



Attention Deficit Hyperactivity Disorder (ADHD)

All children can be hyperactive, inattentive, or impulsive at times. Children with ADHD, however, are different. Their inattention, hyperactivity, and impulsivity cause impairments at school, at home, with classmates and other peers. If left untreated, children with ADHD can suffer lifelong consequences with failures at school, in relationships, and later, at work.

ADHD, formerly called ADD, is a condition of the brain that makes it difficult to control activity level and impulses and direct focus, especially to boring tasks. ADHD is caused by alterations in the brain that affect the transmission of neurotransmitters such as dopamine and norepinephrine, as demonstrated by experimental neuroimaging studies. The most recent consensus suggests that 4-12% of children have ADHD. ADHD occurs almost 3 times as frequently in boys than girls. (per AAP 08/11/10)

There are **three types of ADHD**.

- Some children are predominantly **Hyperactive Impulse**. Children who are *hyperactive* are always on the go, as if driven by a motor. They climb, fidget, squirm, and talk too much. *Impulsive* children act without thinking about the consequences. They have trouble waiting their turn, blurt out answers, and interrupt.
- Other children are predominantly **Inattentive**. They do not seem to listen, have difficulty following directions, are disorganized, and fail to pay attention to details.
- Many have all symptoms: the **Combined** type.

Treatment is the same regardless of type. The most recent diagnostic criteria for ADHD are found in the DSM-IV-TR (American Psychiatric Association, 2000). To meet criteria, a child must have:

- Six or more symptoms of either inattention or hyperactivity-impulsivity or both for at least nine months.
- Impairments in at least two settings (e.g., school, home, or work) that are caused by the symptoms and occur before age 7
- The symptoms are not caused by other mental health disorders

The diagnosis of ADHD is clinical. There are no laboratory tests or brain scans that can currently help with the diagnosis. Many conditions co-exist with ADHD. About 45-84% of children with ADHD also have Oppositional Defiant Disorder (ODD) either alone or with Conduct Disorder; 13-30% also have Anxiety or Mood Disorders; and 8-39% may have some type of Learning Disorder (e.g., reading, spelling, math). Impairment from ADHD may lead to symptoms of moodiness, depression and anxiety.



ADHD appears to be **highly hereditary**. Studies suggest that 2/3 to 3 /4 of children with ADHD report disabling problems in at least one core symptom as an adult

Will my child outgrow ADHD?

ADHD continues into adulthood in most cases. However, by developing their strengths, structuring their environments, and using medication when needed, adults with ADHD can lead very productive lives. In some careers, having a high-energy behavior pattern can be an asset.

Are Children getting high on stimulant medications?

When taken as directed by a doctor, there is no evidence that children are getting high on stimulant drugs such as methylphenidate and amphetamine. At therapeutic doses, these drugs also do not sedate or tranquilize children and have no addictive properties for children.

Are stimulant medications “gateway” drugs leading to illegal drug or alcohol abuse?

People with ADHD are naturally impulsive and tend to take risks. But those patients with ADHD who are taking stimulants are actually at lower risk of using other drugs. Children and teenagers who have ADHD and also have coexisting conditions may be at higher risk for drug and alcohol abuse, regardless of the medication used.

Treatment of ADHD

- **Psycho-Stimulant Medication** is the hallmark of ADHD treatment and has been used for over 50 years. More recently, longer acting stimulant preparations have allowed children with ADHD to take medicine only once in the morning or use a patch. Psycho-stimulants increase Dopamine’s time of action in the brain. Short-term side effects include appetite suppression, headache, abdominal pain, and insomnia. Long-term side effects are not known, but growth and blood pressure should be monitored. These medicines are usually tolerated well and very effective, although children can respond differently to different preparations. It can take time finding the best medicine for your child. As children grow-up, they may respond to a different preparation, even one they did not tolerate at a younger age. Psycho-stimulants include Ritalin, Concerta, Daytrana, Metadate, Adderall, Vyvanse, Dexedrine, and Focalin.
- **Non-Psycho Stimulant** includes Wellbutrin, an antidepressant that works quite well in adolescents and Strattera, which increases norepinephrine’s time in the brain. For very young children, Clonidine and Tenex, anti-hypertensives in adults, appear to work well. New drugs on the market are Kapvay (extended release clonidine) and Intuniv.
- **Other Medications** may be used in addition to the above to improve symptoms of co-morbid conditions such as ANTIDEPRESSANTS (SSRI’s like Prozac, Celexa, and Zoloft; Effexor, Trazodone, Remeron) (Some of these drugs do carry Black Box warnings.); SLEEP MEDICINES (Remeron, Clonidine, Tenex); ANTI-ANXIETY (Buspar and the antidepressants); MOOD STABILIZERS (Depakote and Topamax), and MAJOR TRANQUILIZERS (Risperdal, Zyprexa, Abilify, Seroquel).

Other Important Interventions

1. **Lifestyle Changes** - Children with ADHD do better with STRUCTURE and ROUTINES. TV and VIDEO games can aggravate symptoms, so limiting these activities can be helpful. FAMILY time



and priorities are important. EXERCISE helps with hyperactivity. Good SLEEP HABITS are important. Fostering FRIENDSHIPS that are healthy will help your child with ADHD to progress. DIET alone cannot treat ADHD but good common-sense dietary control is important. SAFETY is also important – be careful with traffic, firearms, pools, tools and chemicals especially around impulsive children.

2. **Education** - The education level achieved by any child with ADHD will determine the success of that child. Be VIGILANT with your child's education. Partner with school personnel for services such as 504 MODIFICATIONS or SPECIAL EDUCATION services.
3. **Behavior Management** - Parents should have a DISCIPLINE PLAN to control their child with ADHD. PARENTING CLASSES are available to help families manage behavior better. CONSISTENCY is the key to good parenting techniques. Some studies suggest that behavioral therapy for the child with ADHD is quite helpful in combination with medication in the treatment of ADHD.
4. **Psychological Support** - In addition, both parents and a child may need therapy for emotional support and for symptoms of depression and anxiety
5. **General Health** - Regular CHECKUPS are essential. Medical conditions can aggravate ADHD symptoms. Blood pressure and growth should be monitored.

Useful resources

- CHADD (Children and Adults with Attention Deficit/ Hyper-activity Disorder) - www.chadd.org
- National Resource Center on ADHD. A Program of CHADD (Also in Spanish) – www.help4adhd.org
- A.D.D. warehouse - www.addwarehouse.com

Joseph C. Stegman, M.D.
George W. Hatley, PA-C

Maricela Dominguez Gulbronson, M.D. F.A.A.P.
Angela Noone, CPNP

Mark C. Clayton, M.D.

301 Medical Park Drive, St 202B, Concord, NC 28025

Phone: 704-403-2626 | Fax: 704-403-2699 | www.behavioralped.com