



WHAT WE KNOW

ADHD and Coexisting Disorders

As many as two thirds of children with ADHD have at least one other coexisting condition.¹ The constant motion and fidgetiness, interrupting and blurting out, difficulty waiting in lines or sitting in

restaurants, and need for constant reminders may overshadow these other disorders. But just as untreated ADHD can leave lasting scars, so too can other untreated disorders cause unnecessary suffering in individuals with ADHD and their families. Any disorder can coexist with ADHD, but certain disorders seem to occur more commonly with ADHD.

HOW ARE THESE COEXISTING CONDITIONS IDENTIFIED?

As the diagnosis of ADHD is 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 necessary.

By conducting a complete evaluation, a clinician or mental health professional familiar with ADHD and other psychiatric disorders will be able to diagnose both the ADHD and related conditions. Interviews and questionnaires are often used to obtain information about symptoms from the patient, the patient's family, and his or her teachers to screen for these other disorders.

WHICH CONDITIONS MOST COMMONLY COEXIST WITH ADHD?

ADHD may coexist with one or more disorders. The most common disorders to occur with ADHD are (1) disruptive behavior disorders; (2) mood disorders; (3) anxiety disorders; (4) tics and Tourette Syndrome; and (5) learning disabilities.

DISRUPTIVE BEHAVIOR DISORDERS (OPPOSITIONAL-DEFIANT DISORDER AND CONDUCT DISORDER)

About 40 percent of individuals with ADHD have oppositional defiant disorder (ODD). Among individuals with ADHD, conduct disorder (CD) is also common, occurring in 25 percent of children, 45-50 percent of adolescents and 20-25 percent of adults. ODD involves a pattern of arguing with multiple adults, losing one's temper, refusing to follow rules, blaming others, deliberately annoying others, and being angry, resentful, spiteful, and vindictive.

CD is associated with efforts to break rules without getting caught. Such children may be aggressive to people or animals, destroy property, lie or steal things from others, run away, skip school, or break curfews.

“The most common disorders to occur with AD/D are disruptive behavior disorders, mood disorders, anxiety disorders, tics and Tourette Syndrome, and learning disabilities.”

CD is often described as delinquency and children who have ADHD and conduct disorder may have lives that are more difficult than those of children with ADHD alone. Academically, students with both ADHD and CD are twice as likely to have difficulty reading as other ADHD children. Children with both ADHD and CD, *but not other children with ADHD*, are at greater risk for social and emotional failure. Studies now suggest that ADHD and CD may be a particular subtype of ADHD, since multiple family members often have both of these disorders together.

Treatment of the person with ADHD and ODD/CD requires efforts to discourage delinquent behaviors so that the person will increasingly choose pro-social behaviors. ODD and CD usually require strong, clear structure with reinforcement of appropriate behaviors as well as a positive behavior management plan to extinguish antisocial behaviors.

Medication remains important. Research has shown that ADHD and CD students treated with stimulant medicines are not only more attentive, but also less antisocial and aggressive. In addition, medication combinations, such as a psychostimulant with an antidepressant, appear to be very effective for these patients.

MOOD DISORDERS

Some children, in addition to being hyperactive, impulsive, and/or inattentive, may also seem to always be in a bad mood. They may cry daily, out of the blue, for no reason, and they may frequently be irritable with others for no apparent reason. Both sad, depressive moods and persisting elevated or irritable moods (mania) occur with ADHD more than would be expected by chance.

DEPRESSION

The most careful studies suggest that between 10-30 percent of children with ADHD, and 47 percent of adults with ADHD, also have depression. Typically, ADHD occurs first and depression occurs later. Both environmental and genetic factors may contribute.

Environmentally, as children with ADHD get older, they may feel left out. Too often they are forgotten on birthday party lists, playdates, and sleepovers. These children may not be invited to play at other children's homes because of past difficulties with accidents or may not be chosen to be on sports teams or to participate in games. This takes a heavy toll on the child's self-esteem. As these episodes pile up, the child with ADHD can become discouraged and about one in four may become clinically depressed. While all children have bad days where they feel down, depressed children may be down or irritable most days. Children with ADHD and depression may also withdraw from others, stop doing things they once enjoyed, have trouble sleeping or sleep the day away, lose their appetite, criticize themselves excessively (“I never do anything right!”), and talk about dying (“I wish I were

dead”). Fortunately, ADHD by itself is not associated with increased risk of suicidal behavior. Current studies suggest that both ADHD and depression may share a common underlying genetic link, since families with ADHD also seem to have more members with depression than would be expected by chance.

Treatment of children with ADHD and depression involves minimizing environmental traumas and different medication regimens. To minimize the child with ADHD’s difficulty in playing with others, parents and teachers can arrange small group play experiences (sometimes just two people). In addition, it is vital that the parent monitor the school setting. Even children with carefully constructed educational plans may continue to struggle if the plan is inadequate. A number of studies have shown that certain antidepressant medications improve ADHD alone, or with depression. The antidepressant desipramine (Norpramin) has improved both ADHD and ADHD and depression. Researchers have also found that stimulants (such as Ritalin) can be combined safely with antidepressants such as fluoxetine (Prozac) — these children not only feel better but also function better at school. Newer antidepressants such as bupropion (Wellbutrin) and venlafaxine (Effexor) have been found effective in some individuals with ADHD alone and may additionally benefit those individuals with both ADHD and depression.

MANIA/BIPOLAR DISORDER

Up to 20 percent of individuals with ADHD also may manifest bipolar disorder. This condition involves periods of abnormally elevated mood contrasted by episodes of clinical depression. Adults with mania may have long (days to weeks) episodes of being ridiculously happy, and even believe they have special powers or receive messages from God, the radio, or celebrities. With this expansive mood, they may also talk incessantly and rapidly, go days without sleeping, and engage in tasks that ultimately get them into trouble. While manic, they may go on spending sprees which get them into debt, become hypersexual, or contact people at all hours of the night.

In younger people, mania may show up differently. Children may have moods that change very rapidly, seemingly for no reason, be pervasively irritable, exhibit unpremeditated aggression, and sometimes hear voices or see things the rest of us don’t. ADHD is much more common than mania, and while many children with mania may first exhibit ADHD symptoms, very few

children with ADHD will go on to develop mania. The combination of ADHD and mania often leads to severe difficulty functioning. The overlap of mania and ADHD is being actively studied. As patients with ADHD-mania are followed over time, it will become clearer what their symptoms look like in adulthood.

From a treatment standpoint, mood must be stabilized on medications before treatment for ADHD is likely to be successful. Patients with ADHD-mania now are treated with mood stabilizers such as lithium, valproate (Depakote), or carbamazepine (Tegretol). Because these agents usually do not improve the ADHD symptoms, stimulants or antidepressants are often added to improve the ADHD symptoms.

ANXIETY

Up to 30 percent of children and 25-40 percent of adults with ADHD will also have an anxiety disorder. Anxiety disorders are often not apparent, and research has shown that half of the children who describe prominent anxiety symptoms are not described by their parents as anxious. As with depression, the child’s internal feelings may not stand out to parents or teachers. Patients with anxiety disorders often worry excessively about a number of things (school, work, etc.), and may feel edgy, stressed out or tired, tense, and have trouble getting restful sleep. A small number of patients may report brief episodes of severe anxiety (panic attacks), which intensify over about 10 minutes with complaints of pounding heart, sweating, shaking, choking, difficulty breathing, nausea or stomach pain, dizziness, and fears of going crazy or dying. These episodes may occur for no reason, and sometimes awaken patients. Students with ADHD and anxiety report more school, family, and social/peer problems than student who only have ADHD. Students with ADHD accompanied by anxiety are less likely to appear hyperactive and disruptive, but instead appear more slowed down or inefficient. Genetic research thus far suggests that ADHD and anxiety are separate disorders inherited independently of each other.

Treatment of ADHD and anxiety requires attention to precipitating stressors, and training in methods of contending with fear-provoking circumstances. Relaxation techniques and alternative ways to think through stressful situations may be helpful. ADHD and anxiety appear less responsive to conventional ADHD medication treatments. Specifically, children with ADHD and anxiety only showed a 30 percent response to methylphenidate (Ritalin), versus a 70-80

percent response observed in ADHD-only children. Moreover, at least one study has shown that children with ADHD and anxiety are more sensitive to negative side effects of stimulant medications. Accordingly, alternative medication regimens may be necessary. Tricyclic antidepressants (e.g., desipramine [Norpramin], nortriptyline [Pamelor], imipramine [Tofranil]), benzodiazepines (lorazepam [Ativan], clonazepam [Klonopin], alprazolam [Xanax], etc.) and more recently bupirone (BusPar) may benefit these patients.

TICS AND TOURETTE SYNDROME

Only about seven percent of those with ADHD have tics or Tourette Syndrome, but 60 percent of those with Tourette Syndrome have ADHD. Tics (sudden, rapid, recurrent, involuntary movements or vocalizations) or Tourette Syndrome (both movements and vocalizations) can occur with ADHD in two ways. First, mannerisms or movements such as excessive eye blinking or throat clearing often occur between the ages of 10-12 years. When children are nervous or tired, these tics may appear worse or more conspicuous. These temporary tics usually go away gradually over one-to-two years, and are just as likely to happen in children with ADHD as others. Tourette Syndrome is a much rarer, but more severe tic disorder, where patients may make noises (e.g., barking a word or sound) and movements (e.g., repetitive flinching or eye blinking) on an almost daily basis for years. Tourette Syndrome often includes ADHD, although the opposite is not true.

Tics can also become more noticeable when patients are treated with stimulants or — much less likely — bupropion. While these medicines no longer appear to cause tics, they may unmask or exaggerate tics. Accordingly, sometimes lowering the dose can decrease the tics. Other medicines such as nortriptyline (Pamelor or Aventyl), clonidine (Catapres), or guanfacine (Tenex) may be used to decrease tics while treating ADHD.

LEARNING DISABILITIES

Individuals with ADHD frequently have difficulty learning in school. Depending on how learning disorders are defined, up to 50 percent of children with ADHD have a coexisting learning disorder. Individuals with learning disabilities may have a specific problem reading or calculating, but they are not less intelligent than their peers are. Research indicates that students with both ADHD and reading disorder (dyslexia) are no more

anxious, hyperactive, or aggressive than student with ADHD only. However, the learning disorder does impact school performance, which may subsequently impact family and peer relationships.

Treatment requires careful attention to the student's unique strengths and weaknesses. If academic difficulties occur despite beneficial treatment (with psychosocial interventions and medication), then it is necessary to pursue an educational evaluation that assesses learning disabilities. Usually this requires that family members contact the school principal, teacher, or guidance department to initiate the process, which culminates with devising — when necessary — an individual

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educational plan (IEP) or Section 504 plan for the student. The IEP is reviewed at least annually by school personnel to ensure that educational planning is helping the student make academic progress. Medications do not specifically improve learning disorders, but may improve ADHD symptoms so that learning can accelerate.

WHAT ABOUT SUBSTANCE ABUSE?

Recent work suggests that youths with ADHD are at increased risk for very early cigarette use, followed by alcohol and then drug abuse. Cigarette smoking is more common in adolescents with ADHD, and adults with ADHD have elevated rates of smoking and report particular difficulty in quitting. Youths with ADHD are twice as likely to become addicted to nicotine as individuals without ADHD.

As documented by current research, cocaine and stimulant abuse is not more common among individuals with ADHD who were previously treated with stimulants: growing up taking stimulant medicines does not lead to substance abuse as these children become teenagers and adults. Indeed, those adolescents with ADHD prescribed stimulant medication are less likely to subsequently use illegal drugs than are those not prescribed medication.

SUGGESTED READING

Biederman, J. (1998). Attention-deficit/ hyperactivity disorder: A life-span perspective. *Journal of Clinical Psychiatry* 59 (Supplement 7): 4-16.

Biederman, J, et al. (1999). Pharmacotherapy of attention-deficit/hyperactivity disorder reduces risk for substance use disorder. *Pediatrics* 104:e20.

Hechunan, L., Ed. (1996). *Do they grow out of it? Long-Term Outcomes of Childhood Disorders*. Washington, DC: American Psychiatric Association.

Pliszka, S.R. (1998). Comorbidity of attention-deficit/hyperactivity disorder with psychiatric disorder: An overview. *Journal of Clinical Psychiatry* 59 (Supplement 7): 50-5B.

Gregg, S. (1996). Preventing antisocial behavior in disabled and at-risk students. *Appalachia Educational Laboratory Policy Brief*. Pgs. 1-12.

Wachtel, A. (1998). *The attention deficit answer book*. New York: Plume (Penguin).

REFERENCES

1. MTA Cooperative Group. (1999). A 14-month randomized clinical trial of treatment strategies for attention deficit hyperactivity disorder. *Archives of General Psychiatry*, 56, 12.

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