

ADHD Diagnosis and Management

What is ADHD?

- Attention deficit hyperactivity disorder (ADHD) is one of the most common neurobehavioral disorders affecting approximately 10 percent of children.
- ADHD is characterized by inattention, hyperactivity and impulsivity that is out of proportion to the individual's age or developmental level. When present, these symptoms can lead to functional impairment and is associated with adverse long-term outcomes.
- Genetic studies support that ADHD is a highly heritable disorder with each child of a parent with ADHD having a 25 percent chance of having ADHD.
- Neurotransmitters, specifically dopamine and norepinephrine, have been implicated in the development of ADHD along with neuroimaging studies demonstrating delays in cortical maturation.
- A variety of brain subregions including frontal and parietal cortexes, basal ganglia, cerebellum, hippocampus and corpus callosum were found impacted in ADHD. However, these changes can be found in the general population so are not diagnostic.
- Children with ADHD may also have a learning disability, anxiety disorder, oppositional behaviors and serious conduct behaviors (e.g., lying, stealing).
- Other factors can contribute to ADHD symptoms including poor sleep quality, iron deficiency, lack of physical activity and excessive screen time (TV > two hours/day).

Why is it important to treat ADHD?

- Reduced risk of school failure and dropout from school
- Reduced behavior and discipline problems
- Improved social behavior and family interactions
- Reduced risk of accidental injury, including car accidents for teens who are driving
- Less risk of anxiety and depression
- Less risk of drug and alcohol abuse
- Less risk of delinquency, criminality and arrest

How to diagnose ADHD?

The evaluation of the child for ADHD should include several components including history-taking, standardized assessment tools (rating scales), assessment for comorbidities and the physical exam. Conditions with similar symptoms should be considered in your evaluation including sleep disorders, seizure disorders, thyroid disorders, trauma/PTSD and anxiety, as well as physical/sexual abuse

and substance abuse. A diagnosis of ADHD can be made only after these diagnoses are excluded.

Comorbidities are often present with ADHD and should be considered in the evaluation as well as ongoing management of a child/adolescent with ADHD. Approximately two-thirds of children with ADHD will have one coexisting condition. Depending on the patient population, some comorbidities may be found more frequently than others (i.e., bipolar disorder in psychiatry study populations).

- Oppositional defiant disorder (40 percent)
- Conduct disorder (25 percent)
- Depression (10 – 30 percent)
- Bipolar disorders (up to 20 percent)
- Anxiety disorders (up to 30 percent)
- Learning disabilities (50 percent)
- Tic disorders (7 percent)

Criteria for ADHD diagnosis include the presence of at least six out of nine symptoms in either or both of two domains: inattention and hyperactivity/impulsivity. Changes to ADHD criteria in the new DSM 5 are minimal and include symptoms that must be present prior to 12 years of age (previously was 7 years) and a diagnosis can be made in the presence of an autism spectrum disorder.

Inattentive symptoms

- Fails to give close attention to details or makes careless mistakes
- Has difficulty sustaining attention
- Does not appear to listen
- Struggles to follow through on instructions
- Has difficulty with organization
- Avoids or dislikes tasks requiring a lot of thinking
- Loses things
- Is easily distracted
- Is forgetful in daily activities

Hyperactive-impulsive symptoms

- Fidgets with hands or feet or squirms in chair
- Has difficulty remaining seated
- Runs about or climbs excessively in children; extreme restlessness in adults
- Difficulty engaging in activities quietly
- Acts as if driven by a motor
- Talks excessively
- Blurts out answers before questions have been completed
- Difficulty waiting or taking turns
- Interrupts or intrudes upon others

Diagnosis of ADHD should be made using validated parent and teacher rating scales (e.g., Vanderbilt Assessment Scales, Conners'). These are extremely important to gather information about the child in more than one setting and by more than one informant.

There are three types of ADHD:

1. **ADHD, combined presentation** – most common presentation
2. **ADHD, predominantly inattentive presentation** – second most common presentation and more common in girls and those with learning disabilities
3. **ADHD, predominantly hyperactive/impulsive presentation** – least common presentation and more often seen in preschoolers and those with intellectual disability

Scoring Vanderbilt Teacher and Parent Questionnaires

Ideally, each patient is evaluated by two parents or caregivers and two teachers. The Vanderbilt Assessment Scale has two components: symptom assessment and impairment of performance. It also contains items that screen for three other comorbidities: oppositional defiant disorder, conduct disorder and anxiety/depression. Positive screens should be present in both parent and teacher questionnaires to make a diagnosis.

PARENT QUESTIONNAIRE SCORING

ADHD positive screen

1. **ADHD, combined:** At least six positive responses as noted by "Often" or "Very Often" (scored 2 or 3) on questions 1 – 9 AND at least six positive responses for questions 10 – 18 AND a score of 4 or 5 on any of questions 48 – 55.
2. **ADHD, predominantly inattentive:** At least six positive responses as noted by "Often" or "Very Often" (scored 2 or 3) on questions 1 – 9 AND < six positive responses for questions 10 – 18 AND a score of 4 or 5 on any of questions 48 – 55.
3. **ADHD, predominantly hyperactive/impulsive:** Less than six positive responses as noted by "Often" or "Very Often" (scored 2 or 3) on questions 1 – 9 AND at least six positive responses for questions 10 – 18 AND a score of 4 or 5 on any of questions 48 – 55.

Oppositional defiant disorder positive screen: At least four positive responses as noted by "Often" or "Very Often" (scored 2 or 3) on questions 19 – 26 AND a score of 4 or 5 on any questions 48 – 55.

Conduct disorder positive screen: At least three positive responses as noted by "Often" or "Very Often" (scored 2 or 3) on questions 27 – 40 AND a score of 4 or 5 on any questions 48 – 55.

Anxiety/depression positive screen: At least three positive responses as noted by "Often" or "Very Often" (scored 2 or 3) on questions 41 – 47 AND a score of 4 or 5 on any questions 48 – 55.

Teacher questionnaire scoring

ADHD positive screen

1. **ADHD, combined:** At least six positive responses as noted by "Often" or "Very Often" (scored 2 or 3) on questions 1 – 9 AND at least six positive responses for questions 10 – 18 AND a score of 4 or 5 on any of questions 36 – 43.
2. **ADHD, predominantly inattentive:** At least six positive responses as noted by "Often" or "Very Often" (scored 2 or 3) on questions 1 – 9 AND < six positive responses for questions 10 – 18 AND a score of 4 or 5 on any of questions 36 – 43.
3. **ADHD, predominantly hyperactive/impulsive:** Less than six positive responses as noted by "Often" or "Very Often" (scored 2 or 3) on questions 1 – 9 AND at least six positive responses for questions 10 – 18 AND a score of 4 or 5 on any of questions 36 – 43.

Oppositional defiant disorder and conduct disorder positive screen:

At least three positive responses as noted by "Often" or "Very Often" (scored 2 or 3) on questions 19 – 28 AND a score of 4 or 5 on any questions 36 – 43.

Anxiety/depression positive screen: At least three positive responses as noted by "Often" or "Very Often" (scored 2 or 3) on questions 29 – 35 AND a score of 4 or 5 on any questions 36 – 43.

Treatment of ADHD

Behavioral

- **Parent training:** Help parents learn about ADHD and ways to manage ADHD behaviors.
- **Child-focused treatment:** Help children and teens with ADHD learn to develop social, academic and problem-solving skills. This is sometimes done in a group setting.
- **School-based interventions:** Help teachers meet children's educational needs by helping them to learn the skills to manage children's ADHD behaviors in the classroom (such as rewards, consequences, classroom seating and daily report cards sent to parents).

Environmental

- **Sleep hygiene**
 - Adequate amount of sleep for age (approximately eight to 10 hours)
 - No screen time within one hour of bed
 - Provide a consistent, calming bedtime routine
 - Avoid caffeine
- **Nutrition** – Balanced and adequate quantity, including iron
- **Study environment**
 - Quiet area for homework and schoolwork
 - Reduce visual distractions (away from window or door, or excess pictures, etc.)
 - Keep regular routines
 - Have child sit near and facing the teacher in class
 - Keep expectations and assignments visible in classroom (written on board)
- Encourage exercise, including yoga

Medications (see Medication Reference Guide)

Stimulants – Most effective medication for helping with ADHD symptoms

- **Forms:** Methylphenidate group (Ritalin®, Concerta®, Metadate, Focalin®, Quillivant and Daytrana®) and Amphetamine Salts group (Adderall® and Vyvanse®). Available as immediate-release tablets, extended release (ER) and sustained release (SR) preparations, a patch applied to the skin, liquid, chewable pills and capsules that can be opened and sprinkled on food.
- **Dosing:** Start with a low dose, and then gradually increase the dosage as the child adjusts to the medication until it is effective (monitoring closely for side effects).
- **Effects:** Stimulants reduce hyperactivity, impulsivity, distractibility, and help children focus and stay on task.
- **Side effects:**
 - **Common:** Reduced appetite, weight loss, problems sleeping, headaches and stomach pain. Some children taking stimulant medication may seem more irritable and show an increase in overactivity, impulsivity and inattention in the late afternoon or evening when the medication wears off.
 - **Long term:** Some children may experience a delay in height growth (1 cm/year) during the first two years of treatment which appears to be dose-dependent, but studies show growth proceeds at a normal rate thereafter. Growth normalization occurs with treatment cessation and does not seem to affect adult growth potential.

Nonstimulants – Alternatives for children who do not respond well to stimulant medication, cannot tolerate the side effects of stimulant medications or have other conditions along with ADHD.

- **Atomoxetine** (Strattera®)
 - **Effects:** Helps reduce ADHD symptoms by helping children focus and stay on task better.
 - **Side effects:** Nausea, vomiting, tiredness, upset stomach, headaches, weight loss in younger children and sexual dysfunction in older adolescents/young adults.
 - **Dosing:** Single daily dose in the morning or evening. It can take several weeks to build up to the correct dosage and several additional weeks to see the full effects of a nonstimulant.
- **Guanfacine extended release** (Intuniv®) and **clonidine extended release** (Kapvay®) approved to be added to stimulant treatment when the stimulant doesn't fully reduce the ADHD symptoms.
 - **Effects:** Help reduce ADHD symptoms by helping children stay calm, reducing hyperactivity and improving focus.
 - **Side effects:** Decrease in heart rate and blood pressure, fainting, dizziness, drowsiness, fatigue, irritability, constipation and dry mouth.
 - **Dosing:** Single daily dose in the morning or evening, or as divided doses, one in the morning and one in late afternoon or early evening.

Complementary and alternative treatments – Some nutritional supplements have been found in some studies to help symptoms of ADHD, including Omega-3, zinc, and iron treatment if anemic or iron-deficient.

Management of Patients with ADHD

Steps of ADHD management

1. Background evaluation or ADHD concern

- Provide parent questionnaire
- Provide parent and teacher Vanderbilt questionnaire
- Provide parent education

2. Evaluation

- Score Vanderbilt responses and parent questionnaire
- Perform physical exam, including BP, height, weight
- Consider other medical causes of symptoms, evaluate appropriately

3. Treatment

- Create treatment plan with goals and interventions
- Consider letter to school with diagnosis and request for accommodations
- Refer for behavioral therapy as indicated
- Begin medication titration

4. Follow-up

- Within 30 days of starting medications – assess effect (school, family, social), side effects, weight, BP
- At least every six months – assess effect (school, family, social), side effects, height, weight, BP
- Manage side effects (see table)
- Manage treatment failures – increase dose, change medications, consider comorbidities and other diagnoses, refer for further evaluation

5. When to refer?

- Concern for psychiatric comorbidities – consider psychiatrist
- Associated neurocognitive or developmental impairment – consider neuro or developmental and behavioral pediatrics (dev/beh peds)
- Not responding to medications – consider dev/beh peds, neurology or psychiatrist
- Significant medication side effects – consider dev/beh peds, neurology or psychiatrist
- School improved, behavior not – consider behavioral counseling
- School improved, social and family functioning not – consider family or social skills counseling

The ADHD treatment plan allows the provider to outline goals for school, home and social as needed. Interventions can take place within all three modalities: behavioral, environmental and medication. Select the appropriate interventions and guidance. Refer patients as indicated for behavioral interventions.

Medications should begin with a stimulant, either methylphenidate or amphetamine salts at the lowest dose and titrate up to desired effects. Increases should occur at no sooner than weekly intervals to allow time for proper evaluation. If a patient does not tolerate the first stimulant, begin a stimulant from the other class. If a patient does not tolerate both classes of stimulants either refer the patient for further evaluation and confirmation of diagnosis or consider atomoxetine next, followed by an alpha agonist.

Tips for managing medication side effects

Side Effect	Tips
Weight loss	Early breakfast, nutritional supplement (Carnation®/PediaSure®), nutritious bedtime snack, weekend and vacation medication holidays
Afternoon moodiness	Low dose afternoon short-acting medication
Trouble falling asleep	Give morning dose earlier, melatonin prior to bed (customize dose and timing, begin with 1 – 3 mg 30 minutes – two hours prior to bed), clonidine at bedtime
Good mornings, poor afternoons	Increase morning dose, consider noon short-acting dose

Resources for ADHD

ADHD Websites

www.chadd.org

ADHD Books

1. *The Girls Guide to AD/HD*. By Beth Walker. Woodbine House 2004. Bethesda, Md.
2. *The ADD/ADHD Checklist: A Practical Reference for Parents and Teachers, Second Edition*. By Sandra F. Rief, M.A. Jossey-Bass 2008. San Francisco, Calif.
3. *Late, Lost, and Unprepared: A Parents' Guide to Helping Children with Executive Functioning*. By Joyce Cooper-Kahn, Ph.D. & Laurie Dietzel, Ph.D. Woodbine House 2008. Bethesda, Md.

ADHD Recommended Articles

1. Feldman HM, Reiff MI. Attention deficit-hyperactivity disorder in children and adolescents. *NEJM*. 2013;370:838-846.

ADHD Reference Articles

1. American Academy of Pediatrics Subcommittee on Attention Deficit/Hyperactivity Disorder Steering Committee on Quality Improvement and Management. ADHD: Clinical practice guideline for the diagnosis, evaluation, and treatment of attention-deficit/hyperactivity disorder in children and adolescents. *Pediatrics*. 2011;128:1-16.
2. Pontifex MB, Saliba BJ, Raine LB, Piccietti DL, Hillman CH. Exercise improves behavioral neurocognitive, and scholastic performance in children with attention deficit/hyperactivity disorder. *J Pediatr*. 2013;162:543-51. This may not be the best reference as it demonstrates improvement in function immediately after exercise.
3. Bloch MH, Qawasmi A. Omega-3 fatty acid supplementation for the treatment of children with attention deficit/hyperactivity disorder symptomatology: systematic review and meta-analysis. *J Am Acad Child Adolesc Psychiatry*. 2011;50:991-1000. This shows some improvement in some studies and none in others.
4. Ek U, Westerlund J, Holmberg K, Fernell E. Academic performance of adolescents with ADHD and other behavioural and learning problems – a population-based study. *Acta Paediatrica*. 2011;100:402-406.
5. Charach A, Yeung E, Climans T, Lillie E. Childhood Attention-Deficit/Hyperactivity Disorder and Future Substance Use Disorders: Comparative Meta-Analyses. *J Am Acad Child Adolesc Psychiatry*. Jan 2011;50(1):9-21.
6. Wilems T, Adamson J, Monuteaux M, Faraone S, Chillinger M, Westerberg D, Biederman J. Effect of Prior Stimulant Treatment for Attention Deficit/Hyperactivity Disorder on Subsequent Risk for Cigarette Smoking and Alcohol and Drug Use Disorders in Adolescents. *Arch Pediatr Adolesc Med*. Oct 2008;162(10):915-921.

Parent Information: Attention Deficit Hyperactivity Disorder (ADHD)

A diagnosis of ADHD should be considered when inattentive, impulsive and/or hyperactive behaviors are excessive for age and developmental level AND interfere with daily social or school functioning.

ADHD Facts

ADHD is a medical condition caused by changes in how the brain controls attention and activity level. It is believed to be related to two chemicals in the brain called dopamine and norepinephrine. Treatment can include behavioral and environmental interventions alone or with medication.

Approximately 10 percent of school-aged children have ADHD.

ADHD has a genetic component and runs in families. If one of the parents has ADHD, their child has a 25 percent chance of having ADHD.

There is no blood test to diagnose ADHD. Nationally accepted standard questionnaires completed by parents and teachers are used to help make the diagnosis.

Many children with ADHD may also have:

- Learning disabilities
- Anxiety disorder
- Oppositional behaviors
- Serious conduct behaviors (e.g., lying, stealing)

Factors that may contribute to ADHD behaviors include:

- Home environment
- School environment
- Stress at home
- Poor sleep quality, iron deficiency
- Lack of physical activity
- Excessive screen time (TV > two hours/day)

Why is it important to treat ADHD?

Children whose ADHD is untreated have increased:

- Risk for school failure and dropping out in both high school and college
- Behavior and discipline problems
- Problems dealing with friends and family members
- Accidental injury
- Alcohol and drug abuse
- Depression, anxiety and other mental health disorders
- Employment problems
- Driving accidents
- Unplanned pregnancy and sexually transmitted diseases
- Delinquency, criminality and arrest

ADHD Diagnosis

The evaluation of a child for ADHD should include obtaining information from parents and teachers, using standardized questionnaires (rating scales), looking for other causes for the school and/or behavior problems, and a physical exam.

Criteria for ADHD diagnosis include the presence of at least six out of nine symptoms for more than six months in at least one of the two groups of symptoms listed below:

Inattentive symptoms:

- Fails to give close attention to details or makes careless mistakes
- Has difficulty sustaining attention
- Does not appear to listen
- Struggles to follow through on instructions
- Has difficulty with organization
- Avoids or dislikes tasks requiring a lot of thinking
- Loses things
- Is easily distracted
- Is forgetful in daily activities

Hyperactive-impulsive symptoms:

- Fidgets with hands or feet or squirms in chair
- Has difficulty remaining seated
- Runs about or climbs excessively in children; extreme restlessness in teens and adults
- Difficulty engaging in activities quietly
- Acts as if driven by a motor
- Talks excessively
- Blurts out answers before questions have been completed
- Difficulty waiting or taking turns
- Interrupts or intrudes upon other

Treatment

Treatment for ADHD is most effective if it includes behavioral, medication and environmental interventions.

Behavioral management

Parent training: Counselors teach parents about ADHD and ways to manage ADHD behaviors in their child. Techniques taught allow parents to have positive interactions with their child while being more effective at getting their child to meet behavior expectations. Working with the parents is usually the approach used with younger children.

Child-focused treatment: Counselors teach children and teens with ADHD to develop social, academic and problem-solving skills. The approach can be an individual intervention, a summer program, or interventions in home and school.

School-based interventions: Teachers meet children's educational needs by teaching them skills to manage their ADHD behaviors in the classroom (such as rewards, consequences, classroom seating and daily report cards sent to parents). Daily report cards are a useful tool where good behavior at school is rewarded at home. A physician letter to the school outlining a child's ADHD diagnosis will often allow the school to start these interventions if it has not done so.

Behavioral management can improve functioning but is not as effective as medication for inattention, hyperactivity and impulsivity.

Medication management

Medications reduce the symptoms of ADHD (e.g., inattention, hyperactivity, impulsivity) but will not treat learning disabilities (dyslexia) and other behavioral problems, and may not improve school and social (friends and family) functioning. Medication management alone is not usually recommended, and is often coupled with behavioral therapy.

There is no correct dose of medicine based on age or weight. Each child responds differently to these medications. Doctors usually begin with one medication, and slowly increase the dose to determine its effectiveness. It sometimes takes several medication trials and adjustments to find the most effective treatment for each child.

Stimulants – These are the most effective medication for helping with ADHD symptoms.

Effects: Decreases hyperactivity, impulsivity, distractibility, and helps children focus. However, stimulants may not improve functional limitations in school skills and social relations.

Forms: Methylphenidate and amphetamine salts with many generic and brand names. Comes as tablet, capsules (can be opened and sprinkled on food), a patch applied to the skin, liquid or chewable pills.

Duration: Short-acting (four hours) and long-acting (eight hours).

Common side effects: Reduced appetite, weight loss, problems sleeping, headaches and stomach pain. Other side effects include afternoon moodiness and trouble falling asleep. Your physician can manage these side effects if they do occur. Less common side effects include feeling a fast heart beat and an increase in blood pressure. Rarely, some children may experience a delay in height growth during the first two years of treatment, but studies show growth proceeds at a normal rate thereafter. Frequent follow-up appointments with the doctor allow for monitoring of possible side effects.

Nonstimulants – Alternatives for children who do not respond well to stimulant medication, have significant side effects with stimulant medications, or have other conditions in addition to ADHD.

Atomoxetine (Strattera®) given as a single daily dose in the morning or evening. It can take several weeks to build up to the correct dosage and see an effect. Common side effects include upset stomach, headaches and reduced appetite.

Guanfacine extended release (Intuniv®) and clonidine extended release (Kapvay®) each is given as a single daily dose in the morning or evening. They can also be given twice a day. Common side effects include decrease in heart rate and blood pressure, which may cause lightheadedness. Short-acting preparations of guanfacine and clonidine, though not FDA approved for use in ADHD, are also sometimes used.

Environmental management

Treatment for ADHD also includes addressing school and social issues. Management plans should include a total environmental approach with interventions for academics, sleep, organizational problems, family interactions, study location, screen time and other problem areas. Plans for these interventions are different for each child.

Diet, food allergies, nutritional supplements, biofeedback and other therapies

Many theories exist on the cause of ADHD and there are many suggested therapies. There is absolutely no medical evidence that sugar, gluten, or other foods and food allergies contribute to the symptoms of ADHD. Further research is needed to determine if biofeedback and other computer-assisted treatments are beneficial.

Some nutritional supplements have been found to help symptoms of ADHD, including Omega-3, zinc and iron (if the child is deficient).

Resources

Websites

CHADD <http://www.chadd.org/>

Books

1. *The Explosive Child: A New Approach for Understanding and Parenting Easily Frustrated, Chronically Inflexible Children.* By Ross W. Greene, Ph.D. The Guilford Press 1998. New York, N.Y.
2. *Driven to Distraction: Recognizing and Coping with Attention Deficit Disorder from Childhood Through Adulthood.* By Edward M. Hallowell and John J. Ratey.
3. *The Girls Guide to ADHD.* By Beth Walker.
4. *Taking Charge of ADHD, 3rd ed.* By Russell A. Barkley.
5. *Executive Skills in Children and Adolescents, 2nd ed.* By Peg Dawson and Richard Guare.

ADHD Evaluation: Parent Questionnaire

Child's name: _____

Date of birth: _____ Date: _____

Medical history

Which of the following applies to your child?

Check all that apply.

- Premature: _____ weeks gestation at birth, weight of _____
- Problems with pregnancy: _____
- Use of alcohol, cigarettes or drugs in pregnancy: _____
- Problems after birth: _____
- Head trauma
- Meningitis
- Elevated lead level
- Current medications including vitamins: _____
- Does he/she swallow pills? _____
- Current alternative therapies (e.g., diets, meds): _____
- Fainting
- Complains of fast heart rate

Chief concerns. Check all that apply.

Age you first noticed concerns: _____

Behavioral

- Inattention
- Impulsivity
- Hyperactivity
- Anxiety
- Depression
- Peer relations

Which of your child's relatives (parents, maternal/paternal aunts/uncles, grandparents or cousins) have the following problems? Check all that apply.

- ADHD/ADD
- Learning (reading, writing, math)
- Anxiety
- Depression
- Autism
- Intellectual disability
- Alcohol
- Developmental delays
- Drugs
- Speech/language
- Tics
- Obsessive compulsive
- Fainting
- Sudden death before 50 years of age

Who in your family reminds you most of your child?

Academic

- Issues with math
- Issues with reading
- Issues with writing
- Other academic concerns: _____
- Other behavioral concerns: _____

Strengths (e.g., interests, behavior, intellectual, interpersonal): _____

Lifestyle

Sleep:

- How many hours/night does he/she sleep on average? _____
- Time your child goes to bed? _____
- Time your child falls asleep? _____
- Time your child gets up? _____
- Does your child wake up on his/her own? YES NO
- Is there difficulty transitioning to sleep? YES NO
- Is there difficulty staying asleep? YES NO
- Where does he/she fall asleep? _____
- Where does he/she sleep? _____
- Where does he/she wake up? _____
- Does teacher comment on your child being sleepy in school? YES NO
- Does your child snore? YES NO

Screen time (TV, video games, computer, phone):

- Is there a TV in the child's bedroom? YES NO
- What is the average screen time in hours:
weekday _____; weekend _____

Diet:

- Average soda intake per day in ounces: _____
- Is he/she a "picky eater"? YES NO
- Average servings of food with iron (meat, spinach) per week?

Home:

- How many times a week does your child read for pleasure?

- How many meals a week does your child have with a parent?

- Are there any major changes in your child's life in the past six months
(e.g., divorce, loss of a relative, birth of a sibling, moving)? YES NO
- If so, how is he/she handling the major changes?

- Are there any problems with bullying or abuse
at home or school? YES NO
- Is your child in counseling? YES NO
- Has your child ever seen a counselor? YES NO
If so, why? _____

Exercise:

Outside of school, what type and amount of physical activity?

School:

- How many days of school did your child miss in the past 12 months?

- Current grade: _____
- Does he/she have an IEP? YES NO
- Does he/she have a 504 plan? YES NO
- Other interventions at school: (e.g., PT, OT, speech, counseling)?

- Interventions outside of school (tutoring, speech)?

- How many hours does he/she spend on homework each night?

- What are his/her most recent grades (circle all that apply):
As Bs Cs Ds Fs
- Are grades higher, lower or the same as last year? _____

Are there any problems:

- On the bus? YES NO
- On the playground? YES NO
- Bullying at school? YES NO
- Completing homework? YES NO

Vanderbilt Assessment Scale – Teacher Informant

Name of student: _____ Age: _____ Grade: _____ Date: _____

Completed by: _____ Subject: _____

Directions: Each rating should be considered in the context of what is appropriate for the age of the child 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 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 refusal 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 (e.g., toys, school 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 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 (e.g., butts into conversations/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 (e.g., "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

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 or her"	0	1	2	3
35.	Is sad, unhappy or depressed	0	1	2	3

Academic Performance		Excellent	Above Average	Average	Somewhat of a Problem	Problematic
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		Excellent	Above Average	Average	Somewhat of a Problem	Problematic
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

FOR OFFICE USE ONLY

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

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

Total number of items scored 2 or 3 for items 1 – 18: _____

Total number of items scored 2 or 3 in items 19 – 28: _____

Total number of items scored 2 or 3 in items 29 – 35: _____

Total number of items scored 4 or 5 in items 36 – 43: _____

Questionnaire consistent with diagnosis of:

- ADHD, predominantly inattentive type
- ADHD, predominantly hyperactive/impulsive
- ADHD, combined type
- Oppositional defiant disorder
- Conduct disorder
- Anxiety/depression
- None

Provider Signature: _____

Adapted from the Vanderbilt Rating Scales developed by Mark L. Wolraich, MD. Revised-1102. For additional information see: Wolraich, M. L., et al. (1998) Obtaining systematic teacher reports of disruptive behavior disorders utilizing DSM-IV. (Diagnostic and Statistical Manual of Mental Disorders, 4th ed.) Journal of Abnormal Child Psychology.

For every question, every kid,
There's only one Rainbow.



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Vanderbilt Assessment Scale – Parent Informant

Name of child: _____ Age: _____ Grade: _____ Date: _____

Completed by: _____ Relation to child: _____

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 behavior in the past six months.

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

Symptoms		Never	Occasionally	Often	Very Often
1.	Does not pay close attention to details or makes careless mistakes with, for example, homework	0	1	2	3
2.	Has difficulty focusing attention on 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 on instructions and fails to finish schoolwork, chores or duties	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 (e.g., schoolwork or homework)	0	1	2	3
7.	Loses things necessary for tasks or activities (e.g., toys, school assignments, pencils, books or tools)	0	1	2	3
8.	Is 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 (e.g., butts into conversations/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 go along with adult 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 (i.e., "cons" others)	0	1	2	3
30.	Is truant from school (skips school) without permission	0	1	2	3

Symptoms		Never	Occasionally	Often	Very Often
31.	Is physically cruel to people	0	1	2	3
32.	Has stolen things that have value	0	1	2	3
33.	Deliberately destroys others' property	0	1	2	3
34.	Has used a weapon that can cause serious harm (e.g., 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 (e.g., teams)	1	2	3	4	5

COMMENTS

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

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

Total number of items scored 2 or 3 for items 1 – 18: _____

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

Total number of items scored 2 or 3 in items 27 – 40: _____

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

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

Questionnaire consistent with diagnosis of:

- ADHD, predominantly inattentive type
- ADHD, predominantly hyperactive/impulsive
- ADHD, combined type
- Oppositional defiant disorder
- Conduct disorder
- Anxiety/depression
- None

Provider Signature: _____



Adapted from the Vanderbilt Rating Scales developed by Mark L. Wolraich, MD. Revised-1102. For additional information see: Wolraich, M. L., et al. (1998) Obtaining systematic teacher reports of disruptive behavior disorders utilizing DSM-IV. (Diagnostic and Statistical Manual of Mental Disorders, 4th ed.) Journal of Abnormal Child Psychology.

ADHD Management Plan

Child's name: _____

Date of birth: _____ Date: _____

Diagnosis

- Attention deficit/hyperactivity disorder – combined
- Attention deficit/hyperactivity disorder – predominantly inattentive
- Attention deficit/hyperactivity disorder – predominantly hyperactive/impulsive
- Other _____

Goals (e.g.: improve focus, get homework done)	Interventions (e.g.: start medication, counseling)
1.	
2.	
3.	

Medication	Dose and Frequency	Comments

Note: All stimulant medications require a paper script for refills.

The most common side effects for stimulants are decreased appetite and sleep problems. Other common side effects include stomachache, headache and moodiness. When medications wear off, there can be a slight increase in blood pressure.

Recommendations

Behavioral

Parent counseling: Counselors teach parents about ADHD and ways to manage ADHD behaviors.

- Referred for behavioral counseling intervention:
 - _____
 - _____
 - _____
- The Explosive Child: A New Approach for Understanding and Parenting Easily Frustrated, Chronically Inflexible Children.* By Ross W. Greene, PhD.
- Driven to Distraction: Recognizing and Coping with Attention Deficit Disorder from Childhood Through Adulthood.* By Edward M. Hallowell and John J. Ratey.
- The Girls' Guide to AD/HD.* By Beth Walker.
- Taking Charge of ADHD, 3rd ed.* By Russell A. Barkley.
- Executive Skills in Children and Adolescents, 2nd ed.* By Peg Dawson and Richard Guare.

Behavioral (continued)

Child-focused treatment: Counselors teach children and teens with ADHD to develop social, academic and problem-solving skills. This is sometimes done in a group setting.

Referred for behavioral counseling intervention:

School-based interventions: Teachers meet a child's educational needs by teaching skills to manage ADHD behaviors in the classroom.

- Rewards/consequences
- Preferential classroom seating
- Daily report cards sent to parents
- Letter to school requesting ADHD accommodation
- Request multifactorial evaluations (MFE)
- Request individual education plan (IEP)
- Request 504 plan
- Tutoring
- Other _____

Environmental

Sleep hygiene

- Target eight to 10 hours of sleep nightly
- No electronics in bedroom
- No screen time within one hour of bed
- Eliminate caffeine
- Regular bedtime (weekdays and weekends)
- Quiet activities before bed

Nutrition

- Balanced diet: five servings of fruits and vegetables per day, one serving is size of child's palm
- Iron supplement
- Omega-3

Study environment

- Quiet area for homework and schoolwork
- Homework time immediately after school
- Visual distractions reduced (away from window or door or excess pictures, etc.)
- Child sitting near and facing the teacher in class
- Expectations and assignments visible in classroom (written on board)
- Regular routines kept

Exercise

- One hour of active play per day
- Total screen time (TV, computer, video games) limited to two hours per day
- Walking outdoors as a family encouraged

Referrals

Call 216-UH4-KIDS (216-844-5437)

- Sleep Clinic/Sleep Study
- Nutrition
- Developmental Behavioral Pediatrics
- Psychology

- Psychiatry
- Neurology
- Lab: _____

Resources

Websites

- CHADD <http://www.chadd.org>
- Bullying www.stopbullying.gov

Follow-up appointment

on _____ at _____

- Follow up in 30 days (new medication)
- Follow up in _____ months

ADHD Medication Chart

Generic Name	Brand Name	Available Preparations*	Dose	Immediate Release: Extended Release Ratio	Duration (hr)	Ages for Which There is FDA Indication for Treatment of ADHD (years)
Short-Acting Amphetamine Stimulants						
Amphetamine, dextroamphetamine mixed salts	Adderall®	5, 7.5, 10, 12.5, 15, 20, 30 mg tablet	2.5 – 5 mg once or twice daily, to a maximum of 40 mg		4 – 6	3 – 12
Dextroamphetamine	Dexedrine®	5, 10 mg tablet	5 mg daily, to a maximum of 40 mg		4 – 6	3 – 16
Dextroamphetamine	ProCentra	5 mg/5 ml liquid	5 mg daily, to a maximum of 40 mg		4 – 6	3 – 16
Long-Acting Amphetamine Stimulants						
Amphetamine, dextroamphetamine mixed salts extended-release	Adderall XR®	5, 10, 15, 20, 25, 30 mg capsule (can be opened and sprinkled on applesauce)	5 mg daily, to a maximum of 40 mg	50:50 (50% immediate, 50% in 4 hrs)	8 – 10	
Lisdexamfetamine	Vyvanse®	20, 30, 40, 50, 60 and 70 mg capsule (can be dissolved in liquid)	20 mg daily, to a maximum of 70 mg		10 – 12	6 – adults
D-amphetamine	Dexedrine Spansule	5, 10, 15 mg capsule	5 mg once or twice daily, to a maximum of 40 mg		≥6	6 – 16
Norepinephrine-Reuptake Inhibitor						
Atomoxetine	Strattera®	10, 18, 25, 40, 60, 80, 100 mg	0.5 mg/kg/day once or twice daily, to a maximum of 1.4 mg/kg		At least 10 – 12	6 – adults
Short-Acting α-Adrenergic Agonist						
Guanfacine	Tenex	1, 2, 3 mg tablet	1 mg/day (may give 0.5 mg/day if with side effects on 1 mg dose); can increase to 2 mg/day after 3 – 4 weeks		8 – 12	
Clonidine	Catapres	0.1, 0.2, 0.3 mg tablet	0.05 mg at bedtime, increasing by 0.05 mg every 4 – 7 days to a daily maximum of 0.35 mg. Give in divided doses of tid-qid for younger children.		3 – 6	
Long-Acting α-Adrenergic Agonists						
Extended-release guanfacine	Intuniv®	1, 2, 3, 4 mg tablet	1 mg daily, to a maximum of 4 mg daily		≥12	6 – 17
Extended-release clonidine	Kapvay®	0.1, 0.2 mg tablet	0.1 mg once or twice daily, to a maximum of 0.4 mg/day		≥12	

*Preparations in BOLD indicate there is a generic formulation available

Generic Name	Brand Name	Available Preparations*	Dose	Immediate Release: Extended Release Ratio	Duration (hr)	Ages for Which There is FDA Indication for Treatment of ADHD (years)
Short-Acting Methylphenidate Stimulants						
Dexmethylphenidate	Focalin®	2.5, 5, 10 mg tablet	2.5 mg twice daily, to a maximum of 60 mg		3 – 5	6 – 17
Methylphenidate	Ritalin®	5, 10, 20 mg tablet	5 mg two to three times daily, to a maximum of 60 mg		3 – 5	6 – 12, adults
Methylphenidate	Methylin®	5, 10, 20 mg tablet	5 mg two or three times a day, to a maximum of 60 mg		3 – 5	6 – 12
Methylphenidate	Methylin Chewable	2.5, 5, 10 mg chewable tablet	5 mg two or three times a day, to a maximum of 60 mg		3 – 5	6 – 12
Methylphenidate	Methylin Solution	5 mg/5 ml, 10 mg/5 ml solution (grape flavor)	5 mg two or three times a day, to a maximum of 60 mg		3 – 5	6 – 12
Long-Acting Methylphenidate Stimulants						
Dexmethylphenidate	Focalin XR	5, 10, 15, 20, 25, 30, 35, 40 mg tablet (can be opened and sprinkled on applesauce)	5 mg/day, to a maximum of 20 mg	50:50	8 – 12	
Methylphenidate	Concerta®	18, 27, 36, 54, 72 mg tablet	18 mg daily, to a maximum of 72 mg	22:78	8 – 12	
Methylphenidate	Metadate CD®	10, 20, 30, 40, 50, 60 mg capsule (can be opened and sprinkled on applesauce)	20 mg daily, to a maximum of 60 mg	30:70	6 – 8	6 – 17
Methylphenidate	Methylin ER	10, 20 mg tablet	10 mg daily, to a maximum of 60 mg		4 – 8	6 – 12
Methylphenidate	Ritalin LA	10, 20, 30, 40 mg capsule (can be opened and sprinkled on applesauce)	20 mg daily, to a maximum of 60 mg	50:50	6 – 8	6 – 12
Methylphenidate	Ritalin SR	20 mg tablet	20 mg once or twice daily, to a maximum of 60 mg		6 – 8	6 – 12, adults
Methylphenidate	Quillivant XR	25 mg/5 ml (5 mg/ml) syrup (banana flavor)	25 mg/5ml daily, to a maximum of 60 mg		10 – 12	6 – 17
Methylphenidate Transdermal	Daytrana®	10, 15, 20, 30 mg transdermal patch	10 mg (apply for 9 hours), to a maximum of 30 mg	0:100	11 – 12	6 – 17

*Preparations in **BOLD** indicate there is a generic formulation available

REFERENCES:

Adesman, A. ADHD Medication Guide. North Shore LIJ. March 2013.
 Connor, DF, Meltzer, BM. Pediatric Psychopharmacology Fast Facts. 2006. New York, N.Y.: W.W. Norton & Company.
 Feldman, HM, Reiff, MI. Attention Deficit Hyperactivity Disorders in Children and Adolescents. N Engl J Med 2014; 370:838-846.
 Primary Pediatric Psychopharmacology. The REACH Institute.



ADHD Behavioral Counseling Resource List

This list has been created for use by community physicians as a resource for pediatric behavioral counseling for ADHD. It is not necessarily a comprehensive list of all the available community resources. Inclusion on this list should not be considered an endorsement of services provided.

Locations	Agency Information	Services	Insurance Plans	Phone
Cleveland's Eastside, school-based, Lorain County	Beech Brook	Behavioral health counseling, psychiatry	Medicaid: all plans, some commercial insurance on limited basis	216-831-2255
Cuyahoga, Lorain, Lake, Summit, Stark, Medina, Portage counties	GuideStone	Cuyahoga, Lorain: behavioral health counseling (BHC), early childhood mental health (ECMH), psychiatry; Lake, Summit, Stark, Medina, Portage: in-home, ECMH	Medicaid: all plans	440-260-8300
20 locations: Avon, Beachwood, Bedford Heights, Brecksville, Brunswick, Chagrin Falls, Cleveland Heights, Euclid, Fairview Park, Hudson, Lyndhurst, Mentor, North Olmsted, Pepper Pike, Richfield, Rocky River, Stow, Warrensville Heights, West Park	Humanistic Counseling Center	ADHD evaluation at Family Achievement Center, with Dr. Dan, behavioral health counseling	Providers independently paneled with commercial insurance plans and individual Medicaid plans; dependent on location; website profiles indicate specialization of providers	216-839-2273
Beachwood, Brecksville, North Olmsted, Ashtabula, Willoughby	Psychological & Behavioral Consultants	Behavioral health counseling, psychiatry: limited locations only	Commercial insurance plans only	216-831-6611 (all locations)
W.O. Walker Center, Medina Peds, Mayfield Heights, Westlake	UH Psychiatry	Psychiatry and medication consultation	Medicaid: all plans, self-pay, and commercial insurance plans with limited accessibility	216-844-3881
Cuyahoga County	ECMH Coordinator – Cuyahoga County	Provide early childhood mental health consultation and referral for ECMH	n/a	216-881-4291

Locations	Agency Information	Services	Insurance Plans	Phone
West Only				
Cleveland's Westside, school-based	Applewood Centers – Cuyahoga	Behavioral health counseling, psychiatry	Medicaid: all plans, some commercial insurance on limited basis	216-696-5800 x1264 216-521-6511 x1737 (ECMH)
Elyria, Lorain County	Applewood Centers – Lorain	Behavioral health counseling, psychiatry	Medicaid: all plans, some commercial insurance; ADAMHS board assistance	440-324-1300
Elyria, Lorain County	Bellefaire – Lorain	Behavioral health counseling, psychiatry	Medicaid: all plans, some commercial insurance; ADAMHS board assistance	440-324-5701 x13
Parma, Rocky River	The Centers for Families and Children	Behavioral health counseling, psychiatry: limited access	Medicaid: all plans	216-325-9355
East Only				
Cleveland's Eastside, school-based	Bellefaire – Cuyahoga	Behavioral health counseling, psychiatry, groups	Medicaid: all plans	216-932-2800
Lake County	Crossroads	BHC, psychiatry, multiple levels of care	Medicaid: all plans, some commercial insurances	440-255-1700
Beachwood, Willoughby	Jay Berk	Behavioral health counseling, groups	Specific Medicaid plans and commercial insurances	216-292-7170
Chardon	Ravenwood	Behavioral health counseling, psychiatry	Medicaid: all plans, multiple commercial insurances	440-285-3568
Ashtabula	Signature Health Ashtabula	Behavioral health counseling, psychiatry	Medicaid: all plans	440-992-8552
Willoughby	Signature Health Willoughby	Behavioral health counseling, psychiatry	Medicaid: all plans	440-953-9999
W.O. Walker Center, Solon	UH Developmental and Behavioral Pediatrics	ADHD evaluation and medication consultation	Medicaid: all plans and multiple commercial insurances	216-844-3230
South Only				
Twinsburg, Akron, Barberton, Cuyahoga Falls	Child Guidance & Family Solutions	Behavioral health counseling, psychiatry, medication consultation, groups	Medicaid: all plans, multiple commercial insurances	330-762-0591
Brook Park	Invision	Behavioral health counseling	Most commercial insurances	440-260-8300
Garfield Heights	Signature Health Garfield	Behavioral health counseling, psychiatry	Medicaid: all plans	216-663-6100