# **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** Autistic Spectrum Disorder Low Cognitive Ability/Mental Retardation

#### Diagnosis:

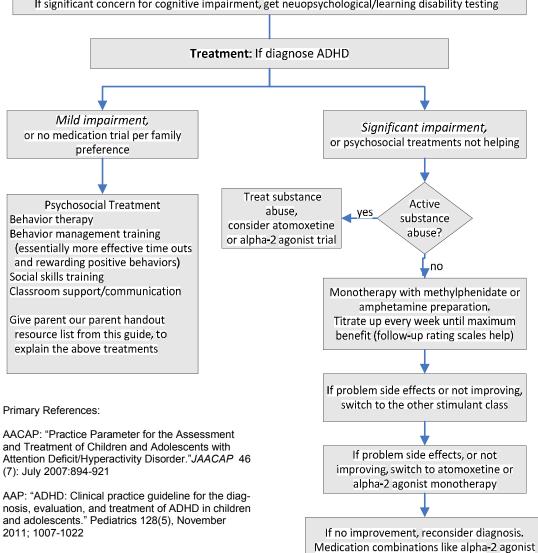
Preschoolers have some normal hyperactivity/impulsivity: recommend skepticism if diagnosing ADHD in this group. (Note that Medicaid may require a medication review if prescribing and child age <5) If rapid onset symptoms, note this is not typical of ADHD

#### Use DSM-5 criteria:

Must have symptoms present in more than one setting Symptom 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 neuopsychological/learning disability testing



plus stimulant may be reasonable at this stage.

# Vanderbilt ADHD <u>Teacher</u> Rating Scale (page 1 of 2)

Child's Name	Date of Birth	Grade	_ Today's Date
Completed by	Subject Taug	ht (if applicable)	
	e considered in the context of sessment, your rating should		ate for the age of the child. behavior since you last completed a form.

	Symptoms		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		1	2	3	
7.	Loses things necessary for tasks or activities (school assignments, pencils, or books)		1	2	3	
8.	Is easily distracted by extraneous stimuli		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		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 27	

# Vanderbilt ADHD <u>Teacher</u> Rating Scale (page 2 of 2)

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	Probl	ematic	Ave	rage	Above Average	
	Acad	demic Performa	ance			
Reading	1	2	3	4	5	
Mathematics	1	2	3	4	5	
Written Expression	1	2	3	4	5	
	Cla	ssroom Behav	ior			
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:		

## For Office Use Only

SYM	PTC	MS
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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 Parent Rating Scale (page 1 of 2)

Child's Name	Date of Birth	_ Grade	Today's Date
Completed by	Relationship to child:	mom	dad other:
	considered in the context of what s form, please think about your o		

	Symptoms		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		1	2	3	
7.	Loses things necessary for tasks or activities (school assignments, pencils, or books)		1	2	3	
8.	Is easily distracted by extraneous stimuli		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		1	2	3	
12.	. Runs about or climbs excessively when remaining seated is expected		1	2	3	
13.	Has difficulty playing or engaging in leisure activities quietly		1	2	3	
14.	Is "on the go" or often acts as if "driven by a motor"		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 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 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 (page 2 of 2)

Child's Name T	Гoday's Date
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	Symptoms	Never	Occasionally	Often	Very Often
32.	Has stolen things of nontrivial value	0	1	2	3
33.	Deliberately destroys others' property		1	2	3
34.	Has used a weapon that can cause serious harm (bat, knife, brick, gun)		1	2	3
35.	Is physically cruel to animals	0	1	2	3
36.	6. Has deliberately set fires to cause damage		1	2	3
37.	Has broken into someone else's home, business, or car		1	2	3
38.	88. Has stayed out at night without permission		1	2	3
39.	9. Has run away from home overnight		1	2	3
40.	). Has forced someone into sexual activity		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 from problems, feels guilty	0	1	2	3
45.	Feels lonely, unwanted, or unloved; complains that "no one loves him/her"		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	Probl	Ave	rage	Above Average			
	Ac	ademic Performan	ce				
Reading         1         2         3         4							
Mathematics	1	2	3	4	5		
Written Expression	1	2	3	4	5		
	С	lassroom Behavio	r				
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:	For Office Use Only
	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:

# 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 Rating Scale IV - Preschool Version

Child's Name:	Sex:	M	F	Age:
Completed Bv:	Rela	tions	ship:	

	ele the number that <u>best describes</u> the child's behavior over past 6 months.	Rarely or never	Some- times	Often	Very often
1.	Fails to give close attention to details (i.e. rushes through activities, makes careless mistakes)	0	1	2	3
2.	Fidgets with hands or feet or squirms in seat (taps hands or feet)	0	1	2	3
3.	Has difficulty sustaining attention in tasks or play activities	0	1	2	3
4.	Leaves seat in classroom, during meals, or in other situations in which remaining seated is expected	0	1	2	3
5.	Does not seem to listen when spoken to directly (tunes you out)	0	1	2	3
6.	Runs about or climbs excessively in situations in which it is inappropriate	0	1	2	3
7.	Does not follow through on instructions or fails to finish tasks (i.e. "go upstairs, get your shoes and socks"; has difficulty with transitions)	0	1	2	3
8.	Has difficulty playing quietly (alone or in groups)	0	1	2	3
9.	Has difficulty organizing tasks and activities (i.e. choosing an activity, getting materials, doing steps in order)	0	1	2	3
10.	Is "on the go" or acts as if "driven by a motor"	0	1	2	3
11.	Avoids tasks that require sustained mental effort (i.e. puzzles, learning ABC's, writing name)	0	1	2	3
12.	Talks excessively	0	1	2	3
13.	Loses things necessary for tasks or activities (i.e. mittens, shoes, backpack)	0	1	2	3
14.	Blurts out answers before questions have been completed	0	1	2	3
15.	Is easily distracted	0	1	2	3
16.	Has difficulty awaiting turn	0	1	2	3
17.	Is forgetful in daily activities (i.e. forgets papers, forgets directions)	0	1	2	3
18.	Interrupts or intrudes on others	0	1	2	3

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# Scoring the ADHD Rating Scale IV - Preschool Version

# Scoring Cutoffs for 3-5 year old Children

Odd numbered items: Inattention

Even numbered items: Hyperactivity/Impulsivity
Total Score: All items added together

Scores above the 93%ile are suspicious for but not diagnostic of preschool ADHD.

## 93rd Percentile score cutoff responses for Boys

<u>Parent</u> <u>Teacher</u>

Inattention: 14 Inattention: 18

Hyperactivity/Impulsivity: 17 Hyperactivity/Impulsivity: 22

Total Score: 32 Total Score: 38

## 93rd Percentile responses for Girls

Parent Teacher

Inattention: 12 Inattention: 11

Hyperactivity/Impulsivity: 14 Hyperactivity/Impulsivity: 13

Total Score: 24 Total Score: 24

Above data from: McGoey, K. E., DuPaul, G. J., Haley, E., Shelton, T. L. (2007). Parent and teacher ratings of attention-deficit/hyperactivity disorder in preschool: The ADHD rating scale-IV preschool version. *Journal of Psychopathological and Behavioral Assessment*, 29:269-276.

# **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 ½ 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)	4-6 hours	5, 10 mg tabs	Dextro.	5mg QD-BID ½ 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 ½ dose if 3-5 yr	40mg

# **Extended Release Stimulants**

Drug Name	Duration	Dosages	Stimulant Class	Usual Starting	FDA Max Daily Dose	Editorial Comments
Methylin ER 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	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	10, 20, 30, 40 mg cap- sules	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 prob- lem, slow AM startup, has an allergy risk, peeling off patch a problem with young kids
Lisdexamfetamine (Vyvanse)	~10 hours	20, 30, 40, 50, 60, 70 mg	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

# **ADHD Non-Stimulant Medications**

Drug Name	Duration	Dosages	Usual Starting Dose	FDA Max Daily Dose	Editorial Comments
Atomoxetine (Strattera)	All day	10, 18, 25, 40, 60, 80, 100 mg	0.5mg/kg/day (1 to 1.2 mg/kg/d usual full dos- age)	Lesser of 1.4mg/ kg/day or 100mg (HCA limit is 120mg/day)	Usually lower effective- ness than stimulants; has GI side effects, takes weeks to see full benefit
Clonidine (Catapres)	12 hour ½ life	0.1, 0.2, 0.3 mg	0.05mg QHS if <45kg, other- wise 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)	12-16 hours	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)	14 hour ½ life	1, 2 mg	0.5mg QHS if <45kg, other- wise 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)	16 hour ½ life	1, 2, 3, 4 mg	1mg QD if over 6 years old (full dosage 0.05 to 0.12mg/kg)	4mg daily	Lower peak blood level, then acts like regular Tenex (similar 1/2 life) Still is sedating. Ap- proved for combo with stimulants

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

Effect size of all stimulants ~1.0 Effect size of atomoxetine ~0.7 Effect size of guanfacine ~0.65

Stimulant Relative Potencies:
Methylphenidate 10mg ≈ dexmethylphenidate 5mg
Methylphenidate 10mg ≈ dextroamphetamine 5mg

## **ADHD Resources**

## Information for Families

### Books families may find helpful:

<u>Taking Charge of ADHD: The Complete Authoritative Guide for Parents</u> (Revised Edition, 2000), by Russell A. Barkley, PhD

Raising Resilient Children: Fostering Strength, Hope and Optimism in Your Child (2002), by Robert Brooks, PhD and Sam Goldstein, PhD

Attention Deficit Disorder: The Unfocused Mind in Children and Adults (2006), by Tom Brown. PhD

<u>Teenagers with ADD and ADHD: A Guide for Parents and Professionals (2006)</u>, by Chris Dendy

## Books children may find helpful:

<u>Learning to Slow Down & Pay Attention: A Book for Kids about ADHD</u> (2004), by Kathleen Nadeau, PhD, Ellen Dixon, PhD, and Charles Beyl

Jumpin' Johnny Get Back to Work! A Child's Guide to ADHD/Hyperactivity (1981), by Michael Gordon, PhD

#### Websites families may find helpful:

Parents Med Guide

www.parentsmedguide.org (quality information about medications for ADHD)

Children and Adults with ADHD www.chadd.org (support groups, information resource)

Teach ADHD

www.teachadhd.ca (teaching advice for ADHD kids)

National Resource Center on ADHD www.help4adhd.org

## "Behavior Management Training" and "Behavior Therapy":

Manual and research based therapies for ADHD related problems lasting 10-20 sessions that can be performed by a qualified therapist. These treatments, though helpful with ADHD, are usually less effective than medications. The principle elements of these treatments are:

- reviewing information about the nature of ADHD
- learning to attend carefully to both misbehavior and when child complies
- establishing a "token economy," like sticker chart rewards
- using time out effectively
- managing non-compliant behavior in public settings
- using a daily school report card
- anticipating future misconduct