



WHAT WE KNOW

## ADHD and Coexisting Conditions: Disruptive Behavior Disorders

Attention-deficit/hyperactivity disorder (ADHD) is a common neurobiological condition affecting 5-8 percent of school age children<sup>1,2,3,4,5,6,7</sup> with symptoms persisting into adulthood in as many as 60 percent of cases (i.e. approximately 4% of adults).<sup>8,9</sup> In addition,

approximately two thirds of children with ADHD have at least one other coexisting condition.<sup>10</sup>

As can be seen, any disorder can coexist with ADHD, but certain disorders such as the disruptive behavior disorders seem to occur more commonly.<sup>11</sup>

This *What We Know* Sheet deals with the common disruptive behavior disorders oppositional defiant disorder (ODD) and conduct disorder (CD). Having one of these coexisting Disruptive Behavior Disorders (ODD/CD) can not only complicate the diagnosis and treatment but also worsen the prognosis. Even though many children with ADHD ultimately adjust, some (especially those with an associated conduct or oppositional defiant disorder) are more likely to drop out of school, have fewer years of overall education,

have less job satisfaction and fare less well as adults.<sup>12</sup> Early diagnosis and treatment of these conditions is by far the best defense against these poorer outcomes.

## HOW ARE COEXISTING CONDITIONS IDENTIFIED?

As the diagnosis of ADHD is being considered, the clinician or mental health professional must also determine whether there are any other psychiatric disorders affecting the child that could be responsible for presenting symptoms. Often, the symptoms of ADHD may overlap with other disorders. The challenge for the clinician is to discern whether a symptom belongs to ADHD, to a different disorder, or to both disorders at the same time. For some children, the overlap of symptoms among the various disorders makes multiple diagnoses possible at the time of initial presentation. In some cases, another condition may arise after the diagnosis of ADHD, necessitating continued monitoring by a trained professional even after the first diagnosis is made.

---

**“ Children and adolescents with ADHD and CD often have more difficult lives and poorer outcomes than children with ADHD alone.”**

---

Using a combination of symptom questionnaires and interviews with the child, the parents and significant others, the clinician determines if the child exhibits the characteristic symptoms of a disorder. In addition to listing the symptoms, the clinician will ask when the symptoms began, how long they have lasted, how severe they are, how they affect day-to-day functioning, as well as whether or not other family members have had these symptoms. As a result of this questioning, the clinician is able to determine if a child meets the criteria for diagnosis of ADHD and/or another disorder.

The diagnosis and treatment of ADHD are discussed extensively in *What We Know #1: The Disorder Named ADHD*.

## ADHD AND DISRUPTIVE BEHAVIOR DISORDERS

The high co-occurrence of ADHD with disruptive behavior disorders necessitates that all children with ADHD symptoms and disruptive behaviors need to be

assessed with a view to exploring the possibility that ODD or CD may be present in addition to ADHD.

**Disruptive behavior disorders** include two similar disorders: oppositional defiant disorder (ODD) and conduct disorder (CD). Common symptoms occurring in children with these disorders include: defiance of authority figures, angry outbursts, and other antisocial behaviors such as lying and stealing. It is felt that the difference between oppositional defiant disorder and conduct disorder is in the severity of symptoms and that they may lie on a continuum often with a developmental progression from ODD to CD with increasing age.<sup>13</sup>

**Oppositional defiant disorder (ODD)** refers to a recurrent pattern of negative, defiant, disobedient and hostile behavior toward authority figures lasting at least six months. To be diagnosed with ODD four (or more) of the following symptoms must be present:

- often loses temper
- often argues with adults
- often actively defies or refuses to comply with adults' requests or rules
- often deliberately annoys people
- often blames others for his or her mistakes or misbehavior
- is often touchy or easily annoyed by others
- is often angry and resentful
- is often spiteful or vindictive.

These behaviors must be exhibited more frequently than in other children of the same age and must cause significant impairment in social, academic or occupational functioning to warrant the diagnosis.<sup>14</sup>

**Conduct disorder (CD)** involves more serious behaviors including aggression toward people or animals, destruction of property, lying, stealing and skipping school. The behaviors associated with CD are often described as delinquency. Children exhibiting these behaviors should receive a comprehensive evaluation.<sup>15</sup> Children and adolescents with ADHD and CD often have more difficult lives and poorer outcomes than children with ADHD alone.<sup>16,17</sup>

## INCIDENCE OF ADHD AND ODD OR CD

Approximately one-third to one-half of all children with ADHD may have coexisting oppositional defiant disorder (ODD). These children are often disobedient and have outbursts of temper. The rate of children

meeting full diagnostic criteria for ODD is similar across all ages. Males have a greater incidence of ADHD and ODD, as do children of divorced parents and mothers with low socioeconomic status. Children with the ADHD combined subtype seem to be more likely to have ODD.

In some cases, children with ADHD may eventually develop conduct disorder (CD), a more serious pattern of antisocial behaviors.<sup>18</sup> Conduct disorder may occur in 25 percent of children and 45 percent of adolescents with ADHD.<sup>19</sup> CD is more commonly seen in boys than girls, and increases in prevalence with age. Children with ADHD who also meet diagnostic criteria for CD are twice as likely to have difficulty reading, and are at greater risk for social and emotional problems.<sup>20</sup> Non-aggressive conduct problems increase with age, while aggressive symptoms become less common.

## **RISKS OF HAVING ADHD AND A DISRUPTIVE BEHAVIOR DISORDER**

Children with ADHD and CD are often at higher risk for contact with the police and the court system than children with ADHD alone. These children frequently lie or steal and tend to disregard the welfare of others. In addition, they risk getting into serious trouble at school or with the police. The risk for legal troubles may be mostly attributable to the symptoms of CD rather than ADHD.

Disruptive behavior disorders and untreated ADHD have been found to lead to an increased risk of substance use disorders.<sup>21</sup> In addition, adolescents with disruptive behaviors disorders and ADHD are more likely to be aggressive and hostile in their interactions with others, and to be arrested. It has also been suggested that the greater impulsivity associated with the ADHD may cause greater antisocial behavior and its consequences.<sup>22</sup> Thus, early recognition and treatment of both the ADHD and disruptive behaviors in children is essential.

## **TREATMENT OF ADHD AND DISRUPTIVE BEHAVIOR DISORDERS**

All children with symptoms of ADHD and ODD/CD need to be assessed so that both types of problem behaviors can be treated. These children are difficult to live with and parents need to understand that they do not need to deal with their ADHD and ODD/CD child alone. Interventions such as parent training at home and

behavioral support in the school can make a difference and parents should not hesitate to ask for assistance.

### **Home Interventions**

**Parent Training (PT):** Parent training has been shown to be effective for treating oppositional and defiant behaviors. Standardized parent training programs are short-term interventions that teach parents specialized strategies including positive attending, ignoring, the effective use of rewards and punishments, token economies, and time out to address clinically significant behavior problems.<sup>23</sup> Such training programs may include periodic booster sessions.

Severe cases of CD may require multisystemic therapy, an intensive family- and community-based treatment that addresses the multiple causes of serious antisocial behavior in youth. This approach is very comprehensive and demanding. The therapist using such an approach must possess access to developmental and clinical expertise. These intervention services are delivered in a variety of settings (i.e., home, school, peer groups) as needed. Academic and school-based problems are included and some therapists work directly with an entire peer group to influence change.<sup>24</sup>

Parent-child interaction therapy is a treatment that teaches parents to strengthen the relationship with their child and to learn behavior management techniques. It has been found to be effective in the long term for young children with ODD and ADHD. Three to six years after

---

**“...early recognition and treatment of both the ADHD and disruptive behaviors in children is essential.”**

---

treatment, the mothers of children with these disorders reported that the changes in their children’s behavior and their own feelings of control had lasted. Mothers’ reports of disruptive behavior decreased with time after treatment.<sup>25</sup>

**Collaborative Problem Solving (CPS):** Another technique that seems to be promising for children with ADHD and ODD is collaborative problem-solving (CPS).<sup>26</sup> CPS is a treatment that teaches difficult children and adolescents how to handle frustration and learn to be more flexible and adaptable. Parents and children

learn to brainstorm for possible solutions, negotiate, make decisions, and implement solutions that are acceptable to both. They learn to resolve disagreements with less conflict.

**Family Therapy:** Often a child's behavior can have an effect on the whole family. Parents of children with ADHD often report marital difficulties. Mothers may be more depressed and siblings may also develop behavior problems. Family therapy is critical to helping a family address these issues and cope with the realities of having a child with ADHD and disruptive behaviors. Seeking out a counselor or family therapist in your neighborhood can help the entire family address these issues.

## SCHOOL INTERVENTIONS

**School-wide Positive Behavioral Supports:** In addition to the environment at home, the school can have a significant impact on a child's behavior patterns. Many school systems now have programs in place to provide school-wide positive behavioral supports. The aim of these programs is to foster both successful social behavior and academic gains for all students. These programs consist of: (1) clear, consistent consequences for inappropriate behaviors; (2) positive contingencies for appropriate behaviors; and (3) team-based services for those students with the more extreme behavioral needs.

**Tutoring:** Children's ADHD symptoms, as well as oppositional symptoms, have been found to be significantly lower in one-on-one tutoring sessions than in the classroom.<sup>27</sup>

**Classroom Management:** Providing appropriate instructional supports in the classroom can also lessen disruptive behavior. These include: creating an accepting and supportive classroom climate, promoting social and emotional skills, establishing clear rules and procedures, monitoring child behavior, utilizing rewards effectively, responding to mild problem behaviors consistently and effectively managing anger or aggressive behavior.

## MEDICATION

Overall results from several clinical studies indicate that medications used for the treatment of ADHD (stimulants as well as non-stimulants) remain an important component in the treatment of ADHD and coexisting ODD/CD.<sup>28,29</sup> Children with these disorders treated with these medications were not only more

attentive, but less antisocial and aggressive. ADHD medications are often effective treatments for aggressive or antisocial behavior in patients with ADHD and certainly play a role in any treatment program. (See *What We Know #3: Managing Medication in Children and Adolescents with ADHD* for more information.)

In addition to using stimulant medications alone, medication combinations to reduce behavioral and conduct symptoms associated with attention-deficit/hyperactivity disorder appear to be very effective. In several studies, this treatment combination was reported to be well tolerated and unwanted effects were transient.<sup>30,31</sup>

## WHAT CAN A PARENT DO?

To increase the chance for a successful future and to discourage delinquent behaviors in children with ADHD, diagnosis and intervention is extremely important. It is essential for parents to provide structure and reinforce appropriate behavior. In addition, a positive behavior management plan to lessen anti-social behavior is important. Parents should discuss their child's behavioral symptoms with the pediatrician

or family practitioner and seek a referral to a mental health professional who can suggest effective parenting strategies.

In addition, parents should contact their child's school counselor or school psychologist to discuss possible interventions to improve behaviors at school. Having the counselor or psychologist support the teacher in handling classroom behaviors often results in significant behavioral changes and decreases the incidence of expulsion. Consistent behavior management at home, school and elsewhere needs to be enforced.

## FOR MORE INFORMATION AND FURTHER READING

Barkley, Russell. (2000) *Taking charge of AD/HD: The complete, authoritative guide for parents (revised edition)*. New York, NY: Guilford Press. This book was written for parents and others who want to know more about ADHD and its management. The book covers the disorder, the evaluation/assessment process, managing home and school and the use of medication.

Barkley, Russell. (1998). *Your defiant child: 8 steps to better behavior*. New York, NY: Guilford Press. This book is divided into two parts -- "Getting to Know Your Defiant Child" and "Getting Along with Your Defiant Child." Part two contains an eight-step parenting program built on consistency.

Clark, Lynn. (1996) *SOS! Help for parents*. Berkeley, CA: Parents Press. This book helps parents learn methods for helping children to improve their behavior and techniques for aiding a variety of child personalities, from the stubborn and willful child to time-out basics. It focuses on the basic skills of time-out and how parents can use these techniques to further a child's behavior modification.

Forgatch, Marion S. and Gerald R. Patterson. (2005) *Parents and adolescents living together: Family problem solving*. Champaign, IL: Research Press. This book shows parents how to improve their communication and problem-solving skills, hold family meetings and get the whole family involved in solving problems. It explains how parents can teach their teenaged children to be responsible about schoolwork, sexual behavior and drugs and alcohol.

Goldstein, Sam; Robert Brooks and Sharon K. Weiss. (2004) *Angry children, worried parents: Seven steps to help families manage anger*. Plantation, FL: Specialty Press. This book helps parents cope with anger in their children. It presents the following seven steps to help children learn to manage anger: (1) understand why children become angry; (2) determine when your child needs help; (3) help the child become an active participant in the process; (4) use strategies to manage and express anger; (5) develop and implement a daily management plan; (6) assess and solve problems; and (7) instill a resilient mindset in the child.

Greene, Ross W. (1998). *The explosive child: A new approach for understanding and parenting easily frustrated, chronically inflexible children*. New York, NY: HarperCollins. This book discusses explosive-inflexible behavior in children, which may be associated with ADHD, oppositional defiant disorder, obsessive-compulsive disorder, or other psychiatric disorders. The author argues that behavioral techniques do not work with a small subset of children, who simply lack the skills to improve their behavior. He advocates using positive, less adversarial interactions, and looking for ways to anticipate, prevent and re-direct explosive behavior when possible.

Patterson, Gerald Roy. (1977) *Living with children: New methods for parents and teachers*. Champaign, IL: Research Press. In short, easy-to-read chapters, this book explains how to change the way your child behaves by using behavior modification techniques. It describes how to use positive reinforcement to stop common problems such as bedwetting, whining, teasing and stealing.

Patterson, Gerald Roy and Marion S. Forgatch. (1987) *Parents and adolescents working together, Part I: The basics*. Eugene, OR: Castalia Publishing. This book offers parents behavior modification guidelines they can use with teenagers to foster a good relationship and prevent battles. It explains how to use requests that work, how to monitor and track behavior, how to set up point charts and how to discipline effectively.

Phelan, Tom. (2003) *1-2-3 Magic: Effective discipline for children 2-12* (third edition). Glen Ellyn, IL: ParentMagic Inc. The author presents three steps for disciplining children: controlling obnoxious behavior, encouraging good behavior and strengthening the relationship with the child. The author also explains how to manage the six kinds of testing and manipulation, how to handle misbehavior in public and how to

avoid the talk-persuade-argue-yell-hit syndrome.

Shure, Myrna. (1996) *Raising a Thinking Child: Help your young child to resolve everyday conflicts and get along with others*. New York, NY: Pocket. This book provides steps that parents can follow in teaching young children to solve problems and resolve daily conflicts. The book includes dialogues for handling specific situations, games and activities, and communication techniques.

## REFERENCES

1. American Psychiatric Association (2000). *Diagnostic and statistical manual of mental disorders: DSM IV* (4th ed., text, revision), Washington, D.C.: American Psychiatric Association.
2. Mayo Clinic. (2002). How Common is Attention-Deficit/Hyperactivity Disorder? *Archives of Pediatrics and Adolescent Medicine* 156(3): 209-210.
3. Mayo Clinic (2001). Utilization and Costs of Medical Care for Children and Adolescents with and without Attention-Deficit/Hyperactivity Disorder. *Journal of the American Medical Association* 285(1): 60-66.
4. Surgeon General of the United States (1999). *Mental Health: A Report of the Surgeon General*. Rockville, MD: U.S. Department of Health and Human Services.
5. American Academy of Pediatrics (2000). Clinical practice guidelines: Diagnosis and evaluation of the child with attention-deficit/hyperactivity disorder. *Pediatrics*, 105, 1158-1170.
6. Centers for Disease Control and Prevention (2003). Prevalence of diagnosis and medication treatment for attention-deficit/hyperactivity disorder. *Morbidity and Mortality Weekly Report* 54: 842-847.
7. Froehlich, T.E., Lanphear, B.P., Epstein, J.N., et al. Prevalence, recognition, and treatment of attention-deficit/hyperactivity disorder in a national sample of US children. *Archives of Pediatric and Adolescent Medicine* (2007), 161:857-864.
8. Faraone, S.V., Biederman, J., & Mick, E. (2006) The age-dependent decline of attention-deficit hyperactivity disorder: A meta-analysis of follow-up studies. *Psychol Med* (2006), 36: 159-65.
9. Kessler, R.C., Adler, L., Barkley, R., Biederman, J., et al. The prevalence and correlates of adult ADHD in the United States: Results from the National Comorbidity Survey Replication. *Am Journal of Psychiatry* (2006), 163:724-732.
10. Biederman, J.; Faraone, S.V.; & Lapey, K. (1992). Comorbidity of diagnosis in attention-deficit hyperactivity disorder. In G. Weiss (Ed.), *Attention-deficit hyperactivity disorder, child & adolescent clinics of North America*. Philadelphia: Sanders.
11. Adesman A, (2003). A diagnosis of AD/HD? Don't overlook the probability of comorbidity! *Contemporary Pediatrics* 20 (Dec 2003).
12. Murphy KR; Barkley RA; & Bush T. (2002). Young adults with attention deficit hyperactivity disorder: subtype differences in comorbidity, educational and clinical history. *Journal of*



*Nervous and Mental Disorders*, 190(3): 147-157.

13. Loeber R., et al. 1993. *Journal of Abnormal Child Psychology*, 21 377-410.

14. American Psychiatric Association (2000). *Diagnostic and statistical manual of mental disorders: DSM IV* (4th ed., text, revision), Washington, D.C.: American Psychiatric Association

15. Maughan B; Rowe R; Messer J, et al. (2004). Conduct disorder and oppositional defiant disorder in a national sample: developmental epidemiology. *Journal of Child Psychology and Psychiatry*, 45(3); 609-621.

16. Harada, Y.; Yamazaki, T.; & Saitoh, K. (2002). Psychosocial problems in attention-deficit hyperactivity disorder with oppositional defiant disorder. *Psychiatry and Clinical Neuroscience*, 56(4) 365-369.

17. Kadesjo C; Hagglof B; Kadesjo B, et al. (2003). Attention deficit-hyperactivity-disorder with and without oppositional defiant disorders in 3 to 7-year-old children. *Developmental Medicine and Child Neurology*, 45(10) 693-699.

18. Lahey, B. B.; McBurnett, K.; & Loeber, R. (2000). Are attention-deficit/hyperactivity disorder and oppositional defiant disorder developmental precursors to conduct disorder? In A. J. Sameroff, M. Lewis, & S. M. Miller (Eds.), *Handbook of developmental psychopathology* (2nd ed.) (pp. 431-446.). New York: Plenum.

19. NRC on ADHD (2004). *What We Know #5: ADHD and Co-Existing Conditions*. Landover, MD: National Resource Center on ADHD.

20. Pliszka, S.R. (2003). Psychiatric comorbidities in children with attention hyperactivity disorder: implications for management. *Paediatric Drugs*, 5, 741-750.

21. Bukstein, O.G. (2000). Disruptive behavior disorders and substance use disorders in adolescents. *Journal of Psychoactive Drug*, 32(1): 67-79.

22. Murphy, K.R.; Barkley, R.A.; & Bush, T. (2002). Young adults with attention deficit hyperactivity disorder: subtype differences in comorbidity, educational, and clinical history. *Journal of Nervous and Mental Disorders*, 190(3): 147-157.

23. Farley, S.E.; Adams, J.S.; & Lutton, M.E., et al. (2005). What are effective treatments for oppositional and defiant behaviors in preadolescents? *Journal of Family Practice*, 54(2): 162-165.

24. Henggeler, S.W., Rodick, J.D., Bordum, C.M., Hanson, C.L., Watson, S.M., & Urey, J.R. (1986). Multisystemic treatment of juvenile offenders: Effects on adolescent behavior and family interactions. *Developmental Psychology*, 22, 132-141.

25. Hood, K.K. & Eyberg, S.M. (2003). Outcomes of parent-child interaction therapy: mothers; reports of maintenance three to six years after treatment. *Journal of Clinical Child and Adolescent Psychology*, 32(3): 419-429.

26. Greene, R.W.; Ablon, J.S.; Goring, J.C., et al. (2004). Effectiveness of collaborative problem with solving in effectively dysregulated children with oppositional-defiant disorder: initial findings. *Journal of Consulting and Clinical Psychology*, 72(6): 1157-1164.

27. Stayhorn, J.M. & Bickel, D.D. (2002). Reduction in children's

symptoms of attention deficit hyperactivity disorder and oppositional defiant disorder during individual tutoring as compared with classroom instruction. *Psychology Rep*, 91(1): 69-80.

28. Pliszka, S.R. (2003). Psychiatric comorbidities in children with attention deficit hyperactivity disorder: implications for management. *Pediatric Drugs*, 5: 741-750.

29. Newcorn, J.H.; Spencer, T. J.; Biederman, J., et al. (2005). Atomoxetine Treatment in Children and Adolescents with Attention-Deficit/Hyperactivity Disorder and Comorbid Oppositional Defiant Disorder. *Journal of the American Academy of Child Adolescent Psychiatry*, 44(3) p240-248.

30. Hazell, P.L. & Stuart, J.E. (2003). A randomized controlled trial of clonidine added to psychostimulant medication for hyperactive and aggressive children. *Journal American Academy of Child and Adolescent Psychiatry*, 42(8): 886-894.

31. Conner, D.E.; Barkley, R.A.; & Davis, H.T. (2000) A pilot study of methylphenidate, clonidine, or the combination in AD/HD comorbid with aggressive oppositional defiant or conduct disorder. *Clinical Pediatrics*, 39(1): 15-25.

*The information provided in this fact sheet was supported by Grant/Cooperative Agreement Number 1U84DD001049-01 from the Centers for Disease Control and Prevention (CDC). The contents are solely the responsibility of the authors and do not necessarily represent the official views of CDC. This fact sheet was approved by CHADD's Professional Advisory Board in 2005.*

© 2005 Children and Adults with Attention-Deficit/Hyperactivity Disorder (CHADD).

Updated February 2008.

Permission is granted to photocopy and freely distribute this What We Know sheet for non-commercial, educational purposes only, provided that this document is reproduced in its entirety, including the CHADD and NRC names, logos, and all contact information. Permission to distribute this material electronically without express written permission is denied.

For further information about ADHD or CHADD, please contact:

**National Resource Center on ADHD  
Children and Adults with Attention-Deficit/  
Hyperactivity Disorder**

4601 Presidents Drive, Suite 300  
Lanham, MD 20706  
1-800-233-4050  
[www.help4adhd.org](http://www.help4adhd.org)

Please visit the CHADD Web site at  
[www.chadd.org](http://www.chadd.org)