The Revised ADHD Clinical Guidelines

Mark L. Wolraich, M.D.
Shaun Walters Professor Emeritus of Pediatrics
University of Oklahoma Health Sciences Center
Die Geschichte vom Hans Guck-in-die-Luft

Einst ging er an Ufers Rand
mit der Mappe in der Hand.
Nach dem blauen Himmel hoch
sah er, wo die Schwätze flog,
also daß er kerzengrad
immer mehr zum Flusse trat.
Und die Fischlein in der Rein
sind erstaunt sehr, alle drei.

Wenn der Hans zur Schule ging,
stets sein Blick am Himmel hing.
Nach den Dächern, Wolken, Schwänen
schaut er aufwärts allenthalben:
vor die eigenen Füße dicht,
ja, da sah der Bursche nicht,
also daß ein jeder rief:
„Seht den Hans Guck-in-die-Luft!“

Kam ein Hund daher gerannt;
Hänslein blickte unverwandt
in die Luft.
Niemand rief:
„Hans, gib acht, der Hund ist nah!“
Was geschah?
Bau! Perduaz! – da liegen zwei!
Hund und Hänschen nebenbei.

Noch ein Schnitt! und plumps! der Hans
stürzt hinaus kopfüber ganz!
Die drei Fischlein, sehr erschreckt,
haben sich sogleich versteckt.
ADHD Historical Timeline

- 1846: Heinrich Hoffmann described ADHD symptoms
- 1900: George Still described ADHD symptoms
- 1937: Hyperactive Child Syndrome
- 1955: MPH created
- 1960: Bradley Benzedrine
- 1966: Minimal Brain Dysfunction
- 1980: Attention Deficit Hyperactivity Disorder (DSM-III)
- 1987: Attention Deficit Hyperactivity Disorder with or without Hyperactivity (DSM-III-R)
- 1994: DSM-IV Updated criteria
- 2013: DSM-5 Updated criteria
**Constant Features of ADHD**

**Diagnosis:** the name has changed but the symptoms have remained the same:

- **Name:** Minimal Brain Dysfunction    Hyperactive Child Syndrome
  Attention Deficit Disorder    Attention Deficit Hyperactivity Disorder

- **Symptoms:** Inattention, Hyperactivity Impulsivity & Frequently Incoordination

**Treatment:** Stimulant Medications and Behavior Modification have had consistent strong scientific evidence for efficacy and safety since the 1970’s
Revisions in the New Guidelines

1. The guidelines include three papers:

   A. Clinical Guidelines
   B. Process of Care Algorithm
   C. Barriers to Implementing the Guidelines
Clinical Guidelines

- KAS 1. The PCC should initiate an evaluation for ADHD for any child from 4 years of age to their 18th birthday when presenting with academic or behavioral problems.

- KAS 2. Diagnosis should be based on DSM-5 criteria.
Changes from DSM-IV are:

A. For children over 17 years of age, at least 5 instead of 6 positive behaviors in either dimension are required.

B. Symptoms need to have been present from at least 12 years of age instead of 7 years.
Clinical Guidelines

- KAS 3. the primary care clinician should at least screen for comorbid conditions including anxiety, depression, oppositional defiant disorder, conduct disorders, learning and language disorders, autism spectrum disorders, and physical conditions (e.g. tics, sleep apnea).
Clinical Guidelines

- KAS 4. ADHD is a chronic condition; and PCCs should manage children and adolescents with ADHD in the same manner as children and youth with special health care needs (CYSHCN), following the principles of the chronic care model and the medical home.
Clinical Guidelines

- KAS 5a. For preschool-aged children (age 4 years to the 6th birthday) with ADHD, the primary care clinician should prescribe evidence-based Parent Training in Behavior Management (PTBM) and/or behavioral classroom interventions as the first line of treatment, if available.
KAS 5a. (con’t) Methylphenidate may be considered if these behavioral interventions do not provide significant improvement, and there is moderate to severe continuing disturbance in the child’s functioning.
Clinical Guidelines

- KAS 5b. For elementary- and middle-school-aged children (age 6 - 12) with ADHD, the PCC should prescribe FDA-approved medications for ADHD, and/or PTBM, and/or behavioral classroom intervention (preferably both PTBM and behavioral classroom interventions).
Clinical Guidelines

- KAS 5b (con’t) Educational interventions—including school environment and class placement—are a necessary part of any treatment plan, and often include an Individual Education Program (IEP) or a rehabilitation plan (504 plan).
Clinical Guidelines

- KAS 5c. For adolescents (age 12 years to the 18th birthday) with ADHD, the primary care clinician should prescribe FDA-approved medications for ADHD with the adolescent’s assent. The primary care clinician is encouraged to prescribe evidence-based training interventions and/or behavioral training as treatment for ADHD, if available.
Clinical Guidelines

- KAS 6. Primary care clinicians should titrate doses of medication for ADHD to achieve maximum benefit with tolerable side effects.
Clinical Guidelines

- KAS 7. The primary care clinician, if capable of diagnosing comorbid conditions, may initiate treatment for such conditions or make a referral to an appropriate subspecialist for treatment.
Evaluation in Entails

1. Identifying Core Symptoms
2. Assessing Impairment
3. Identifying Possible Underlying or Alternative Causes
4. Identifying Co-occurring (Co-morbid Conditions)
DSM-5 Core Symptoms of Inattention

- Manifestations of the following symptoms must occur often*
  - Inattention
    - Careless
    - Difficulty sustaining attention in activity
    - Doesn’t listen
    - No follow-through
    - Avoids/dislikes tasks requiring sustained mental effort
  - Can’t organize
  - Loses important items
  - Easily distractible
  - Forgetful in daily activities

*Must have 6 or more symptoms for at least 6 months to a degree that is maladaptive and inconsistent with developmental level.

DSM-5 Core Symptoms of Hyperactivity-Impulsivity

- **Hyperactivity**
  - Squirms and fidgets
  - Can’t stay seated
  - Runs/climbs excessively
  - Can’t play/work quietly
  - “On the go”/“driven by a motor”
  - Talks excessively

- **Impulsivity**
  - Blurts out answers
  - Can’t wait turn
  - Intrudes/interrupts others

*Must have 6 or more symptoms for at least 6 months to a degree that is maladaptive and inconsistent with developmental level.

Assess Function

- Academic Performance
- Peer Relations
- Sibling Relations
- Parent Relations
- Community Activities
DSM-5 ADHD Diagnostic Criteria

- List of core symptoms must be present for past 6 months.
- Several symptoms need to be present before 12 years of age.
- Several inattentive or hyperactive-impulsive symptoms must be present in 2 or more settings (e.g., school and home).
- There needs to be clear evidence the symptoms interfere with or reduce the quality of social, academic, or occupational functioning.
- Other mental or medical disorders need to be excluded as the cause of the core symptoms.

DSM-5 Subtypes of ADHD

- Predominantly inattentive
- Predominantly hyperactive-impulsive
- Combined
- Not otherwise specified (NOS)
Assessment Should Include Information from Both Parents, Teachers and Patients

- ADHD Based Rating Scales from parents & teachers provide measurable information for diagnosis & treatment

- Interviews help to clarify observed behavior and detect alternative and/or comorbid diagnoses

- Observations provide further information about behaviors and parent-child interactions
# Vanderbilt ADHD Diagnostic Parent Rating Scale

**Child Study Center**
Department of Pediatrics
University of Oklahoma Health Sciences Center

**Child's Name:**
**Parent's Name:**

**Today's Date:**
**Date of Birth:**
**Age:**

**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. This evaluation based on a time when the child: □ was on medication □ was not on medication □ not sure

**Behavior:**

<table>
<thead>
<tr>
<th>Never</th>
<th>Occasionally</th>
<th>Often</th>
<th>Very Often</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

1. Does not pay attention to details or makes careless mistakes with, for example, homework.
2. Has difficulty keeping attention to what needs to be done.
3. Does not seem to listen when spoken to directly.
4. Does not follow through when given directions and fails to finish activities (not due to refusal or failure to understand).
5. Has difficulty organizing tasks and activities.
6. Averaged dislikes, or does not want to start tasks that require ongoing mental effort.
7. Loses things necessary for tasks or activities (keys, assignments, pencils, books).
8. Is easily distracted by noises or other stimuli.
9. Is forgetful in daily activities.
10. Fidgets with hands or feet or squirms in seat.
11. Leaves seat when remaining seated is expected.
12. Runs about or climbs too much when remaining seated is expected.
13. Has difficulty playing or beginning quiet play games.
14. Is "on the go" or often acts as if "driven by a motor".
15. Talks too much.
16. Blurs out answers before questions have been completed.
17. Has difficulty waiting his or her turn.
18. Interrupts or intrudes in others' conversations and/or activities.
19. Annoys with adults.
20. Loses temper.
21. Actively defies or refuses to go along with adults' requests or rules.
22. Deliberately annoys people.
23. Blames others for his or her mistakes or misbehaviors.
24. Is loud or easily annoyed by others.
25. Is angry or resentful.
26. Is spiteful and want to get even.
27. Bullies, threatens, or intimidate others.
28. Starts physical fights.
29. Lies to get out of trouble or to avoid obligations (ie, "cons" others).
30. Is truant from school (skips school) without permission.
31. Is physically cruel to people.
32. Has stolen things that have value.
33. Deliberately destroys others' property.

**Behavior:**

<table>
<thead>
<tr>
<th>Never</th>
<th>Occasionally</th>
<th>Often</th>
<th>Very Often</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

34. Has used a weapon that can cause serious harm (bat, knife, brick, gun).
35. Is physically cruel to animals.
36. Has deliberately set fires to cause damage.
37. Has broken into someone else's home, business, or car.
38. Has stayed out at night without permission.
39. Has run away from home overnight.
40. Has forced someone into sexual activity.
41. Is fearful, anxious, or worried.
42. Is afraid to try new things for fear of making mistakes.
43. Feels worthless or inferior.
44. Blames self for problems, feels guilty.
45. Feels lonely, unwanted, or unloved, complains that "no one loves him or her".
46. Is sad, unhappy, or depressed.
47. Is self-conscious or easily embarrassed.

**Academic & Social Performance:**

<table>
<thead>
<tr>
<th>Excellent</th>
<th>Above Average</th>
<th>Average</th>
<th>Somewhat of a Problem</th>
<th>Problematic</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

48. Overall school performance:
49. Reading:
50. Writing:
51. Mathematics:
52. Relationship with parents:
53. Relationship with siblings:
54. Relationship with peers:
55. Participation in organized activities (e.g., teams):

**Tic Behaviors:** To the best of your knowledge, please indicate if this child displays the following behaviors:

1. Motor Tics: Rapid, repetitive movements such as eye-blinking, grimacing, nose twitching, head jerks, shoulder shrugs, arm jerks, belly jerk, rapid head nod.
   - No tic present.
   - Yes, occur nearly every day, but go unnoticed by most people.
   - Yes, noticeable tics occur nearly every day.

2. Phonic (Vocal) Tics: Repetitive noises including but not limited to throat clearing, coughing, sniffling, sneezing, screaming, barking, grunting, repetition of words or short phrases.
   - No tic present.
   - Yes, occur nearly every day, but go unnoticed by most people.
   - Yes, noticeable tics occur nearly every day.

3. If YES to 1 or 2, Do these tics interfere with the child's activities (e.g., reading, writing, walking, talking, or eating)?
   - No
   - Yes

**Previous Diagnosis and Treatment:** To the best of your knowledge, please answer the following questions:

1. Has the child been diagnosed with ADHD or ADD?  
   - No
   - Yes
2. Is he/she on medication for ADHD or ADD?  
   - No
   - Yes
3. Has the child been diagnosed with a Tic Disorder or Tourette's Disorder?  
   - No
   - Yes
4. Is he/she on medication for a Tic Disorder or Tourette's Disorder?  
   - No
   - Yes

**For Office Use Only**

- Total number of questions scored 2 or 3 in questions 1-8: __________
- Total number of questions scored 2 or 3 in questions 10-18: __________
- Total number of questions scored 2 or 3 in questions 19-26: __________
- Total number of questions scored 2 or 3 in questions 27-40: __________
- Total number of questions scored 2 or 3 in questions 41-47: __________
- Total number of questions scored 2 or 3 in questions 48-55: __________

**Average Performance Score:** __________
Vanderbilt ADHD Follow-Up Parent Rating Scale

**Child's Name:**

**Parent's Name:**

**Today's Date:**

**Date of Birth:**

**Age:**

Directions: Listed below are several possible negative effects (side effects) that medication may have on a child with ADHD. Please read each item carefully and use the boxes to rate the severity of your child's side effects since he/she has been on his/her current dose of medication. When requested, or whenever you feel it would be useful for us to know, please describe the side effects that you observed or any other unusual behavior in the “Comments” section below.

Use the following to assess severity:

- **Side Effect:**
  - **None:** The symptom is not present.
  - **Mild:** The symptom is present but is not significant enough to cause concern to your child, to you, or to his/her friends. Presence of the symptom at this level would NOT be a reason to stop taking the medicine.
  - **Moderate:** The symptom causes impairment of functioning or social embarrassment to such a degree that the negative impact on social and school performance should be weighed carefully to justify benefit of continuing medication.
  - **Severe:** The symptom causes extreme impairment of functioning or social embarrassment to such a degree that the child should not continue to receive this medication or dose of medication as part of current treatment.

<table>
<thead>
<tr>
<th>Side Effect</th>
<th>None</th>
<th>Mild</th>
<th>Moderate</th>
<th>Severe</th>
</tr>
</thead>
<tbody>
<tr>
<td>Headache</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stomachache</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Change of appetite</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trouble of sleeping</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Irritability in the late morning, late afternoon, or evening</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Socially withdrawn</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Extreme sadness or unusual crying</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dull, tired, listless behavior</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tremors/feeling shaky</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Repetitive movements, tics, jerking, twisting, eye blinking</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Picking at skin or fingers, nail biting, lip or cheek chewing – describe below</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sees or hears things that aren't there</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Academic & Social Performance**

<table>
<thead>
<tr>
<th>Academic &amp; Social Performance</th>
<th>Excellent</th>
<th>Above Average</th>
<th>Average</th>
<th>Below Average of a Problem</th>
<th>Problematic</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Overall school performance</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2. Reading</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3. Writing</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4. Mathematics</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5. Relationship with parents</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6. Relationship with siblings</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>7. Relationship with peers</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>8. Participation in organized activities (e.g., team)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Performance</td>
<td>Excellent</td>
<td>Above Average</td>
<td>Average</td>
<td>Somewhat of a Problem</td>
<td>Problematic</td>
</tr>
<tr>
<td>-------------------------------------------------</td>
<td>-----------</td>
<td>---------------</td>
<td>---------</td>
<td>------------------------</td>
<td>-------------</td>
</tr>
<tr>
<td>19. Overall school performance</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>20. Reading</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>21. Writing</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>22. Mathematics</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>23. Relationship with parents</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>24. Relationship with siblings</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>25. Relationship with peers</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>26. Participation in organized activities (eg, teams)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

**Side Effects:** Has your child experienced any of the following side effects or problems in the past week?

<table>
<thead>
<tr>
<th>Side Effect</th>
<th>Are these side effects currently a problem?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Headache</td>
<td></td>
</tr>
<tr>
<td>Stomachache</td>
<td></td>
</tr>
<tr>
<td>Change of appetite—explain below</td>
<td></td>
</tr>
<tr>
<td>Trouble sleeping</td>
<td></td>
</tr>
<tr>
<td>Irritability in the late morning, late afternoon, or evening—explain below</td>
<td></td>
</tr>
<tr>
<td>Socially withdrawn—decreased interaction with others</td>
<td></td>
</tr>
<tr>
<td>Extreme sadness or unusual crying</td>
<td></td>
</tr>
<tr>
<td>Dull, tired, listless behavior</td>
<td></td>
</tr>
<tr>
<td>Tremors/feeling shaky</td>
<td></td>
</tr>
<tr>
<td>Repetitive movements, tics, jerking, twitching, eye blinking—explain below</td>
<td></td>
</tr>
<tr>
<td>Picking at skin or fingers, nailbiting, lip or cheek chewing—explain below</td>
<td></td>
</tr>
<tr>
<td>Sees or hears things that aren't there</td>
<td></td>
</tr>
</tbody>
</table>

**Explain/Comments:**
Download Address for the Vanderbilt Scales

- www.SoonerSUCCESS

- At the site click on Resources and then Behavior Rating Scales
Co-morbidity (Conditions Commonly Co-occurring with ADHD)

- Disruptive Behavior Disorders
  - Oppositional Defiant Disorder
  - Conduct Disorder
- Depressive Disorders
- Anxiety Disorders
- Cognitive Disorders
  - Learning Disabilities
  - Language Disorders
- Motor Disorders
  - Developmental Coordination Disorder
  - Tic Disorders (Tourettes)
Rating Scale Screens for Anxiety, Depression & Trauma

- Anxiety: Screen for Child Anxiety Related Disorders (SCARED)
- Depression: Patient Health Questionnaire Modified for Teens (PHQ-9)
- Child and Adolescent Trauma Screen (CATS) Scoring
Treating ADHD As A Chronic Condition

- Need To Educate Parents and Patients About ADHD
- Need To Develop A Partnership With The Family
- Need To Develop A Management Plan With Specific Targeted Goals
- If At All Possible Include The Teachers
- Requires Ongoing Monitoring And Anticipation Of Developmental Changes.
Medications

- Stimulant Medications: methylphenidate and amphetamines - First Line

- Selective Norepinephrine Reuptake Inhibitor: atomoxetine - Second Line

- Alpha Adrenergic Agents: guanfacine and clonidine - Second Line and also Adjunctive
An Algorithm and Explanation for Process of Care for the Evaluation, Diagnosis, Treatment, and Monitoring of ADHD in Children and Adolescents
Systemic Barriers to the Care of Children and Adolescents With ADHD

- Inadequate payment for needed services & payer coverage limitations for needed medications
- Inadequate developmental, behavioral & mental health training in residencies
- Shortages of consultant specialists and referral resources
- Challenges in practice organization and staffing
- Fragmentation of care and resulting communication barriers.