

Double jeopardy: How to treat kids with comorbid anxiety and ADHD

Medication and CBT usually are necessary for these highly impaired children

Aaron, age 10, has been diagnosed with an anxiety disorder and attention-deficit/hyperactivity disorder (ADHD) but is not being treated with medication because his parents do not believe in psychopharmacology. They bring him to a specialized child anxiety clinic and ask for “urgent CBT” because his behavior at school is out of control.

Aaron rearranges the therapist’s office furniture during much of the assessment interview. He also acknowledges many anxiety symptoms. The therapist doubts that cognitive-behavioral therapy (CBT) would help without other interventions.

Children with anxiety disorders and ADHD—a common comorbid presentation—tend to be more impaired than those with either condition alone.¹ Effective treatment usually requires 4 components (*Table 1, page 78*), including medication plus behavioral or cognitive-behavioral therapy. This article discusses clinical issues related to each component and describes how to successfully combine them into a treatment plan.

Medication options

Stimulants, atomoxetine, and selective serotonin reuptake inhibitors (SSRIs) have been advocated for children with anxiety and ADHD. Given the high risk of behavioral disinhibition with SSRIs in children,² stimulants or atomoxetine are suggested as first-line medications.^{3,4}



MICHAEL AUSTIN FOR CURRENT PSYCHIATRY

Katharina Manassis, MD, FRCP(C)

Associate professor
Department of psychiatry
University of Toronto
Ontario, Canada

continued



ADHD and anxiety

Clinical Point

Atomoxetine may target both ADHD and anxiety symptoms, but improvements might not be evident for several weeks

Table 1

Comorbid ADHD and anxiety: 4 treatment components

Successful treatment usually involves combining 4 components:

- **medication trial** of a stimulant or atomoxetine
- **psychological intervention** with behavioral or cognitive-behavioral therapy
- **family psychoeducation**, with particular attention to possible anxious or inattentive traits in parents that may affect treatment
- **treating the whole child** by collaborating with school personnel

Make individual adjustments as needed, depending on the child's symptom profile, social context, and developmental level

ADHD: attention-deficit/hyperactivity disorder

Stimulants target ADHD symptoms primarily, but anxiety decreases in some children (24% in a recent trial) as ADHD symptoms are controlled.⁴ Because it is a selective norepinephrine reuptake inhibitor (SNRI), atomoxetine may target both ADHD and anxiety symptoms. When initiating these medications, "start low and go slow." Recommended dosing is no different for children with ADHD and anxiety than for those with ADHD alone (Table 2).⁵

Stimulant response rates for children with ADHD and anxiety vary among studies. Some report lower response rates than for children with ADHD alone and possibly more treatment-emergent side effects.⁶ The National Institute of Mental Health's Multimodal Treatment Study of Children with ADHD (MTA) found that comorbid anxiety did not adversely affect behavioral response to stimulants but did moderate outcomes (Box 1, page 84).^{7,8} Adding intensive psychosocial intervention to stimulant treatment appeared to yield greater improvements in anxious children with ADHD, compared with stimulants alone.⁸

Cognitive impairments related to inattention do not consistently improve with stimulant treatment.⁹ This is clinically important because children with ADHD and comorbid anxiety disorders can be very cognitively impaired.¹⁰

Add an SSRI? Monotherapy is simpler and usually more acceptable to families, but a placebo-controlled study examined adding an SSRI (fluvoxamine) to methylphenidate treatment.⁴ Children with anxiety and ADHD who received adjunctive fluvoxamine did no better than those who received methylphenidate plus placebo.

Atomoxetine. A large, randomized, controlled trial of atomoxetine in this population found good tolerability and statistically significant reductions in ADHD and anxiety symptoms compared with placebo. Effect size was greater for ADHD symptoms than for anxiety symptoms,¹¹ however, which supports smaller trials that show more consistent evidence of atomoxetine reducing ADHD symptoms than anxiety symptoms.

Similar to antidepressants with the SNRI chemical structure, atomoxetine's effectiveness for a given child takes several weeks to determine. This can be a problem in children who are highly distressed or impaired and require rapid symptomatic improvement.

Recommendation. Consider a stimulant or atomoxetine initially for children with anxiety disorders and ADHD, and seek concurrent behavioral or cognitive-behavioral therapy. Caution families that:

- >1 medication trial might be needed, as response may not be as consistent as in children with ADHD alone
- medication-related improvements in ADHD symptoms will not necessarily be associated with reduced anxiety symptoms or improved academic ability
- improvements with atomoxetine might not be evident for several weeks.

Psychological intervention

CBT has been shown effective for childhood anxiety disorders in randomized controlled trials,¹² but even those that included children with comorbid ADHD required that an anxiety disorder be the primary, most impairing diagnosis.¹³ Thus, little is known about CBT's effectiveness for children with anxiety plus ADHD. Given the evidence for cognitive deficits in comorbid

Table 2

Medication dosing for children with ADHD*

Medication	Recommended starting dosage	Recommended maximum dosage	5 most common side effects in descending prevalence
Stimulants			
Methylphenidate hydrochloride (Ritalin)	5 mg tid	Total 60 mg/d	Insomnia, nervousness, decreased appetite, dizziness, nausea
Methylphenidate hydrochloride (Concerta)	18 mg every morning	54 mg every morning	Headache, abdominal pain, decreased appetite, vomiting, insomnia
Dextroamphetamine sulfate (Dexedrine)	5 mg every morning	Total 40 mg/d	Palpitations, restlessness, dizziness, dry mouth, decreased appetite
Mixed amphetamine salts (Adderall)	10 mg every morning	30 mg every morning	Decreased appetite, insomnia, abdominal pain, emotional lability, vomiting
Nonstimulant			
Atomoxetine (Strattera)	0.5 mg/kg/d	1.2 mg/kg/d	Decreased appetite, dizziness, stomach upset, fatigue, irritability
ADHD: attention-deficit/hyperactivity disorder			
* Recommended dosing is no different for children with ADHD and anxiety than for children with only ADHD			
Source: Reference 5			

Clinical Point

Consider individual CBT to reduce the distractions of group therapy, and seek a therapist who has experience working with this population

anxiety and ADHD¹⁰ and the challenge of working with highly distractible children, one would expect CBT to be more difficult in this population.

The potential for distraction to adversely affect learning of coping strategies is higher in group than in individual therapy, and children with anxiety and ADHD can be disruptive to other children in CBT groups. Consider individual CBT, and seek a therapist who has experience with this population. Having the child on medication for ADHD symptoms usually helps reduce these symptoms' impact on sessions.

For children younger than about age 8 or too cognitively impaired to benefit from CBT, behavioral intervention alone may be helpful. The largely behavioral psychosocial intervention in the MTA study of ADHD children age 7 to 9 (Box 2, page 87)^{8,14} helped many of those with comorbid anxiety.

Although programs as intense as that used in the MTA study rarely are provided in community practice, consider behavior modification. For example:

- To reduce anxiety, have the child follow regular, predictable routines, and re-

ward the child for gradually facing previously avoided situations.

- To reduce distractibility in class, have the child sit near the teacher, break work into small chunks, and reward completion of each chunk.

Even small improvements in the child's home or school behavior may reduce negative interactions with others and the attendant effects on self-esteem.

CASE CONTINUED

Weighing the options

The therapist seeing Aaron's family listens to their concerns about medication and reassures them that their son will not be denied psychotherapy. She tells them, however, that psychotherapy will not address his urgent school problems and is unlikely to work in the absence of medication, given Aaron's behavior in the office. The therapist provides accurate information about the risks and benefits of medication and CBT, and the parents agree to think about all treatment options.

By the next office visit, the school has threatened to suspend Aaron. He and his parents agree to combined treatment with a stimulant medication and CBT and to having



ADHD and anxiety

Clinical Point

Try contracting for a limited number of CBT sessions (perhaps 3 or 4) before re-evaluating the child's need for medication

Box 1

Medication + psychosocial treatment shows best outcomes for ADHD with anxiety

The National Institute of Mental Health's Multimodal Treatment Study of Children with ADHD—the largest study to date—found that comorbid anxiety did not adversely affect behavioral response to stimulants but did moderate outcomes.

In the parallel group design study, 579 ADHD children age 7 to 9 were enrolled at 6 treatment sites, thoroughly assessed, then randomly assigned to 4 groups: medication treatment alone, intensive psychosocial treatment alone, a combination of both treatments, or usual community care. The first 3 interventions were designed to reflect best practices for each approach, and

these children were closely monitored and studied for 14 months. All 4 groups were reassessed periodically for 24 months, evaluating multiple outcomes.

For the total sample, combined and medication treatment were more effective than psychosocial treatment and community care. For ADHD children with comorbid anxiety disorders:

- combined treatment was more effective than either medication treatment alone or psychosocial treatment alone
- both monotherapies were superior to community care.

ADHD: attention-deficit/hyperactivity disorder

Source: References 7,8

the therapist provide a behavioral consultation at the school.

Family psychoeducation

With families of children with behavioral challenges, adopt a patient, educational approach rather than acquiescing to their wishes or arguing with them. Either can result in treatment failure. Discuss potential benefits and risks of all treatment options and the impact of comorbidity on treatment.

Parents' rigid insistence on a particular course of action—such as refusing psychopharmacology—may be caused by anxiety or misinformation. Elicit the source of any anxiety, and provide realistic information and reassurance if possible.

Anxiety in family members may be constitutional—as anxiety is highly heritable¹⁵—or relate to aspects of treatment. Families may feel overwhelmed by:

- their child having 2 disorders rather than 1
- your suggestion to start medical and nonmedical intervention together
- hearing about the possibility of multiple medication trials.

Negotiating medication. Discuss with the family the difficulties of a child learn-

ing CBT strategies when ADHD is not well-controlled and the cognitive difficulties in many of these children that may necessitate individualized CBT. If the family remains reluctant to consider combining medication with CBT, try contracting for a limited number of CBT sessions (perhaps 3 or 4) before re-evaluating the need for medication.

The child's perceptions (and potential anxieties) about his or her difficulties also must be understood, validated, and addressed. Children are more likely to engage in a treatment if they participate in the decision to adopt it.

Anxiety can heighten vigilance in the child or the parents to treatment-emergent side effects, which you may exacerbate by providing exhaustive lists of potential adverse events. Limit discussion to serious side effects—with emphasis on their rarity—and those that are common.

ADHD traits in families can affect treatment success. Because of their own distractibility and organizational difficulties, parents with ADHD traits may have difficulty ensuring the child's medication adherence and treatment participation.¹⁶

Behavior modification can require a high degree of consistency in parents'

continued on page 87

behavior toward the child. This may be difficult to achieve in families where:

- 1 or both parents are inattentive because of ADHD
- a high degree of conflict exists between parents.

To help these families, provide reminder calls about appointments and schedule sessions at a consistent time. To improve consistency of medication use:

- combine medication administration with an essential daily activity
- check adherence with pill counts or other means.

If the child participates in CBT, provide separate notebooks for in-session and homework exercises—anticipating some loss of homework notebooks.

Individualizing care

Individualized care is important to return each child to his or her best possible level of functioning. The child's symptom profile, environment, and developmental level can affect treatment.

For example, in a child whose ADHD-related impairment is substantial but whose anxiety-related impairment is mild, pharmacotherapy for ADHD and some parental guidance may be adequate to manage remaining anxiety symptoms.¹⁷ As mentioned, some children show decreased anxiety as their ADHD is better controlled.⁴ Conversely, if ADHD-related impairment is mild but the child is highly anxious, consider CBT alone—preferably on an individual basis—provided the child can manage the cognitive aspects of therapy.

School personnel can monitor change in relation to various interventions, as many of these children's symptoms manifest in the classroom. Behavioral interventions are more likely to succeed if they are administered consistently across home and school environments⁸ and teachers participate in behavior modification.

To elicit cooperation from school personnel, listen to their concerns and observations and help them understand the child's difficulties and the rationale for various treatments. This approach often reduces

Box 2

Behavioral interventions used in the MTA study

The 14-month intensive behavioral intervention used in the National Institute of Mental Health's Multimodal Treatment Study (MTA) of 579 children age 7 to 9 with ADHD included:

- weekly parent training initially, decreasing to monthly by the end
- biweekly teacher consultations in behavior management
- 8-week full-day therapeutic summer program for children, focusing on behavioral and cognitive behavioral intervention
- 12-week half-time behaviorally trained paraprofessional aide in the classroom to generalize gains from summer program
- parent coaching on collaborating with teacher long-term so therapeutic consultation could be faded.

ADHD: attention-deficit/hyperactivity disorder
Source: References 7,8

negative feedback toward the child, a benefit that may further improve outcomes.

Attention to peer relationships and social stressors is often needed. Because of their multiple difficulties, these children may lack social skills and be shunned by their peers.¹ You may need to help them develop social skills and reconnect with their peers after symptoms are well-controlled.

Poverty or lack of social support can affect treatment. Children with ADHD and anxiety usually need multiple interventions, and it is difficult for families to attend to these consistently when struggling with social stressors.

Adolescent adjustments. ADHD and anxiety often are diagnosed in the early school years, so anticipate developmental effects on treatment as the child enters ado-

» To comment on this article or other topics in this issue, visit

CurrentPsychiatry.com and click on the "Send Letters" link or write to Erica Vonderheid, erica.vonderheid@dowdenhealth.com

Clinical Point

Provide appointment reminder calls and schedule sessions at consistent times if parents are in conflict or have their own ADHD traits



ADHD and anxiety

Clinical Point

With adolescents, discuss frankly and nonjudgmentally the risk of experimenting with street drugs or 'sharing' one's medications

lescence. Adolescents value autonomy and may need to be more involved in treatment decisions than younger children.

Ask about and address family disagreements about treatment options, which may reduce adherence. You may need to talk about peer pressure to "not take drugs" by clearly differentiating the reasons some people take street drugs and the reasons for taking prescribed medication. Also discuss in a frank, nonjudgmental manner the risks of experimenting with street drugs (especially with prescribed medication) or of "sharing" one's medications with friends.

Increased cognitive sophistication in adolescence may increase the potential benefit of CBT, so explore this option with the teen, especially if it was not attempted in the past.

References

1. Bowen R, Chavira DA, Bailey K, et al. Nature of anxiety comorbid with attention deficit hyperactivity disorder in children from a pediatric primary care setting. *Psychiatry Res* 2008;157:201-9.
2. Walkup JT, Labellarte MJ, Riddle MA, et al. Searching for moderators and mediators of pharmacological treatment in children and adolescents with anxiety disorders. *J Am Acad Child Adolesc Psychiatry* 2003;42:13-21.
3. Wiesegger G, Kienbacher C, Pellegrini E, et al. Pharmacotherapy of attention-deficit/hyperactivity disorder (ADHD) and comorbid disorders. *Neuropsychiatr* 2007;21:187-206.
4. Abikoff H, McGough J, Vitiello B, et al. Sequential pharmacotherapy for children with comorbid attention-deficit/hyperactivity and anxiety disorders. *J Am Acad Child Adolesc Psychiatry* 2005;44:418-27.
5. *Compendium of pharmaceuticals and specialties*. Ottawa, Canada: Canadian Pharmacists Association; 2008.
6. Goetz H, Back-Bennet O, Zelnik N. Differential stimulant response on attention in children with comorbid anxiety and oppositional defiant disorder. *J Child Neurol* 2007;22:538-42.
7. Wells KC, Pelham WE, Kotkin RA, et al. Psychosocial treatment strategies in the MTA study: rationale, methods, and critical issues in design and implementation. *J Abnorm Child Psychol* 2000;28:483-505.
8. March JS, Swanson JM, Arnold EL, et al. Anxiety as a predictor and outcome variable in the Multimodal Treatment Study of Children with ADHD (MTA). *J Abnorm Child Psychol* 2000;28:527-41.

Related Resources

- American Academy of Child and Adolescent Psychiatry. "ADHD—a guide for families," under the Resources for Families tab. www.aacap.org.
- Watkins C. Stimulant medication and ADHD. www.ncpamd.com/Stimulants.htm.
- Manassis K. *Keys to parenting your anxious child*. 2nd ed. Hauppauge, NY: Barron's Educational Series, Inc.; 2008.

Drug Brand Names

Atomoxetine • Strattera	Methylphenidate • Ritalin, Concerta
Dextroamphetamine • Dexedrine	Mixed amphetamine salts • Adderall
Fluvoxamine • Luvox	

Disclosure

Dr. Manassis reports no financial relationship with any company whose products are mentioned in this article or with manufacturers of competing products.

9. Tannock R, Ickowicz A, Schachar R. Differential effects of methylphenidate on working memory in ADHD children with and without anxiety. *J Am Acad Child Adolesc Psychiatry* 1995;34:886-96.
10. Manassis K, Tannock R, Young A, Francis-John S. Cognition in anxious children with attention deficit hyperactivity disorder: a comparison with clinical and normal children. *Behav Brain Funct* 2007;3:4.
11. Geller D, Donnelly C, Lopez F, et al. Atomoxetine treatment for pediatric patients with attention-deficit/hyperactivity disorder with comorbid anxiety disorder. *J Am Acad Child Adolesc Psychiatry* 2007;46:1119-27.
12. Compton SN, March JS, Brent D, et al. Cognitive behavioural psychotherapy for anxiety and depressive disorders in children and adolescents: an evidence-based medicine review. *J Am Acad Child Adolesc Psychiatry* 2004;43:930-59.
13. Manassis K, Mendlowitz SL, Scapillato D, et al. Group and individual cognitive-behavioral therapy for childhood anxiety disorders: a randomized trial. *J Am Acad Child Adolesc Psychiatry* 2002;41:1423-30.
14. Arnold LE, Abikoff HB, Cantwell DP, et al. National Institute of Mental Health Collaborative Multimodal Treatment Study of Children with ADHD (the MTA). Design challenges and choices. *Arch Gen Psychiatry* 1997;54:865-70.
15. Kagan J, Reznick JS, Snidman N. Biological basis of childhood shyness. *Science* 1990;240:167-71.
16. Van Cleave J, Leslie LK. Approaching ADHD as a chronic condition: implications for long-term adherence. *Pediatr Ann* 2008;37:19-26.
17. Manassis K, Monga S. A therapeutic approach to children and adolescents with anxiety disorders and associated comorbid conditions. *J Am Acad Child Adolesc Psychiatry* 2001;40:115-7.

Bottom Line

Consider a stimulant or atomoxetine for a child with ADHD and an anxiety disorder. You may need to try >1 medication, and improvements with atomoxetine might take several weeks. Consider individual CBT with a therapist who has experience with this population. Collaborate with school personnel to reduce negative feedback toward the child and improve outcomes.