

SAMHS INFO BULLETIN

Compiled by Corporate Communication



National Attention Deficit Hyperactivity Disorder Day (ADHD): 14 September 2013

ADHD is a highly heritable childhood-onset psychiatric condition, which is characterized by age-inappropriate levels of the core symptoms inattention, hyperactivity and impulsivity. The disorder affects about 5 % of the children worldwide. Recent scientific studies in ADHD reveal biological underpinnings such as multiple genetic factors, ADHD-related differences in brain structure and function, as well as changes in neurotransmitter components within the basal ganglia thalamocortical neurocircuitries.

Specific diagnostic symptoms of hyperactivity-impulsivity are:

- Often fidgets with or taps hands or feet, or squirms in seat.
- Often leaves seat in situations when remaining seated is expected (e.g., leaving seat in classroom or in their workplace)
- Running or climbing in situations where it is inappropriate
- Blurting out answers before hearing the whole question
- Talking excessively
- Interrupting or intruding on others
- Having difficulty waiting in line or taking turns
- Unable to play or engage in leisure activities quietly
- Feeling very restless, as if “driven by a motor”, and talk excessively.

Possible causes of ADHD include:

- **Genes** - ADHD has a strong genetic basis in the majority of cases, as a child with ADHD is four times as likely to have had a relative who was also diagnosed with attention deficit disorder. At the moment, researchers are investigating many different genes, particularly ones involved with the brain chemical dopamine. People with ADHD seem to have lower levels of dopamine in the brain.
- **Nutrition and Food** - Certain components of the diet, including *food additives* and *sugar*, can have clear effects on behavior. Some experts believe that food additives may exacerbate ADHD. And a popular belief is that refined sugar may be to blame for a range of abnormal behaviors.
- **The Environment** - There may be a link between ADHD and maternal smoking. However, women who suffer from ADHD themselves are more likely

to smoke, so a genetic explanation cannot be ruled out. Nevertheless, nicotine can cause hypoxia (lack of oxygen) in utero.

- **Brain Injury**
- Brain injury may also be a cause of attention deficit disorder in some very small minority of children. This can come about following exposure to toxins or physical injury, either before or after birth. Experts say that head injuries can cause ADHD-like symptoms in previously unaffected people, perhaps due to frontal lobe damage.
- **Other Possible Causes** - ADHD researchers are currently investigating the frontal lobes of the brain — the areas controlling problem-solving, planning, understanding other people's behavior, and restraining our impulses.

Treatment

Treatment for attention deficit hyperactivity disorder (ADHD) has two important components — psychotherapy interventions (for both the child and the parents; or the adult with ADHD) and medications. There is a significant amount of research demonstrating that medication alone won't really help address so many of the core issues a child or adult with ADHD has. So while medication may help with some immediate relief from some of the symptoms, the person with attention deficit disorder still often needs to learn the skills needed to be successful while living with the disorder.

This treatment article is divided into two major sections — medication treatments for ADHD are covered in the rest of this article, while psychotherapy and other treatments for ADHD are covered in the next section.

In the past, ADHD treatment has typically focused on medications. The specific class of medication most commonly prescribed for ADHD is stimulants. These stimulant medications — like Ritalin (methylphenidate) or Strattesa (Atomoxetine) — are commonly prescribed, well-tolerated, act quickly (usually soon after a person takes them), and in most people, have few side effects. These medications also have a robust research base supporting their effectiveness in treatment of attention deficit disorder. Prescriptions must be evidence based after confirmation by a medical specialist as these types of medication are very expensive.

Children vary a great deal in their response to medication treatments. Finding the combination with the highest efficacy and fewest side-effects is a challenge in every case. A child's prescribing physician (preferably, a child psychiatrist rather than a general practitioner or pediatrician) will aim to discover the medication and dose that's best for your child. If one medication doesn't appear to be working after a few weeks of treatment, a doctor will often try another medication. This is normal and most people will switch medications to find the one that works best for them at least once.

The side effects of stimulants may include reduced appetite, headache, a "jittery" feeling, irritability, sleep difficulties, gastrointestinal upset, increased blood pressure, depression or anxiety, and/or psychosis or paranoia. If you experience any of these symptoms, you should talk to your doctor.