### ***Brain Alterations***

Newer research reveals that stimulants for ADHD may be destructive to overall health. A small Swiss study of 10 young boys taking Ritalin<sup>®</sup> for ADHD found lower blood volume in the parts of the brain where cognitive processing is centered (*J Child Neurol* 2007;22:812-7).

An animal study at Weill-Cornell Medical College showed that the brains of rats on Ritalin<sup>®</sup> were altered in areas that control cognition, motivated behavior, stress and appetite (*J Neurosci* 2007;27:7196-207).

### ***Mood Changes***

Some parents try giving their youngsters stimulants only to abandon the treatment because the children seem out of sorts, listless, excessively quiet and uninvolved. In essence, they are no longer "themselves." Drug companies admit that stimulants may worsen behavioral disturbances in some children with ADHD.

### ***Cardiac Concerns***

Some patients report that ADHD stimulants cause rapid heartbeat or more serious cardiac problems. One manufacturer warns that stimulant medications can raise blood pressure

and heart rate. A careful medical history of the patient should be conducted, and if a cardiac-related symptom develops, the child must be rushed to a doctor.

A retrospective study at the University of Florida looked for a connection between ADHD stimulants and heart problems. Analyzing 55,383 cases, researchers learned that stimulant use in young people with ADHD is closely linked with emergency room visits for cardiac causes (*Pediatrics* 2007;120:e1494-501).

Most alarming is the possibility of sudden death in children and teens with heart conditions. Just last year, *The Guardian* (UK) reported 51 deaths among children and adults taking drugs for ADHD in the US since 1999.

Because of these dangers, a Food and Drug Administration (FDA) advisory panel pressed for the most serious "black box" caution for methylphenidate after 19 cases of sudden death. However, the FDA rejected the recommendation.

### ***Impact on Overall Well-Being***

There is much doubt about stimulants as treatment for ADHD. A Taiwanese study looked at the well-being of 119 children between the ages of 6 and 15 who took Ritalin<sup>®</sup> for ADHD. Parents reported that their children continued to suffer from worse health than other children (*Aust N Z J Psychiatry* 2007;41:998-1004).

So, faced with the new research, what can be done to address ADHD symptoms in young people? Fortunately, there are a number of effective alternatives. Ask for more information at this chiropractic office, and read Part II of this article for ideas about all-natural, nondrug interventions for ADHD.

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