

## INTRODUCTION

Attention-deficit/hyperactivity disorder (ADHD) is one of the most common chronic childhood disorders. Current estimates indicate that 4% to 12% of all school-aged children may be affected. ADHD is a neurobehavioral disorder that usually appears in children before the age of 7.

Children with ADHD may have difficulty controlling their behavior in school and social settings and often fail to achieve their full academic potential. Clinically, the child may present with varying symptoms of hyperactivity, impulsivity, and/or inattention. The child may be easily distracted, be unable to pay attention and follow directions, be overactive, and/or have poor self-control.

The *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV)*, characterizes the following 3 subtypes of ADHD:

- **Inattentive only (ADHD-IA)** (formerly known as attention-deficit disorder [ADD])—Children with this form of ADHD are not overly active. Because they do not disrupt the classroom or other activities, their symptoms may not be noticed. Among girls with ADHD, this form is most common. Approximately 30% to 40% of children with ADHD have this subtype.
- **Hyperactive/Impulsive (ADHD-H/I)**—Children with this type of ADHD show hyperactive and impulsive behavior but can pay attention. This subtype accounts for a small percentage, approximately 10%, of children with ADHD.
- **Combined Inattentive/Hyperactive/Impulsive**—Children with this type of ADHD show all 3 symptoms. This is the most common type of ADHD. The majority of children with ADHD have this subtype, approximately 50% to 60%.

*The diagnosis of ADHD relies on the documentation of symptoms that are associated with functional impairment from multiple environments.* Because of this, school personnel, families, and primary care clinicians need to work collaboratively to document specific symptoms and their effect on a child's functioning. School personnel and families also need to be aware that there currently are no biological markers or computerized tests that allow for diagnostic specificity.

*Once a diagnosis of ADHD has been made with confidence, the primary care clinician can approach the issue of treatment of the child with ADHD.* This involves developing a management plan that incorporates the appropriate medication and/or behavior therapy to meet target outcomes. The care of most children with ADHD can be managed in a primary care setting.

The role of the primary care clinician is to

- Synthesize and interpret information about a child's behavior.
- Identify other medical or psychosocial problems that might be causing and/or exacerbating the child's symptoms.
- Refer for further evaluation where needed.
- Arrange other treatment (eg, educational, psychological) as needed.
- Provide appropriate medical treatment.
- Monitor progress.
- Support parents in their role as advocates for the child.

The recommendations in this publication do not indicate an exclusive course of treatment or serve as a standard of medical care. Variations, taking into account individual circumstances, may be appropriate.

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## DIAGNOSIS

### Diagnosis and Evaluation of the Child With Attention-Deficit/Hyperactivity Disorder

An effective treatment begins with an accurate, well-established diagnosis.

This AAP clinical practice guideline contains the following recommendations for diagnosis of ADHD:

1. In a child 6 to 12 years old who presents with inattention, hyperactivity, impulsivity, academic underachievement, or behavior problems, primary care clinicians should initiate an evaluation for ADHD.
2. The diagnosis of ADHD requires that a child meet *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV)*, criteria.
3. The assessment of ADHD requires evidence directly obtained from parents or caregivers regarding the core symptoms of ADHD in various settings, the age of onset, duration of symptoms, and degree of functional impairment.
4. The assessment of ADHD requires evidence directly obtained from the classroom teacher (or other school professional) regarding the core symptoms of ADHD, duration of symptoms, degree of functional impairment, and coexisting conditions.
5. Evaluation of the child with ADHD should include assessment for associated (coexisting) conditions.
6. Other diagnostic tests are not routinely indicated to establish the diagnosis of ADHD but may be used for the assessment of other coexisting conditions (eg, learning disabilities, mental retardation).

This clinical practice guideline is not intended as a sole source in the evaluation of children with ADHD. Rather, it is designed to assist primary care clinicians by providing a framework for diagnostic decision making. It is not intended to replace clinical judgment or to establish a protocol for all children with the condition.

## Tools

### ***NICHQ ADHD Primary Care Initial Evaluation Form***

Intended for use by the clinician, this tool helps organize the various pieces of information needed to make a diagnosis of ADHD: patient history; pertinent physical examination including vision, hearing, and neurologic screening; and data from the assessment scales (described below). This form also can serve to ensure the child has received a treatment plan, appropriate referrals, and a follow-up appointment. *This sample is provided as a template; a clinician can adapt this tool to fit his or her own practice and approach.*

### ***The NICHQ Vanderbilt Parent and Teacher Assessment Scales***

- NICHQ Vanderbilt Assessment Scale—PARENT Informant
- NICHQ Vanderbilt Assessment Scale—TEACHER Informant
- NICHQ Vanderbilt Assessment Follow-up—PARENT Informant
- NICHQ Vanderbilt Assessment Follow-up—TEACHER Informant
- Scoring Instructions for the NICHQ Vanderbilt Assessment Scales
- SAMPLE NICHQ Vanderbilt Assessment Scale—PARENT Informant

A child must meet *DSM-IV* criteria for a diagnosis of ADHD to be appropriate. To confirm a diagnosis of ADHD, these behaviors must

- Occur in more than one setting, such as home, school, and social situations
- Occur to a greater degree than in other children the same age
- Begin onset before the child reaches 7 years of age and continue on a regular basis for more than 6 months
- Significantly impair the child's academic and social functioning
- Not be better accounted for by another disorder

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## DIAGNOSIS, CONTINUED

Many school-aged children have some of these symptoms, either transiently or in a mild form, and it is important to establish the high frequency of symptoms to make the diagnosis of ADHD. The NICHQ Vanderbilt Parent and Teacher Assessment Scales are one way to do this. The NICHQ Vanderbilt Assessment Scales also screen for the following coexisting conditions: oppositional-defiant disorder, conduct disorder, and anxiety and depression. If a screen is positive, a more detailed evaluation is warranted. It also should be noted that the scales will not pick up learning disabilities, suicidal behaviors, bipolar disorder, alcohol and drug use, or tics—all of which may be present in a child with ADHD.

The NICHQ Vanderbilt Assessment Follow-up tools help assess the treatment's effectiveness. There are forms for use by the parent and teacher. Intended for use by the clinician and staff, the scoring instructions provide a set of directions for scoring the NICHQ Vanderbilt Assessment and Follow-up Scales.

### ***Cover Letter to Teachers***

This serves as a means of communication and an introductory letter that may accompany the assessment scales that you request from the school. It is suggested that a “release of information” form, signed by the parent, accompany the letter. This sample is provided as a template; a clinician can adapt this tool to fit his or her own practice and approach.

### ***The NICHQ Vanderbilt Parent Assessment Scale***

#### *How to score the parent checklist*

The NICHQ Vanderbilt scale is divided into 2 sections: Symptoms and Performance. When handing the assessment scale to the parent, point out how to fill out the form correctly.

- The Symptoms section identifies the frequency of occurrence. Direct the parent to circle only 1 of the 4 numbers on the scale.
- The Performance section indicates the level of impairment. Direct the parent to circle only 1 of the 5 numbers on the scale.

Once the form is completed, the ADHD subtype can be determined.

- a. For questions 1–9, add up the number of questions where the parent circled a 2 or 3.
  - b. For questions 10–18, add up the number of questions where the parent circled a 2 or 3.
  - c. For questions 48–55, add up the number of questions where the parent circled a 4 or 5.
- For Predominantly Inattentive subtype, at least 6 of questions 1–9 must score a 2 or 3. In addition, at least 1 of questions 48–55 must score a 4 or 5.
  - For Predominantly Hyperactive/Impulsive subtype, at least 6 of questions 10–18 must score a 2 or 3. In addition, at least 1 of questions 48–55 must score a 4 or 5.
  - For Combined Inattention/Hyperactivity subtype, at least 6 of questions 1–9 and 6 of questions 10–18 must score a 2 or 3. Additionally, at least 1 of questions 48–55 must score a 4 or 5.

#### *What to tell the parent while you are scoring*

You can walk a parent through what you are doing. This is helpful in educating them about their child's condition.

Note: Alternately, staff can score the rating scale. The parent can turn the scale in to the front desk, and a nurse or administrative assistant can score it and attach it to the patient's file. Some clinicians also use questionnaires to collect the history as well as *DSM-IV* criteria and score this packet prior to seeing the child and family. This may allow for a more efficient use of time in the office.

## DIAGNOSIS, CONTINUED

### *The NICHQ Vanderbilt Teacher Assessment Scale*

Teachers often are the first to notice behavior signs of possible ADHD. Children 6 to 12 years of age spend many of their waking hours at school, and the teacher is a powerful source of information about the child's behaviors, interactions, and academic performance. To make an accurate diagnosis, information about the child will be needed directly from the child's classroom teacher or another school professional. The child's academic and classroom behavior is necessary to corroborate the diagnosis and identify potential learning disabilities.

The guideline specifies that this information can be obtained using narratives from the teacher or specific rating scales. Some clinicians find it helpful to do both.

In addition to using an ADHD rating scale, many clinicians find it helpful to talk directly with the teacher to obtain richness beyond the rating scales. For example, ask the teacher to describe

- The child's behavior in the classroom
- The child's learning patterns
- How long the symptoms have been present
- How the symptoms affect the child's progress at school
- Ways the teacher has adapted the classroom program to help the child
- Whether other conditions contribute to or affect the symptoms

In addition, ask to see report cards and samples of the child's schoolwork, as well as any formal testing performed by school personnel.

This interview can take place over the phone or in the form of a written narrative or a paper or computer-based questionnaire.

### *How to score the teacher checklist*

The ADHD-specific questionnaires and rating scales also are available for teachers. These scales accurately distinguish between children with and without the diagnosis of ADHD. Whether these scales provide additional benefit beyond narratives or descriptive interviews informed by *DSM-IV* criteria is not known. Using scales can give an objective rating for monitoring improvements.

A corresponding teacher scale to complement the parent questionnaire has been developed. Once the form is completed, the ADHD subtype can be determined.

- a. For questions 1–9, add up the number of questions where the teacher circled a 2 or 3.
  - b. For questions 10–18, add up the number of questions where the teacher circled a 2 or 3.
  - c. For questions 36–43, add up the number of questions where the teacher circled a 4 or 5.
- For Predominantly Inattentive subtype, at least 6 of questions 1–9 must score a 2 or 3. In addition, at least 1 of questions 36–43 must score a 4 or 5.
  - For Predominantly Hyperactive/Impulsive subtype, at least 6 of questions 10–18 must score a 2 or 3. In addition, at least 1 of questions 36–43 must score a 4 or 5.
  - For Combined Inattention/Hyperactivity subtype, at least 6 of questions 1–9 and 6 of questions 10–18 must score a 2 or 3. In addition, at least 1 of questions 36–43 must score a 4 or 5.

## TREATMENT

A treatment plan is tailored to the individual needs of the child and family. It may require medical, educational, behavioral, and psychological interventions. This multimodal approach can improve the child's behavior in the home, classroom, and social settings. In most cases, successful treatment will include a combination of stimulant medication and behavior therapy.

The AAP clinical practice guideline, "Treatment of the School-Aged Child With Attention-Deficit/Hyperactivity Disorder," contains the following recommendations for treatment of ADHD in children aged 6 to 12 years:

1. Primary care clinicians should establish a treatment program that recognizes ADHD as a chronic condition.
2. The treating clinician, parents, and the child, in collaboration with school personnel, should specify appropriate target outcomes to guide management.
3. The clinician should recommend stimulant medication and/or behavioral therapy as appropriate to improve target outcomes in children with ADHD.
4. When the selected management for a child with ADHD has not met target outcomes, clinicians should evaluate the original diagnosis, use of all appropriate treatments, adherence to the treatment plan, and presence of coexisting conditions.
5. The clinician should periodically provide a systematic follow-up for the child with ADHD. Monitoring should be directed to target outcomes and adverse effects by obtaining specific information from parents, teachers, and the child.

The AAP guideline recognizes the variation in severity and complexity of children presenting with ADHD and specifically limits the target population to children aged 6 to 12 years with ADHD but without major coexisting conditions.

### Tools

#### ADHD Management Plan (2 Samples)

The ADHD Management Plan is a written handout for the child and family describing planned goals, indicating when and how to take any prescribed medications, and outlining the next steps. Its purpose is to help the child and family manage his or her ADHD.

The monitoring plan should consider normal developmental changes in behavior over time, educational expectations that increase with each grade, and the dynamic nature of a child's home and school environment. Changes in any of these areas may alter target behaviors.

This form also can be used to monitor the date of refills, medication type, dosage, frequency, quantity, and responses to treatment (both medication and behavior therapy).

*These samples are provided as a template; a clinician can adapt either version to fit his or her own practice and approach.*

#### How to Establish a School-Home Daily Report Card

The Daily Report Card (DRC) is a form of behavior modification that can be used to reward the child for meeting specific target outcomes in home and classroom settings.

This tool follows the same concept as an academic report card, but focuses on the child's behaviors. The DRC provides immediate feedback on the child's behaviors. Each day, the parent fills out a DRC on the child's behavior at home. Similarly, the teacher fills out the DRC on the child's behavior at school and sends it home. The parent rewards the child for a good report, or withholds a privilege in the case of a bad report.

The physician will need to be familiar with these tools to assist with the implementation of the DRC by reviewing it with parents; this provides parents with the direction needed to use this tool at home and assist the teacher with its use at school. This tool provides for communication among the school, parents, and clinician so all parties involved in the child's care know how well the child is meeting his or her target outcomes.

#### Stimulant Medication Management Information

Intended for use by the clinician, this tool reviews the types of stimulants available, dosing, and potential side effects. This chart will need updating at intervals as new medications are introduced.

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## PARENT INFORMATION AND SUPPORT

The AAP ADHD clinical practice guidelines underscore the important role of children and families in the evaluation process as well as the design of an appropriate management plan. The following tools can facilitate the inclusion of the child and family:

### Tools

#### **Understanding ADHD: Information for Parents About Attention-Deficit/Hyperactivity Disorder**

This excellent AAP booklet provides answers to many of parents' most common questions about ADHD.

#### **Does My Child Have ADHD?**

This tool suggests parents monitor some of their child's behaviors to facilitate the evaluation for ADHD.

#### **Evaluating Your Child for ADHD and ADHD Evaluation Timeline**

This tool includes a timeline that can help parents or caregivers understand the steps required for making a diagnosis and facilitate obtaining the necessary information.

#### **For Parents of Children With ADHD**

This list contains helpful suggestions on parenting a child with ADHD.

#### **What Can I Do When My Child Has Problems With Sleep?**

This is a handout for parents with suggestions for how to handle children with ADHD who have problems with sleep.

#### **Educational Rights for Children With ADHD**

Intended primarily for use by the clinician, this tool can be used to guide parents' decisions about educational interventions to help children with ADHD.

#### **Homework Tips for Parents**

This list contains helpful suggestions on completing educational assignments.

#### **Working With Your Child's School**

This is a parent education piece that provides suggestions for initiating an educational partnership, collaborating on the child's evaluation, and cooperating throughout the child's school career on the targeted outcomes.

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RESOURCES

Tools

**ADHD Coding Fact Sheet for Primary Care Clinicians**

This tool summarizes helpful facts to ensure appropriate coding for ADHD services.

**ADHD Encounter Form**

This is a sample billing form that a clinician can adapt for his or her practice and approach.

**Documentation for Reimbursement**

This is a sample letter that a clinician can use to document the provision of ADHD care for insurance purposes. A clinician can adapt this for his or her practice and approach.

**ADHD Resources Available on the Internet**

This is a list of Web sites of organizations and resources helpful to the family, clinician, and school.

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