



ADHD

Considering ADHD diagnosis?
Problem from inattention/hyperactivity

Consider comorbidity or other diagnosis:
 Oppositional Defiant Disorder
 Conduct Disorder
 Substance Abuse
 Language or Learning Disability
 Anxiety Disorder
 Mood disorder
 Autism Spectrum Disorder
 Low Cognitive Ability/Mental Retardation

Diagnosis:
 Preschoolers have some normal hyperactivity/impulsivity: recommend skepticism if diagnosing ADHD in this group. (Note that Medicaid may require a medication review if prescribing and child age <5)
 If rapid onset symptoms, note this is not typical of ADHD

Use DSM-5 criteria:
 Must have symptoms present in more than one setting
 Symptoms rating scale strongly recommended from both home and school

- Vanderbilt ADHD Scale (many others available, for a fee)

If unremarkable medical history, neuro image and lab tests are not indicated
 If significant concern for cognitive impairment, get neuropsychological/learning disability testing

Treatment: If diagnose ADHD

Mild Impairment,
or no medication trial per family preference

Psychosocial Treatment:
 Behavior therapy
 Behavior management training (essentially more effective time outs and rewarding positive behaviors)
 Social skills training
 Classroom support/communication

Give parent our resource list to explain the above treatments (the parent handout in this guide)

Significant Impairment,
or psychosocial treatments not helping

Active substance abuse

YES → Treat substance abuse, consider atomoxetine or alpha2 agonist trial

NO

Monotherapy with methylphenidate or amphetamine preparation
 Titrate up every week until maximum benefit (follow-up rating scales help)

If problem side effects or not improving, switch to the other stimulant class

If problem side effects, or not improving, switch to atomoxetine or alpha2 agonist monotherapy

If no improvement, reconsider diagnosis. Medication combinations like alpha-2 agonist plus stimulant may be reasonable at this stage.

Primary References:
 AACAP: "Practice Parameter for the Assessment and Treatment of Children and Adolescents with Attention Deficit/Hyperactivity Disorder." JAACAP 46(7):July2007:894-921
 AAP: "ADHD: Clinical practice guideline for the diagnosis, evaluation, and treatment of ADHD in children and adolescents." Pediatrics 128(5), November, 2011:1007-1022

Vanderbilt ADHD Teacher Rating Scale

Child's Name

Date of Birth Grade Today's Date

Completed by Subject Taught (if applicable)

Each rating should be considered in the context of what is appropriate for the age of the child. If you have completed a previous assessment, your rating should reflect the child's behavior since you last completed a form.

Symptoms	Never	Occasionally	Often	Very Often
1. Does not pay attention to details or makes careless mistakes, such as in homework	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 instruction 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 when remaining in seated is expected	0	1	2	3
12. Runs about or climbs excessively when 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 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 (butts into conversations or games)	0	1	2	3
19. Loses temper	0	1	2	3
20. Actively defies or refuses to comply with adults' 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 ("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

Vanderbilt ADHD Teacher Rating Scale

Child's Name

Today's Date.....

Symptoms	Never	Occasionally	Often	Very Often
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
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/her"	0	1	2	3
35. Is sad, unhappy, or depressed	0	1	2	3

Performance	Problematic	Average	Above Average		
Academic Performance					
Reading	1	2	3	4	5
Mathematics	1	2	3	4	5
Written Expression	1	2	3	4	5
Classroom Behavior					
Relationship with Peers	1	2	3	4	5
Following Directions/Rules	1	2	3	4	5
Disrupting Class	1	2	3	4	5
Assignment Completion	1	2	3	4	5
Organizational Skills	1	2	3	4	5

Comments:

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SYMPTOMS:

Number of questions scored as 2 or 3 in questions 1-9:

Number of questions scored as 2 or 3 in questions 10-18:

Total symptom score for questions 1-18:

Number of questions scored as 2 or 3 in questions 19-28:

Number of questions scored as 2 or 3 in questions 29-35:

Vanderbilt ADHD Diagnostic Teacher Rating Scale was developed by Mark L. Wolraich, MD. Reproduced and format adapted by R. Hilt, MD and PAL with permission.

Vanderbilt ADHD Parent Rating Scale

Child's Name

Date of Birth Grade Today's Date

Completed by Relationship to child: Mom Dad Other.....

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.

Symptoms	Never	Occasionally	Often	Very Often
1. Does not pay attention to details or makes careless mistakes, such as in homework	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 instruction 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 when remaining in seated is expected	0	1	2	3
12. Runs about or climbs excessively when 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 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 (butts into conversations or games)	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 comply 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 misbehavior	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 vindictive	0	1	2	3
27. Bullies, threatens, or intimidates others	0	1	2	3
28. Initiates physical fights	0	1	2	3
29. Lies to obtain goods for favors or to avoid obligations ("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

Vanderbilt ADHD Parent Rating Scale

Child's Name

Today's Date.....

Symptoms	Never	Occasionally	Often	Very Often
32. Has stolen things of nontrivial value	0	1	2	3
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/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	Problematic	Average	Above Average		
Academic Performance					
Reading	1	2	3	4	5
Mathematics	1	2	3	4	5
Written Expression	1	2	3	4	5
Classroom Behavior					
Relationship with Peers	1	2	3	4	5
Following Directions/Rules	1	2	3	4	5
Disrupting Class	1	2	3	4	5
Assignment Completion	1	2	3	4	5
Organizational Skills	1	2	3	4	5

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Comments:

SYMPTOMS:

Number of questions scored as 2 or 3 in questions 1-9:

Number of questions scored as 2 or 3 in questions 10-18:

Total symptom score for questions 1-18:

Number of questions scored as 2 or 3 in questions 19-26:

Number of questions scored as 2 or 3 in questions 27-40:

Number of questions scored as 2 or 3 in questions 41-47:

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Scoring the Vanderbilt ADHD Scales

The Vanderbilt rating scale is a screening and information gathering tool which can assist with making an ADHD diagnosis and with monitoring treatment effects over time. The Vanderbilt rating scale results alone do not make a diagnosis of ADHD or diagnose any other disorder — one must consider information from multiple sources to make a clinical diagnosis. Symptom items 1-47 are noted to be significantly present if the parent or teacher records the symptom as “often or very often” present (a 2 or 3 on the scale). The “performance” items at the end are felt to be significant if the parent or teacher records either a 1 or 2 on each item.

Parent Version

Predominantly Inattentive Subtype

Requires 6 or more counted behaviors on items 1 through 9 and a performance problem (score of 1 or 2) in any of the items on the *performance* section.

Predominantly Hyperactive/Impulsive Subtype

Requires 6 or more counted behaviors on items 10 through 18 and a performance problem (score of 1 or 2) in any of the items on the *performance* section.

Combined Subtype

Requires 6 or more counted behaviors each on both the inattention and hyperactivity/impulsivity dimensions.

Oppositional-defiant disorder

Requires 4 or more counted behaviors on items 19 through 26.

Conduct disorder

Requires 3 or more counted behaviors on items 27 through 40.

Anxiety or depression

Requires 3 or more counted behaviors on items 41 through 47.

Teacher Version

Predominantly Inattentive Subtype

Requires 6 or more counted behaviors on items 1 through 9 and a performance problem (score of 1 or 2) in any of the items on the *performance* section.

Predominantly Hyperactive/Impulsive Subtype

Requires 6 or more counted behaviors on items 10 through 18 and a performance problem (score of 1 or 2) in any of the items on the *performance* section.

Combined subtype

Requires 6 or more counted behaviors each on both the inattention and hyperactivity/impulsivity dimensions.

Oppositional defiant and conduct disorders

Requires 3 or more counted behaviors from questions 19 through 28.

Anxiety or depression

Requires 3 or more counted behaviors from questions 29 through 35.

The **performance section** is scored as indicating some impairment if a child scores 1 or 2 on at least 1 item.

ADHD Stimulant Medications

Short Acting Stimulants

Drug Name	Duration	Dosages	Stimulant Class	Usual Starting Dose	FDA Max Daily Dose
Methylphenidate (Ritalin, Methylin)	4-6 hours	5, 10, 20 mg	Methyl.	5mg BID 1/2 dose if 3-5yr	60mg
Dexmethylphenidate (Focalin)	4-6 hours	2.5, 5, 10 mg	Methyl.	2.5mg BID	20mg
Dextroamphetamine (Dexedrine, Dextro-Stat, Dexedrine SA, Pro Centra, Zenzedi)	4-6 hours	5, 10 mg tabs	Dextro.	5mg QD-BID 1/2 dose if 3-5yr	40mg
Amphetamine Salt Combo (Adderall)	4-6 hours	5, 7.5, 10, 12.5, 15, 20, 30 mg	Dextro.	5mg QD-BID 1/2 dose if 3-5yr	40mg

Extended Release Stimulants

Drug Name	Duration	Dosages	Stimulant Class	Usual Starting Dose	FDA Max Daily Dose	Editorial Comments
Methylphenidate SR Metadate ER	4-8 hours	10, 20mg tab	Methyl.	10mg QAM	60mg	Generic available. Uses wax matrix. Variable duration of action
Concerta	10-12 hours	18, 27, 36, 54 mg	Methyl.	18mg QAM	72mg	Generic available. Osmotic pump capsule
Adderall XR	8-12 hours	5, 10, 15, 20, 25, 30 mg	Dextro.	5mg QD	30mg	Generic available. Beads in capsule can be sprinkled
Metadate CD (30% IR) -8 hours	-8 hours	10, 20, 30, 40, 50, 60 mg capsules	Methyl.	10mg QAM	60mg	Generic available. Beads in capsule can be sprinkled
Ritalin LA (50% IR) -8 hours	-8 hours	10, 20, 30, 40 mg capsules	Methyl.	10mg QAM	60mg	Generic available. Beads in capsule can be sprinkled
Focalin XR	10-12 hours	5 to 40mg in 5 mg steps	Methyl.	5mg QAM	30mg	Beads in capsule can be sprinkled
Daytrana patch	Until 3-5 hours after patch removal	10, 15, 20, 30 mg Max 30mg/9hr	Methyl.	10mg QAM	30mg	Rash can be a problem, slow AM startup, has an allergy risk, peeling off patch a problem with young kids
Lisdexamfetamine (Vyvanse)	-10 hours	20, 30, 40, 50, 60, 70mg	Dextro.	30mg QD	70mg	Conversion ratio from dextroamphetamine is not established
Dexedrine Spansule Dextroamphetamine ER	8-10 hours	5, 10, 15 mg	Dextro.	5mg QAM	40mg	Beads in capsule can be sprinkled
Quillivant XR	10-12 hours	25mg/5ml 1 bottle = 300mg or 60ml	Methyl.	10mg QAM	60mg	Liquid banana flavor
Quillichew ER	6-8 hours	20, 30, 40 mg	Methyl.	20mg QAM	60mg	Chewable cherry-flavored tablets

ADHD Non-Stimulant Medications

Drug Name	Dosages	Usual Starting Dose	FDA Max Daily Dose	Editorial Comments
Atomoxetine (Strattera)	10, 18, 25, 40 60, 80, 100mg	0.5mg/kg/day (1 to 1.2 mg/kg/d usual full dosage)	Lesser of 1.4mg/ kg/day or 100mg	Usually lower effectiveness has GI side effects, takes weeks to see full benefit
Clonidine (Catapres)	0.1, 0.2, 0.3mg	0.05mg QHS if <45kg, otherwise 0.1mg QHS Caution if <5 yr.	(Not per FDA) 27-40kg 0.2mg 40-45kg 0.3mg >45kg 0.4mg	Often given to help sleep, also treats tics, can have rebound BP effects
Clonidine XR (Kapvay)	0.1, 0.2 mg	0.1mg QHS	0.4mg daily	Lower peak blood level, then acts like regular clonidine (similar 1/2 life). Still is sedating. Approved for combo with stimulants
Guanfacine (Tenex)	1, 2 mg	0.5mg QHS if <45kg, otherwise 1mg QHS Caution if <5 yr.	(Not per FDA) 27-40kg 2mg 40-45kg 3mg >45kg 4mg	Often given to help sleep, also treats tics, can have rebound BP effects
Guanfacine XR (Intuniv)	1, 2, 3, 4 mg	1mg QD if over 6 years old (full dosage 0.05 to 0.12mg/kg)	Whichever is lower: a) 4mg/day 6-12 years old, 7mg/day 13-17 years old Or, b) 0.05-0.12 mg/kg/day	Lower peak blood level, then acts like regular Tenex (similar 1/2 life) Still is sedating. Approved for combo with stimulants

Reference: AACAP ADHD Practice Parameter (2007), Micromedex 2013

Relative Effect Size of ADHD Medication Choices

Effect size of all stimulants ~1.0

Effect size of atomoxetine ~0.7

Effect size of guanfacine ~0.65 (using Cohen's d-statistic)

Stimulant Relative Potencies:

Methylphenidate 10mg ≈ dexmethylphenidate 5mg

Methylphenidate 10mg ≈ dextroamphetamine 5mg