

# Understanding Attention Deficit Hyperactivity Disorder (ADHD)

By HopkinsHealth, providing consumer health information from the Johns Hopkins University and Health System.

A person with attention deficit hyperactivity disorder (ADHD) lives in a world of fast takes, like a movie that cuts rapidly from scene to scene. Sights and sounds fly by swiftly, and it is hard to pay attention to anything for very long before boredom sets in and attention shifts to another activity or to one of many distractions. Sometimes the tumble of thoughts and senses simply shuts off the outside world.

Organized desks and schedules often are out of the question. So is sitting still. Tasks are begun but often not completed. People with ADHD go through life like whirling dervishes, spinning from one activity to another, from one pose to another, endlessly and breathlessly.

Once called hyperkinesis (and, less formally, "ants in the pants"), ADHD affects 3 to 5 percent of all children, mostly boys (two to three times as many boys as girls have the disorder). There is a child with ADHD in need of help in virtually every classroom in America. Fortunately, help is available.

ADHD cannot be diagnosed with scientific tests, and scientists know very little about what causes it. ADHD is a pattern of behavior, divided into three categories: inattention, hyperactivity and impulsivity. People with ADHD can have any six or more of the characteristics listed below.

## **Inattention -**

People who suffer from inattention cannot keep their minds on any activity for very long and are often "organizationally challenged." They often can't finish what they start and often lack the ability to learn with ease because that would require a longer attention span than they are capable of producing.

According to Leon Rosenberg, Ph.D., a child psychologist at Johns Hopkins, a person with inattention often displays the following behaviors:

- fails to give close attention to details or makes careless mistakes in schoolwork, at work or in other activities
- has difficulty sustaining attention in tasks or play activities
- does not seem to listen when spoken to directly
- does not follow through on instructions and often fails to finish schoolwork, chores or duties in the workplace (not due to oppositional behavior or failure to understand instructions) or does follow through with enormous psychological effort

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- has difficulty organizing tasks and activities
  - avoids, dislikes, or is reluctant to engage in tasks that require sustained mental effort (such as schoolwork or homework)
  - loses things necessary for tasks or activities (such as toys, school assignments, pencils, books or tools)
  - is easily distracted by extraneous stimuli
  - is forgetful in daily activities

### **Hyperactivity -**

Hyperactive people are easy to spot. They never sit still. They are constantly in motion even when they are sitting, wiggling their toes, gesturing, crossing their legs and then uncrossing them.

Hyperactive children often:

- fidget with hands or feet or squirm in their seat
- leave their seat in the classroom or in other situations where they are expected to remain seated
- run about or climb excessively in inappropriate situations (in adolescents or adults, this may be limited to subjective feelings of restlessness)
- have difficulty playing or engaging in leisure activities quietly
- are "on the go" or act as if "driven by a motor"
- talk excessively, often out of turn

### **Impulsivity -**

Impulsive people seem to act or speak before their brain is consulted. They will say or do things inappropriately. They may not only embarrass themselves by what they say and where, but they can endanger themselves by acting impulsively, for example, crossing a street without looking.

Signs of impulsivity, says Dr. Rosenberg, may include:

- often blurting out answers before questions have been completed
- frequent difficulty awaiting one's turn
- often interrupting or intruding on others ("butting in" to conversations or games)

All of the characteristics listed above are evident at some time in most people. We have all had problems concentrating, problems learning things, episodes of impatience or restiveness and impulsive actions. Children often are restless and inattentive. Such things as ear infections can produce a distracted child. So too can serious problems at home, such as abuse, divorce or a dysfunctional family. Those behaviors do not represent ADHD. People with ADHD have six or more of these behaviors continuously, no matter where they are or what the circumstance.

To be diagnosed with ADHD, Dr. Rosenberg explains, children must have shown signs of the disorder before the age of 7 and must have the characteristics for at least six months. The characteristics must create a real handicap in at least two areas of the person's life, such as school, home, social settings or work.

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Although no one knows what causes ADHD, some parents feel guilty, as if they are somehow responsible, but this guilt is misplaced. The evidence points to biological, not environmental, origins for ADHD. One theory was that the disorder was caused by some brain injury around the time of birth, but that would explain only a minority of cases. Another theory was related to sugar and food additives in the diet, but a restricted diet seemed to help only five percent of all children with ADHD.

Scientists at the National Institute of Mental Health, using new imaging technologies, have found a link between a person's ability to pay attention and the level of activity in the brain. The areas of their brains that control attention were found to use less glucose, meaning these areas were less active in people with ADHD than in others.

Research is continuing to focus on the differences between people who have the disorder and those who do not. In the meantime, there are treatments that work.

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