

Attention-Deficit/Hyperactivity Disorder (ADHD)

Overview: Attention-Deficit/Hyperactivity Disorder (ADHD), historically known as Attention-Deficit Disorder (ADD), is a medical condition that first appears in childhood. The condition manifests itself in levels of attention, concentration, activity, distractibility and impulsivity inappropriate to the child's age.¹ Many children with the disorder will continue to have symptoms in adulthood, although the hyperactivity tends to decrease with age.² ADHD affects not only the patient, but also all those involved in a patient's life. Symptoms often are severe enough to interfere with daily life and may affect a patient's ability to foster healthy relationships with others and function productively, whether at school, home or in social situations.³

Incidence: Researchers estimate that ADHD affects 3-7 percent of school-age children in the United States, making it the most-commonly diagnosed behavioral disorder of childhood.⁴ Experts believe that approximately 4 percent of adults, more than 8 million Americans, have the disorder.⁵

Diagnosis: Like many behavioral disorders, ADHD cannot be diagnosed through blood analysis or similar physical tests. Instead, physicians evaluate patients based on the patient's behavior and the symptoms of the disorder. Healthcare professionals must seek information directly from family and, when appropriate, teachers, regarding behavior in all facets of the patient's life. Physicians should be sure to evaluate patients for other possible causes of inattentive or hyperactive behavior and assess the patient for common coexisting conditions, including oppositional defiant disorder, depression and anxiety.⁶

In adults, physicians must carefully evaluate the history of a patient's symptoms, looking for evidence that the disorder dates back to childhood. Also, the symptoms must cause significant impairment to merit a diagnosis of ADHD. Other disorders that sometimes co-exist with ADHD can complicate diagnosis in adults. Because of these factors, most adults with ADHD go undiagnosed and/or untreated. Some believe that contributing factors include the perception that ADHD is a childhood problem and that prescribers have concerns about giving controlled substances to adults.

Symptoms: Patients may be classified as predominantly inattentive, predominantly hyperactive-impulsive or combined type. To meet standard diagnostic criteria, there must be six of nine behavioral symptoms in either the Inattention category or Hyperactive/Impulsive category or both. Some symptoms of ADHD must have been apparent before the age of seven; symptoms must persist for at least six months; symptoms must cause significant impairment to a degree unusual for a patient's age; symptoms must cause impairment in two or more settings such as at home and at school or work.⁷

Symptoms of inattention	Symptoms of hyperactivity-impulsivity
Failure to give close attention to detail	Fidgeting often with hands or feet
Difficulty sustaining attention in tasks or play	Often leaves seat in situations where remaining seated is expected
Not appearing to listen when spoken to directly	Runs about inappropriately
Not following through on instructions	Difficulty playing quietly
Difficulty organizing tasks and activities	Often on the go
Avoiding or disliking tasks that require sustained mental effort (such as school or homework)	Excessive talk
Often losing necessary things	Blurting out answers before questions are complete
Easily distracted	Difficulty awaiting turn
Forgetful in daily activities	Often interrupting or intruding on others

Causes: The precise cause of ADHD remains undetermined. A large body of medical research, however, points to a biological cause and a genetic link. Relatives of sufferers, both male and female, are significantly more likely to have ADHD than the general population.⁸ A number of structural and functional imaging studies also have demonstrated differences between the brains of ADHD individuals and those of matched control subjects.⁹

Long-term Effects: Children with untreated ADHD, especially of the predominantly hyperactive type, often engage in disruptive behaviors and consequently may experience peer rejection.¹⁰ Many children with ADHD are stigmatized by their behavior and have poor self-esteem.¹¹ In addition, substance abuse is more frequent among adolescents and young adults with untreated ADHD.¹²

At one time, ADHD was considered strictly a childhood condition. More recent research, however, suggests that 60 percent of children with ADHD will continue to have symptoms into adulthood.¹³ Adults with untreated ADHD generally develop coping mechanisms and can function in work and social settings. However, the repercussions of the condition continue to affect their lives. Studies have shown that adults with ADHD symptoms do not progress as far in schooling, have lower-status jobs and higher rates of antisocial personalities.¹⁴

In addition to the impact on the patient's life, ADHD takes a toll on the family. A survey conducted by the New York University Child Study Center showed that parents with a child with ADHD experience greater frustration helping their child with daily activities than parents without a child with ADHD.¹⁵ Additional research has shown that dealing with a child with ADHD often causes personal stress and marital strain for parents.¹⁶

¹ American Psychiatric Association: *Diagnostic and Statistical Manual of Mental Disorders*, fourth edition. Washington, DC, American Psychiatric Association, 1994.

² Biederman J, Faraone SV, Spencer T, et al. Patterns of psychiatric comorbidity, cognition, and psychosocial functioning in adults with attention deficit hyperactivity disorder. *Am J Psychiatry*. 1993;150:1792-1798.

³ American Psychiatric Association: *Diagnostic and Statistical Manual of Mental Disorders, fourth edition, text revision*. Washington, DC, American Psychiatric Association, 2000.

⁴ American Psychiatric Association: *Diagnostic and Statistical Manual of Mental Disorders, fourth edition, text revision*. Washington, DC, American Psychiatric Association, 2000.

⁵ Heiligenstein et al. 1997

United States Census 2000. Census 2000 Summary File 1 (SF 1) 100-Percent Data

⁶ Clinical Practice Guideline: Diagnosis and Evaluations of the Child with Attention-Deficit/Hyperactivity Disorder *Pediatrics* Vol. 105 No. 5 May 2000.

⁷ American Psychiatric Association: *Diagnostic and Statistical Manual of Mental Disorders*, fourth edition. Washington, DC, American Psychiatric Association, 1994.

⁸ Faraone, S, Biederman, J, Mick, E, et al: Family Study of Girls with Attention Deficit Hyperactivity Disorder *Am J Psychiatry* 2000; 157: 1077-1083

⁹ Zametkin A, Liotta W: The neurobiology of attention-deficit/hyperactivity disorder. *J Clin Psychiatry* 59 (no 7, suppl): 17-23, 1998

¹⁰ NIH Consensus Statement

¹¹ Barkley RA et al. *J Am Acad Adolesc Psychiatry*. 1991; 30(5): 752-761.

Greenhill, LL. *J Clin Psychiatry*. 1998;59(suppl 7):31-41.

¹² Elia, J, Ambrosini, P, Rapoport, J: Treatment of Attention-Deficit Hyperactivity Disorder. *The New England Journal of Medicine*. 1999 Vol. 340 No. 10 780-788.

¹³ American Psychiatric Association: *DSM-IV-TR*.2000.85-93

Schweitzer JB, et al. Attention-deficit/hyperactivity disorder. *Med Clin of North Am*. 2001; 85(3):757-777

¹⁴ Murphy P, Schachar R Use of Self-ratings in the Assessment of Symptoms of Attention Deficit Hyperactivity Disorders in Adults. *American Journal of Psychiatry*, 2000; 157:1156-1159

¹⁵ Investigating the Mindset of Parents about ADHD and Children Today (I.M.P.A.C.T) Study, New York University Child Study Center. <http://www.aboutourkids.org>

¹⁶ Kilcarr, Patrick J., Ph.D. and Quinn, Patricia O., M.D. "The Impact of ADHD on the Family." <http://family.go.com/raisingkids/child/health/feature/dcpt67kilcarr/dcpt67kilcarr.html>