

Symptom Tests & Info > ADHD Essentials

ADHD MYTHS & FACTS

In the Shadow of a Stereotype: New Facts About ADHD

“Findings from neuroscience, brain imaging, and clinical research have dramatically changed the old understanding of ADHD as essentially a behavior disorder.” This is essential reading.

BY THOMAS E. BROWN, PH.D.

1 of 16

ADHD 2.0

Findings from neuroscience, brain imaging, and clinical research have dramatically changed the old understanding of ADHD as essentially a behavior disorder. Experts now see ADHD as a developmental impairment of the brain's self-management system, its executive functions. Update your thinking about the condition and dispel lingering myths with these [facts about ADHD](#).

2 of 16

New vs. Old Models

The [new model of ADHD](#) differs in many ways from historical views of this disorder as a cluster of behavior problems in young children. The new model is a paradigm shift for understanding ADHD. It applies to children, adolescents, and adults. It focuses on a wide range of self-management functions linked to complex brain operations, and these are not limited to readily observable behaviors. But there is substantial overlap between the old and new ADHD models.

3 of 16

On-and-Off Focus

Clinical data indicate that executive function impairments are situationally variable; each person with ADHD may, in specific settings or scenarios, have no difficulty using executive functions that are significantly impaired in most other situations. Typically, these are [activities in which the individual with ADHD has a strong personal interest](#) or situations with unpleasant consequences for failing to act.

[Free Handout: Everything to Love About ADHD]

4 of 16

Signs in Childhood

[Recent research](#) has shown that many people with ADHD function well during childhood and do not manifest any significant symptoms until adolescence or later, when challenges to executive function multiply. Research now shows that symptoms of ADHD persist well into adulthood for many patients. For others, research shows, childhood symptoms of ADHD [dissipate significantly](#) with age.

5 of 16

High IQ and ADHD

Intelligence, as measured by IQ tests, has virtually no systematic relationship to the executive function impairments associated with ADHD. [Studies](#) have shown that even extremely high-IQ children and adults can suffer impairments of ADHD. This makes it difficult to deploy strong cognitive skills consistently and effectively in many life situations.

6 of 16

Emotional Connection

Recent research has shown the important role of emotions in ADHD. [Some research](#) has focused solely on the problems in regulating emotions without sufficient inhibition. Research has also shown that [a chronic deficit in emotions that comprise motivation is an impairment](#) for most individuals. This makes it hard for them to arouse and sustain motivation for activities that don't give immediate and continuing reinforcement.

7 of 16

Mapping Deficits

Executive functions are complex and involve not only the prefrontal cortex of the brain. Individuals with ADHD have been shown to differ in the rate of maturity of specific areas of the cortex, in the thickness of the cortical tissue, in characteristics of the parietal and cerebellar regions, as well as in the basal ganglia, and in the white matter tracts that connect and provide critically important communication between various regions of the brain.

[Related Condition Self-Test: Rejection Sensitive Dysphoria]

8 of 16

Chemical Imbalance

Impairments of ADHD are not due to a global excess or lack of a specific chemical within or around the brain. The primary problem is related to chemicals manufactured, released, and reloaded at the level of synapses, the junctions between certain networks of neurons that manage the brain's management system. Persons with ADHD [tend not to release enough of these essential chemicals](#), or to release and reload them too quickly. ADHD medication helps to smooth out this process.

9 of 16

The ADHD Gene

No single gene has been identified as a cause ADHD. [Recent research](#) has identified two different groupings that together are associated with, though not definitively causal of, ADHD. At this point, the complexity of the disorder is [likely to be associated with multiple genes](#), each of which, in itself, has only a small effect upon development of ADHD.

10 of 16

ADHD and ODD

The incidence of oppositional defiant disorder (ODD) in children with ADHD is approximately 40 percent. Children with the combined type of ADHD are most likely to show signs of ODD, which is characterized by chronic problems with negativistic, disobedient, defiant and/or hostile behavior toward authority figures. Typically, ODD is apparent at about 12 years of age and persists for about six years and then gradually remits. More than 70% of kids diagnosed with ODD never develop Conduct Disorder.

11 of 16

ADHD and Autism

[Research](#) has demonstrated that [many individuals with ADHD have significant traits related to Autistic Spectrum Disorders](#), and that many diagnosed with disorders on the Autistic Spectrum also meet criteria for ADHD. Studies have also shown that ADHD medications can be helpful in alleviating ADHD impairments in individuals on the Autistic Spectrum. ADHD medications can also help those on the Autistic Spectrum with ADHD to improve on some ASD-specific impairments.

12 of 16

Meds and Brain Changes

[Studies](#) and clinical trials have shown that ADHD medications give the following benefits to some children and adults:

- improve working memory, classroom behavior, the motivation to execute tasks, and to persist in solving problems
 - minimize boredom, distractibility when doing tasks, and emotional outbursts
 - increase test performance, rates of graduation, and other achievements that can have lasting effects
 - normalize structural abnormalities in specific brain regions
-

13 of 16

Meds for Different Ages

[Fine-tuning the dose and timing of stimulants](#) is important because the most effective dose depends on metabolism, genetics, and neurotransmitter function — how sensitive the patient's body is to that specific medication. Usually doctors start with a very low dose and gradually increase it until an effective dose is found, significant adverse effects occur, or the maximum recommended dose is reached. Some adolescents and adults need smaller doses than those taken by children; some young children need larger doses than most of their peers.

14 of 16

Preschoolers and Meds

Research has shown that a majority of children ages 3 to 5 1/2 years with moderate to severe ADHD had significant improvement in symptoms when treated with stimulants. Side effects are slightly more common than is usually seen in older children, but still minimal. The AAP recommends that children ages four to five with significant ADHD impairments should be treated with behavior therapy. If not effective after nine months, [stimulant medication](#) is recommended.

15 of 16

Impulsive Forever?

Many with ADHD never manifest excessive levels of hyperactivity or impulsivity in childhood or beyond. Among those who are more "hyper" and impulsive in childhood, a substantial percentage outgrow the symptoms by middle childhood or early adolescence. But impairments in focusing and sustaining attention, organizing tasks, managing emotions, and using working memory may persist and become problematic, as the person enters adolescence and adulthood.

16 of 16

ADHD Is Different

ADHD differs from many other disorders in that it cross-cuts other disorders. The [executive function impairments](#) that constitute ADHD underlie other disorders as well. Many learning and psychiatric disorders could be compared to problems with a specific computer software package that, when not working well, interferes with a few functions. ADHD might be compared to a problem in the computer's operating system that is likely to interfere with the operation of many different programs.

[What Is ADHD (And What Is It Not)?]

Copyright © 1998 - 2019 New Hope Media LLC. All rights reserved. Your use of this site is governed by our [Terms of Use](#) and [Privacy Policy](#). ADDitude does not provide medical advice, diagnosis, or treatment. The material on this web site is provided for educational purposes only.