



# Managing ADHD in children: Are you doing enough?

Medication, monitoring, and regular evaluation remain the mainstay of treatment for this disorder, but there are nuances (and new developments) you need to know.

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## PRACTICE RECOMMENDATIONS

› *Side effects of psychostimulants can often be managed with monitoring, dose adjustment, a switch to another drug, or adjunctive therapy. (A)*

› *Weigh and measure a child being treated for ADHD twice a year; aberrant growth may indicate a need for a change in medication regimen. (A)*

### Strength of recommendation (SOR)

- (A) Good-quality patient-oriented evidence
- (B) Inconsistent or limited-quality patient-oriented evidence
- (C) Consensus, usual practice, opinion, disease-oriented evidence, case series

Untreated attention deficit hyperactivity disorder (ADHD) can have serious academic, social, and psychological consequences, both for young patients and their parents. Diagnosis is based on criteria detailed in the *Diagnostic and Statistical Manual of Mental Health Disorders, Fourth Edition Text Revision* (DSM-IV-TR), with observations of the child's behavior obtained from more than one setting.

Physicians should also consider the possibility of coexisting conditions, which could complicate diagnosis and subsequent attempts to treat the signs and symptoms of ADHD. Treatment is multifaceted, and will vary depending on severity, comorbidities, and the degree of compliance with nonpharmacologic modalities.

## A comprehensive approach is called for

Managing pediatric ADHD in a primary care setting requires a comprehensive, goal-oriented treatment plan. The primary goal, as noted in the American Academy of Child and Adolescent Psychiatry (AACAP)'s ADHD guideline,<sup>1</sup> is to maximize the child's functioning, both in terms of an improvement in relationships and academic performance and a reduction of disruptive behavior. Parents and children should be integrated into community supports and school resources, the guideline recommends<sup>1</sup> (strength of recommendation [SOR]: A).

Additional recommendations focus on patient (and parental) education, and on medication, monitoring, and follow-up (SOR: A). Physicians should:

■ **Educate parents and patients** about common ADHD symptoms and treatment strategies.

■ **Initiate pharmacotherapy.** Select an agent that is approved by the US Food and Drug Administration (FDA) for ADHD. These include the psychostimulants dextroamphetamine, D- and DL-methylphenidate, and mixed salts

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amphetamine; and atomoxetine, a noradrenergic reuptake inhibitor. (Central nervous system stimulants should be avoided in children with cardiac abnormalities, who are at increased risk of experiencing sympathomimetic effects.)

■ **Familiarize themselves with medication side effects.** Decreased appetite, insomnia, headache, abdominal pain, and irritable mood are the most common side effects of psychostimulants. Common side effects of atomoxetine include somnolence, anorexia, nausea, skin rash, and a mild increase in blood pressure or heart rate. Notably, there is a small risk of suicide associated with atomoxetine.

■ **Monitor patients for the emergence and severity of side effects.** Many of the side effects of stimulants are transient and can be managed through monitoring, as long as it does not compromise the patient's health or interfere with daily living. Side effects can also be managed with dose adjustment, change of drug treatment, or adjunctive therapy.

■ **Measure height and weight of the patient twice yearly.** If a child's height or weight crosses 2 percentiles on his or her growth curve, it may be an indication of aberrant growth—and a drug holiday or switching to a different medication should be considered.

■ **Evaluate treatment success several times a year.** The review should include behavior, academic progress, emergence of comorbid disorders, and the need for behavioral therapy and continuing pharmacotherapy. A lack of response to one psychostimulant is not predictive of the patient's response to another, the AACAP emphasizes, and it is important to keep trying to find another medication until treatment goals are reached.<sup>1</sup>

If none of the FDA-approved ADHD medications has the desired results, the AACAP recommends (SOR: **B**):

- a referral to a cognitive behavioral therapist or child psychologist
- a trial with a medication that is not FDA-approved for ADHD, such as bupropion, a tricyclic antidepressant, or an alpha-agonist

- a reevaluation of the ADHD diagnosis, adherence to the treatment plan, and the presence of comorbid conditions.<sup>1</sup>

### **AAP stresses hands-on behavioral intervention**

The American Academy of Pediatrics (AAP) also has a clinical practice guideline for the treatment of ADHD, issued in 2001.<sup>2</sup> Its recommendations are similar to those of the AACAP. But AAP puts additional emphasis on parental training in behavioral therapy and classroom behavioral interventions, and considers both to be more effective than cognitive behavioral therapy (CBT).<sup>2</sup>

### **Virtual reality: A viable option?**

Although conventional treatment of childhood ADHD has had considerable clinical success, other forms of treatment may be needed in some cases—if a child's parents reject psychopharmacologic treatment, for example, or medication trials and traditional behavioral therapies, such as CBT, fail to bring the desired results.

Virtual reality (VR), a computer-generated 3-dimensional interactive system, is an emerging clinical tool. VR programs such as The Virtual Classroom<sup>3,4</sup>—in which a child is “immersed” in a simulated classroom setting—have shown promise for ADHD assessment and treatment.

Perhaps the biggest benefit of VR as an ADHD intervention is the opportunity for a clinician to place a patient in a virtual classroom, with tasks that require the child's attention as well as distractors, such as conversation, ambient noise, and moving objects. Another advantage is the ability to integrate traditional assessment tools (Continuous Performance Tasks, for example) and treatment modalities, such as CBT.<sup>5</sup> This can be accomplished through a graphic display of a child's performance during a VR session, which the therapist can use as part of the therapeutic process.<sup>3</sup> And VR has no side effects.

Several facilities are either using or experimenting with VR for ADHD. More information is available from the Virtual Reality Medical Center at <http://www.vrphobia.com/adhd.htm>.

**JFP**

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