



ADHD CLINICAL PRACTICE GUIDELINE (FOR CHILDREN)

Topics	Recommendations
Objective	<p>These clinical practice guidelines have been developed for Primary Care Physicians for the treatment of attention deficit hyperactivity disorder or ADHD in children and adolescents between the ages of 6 and 12 years of age. These guidelines are to be used as a guide only for uncomplicated cases of attention deficit hyperactivity disorder. It is recommended that a psychiatrist or psychologist specializing in the treatment of children and adolescents be consulted for patients with complicated cases of ADHD and/or co-morbid psychiatric disorders.</p> <p>According to the American Academy of Pediatrics, ADHD is the most common neurobehavioral disorder of childhood. The Diagnostic Statistical Manual Fourth Edition or DSM-IV, developed by the American Psychiatric Association, estimate the prevalence of ADHD in school-aged children is between 3% to 5%.</p> <p>Children and adolescents with ADHD often have co-morbid conditions including, but not limited to, bipolar disorder, oppositional defiant disorder, impulse control disorder and major depression. As many as one third of children with ADHD have one or more co-existing conditions. Many of the symptoms associated with these co-morbid disorders overlap common ADHD symptoms such as agitation, aggressiveness and defiance, inability to process information and inability to function as expected for the patient's age range.</p>
Access to Health Care	<p>The primary care physician is often the first health care provider that patients see. Primary care physicians should be proficient in identifying ADHD and coordinating the appropriate treatment and referrals as needed.</p>
Assessment	<p>It is crucial to obtain information about patients in a variety of settings. Physicians should not assume behavior in the physician's office is indicative of the presence or absence of ADHD symptoms. Often, patients with ADHD are able to focus in the structured environment of a doctor's appointment. Doctors may often "miss" an ADHD diagnosis because the patient is acting appropriately in his or her office.</p> <p>The primary care physician needs to conduct a complete medical assessment of the patient in order to rule out medical conditions which may affect the patient's functioning and behavior at home and at school. This assessment needs to include the patient's use of prescribed and over the counter medications as well as the possibility of illicit drugs. Sociological conditions at home such as possible abuse or neglect also need to be evaluated.</p> <p>There are no medical tests that are available to definitively diagnose ADHD. Rather, ADHD is usually diagnosed by obtaining detailed histories and eliciting feedback from families, teachers, and the patient. The family assessment should include documentation of the patient's behavior in multiple settings, the age of onset, the duration of symptoms and the degree of functional impairment. The teachers' assessment should include a review of the patient's classroom behavior, learning patterns, degree of functional impairment and academic</p>

Topics	Recommendations
	<p>achievements.</p> <p>Rating scales for parents and teachers are available to help assess the patient in various settings. The Vanderbilt ADHD Diagnostic Rating for parents and teachers is one example of a rating scale that may be helpful in assessing the patient's functioning at home and at school. Appendix 1 and appendix 2 are copies of the Vanderbilt rating scales that are available to use free of charge.</p> <p>Other rating scales include the Connor's rating scales, the parent and teacher report form of the Child Behavior Checklist, the ADD-H Comprehensive Teaching Rating Scale and the Barkley Home Situations Questionnaire and School Situations Questionnaire.</p>
Diagnosis	<p>There are three identified core symptoms of ADHD. These are inattention, impulsivity and hyperactivity. The DSM-IV reference has identified clinical features and assessment procedures to diagnosis ADHD. These symptoms must have been present before the age of 7 and observable at home and at school.</p> <ul style="list-style-type: none"> ▪ The DSM-IV criteria for ADHD are listed on Appendix 3 of the guidelines.
Treatment and Referral	<p>Treatment for ADHD shown to be effective includes psychosocial interventions and medication.</p> <p>Psychosocial interventions may include behavior management training, social skills training and counseling. Numerous studies have shown that these interventions alone are not as effective in treating the CORE symptoms of ADHD (inattention, impulsiveness and hyperactivity). Interventions coupled with medication therapy have more positive treatment outcomes.</p> <p>The primary medications for treatment of ADHD are psycho stimulants. Stimulants are effective in the short term in reducing the ADHD symptoms and improving the patient's ability to function at school and at home.</p> <ul style="list-style-type: none"> ▪ Guidelines for prescribing the psycho stimulants outlined on Appendix 4. <ul style="list-style-type: none"> - Certain antidepressants are also effective in reducing and/or controlling the symptoms of ADHD, however the psychostimulants are the first line of medication therapy that should be considered.
Medication Management	<p>Suggested follow up appointments for persons whose treatment include initiation of medications is recommended as follows:</p> <p>Initiation of medication treatment: (1 month)</p> <ul style="list-style-type: none"> ▪ Treatment with medication should be continuous during this time ▪ Monitor the patient weekly for response to the medication and assess that he or she is taking the medication as prescribed ▪ Appropriate follow-up with medication prescribed for ADHD is at least one outpatient appointment within 30 days of starting the medication with a practitioner with prescriptive authority ▪ Make certain the dose of medication is adequate ▪ Titrate the dose upward, according to manufacturer and FDA recommendations and patient tolerance when response is ineffective ▪ If there is no improvement within 4-6 weeks, non-behavioral health

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	<p>practitioners should consider a consultation with a psychiatrist or psychologist to verify the diagnosis and consider a substitute or augmentation strategy.</p> <p>Continuation and Maintenance of medication treatment: (9 months)</p> <ul style="list-style-type: none"> ▪ Review the need to continue treatment with the patient ▪ Continue medication at full therapeutic dose after the initiation of treatment. ▪ The patient should be seen for an outpatient appointment by a practitioner with prescriptive authority every 3 to four months during this period. ▪ During the appointments, the ratings scales should be re-administered to determine efficacy of treatment in improvement of functioning.
<p>Medication Therapy with Behavioral Health Interventions</p>	<p>Medication therapy has been found to be much more effective when combined with behavioral treatment interventions. Psychologists specializing in treatment of adolescents and children are able to address the behavioral aspects of ADHD and make recommendations on improving the patient’s functioning. A referral to a behavioral health specialist for evaluation and co-management of the ADHD symptoms enhances the outcomes of treatment for ADHD.</p> <p>Feedback from parents and teachers regarding improvement in ADHD should be monitored closely to determine if treatment is effective. A reassessment by the family and teachers utilizing the ADHD rating scales should be conducted periodically to evaluate the effectiveness of treatment.</p>
<p>Involvement of Family and School with Treatment</p>	<p>School psychologists, therapists, teachers and nurses are important members of the treatment team. People that have an impact on the patient’s daily schedule and functioning should be made aware of the diagnosis and treatment. The main goal of treatment is to maximize the patient’s functioning by improving relationships and school performances and reducing disruptive behavior.</p> <p>Behavioral health interventions can be extremely useful toward increasing parental understanding of ADHD, and can provide parents with specific interventions that can assist the child’s functioning. Many families and children benefit from assistance with the development of organization skills, social skills, home routines and reasonable behavioral expectations. Intervention with school personnel is often helpful toward providing greater structure and understanding of the child’s needs within the school classroom.</p>

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<p>Co-Morbid Mental Health Conditions</p>	<p>Children who appear to have co-morbid conditions such as bipolar disorder and oppositional defiant disorder often require additional diagnostic assistance via psychological testing in order to determine the nature and extent of these additional conditions, and to define the proper course of effective treatment. Children with co-morbid conditions often require more intensive individual and/or family intervention due to the complexity of their symptomatology. A referral to an adolescent psychiatrist and/or behavioral health specialist is strongly recommended when the patient presents with co-morbid symptoms of a complex mental disorder and/or when the patient does not respond to medication trials for symptom management.</p> <ul style="list-style-type: none"> ▪ An algorithm for treatment of ADHD is outlined on Appendix 5 of these guidelines.

Sources:

American Academy of Pediatrics. Clinical Practice Guideline: Diagnosis and Evaluation of the Child with Attention-Deficit/Hyperactivity Disorder. Pediatrics 2000; 105:1158-1170.

American Family Physician. Practice Guidelines on Treatment of Children with ADHD as developed by the American Academy of Pediatrics; 2000, issue 105; Summarized in February 15, 2002 issue.

American Academy of Child and Adolescent Psychiatry. Summary of the Practice Parameters for the Assessment and Treatment of Children, Adolescents, and Adults with Attention-Deficit/Hyperactivity Disorder. . March 22, 1997.

“Attention Deficit Hyperactivity Disorder”, National Institute of Mental Health booklet.

Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV) (1994). Washington, D.C. American Psychiatric Association.

“Attention Deficit Hyperactivity Disorder”, Educational resource for residents, developed by William Smucker, M.D. and the Family Practice Center of Akron, 2003.

”Attention Deficit Hyperactivity Disorder, Health Guide A to Z”, WebMD

National Initiative for Children’s Healthcare Quality

Guidelines reviewed/updated:

6/24/04 – Approved by the SummaCare Behavioral Health Committee.

12/22/05 – Updated & approved by the SummaCare Behavioral Health Committee

12/13/07 – Approved by the SummaCare Behavioral Health Committee

7/23/09 – Updated and approved by the SummaCare Behavioral Health Committee

Today's Date: _____ Child's Name: _____ Date of Birth: _____

Parent's Name: _____ Parent's Phone Number: _____

**Directions: Each rating should be considered in the context of what is appropriate for the age of your child.
When completing this form, please think about your child's behaviors in the past 6 months.**

Is this evaluation based on a time when the child was on medication was not on medication not sure?

Symptoms	Never	Occasionally	Often	Very Often
1. Does not pay attention to details or makes careless mistakes with, for example, homework	0	1	2	3
2. Has difficulty keeping attention to what needs to be done	0	1	2	3
3. Does not seem to listen when spoken to directly	0	1	2	3
4. Does not follow through when given directions and fails to finish activities (not due to refusal or failure to understand)	0	1	2	3
5. Has difficulty organizing tasks and activities	0	1	2	3
6. Avoids, dislikes, or does not want to start tasks that require ongoing mental effort	0	1	2	3
7. Loses things necessary for tasks or activities (toys, assignments, pencils, or books)	0	1	2	3
8. Is easily distracted by noises or other stimuli	0	1	2	3
9. Is forgetful in daily activities	0	1	2	3
10. Fidgets with hands or feet or squirms in seat	0	1	2	3
11. Leaves seat when remaining seated is expected	0	1	2	3
12. Runs about or climbs too much when remaining seated is expected	0	1	2	3
13. Has difficulty playing or beginning quiet play activities	0	1	2	3
14. Is "on the go" or often acts as if "driven by a motor"	0	1	2	3
15. Talks too much	0	1	2	3
16. Blurts out answers before questions have been completed	0	1	2	3
17. Has difficulty waiting his or her turn	0	1	2	3
18. Interrupts or intrudes in on others' conversations and/or activities	0	1	2	3
19. Argues with adults	0	1	2	3
20. Loses temper	0	1	2	3
21. Actively defies or refuses to go along with adults' requests or rules	0	1	2	3
22. Deliberately annoys people	0	1	2	3
23. Blames others for his or her mistakes or misbehaviors	0	1	2	3
24. Is touchy or easily annoyed by others	0	1	2	3
25. Is angry or resentful	0	1	2	3
26. Is spiteful and wants to get even	0	1	2	3
27. Bullies, threatens, or intimidates others	0	1	2	3
28. Starts physical fights	0	1	2	3
29. Lies to get out of trouble or to avoid obligations (ie, "cons" others)	0	1	2	3
30. Is truant from school (skips school) without permission	0	1	2	3
31. Is physically cruel to people	0	1	2	3
32. Has stolen things that have value	0	1	2	3

The information contained in this publication should not be used as a substitute for the medical care and advice of your pediatrician. There may be variations in treatment that your pediatrician may recommend based on individual facts and circumstances.

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Adapted from the Vanderbilt Rating Scales developed by Mark L. Wolraich, MD.

Revised – 1102

Today's Date: _____ Child's Name: _____ Date of Birth: _____

Parent's Name: _____ Parent's Phone Number: _____

Symptoms (continued)	Never	Occasionally	Often	Very Often
33. Deliberately destroys others' property	0	1	2	3
34. Has used a weapon that can cause serious harm (bat, knife, brick, gun)	0	1	2	3
35. Is physically cruel to animals	0	1	2	3
36. Has deliberately set fires to cause damage	0	1	2	3
37. Has broken into someone else's home, business, or car	0	1	2	3
38. Has stayed out at night without permission	0	1	2	3
39. Has run away from home overnight	0	1	2	3
40. Has forced someone into sexual activity	0	1	2	3
41. Is fearful, anxious, or worried	0	1	2	3
42. Is afraid to try new things for fear of making mistakes	0	1	2	3
43. Feels worthless or inferior	0	1	2	3
44. Blames self for problems, feels guilty	0	1	2	3
45. Feels lonely, unwanted, or unloved; complains that "no one loves him or her"	0	1	2	3
46. Is sad, unhappy, or depressed	0	1	2	3
47. Is self-conscious or easily embarrassed	0	1	2	3

Performance	Excellent	Above Average	Average	Somewhat of a Problem	Problematic
48. Overall school performance	1	2	3	4	5
49. Reading	1	2	3	4	5
50. Writing	1	2	3	4	5
51. Mathematics	1	2	3	4	5
52. Relationship with parents	1	2	3	4	5
53. Relationship with siblings	1	2	3	4	5
54. Relationship with peers	1	2	3	4	5
55. Participation in organized activities (eg, teams)	1	2	3	4	5

Comments:

For Office Use Only

Total number of questions scored 2 or 3 in questions 1–9: _____

Total number of questions scored 2 or 3 in questions 10–18: _____

Total Symptom Score for questions 1–18: _____

Total number of questions scored 2 or 3 in questions 19–26: _____

Total number of questions scored 2 or 3 in questions 41–47: _____

Total number of questions scored 4 or 5 in questions 48–55: _____

Average Performance Score: _____

Teacher's Name: _____ Class Time: _____ Class Name/Period: _____
 Today's Date: _____ Child's Name: _____ Grade Level: _____

Directions: Each rating should be considered in the context of what is appropriate for the age of the child you are rating and should reflect that child's behavior since the beginning of the school year. Please indicate the number of weeks or months you have been able to evaluate the behaviors: _____.

Is this evaluation based on a time when the child was on medication was not on medication not sure?

Symptoms	Never	Occasionally	Often	Very Often
1. Fails to give attention to details or makes careless mistakes in schoolwork	0	1	2	3
2. Has difficulty sustaining attention to tasks or activities	0	1	2	3
3. Does not seem to listen when spoken to directly	0	1	2	3
4. Does not follow through on instructions and fails to finish schoolwork (not due to oppositional behavior or failure to understand)	0	1	2	3
5. Has difficulty organizing tasks and activities	0	1	2	3
6. Avoids, dislikes, or is reluctant to engage in tasks that require sustained mental effort.	0	1	2	3
7. Loses things necessary for tasks or activities (school assignments, pencils, or books).	0	1	2	3
8. Is easily distracted by extraneous stimuli	0	1	2	3
9. Is forgetful in daily activities	0	1	2	3
10. Fidgets with hands or feet or squirms in seat	0	1	2	3
11. Leaves seat in classroom or in other situations in which remaining seated is expected	0	1	2	3
12. Runs about or climbs excessively in situations in which remaining seated is expected.	0	1	2	3
13. Has difficulty playing or engaging in leisure activities quietly	0	1	2	3
14. Is "on the go" or often acts as if "driven by a motor"	0	1	2	3
15. Talks excessively	0	1	2	3
16. Blurts out answers before questions have been completed	0	1	2	3
17. Has difficulty waiting in line	0	1	2	3
18. Interrupts or intrudes on others (eg, butts into conversations/games)	0	1	2	3
19. Loses temper	0	1	2	3
20. Actively defies or refuses to comply with adult's requests or rules	0	1	2	3
21. Is angry or resentful	0	1	2	3
22. Is spiteful and vindictive	0	1	2	3
23. Bullies, threatens, or intimidates others	0	1	2	3
24. Initiates physical fights	0	1	2	3
25. Lies to obtain goods for favors or to avoid obligations (eg, "cons" others)	0	1	2	3
26. Is physically cruel to people	0	1	2	3
27. Has stolen items of nontrivial value	0	1	2	3
28. Deliberately destroys others' property	0	1	2	3
29. Is fearful, anxious, or worried	0	1	2	3
30. Is self-conscious or easily embarrassed	0	1	2	3
31. Is afraid to try new things for fear of making mistakes	0	1	2	3

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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Adapted from the Vanderbilt Rating Scales developed by Mark L. Wolraich, MD.
Revised - 0303

Teacher's Name: _____ Class Time: _____ Class Name/Period: _____
 Today's Date: _____ Child's Name: _____ Grade Level: _____

Symptoms (continued)	Never	Occasionally	Often	Very Often
32. Feels worthless or inferior	0	1	2	3
33. Blames self for problems; feels guilty	0	1	2	3
34. Feels lonely, unwanted, or unloved; complains that "no one loves him or her"	0	1	2	3
35. Is sad, unhappy, or depressed	0	1	2	3

Performance	Excellent	Above Average	Average	Somewhat of a Problem	Problematic
Academic Performance					
36. Reading	1	2	3	4	5
37. Mathematics	1	2	3	4	5
38. Written expression	1	2	3	4	5
Classroom Behavioral Performance					
39. Relationship with peers	1	2	3	4	5
40. Following directions	1	2	3	4	5
41. Disrupting class	1	2	3	4	5
42. Assignment completion	1	2	3	4	5
43. Organizational skills	1	2	3	4	5

Comments:

Please return this form to: _____
 Mailing address: _____

 Fax number: _____

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Total number of questions scored 2 or 3 in questions 1–9: _____
 Total number of questions scored 2 or 3 in questions 10–18: _____
 Total Symptom Score for questions 1–18: _____
 Total number of questions scored 2 or 3 in questions 19–28: _____
 Total number of questions scored 2 or 3 in questions 29–35: _____
 Total number of questions scored 4 or 5 in questions 36–43: _____
 Average Performance Score: _____

11-20/rev0303

DSM-IV Criteria for ADHD

- Either (1) or (2):
 - (1) Six (or more) of the following symptoms of **inattention** have persisted for at least 6 months to a degree that is maladaptive and inconsistent with developmental level:

Inattention

- often fails to give close attention to details or makes careless mistakes in schoolwork, work, or other activities
- often has difficulty sustaining attention in tasks or play activities
- often does not seem to listen when spoken to directly
- often does not follow through on instructions and fails to finish schoolwork, chores, or duties in the workplace (not due to oppositional behavior or failure to understand instructions)
- often has difficulties organizing tasks and activities
- often avoids, dislikes, or is reluctant to engage in tasks that require sustained mental effort (such as schoolwork or homework)
- often loses things necessary for tasks or activities (e.g., toys, school assignments, pencils, books, or tools)
- is often easily distracted by extraneous stimuli
- is often forgetful in daily activities

- (2) Six (or more) of the following symptoms of **hyperactivity-impulsivity** have persisted for at least 6 months to a degree that is maladaptive and inconsistent with developmental level:

Hyperactivity

- often fidgets with hands or feet or squirms in seat
- often leaves seat in classroom or in other situations in which remaining seated is expected
- often runs about or climbs excessively in situations in which it is inappropriate (in adolescents or adults, may be limited to subjective feelings of restlessness)
- often has difficulty playing or engaging in leisure activities quietly
- is often “on the go” or acts as if “driven by a motor”
- often talks excessively

Impulsivity

- often blurts out answers before questions have been completed
 - often has difficulty awaiting turn
 - often interrupts or intrudes on others (e.g., butts into conversations or games)
- Some hyperactive-impulsive or inattention symptoms that caused impairment were present before age 7 years.
 - Some impairment from the symptoms is present in two or more settings (e.g., at school [or work] and at home).
 - There must be clear evidence of clinically significant impairment in social, academic, or occupational functioning.
 - The symptoms do not occur exclusively during the course of a Pervasive Developmental Disorder, Schizophrenia or other Psychiatric Disorder and are not better accounted for by another mental disorder (e.g., Mood Disorder, Anxiety Disorder, Dissociative Disorder, or a Personality Disorder).

Source: American Psychiatric Association: *Diagnostic and Statistical Manual of Mental Disorders*, 4th Ed. (DSM-IV). Washington, DC, American Psychiatric Association, 1994

PROFILES OF STARTING DOSE
EFFECTIVE RANGE AND SIDE EFFECTS OF MEDICATIONS FOR TREATMENT OF
ADHD IN CHILDREN AND ADOLESCENTS

Tiers	STIMULANTS	STARTING DOSE	EFFECTIVE RANGE	DECREASED APPETITE	SLEEP PROBLEMS	TRANSIENT HEADACHE	TRANSIENT STOMACH UPSET	IRRITABILITY	DRUG INTERACTIONS
	Immediate Release								
Generic is Tier 1	Methylphenidate	5 mg bid at breakfast and lunch	10 mg- 60 mg/day	+++	++	+++	++	++	++
T3 T3 T3	(Ritalin) (Methylin) (Focalin)	Start with 2.5 mg of Focalin	Maximum recommended daily dose – 60 mg						
Generic is Tier 1	Dextroamphetamine	5 mg bid	10 mg – 40 mg qd Maximum recommended daily dose – 40 mg	+++	++	+++	+	++	++
	(Dexedrine) (Dextrostat)								
Generic is Tier 1	Amphetamine Salts	5 mg bid	10 mg - 40 mg qd Maximum recommended daily dose – 40 mg	+++	++	+++	+	+	++
	(Adderall)								
	Sustained Release								
Generic is Tier 1	Methylphenidate	20 mg q a.m.	20 mg/day Maximum recommended daily dose – 60 mg	+++	++	+++	++	++	++
T3 T3	(Ritalin SR) (Ritalin LA)	SR is bid dosage LA is qd dosage							
T3	Methylphenidate (Concerta)	18 mg q a.m.	18 mg – 54 mg/day Maximum recommended daily dose – 72 mg	+++	++	+++	++	++	++

Tiers	STIMULANTS	STARTING DOSE	EFFECTIVE RANGE	DECREASED APPETITE	SLEEP PROBLEMS	TRANSIENT HEADACHE	TRANSIENT STOMACH UPSET	IRRITABILITY	DRUG INTERACTIONS
T2 T3 T3	Methylphenidate (Metadate CD) (Metadate ER) (Methylin ER)	10 mg q a.m. CD is qd dosage ER is bid dosage ER is bid dosage	10 mg – 60 mg Maximum recommended daily dose – 60 mg	+++	++	+++	++	++	++
Generic is Tier 1 T3	Amphetamine Salts (Adderall XL)	10 mg a.m.	10 mg – 30 mg qd Maximum recommended daily dose – 40 mg	+++	++	+++	+	+	++
Generic is Tier 1 T3	Dextroamphetamine (Dexedrine Spansule)	5 mg a.m. <i>(can be sprinkled)</i>	10 mg – 40 mg qd Maximum recommended daily dose – 45 mg	+++	++	+++	+	++	++
	NON-STIMULANT								
T3	Atomoxetine (Strattera)	0.5 mg/kg bid	1-2 mg/kg per day either qd or split	+++	++	+++	+	+	++

+ occasional problems; ++ some problems; +++ frequent problems; - no problems.

ADHD in Children and Adolescents Treatment Algorithm



