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How should we evaluate and treat ADHD in children and adolescents?

Guidelines recommend using comprehensive screening forms rather than diagnostic studies

- **Who should be screened for ADHD?**
- **Are laboratory studies helpful?**
- **What are the most effective medications for treatment?**
- **How effective is behavior modification for treatment?**

These questions are answered in the graded recommendations at right (page 1059), derived from an evidence-based clinical practice guideline developed at Cincinnati Children's Hospital Medical Center. The target populations are children between the ages of 5 and 18 years with symptoms of attention deficit/hyperactivity disorder (ADHD), excluding those with autism, mental retardation, or another mental disorder. Guideline objectives were to improve diagnostic accuracy, treatment outcomes, and patient/parent satisfaction.

The evidence categories for this guideline are assessment/diagnosis, management, referral, and education. Adolescents have been included, as 45% to 85% of children diagnosed with ADHD in elementary school continue to manifest core symptoms and have social and educational dysfunction in middle and high school. The rating scheme is updated to comply with the SORT taxonomy.¹

■ **Guideline relevance and limitations**

ADHD is one of the most common chronic behavioral disorders encountered by primary care physicians. It was first described by Dr Heinrich Hoffman in 1845. ADHD becomes apparent in some children during preschool and early school years. It is hard for these children to control their behavior or pay attention. Between 3% and 5% of children are thought to have ADHD—approximately 2 million children in the US. In a classroom of 25 to 30 children, 1 will likely have ADHD.² Data collected by the guideline developers identified ADHD ranging from 3.5% to 9.2% at their center, reflecting national rates. A bibliography of 145 references accompanies this guideline. The guideline is strengthened by an algorithm for outpatient evaluation and management, educational resources for families, and cost-effectiveness analysis.

■ **Guideline development and evidence review**

The guideline was formulated by an interdisciplinary working group. Evidence was selected by searching Medline, EmBase, and Cochrane databases. A critical appraisal was performed and recommendations were graded. The guideline was released in April 2004.

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Source for this guideline

Cincinnati Children's Hospital Medical Center. *Evidence-Based Clinical Practice Guideline for Outpatient Evaluation and Management of Attention Deficit/Hyperactivity Disorder*. Cincinnati, Ohio: Cincinnati Children's Hospital Medical Center; 2004 Apr 30. 23 pp.

■ Other guidelines on ADHD in children

Diagnosis and management of ADHD in primary care

This 2005 guideline is comprehensive, but recommendations are not individually graded in the summary. It covers *DSM-IV* criteria for diagnosis, screening for other primary conditions and comorbidities for patients newly diagnosed, the use of first-line medications through a systematic, uniform approach, and emphasizes a multimodality approach in treatment planning for children.

Source. Institute for Clinical Systems Improvement (ICSI). *Diagnosis and Management of Attention Deficit Hyperactivity Disorder in Primary Care for School Age Children and Adolescents*. Bloomington, Minn: ICSI; 2005 Jan. 69 pp. [131 references]

Diagnosis and evaluation of a child with ADHD

This 2000 guideline contains an algorithm, patient information, and links to the National Initiative for Children's Healthcare Quality (NICHQ) ADHD Practitioners' Toolkits.

Source. American Academy of Pediatrics. Clinical practice guideline: diagnosis and evaluation of the child with attention-deficit/hyperactivity disorder. *Pediatrics* 2000; 105:1158-1170. [60 references]

Treatment of ADHD

This 2002 guideline is a thorough review of medications, but needs to be updated to include recent drug therapy advances.

Source. American Academy of Pediatrics. Clinical practice guidelines: treatment of the school-aged child with attention-deficit/hyperactivity disorder. *Pediatrics* 2001; 108:1033-1044. [62 references] ■

REFERENCES

1. Ebell M, Siwek J, Weiss BD, et al. Strength of recommendation taxonomy (SORT): A patient-centered approach to grading evidence in the medical literature. *J Fam Pract* 2004; 53:111-120.
2. National Institute of Mental Health, National Institute of Health. Attention Deficit Hyperactivity Disorder. 2003. Available at: www.nimh.nih.gov/publicat/adhd.cfm.

Practice recommendations

GRADE A RECOMMENDATIONS

- Use comprehensive screening forms (eg, Vanderbilt ADHD Screening Tool) to evaluate for symptoms, impairment, and comorbidity.
- Diagnostic studies, including serum lead level, serum thyroid testing, computerized performance tests, and EEG studies are not recommended.
- Combining medication and behavior therapy has been more effective than using medication alone.
- Choose stimulants as first-line medication due to high efficacy and safety for periods as long as 24 months.
- Tricyclic antidepressants are effective in treating ADHD symptoms.

GRADE B RECOMMENDATIONS

- Test for ADHD in any child aged 5 to 18 years who exhibits inattention, impulsivity, academic underachievement, or behavior problems.
- Satisfying the *DSM-IV* criteria is required for the diagnosis of ADHD.
- Screen all ADHD patients for comorbid psychological, developmental, and psychiatric problems.
- Clonidine may be an effective adjunct to stimulant therapy.
- Mild growth suppression can occur in children ages 7 to 10 years who were treated with stimulants for longer than 2 years.

GRADE C RECOMMENDATIONS

- For a treatment plan that includes behavior therapy, use a group treatment setting for 1 to 6 months.
- Alternative therapies—including vitamins, herbs, vision therapy, and food supplements—do not appear to be beneficial.
- Communicate actively and directly with schools for treatment monitoring and follow-up.

FAST TRACK

45% to 85% of children with ADHD continue to manifest core symptoms in middle and high school