

# Attention Deficit Hyperactivity Disorder

In recent years, attention deficit hyperactivity disorder (ADHD) has been a subject of great public attention and concern. Children with ADHD—one of the most common of the psychiatric disorders that appear in childhood—can't stay focused on a task, can't sit still, act without thinking, and rarely finish anything. If untreated, the disorder can have long-term effects on a child's ability to make friends or do well at school or work. Over time, children with ADHD may develop depression, poor self-esteem, and other emotional problems.

ADHD affects an estimated 4.1 percent of youths ages 9 to 17 in a 6-month period.<sup>1</sup>

About 2-3 times more boys than girls have ADHD.<sup>2</sup>

Children with untreated ADHD have higher than normal rates of injury.<sup>3</sup>

ADHD often co-occurs with other problems, such as depressive and anxiety disorders, conduct disorder, drug abuse, or antisocial behavior.<sup>4,5</sup>

Symptoms of ADHD usually become evident in preschool or early elementary years. The disorder frequently persists into adolescence and occasionally into adulthood.<sup>6</sup>

## Diagnosis and Treatment

Effective treatment depends on appropriate diagnosis of ADHD. A comprehensive medical evaluation of the child must be conducted to establish a correct diagnosis of ADHD and to rule out other potential causes of the symptoms. ADHD can be reliably diagnosed when appropriate guidelines are used.<sup>7,8</sup> Ideally, a health care practitioner making a diagnosis should include input from both parents and teachers. But some health practitioners diagnose ADHD without all this information and



tend to either overdiagnose the disorder or under-diagnose it.

Research has shown that certain medications, stimulants in most cases, and behavioral therapies that help children with ADHD control their activity level and impulsiveness, pay attention, and focus on tasks are the most beneficial treatments.<sup>9</sup> Stimulants commonly prescribed for ADHD include methylphenidate (Ritalin®), dextroamphetamine (Dexedrine®), and amphetamine (Adderall®). Despite data showing that stimulant medications are safe,<sup>8</sup> there are widespread misunderstandings about the safety and use of these drugs, and some health care practitioners are reluctant to prescribe them. Like all medications, those used to treat ADHD do have side effects and need to be closely monitored.

## Problems Faced by Families

Parents need to carefully evaluate treatment choices when their child receives a diagnosis of ADHD. When they pursue treatment for their children, families face high out-of-pocket expenses because treatment for ADHD and other mental illnesses is often not covered by insurance policies. In schools, treatment plans are often poorly integrated. In addition, there are few special education funds directed specifically for ADHD. All of these factors lead to children who do not receive proper and adequate treatment. To overcome these barriers, parents may want to look for school-based programs that have a team approach involving parents, teachers, school psychologists, other mental health specialists, and physicians.

## Research Findings

Brain imaging research using a technique called magnetic resonance imaging (MRI) has shown that differences exist between the brains of children with and without ADHD.<sup>10</sup> In addition, there appears to be a link between a person's ability to pay continued attention and the use of glucose—the body's major fuel—in the brain. In adults with ADHD, the brain areas that control attention use less glucose and appear to be less active, suggesting that a lower level of activity in some parts of the brain may cause inattention.<sup>11</sup>

Research shows that ADHD tends to run in families, so there are likely to be genetic influences.<sup>12</sup> Children who have ADHD usually have at least one close relative who also has ADHD. And at least one-third of all fathers who had ADHD in their youth have children with ADHD. Even more convincing of a possible genetic link is that when one twin of an identical twin pair has the disorder, the other is likely to have it too.

Data from 1995 show that physicians treating children and adolescents wrote 6 million prescriptions for stimulants.<sup>15</sup> Of all the drugs used to treat psychiatric disorders in children, stimulant medications are the most well studied. A 1998 Consensus Development Conference on ADHD sponsored by the National Institutes of Health and a recent, comprehensive scientific report confirmed many earlier studies showing that short-term use of stimulants is safe and effective for children with ADHD.<sup>8,14</sup>

In December 1999, NIMH released the results of a study of nearly 600 elementary school children, ages 7 to 9, which evaluated the safety and relative effectiveness of the leading treatments for ADHD for a period up to 14 months.<sup>9</sup> The results indicate that the use of stimulants alone is more effective than behavioral therapies in controlling the core symptoms of ADHD—inattention, hyperactivity/impulsiveness, and aggression. In other areas of functioning, such as anxiety symptoms, academic performance, and social skills, the combination of stimulant use with intensive behavioral therapies was consistently more effective. (Of note, families and teachers reported somewhat higher levels of satisfaction for those treatments that included the behavioral therapy components.) NIMH researchers will continue to track these children into adolescence to evaluate the long-term outcomes of these treatments, and ongoing reports will be published.

## For More Information

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## References

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