# Guideline for the Management of Attention-Deficit / Hyperactivity Disorder

## Essential Feature

“A persistent pattern of inattention and/or hyperactivity-impulsivity that is more frequently displayed and more severe than is typically observed in individuals at a comparable level of development.”

## Evaluation

**Attention-Deficit/Hyperactivity Disorder** is characterized by either

- Six or more of the following symptoms of inattention persisting for at least six months
  - failing to give close attention to details or making careless mistakes in schoolwork, work, other activities
  - having difficulty sustaining attention in tasks or play
  - not seeming to listen when directly addressed
  - not following through on instructions and failing to finish assigned tasks, not due to oppositional behavior or failing to understand instructions
  - having difficulty organizing tasks and activities
  - avoiding, disliking, or being reluctant to engage in tasks requiring sustained mental effort such as schoolwork or homework
  - losing things necessary for tasks or activities
  - being easily distracted by extraneous stimuli
  - being forgetful in daily activities
- Six or more of the following symptoms of hyperactivity-impulsivity persisting for at least six months

### Hyperactivity

- Fidgeting with hands or feet, or squirming in seat
- Leaving seat in classroom or other situations where remaining seated is expected
- Running about or climbing excessively in situations where this behavior is inappropriate, or, in adolescents/adults, may be limited to subjectively feeling restless
- Having difficulty playing or engaging in quiet leisure activities
- Being “on the go,” or acting as if “driven by a motor”
- Talking excessively

### Impulsivity

- Blurt out answers before the questions have been completed
- Having difficulty awaiting one’s turn
- Interrupting or intruding on others, such as butting into conversations or games

Some hyperactive-impulsive or inattentive symptoms causing impairment were present before the age of seven.

Some symptom-induced impairment is present in two or more settings, such as at school or work and at home.

## Clinical Pearls and Recommendations

1. Evaluation should include information gathered from school and home.
2. ADHD should be recognized as a chronic condition. Treatment should occur in collaboration with family members and school personnel.
3. Optimal treatment involves behavioral therapy at home and at school.
4. If a child fails two stimulant medication trials, referral to a behavioral health care provider for further assessment and treatment would be appropriate.
5. Children with ADHD are at higher risk of learning disorders and should be referred for school evaluation.
6. Children with ADHD have greater needs for external, positive feedback and structure than normal children.
7. Support of the other family members is important.
8. Ratings from both school and family are strongly recommended.

## Laboratory Testing

No specific laboratory tests, neurological assessments, or attentional assessments have been established as diagnostic. Cardiograms prior to prescribing stimulants are recommended only if the patient has a history of cardiac problems or family history of sudden death. Use of rating scales is highly recommended. See screening tools on page 2 of guideline.

## Differential Diagnosis

ADHD must be distinguished from age appropriate behaviors in active children, age appropriate inattention noted in children with Mental Retardation, inattention in highly intelligent children placed in academically understimulating environments, oppositional behaviors, and the repetitive motor behavior seen in Stereotypic Movement Disorder. ADHD is not diagnosed if the patient’s symptoms are better addressed by other mental disorders, such as Mood Disorder (particularly Bipolar), Anxiety Disorder, Dissociative Disorder, Personality Disorder, Personality Change Due to a General Medical Condition, or a Substance-Related Disorder. ADHD should not be diagnosed if the symptoms occur exclusively during the course of a Pervasive Developmental Disorder or a Psychotic Disorder.

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

Assessment of the child by the primary care clinician includes:
- Standard history and physical examination
- Neurological examination
- Family assessment including substance history
- School assessment
- Past treatment intervention(s)
- Connors or Brown rating scales

Does child meet DSM-IV criteria for ADHD?

Are there symptoms of associated conditions?

Assess for coexisting conditions

Can presence of coexisting conditions be confirmed?

Does child meet DSM-IV criteria for ADHD?

Assess and treat

Screening Tools

Conners Rating Scales-Revised (CRS-R)
Evaluate problem behaviors as reported by teacher, parent or caregivers, and self-reports. https://www.mhs.com

Conners Adult ADHD
Evaluate attention and related impulse problems in adults https://www.mhs.com

Brown Attention-Deficit Disorder Scale
Evaluate and screen from self-reports one for adolescents age 12-18, one for adults. Also effective for monitoring treatment response. http://harcourtassessment.com

Behavioral Assessment System for Children (BASc)
Coordinated systems of instruments that evaluate the behaviors, thoughts, and emotions of children and adolescents. Provides teacher, parent, and self-reports. Includes structured developmental history and observed classroom behavior. Measures numerous aspects of behavior and personality, including adaptive and problematic dimensions, as well as behaviors linked to ADHD. https://ags.pearsonassessments.com

Additional resources available for caregivers:


Children and Adults with Attention Deficit Disorder (CHADD) 8181 Professional Place, Suite 201 Landover, MD 20785 1-301-306-7070 fax: 1-301-306-7090 1-800-233-4050 website: www.chadd.org.


National Attention Deficit Disorder Association (ADD) 1788 Second Street, Suite 200 Highland Park, IL 60035 1-847-432-ADDa fax: 1-847-432-5874 website: www.add.org email: mail@add.org.

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Treatment of Children with ADHD

Child presents with diagnosis of ADHD

Clinician, parents, child and teacher:
A. Identify target outcomes;
B. Develop comprehensive treatment plan;
C. Assess response in treatment plan.

Is response to treatment plan adequate?

Yes

Clinicmonitors routinely.

No

Is child on stimulant medication?

Yes

Have all stimulant medications been systematically titrated to the maximum tolerated dose?

Yes

Assess response to treatment plan.

No

1. Consider adding stimulant medication.
2. Reinforce behavior therapy.

Is adherence to stimulant medication or behavior therapy poor?

Yes

1. Consider another stimulant medication.
2. Reinforce behavior therapy and appropriateness of type of therapy

Develops and assesses treatment plan and response

No

Is the diagnosis correct?

Yes

Exit guideline and seek appropriate treatment

No

Were coexisting conditions missed?

Yes

Clinician evaluates and treats coexisting conditions

No

Are target symptoms appropriate?

Yes

Assess and monitor treatment plan

No

Clinician considers second-line medications after all stimulants have been tried.

Algorithms serve as guidelines only and cannot replace clinical judgement

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### Supplement to Guideline

**Use of Commonly Prescribed Psychostimulants**

**Medication** | **Brand Name(s)** | **Starting dose (mg/d)** | **Usual dosage (mg/d)** | **How Supplied** | **Maximum dose (mg/d)** | **Generic** |
--- | --- | --- | --- | --- | --- | --- |
Dextroamphetamine | Dexamphetamine, Dextrostat | 2.5 mg-increasing dosage 2.5 mg-increasing dosage | Child 15-20 md/qd Adult +/- 20-45 mg/d bid or tid | 5,10 mgs tabs 10,15 mg spansules | 40 mg | Y |
| | Mix | | Adult 5-60 mg qd | 5,10 mg tab | | Y |
Dextroamphetamine | Adderall | 2.5 mg po am | Child 5-40 mg qd Adult 5-60 mg qd | 5,7,5,10,12,5,15,20,30 mg 10,20,30 mg XR tabs | 40 mg child 60 adult | Y |
Methamphetamine | Desoxyn | 5-10 mg child | Child +/- 5-40 mg/d bid or tid Adult +/- 20-40 mg/d bid or tid | 5mg | | N |
Dexamphetamine | Focalin | 2.5 mg bid | 2.5-10 mg po qd for child over six years to adult | 2.5, 5, 10 mg | 20mg/qd | N |
Methylphenidate | Ritalin | 5-10 mg child | Child 10-35 mg daily | 5,10,20 mg tabs | 35 mg qd | Y |
| Ritalin SR | | 20 mg qd child | Child 20-60 mg daily | 20 mg SR | 60 mg qd | N |
| Metadate | 20 mg qam | 20-60 mg qam | 10, 20 mg ER tab | 60 mg qd | | Y |
| Concerta | 18 mg qd | 18-54 mg-1 tab qd | 18,27,36,54 mg SR tabs | 54 mg qd | | Y |
| Daytrana Patch | 5-10 mgs | 1-20 mgs | 10, 15, 20, 30 mgs | | | N |
| Metadate CD | 20 mgs qam | 20-60 mgs | 10, 20, 30 mgs | | | N |
| Methylphenidate | 5-10 mgs | 10-35 mgs | 10, 20 mgs | | | N |
| Methylphenidate | 10 mgs | 20-40 mgs | 10, 20 mgs | | | N |
| Methylphenidate | 2.5-5 mgs | 10-30 mgs | 2.5, 5, 10 mgs | | | N |
| Methylphenidate | 5 mgs | 1-30 mgs | 5, 10 mgs per teaspoon | | | N |
Atomoxetine HCL | Strattera | Child 40-62lbs 18 mg 63-93lbs 25 mg target dose 40 mg 94-126lbs 40 mg target dose 60 mg 127lbs 40 mg target dose 80 mg | 40-62lbs 25 mg 63-93lbs 40 mg 94-126lbs 60 mg 127lbs 80 mg | 10, 18, 25, 40, 60mg | Child 1.4 mg/kg or 100 mg or whichever is less | N |

### Use of non-stimulants

**Medication** | **Brand Name(s)** | **Starting dose (mg/d)** | **Usual dosage** | **How Supplied** | **Max dose (mg/d)** | **Generic** |
--- | --- | --- | --- | --- | --- | --- |
Atomoxetine HCL | Strattera | Child 40-62lbs 18 mg 63-93lbs 25 mg target dose 40 mg 94-126lbs 40 mg target dose 60 mg 127lbs 40 mg target dose 80 mg | 40-62lbs 25 mg 63-93lbs 40 mg 94-126lbs 60 mg 127lbs 80 mg | 10, 18, 25, 40, 60mg | Child 1.4 mg/kg or 100 mg or whichever is less | N |

### Additional information

Dosage is individualized for each patient.

Dextroamphetamine (Dexedrine) is not commonly used in children under the age of 5.

Longer acting agents such as Adderal, Concerta, and Ritalin SR are preferred for convenience reasons.

Upward titration should continue weekly until increments of improvement stop or side effects become significant. If there is no improvement at a dose that produces noticeable side effects the medication should be discontinued.

Common side effects include insomnia, nervousness, and are usually dose dependant. Additional side effects include headache, palpitations, decreased appetite, and nausea.

Careful supervision is required for medication withdrawal.

Patients taking Strattera (atomoxetine) should be informed of increased risk of irritability, suicidal ideation or liver toxicity.

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