

Attention-Deficit Hyperactivity Disorder

Assessment and Diagnosis

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Background Information

- ADHD is not just a disorder of attention, and it's not “just bad behavior.”
- ADHD is a neurobehavioral disorder with a neurobiologic basis.
- Brain imaging shows changes in structure and function in front-subcortical networks.
- Strong genetic component among first degree relatives, estimated heritability of 70-80%.
- Environmental risk factors include preterm birth, low birth weight, maternal substance use or cigarette smoking during pregnancy, lead/pesticide exposure, nutritional deficiencies.
- ADHD affects greater than 10% of children, and can persist through adulthood, affecting up to 5% of adults.
- Treatments are highly effective.
- Left untreated, can have negative impacts on multiple areas of functioning for both children and adults.

Consequences of ADHD

Untreated ADHD is associated with an increased risk for:

- Comorbid psychiatric disorders (substance use disorders, anxiety, mood disorders)
- Academic and occupational impairments
- Social impairments, including higher rates of divorce
- Injuries, car accidents, traumatic brain injuries
- Criminality
- Suicide

Consequences of ADHD

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- Academic impairment
- Social impairment
- Injury
- Criminality
- Suicide

Early diagnosis and treatment is the key to reducing long-term consequences of ADHD.

ADHD according to the DSM-V

Inattention:

- a. Often fails to give close attention to details or makes careless mistakes
- b. Often has difficulty sustaining attention (remaining focused) in tasks or play activities
- c. Often does not seem to listen when spoken to directly (mind seems elsewhere)
- d. Often does not follow through on instructions and fails to complete tasks
- e. Often avoids, dislikes, or is reluctant to engage in tasks that require sustained mental effort
- f. Often loses things necessary for tasks or activities
- g. Easily distracted by extraneous stimuli
- h. Is often forgetful in daily activities (i.e. returning phone calls, paying bills)

Hyperactivity and impulsivity:

- a. Often fidgets or squirms in seat
- b. Often leaves seat
- c. Often runs or climbs in inappropriate settings
- d. Often unable to play quietly
- e. Is often “on the go” as is “driven by a motor”
- f. Often talks excessively
- g. Often blurts out an answer/completes other people’s sentences/cannot wait for turn in conversation
- h. Often has difficulty waiting their turn
- i. Often interrupts or intrudes on others

In order to meet DSM-V Diagnostic Criteria for ADHD, symptoms must:

1. Interfere with functioning; negatively impact social and academic/occupational activities.
2. Persist for at least 6 months.
3. Be inconsistent with normal development.
4. Symptoms must be present across two or more settings.
5. Several symptoms must be present before age 12.

6+

Inattention symptoms for at least 6 months

Attention-deficit hyperactivity disorder, predominantly inattentive presentation F90.0

6+

Hyperactivity/Impulsivity symptoms for at least 6 months

Attention-deficit hyperactivity disorder, predominantly hyperactive/impulsive presentation F90.1

6+

Inattention and Hyperactivity/Impulsivity symptoms for at least 6 months

Attention-deficit hyperactivity disorder, combined presentation F90.2

**Only 5 symptoms in each category are required in individuals ages 17+*

Attention-Deficit/Hyperactivity Disorder

Specify whether:

F90.2 ____, Combined presentation

F90.0 ____, Predominantly inattentive presentation

F90.1 ____, Predominantly hyperactive/impulsive presentation

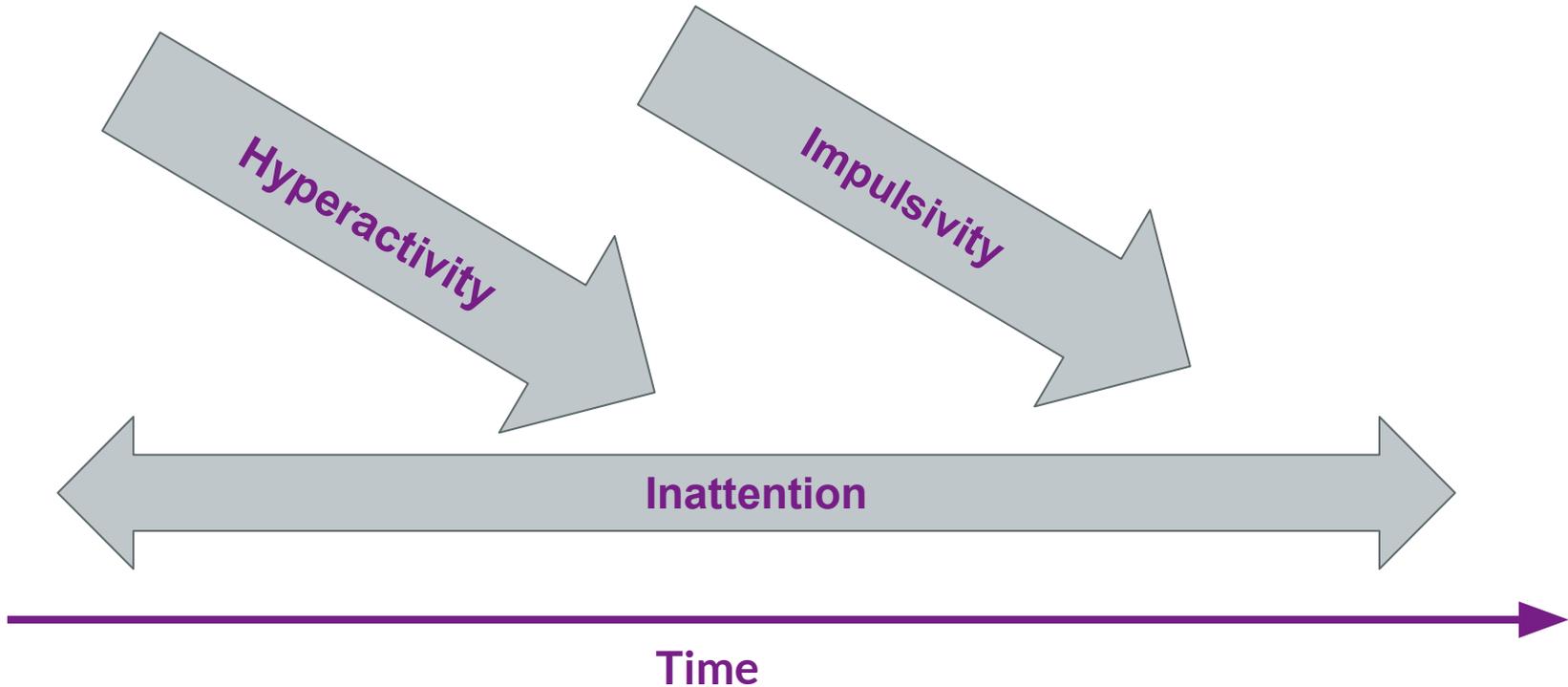
Specify if: in partial remission

Specify current severity: mild, moderate, severe

Considerations for Diagnosing ADHD

- Adults may not have been diagnosed or treated prior to age 12, but this doesn't exclude them from being diagnosed as an adult.
- Diagnosis is based on subjective reporting - **there is no definitive test for ADHD.**
- Presentation may change based on context.
- *Subsyndromal ADHD has been shown to have similar outcomes to ADHD!*

ADHD Across the Lifespan



Vanderbilt Assessment Scales

- Completed at baseline by both teacher and parent.
- Completed at periodic intervals by both teacher and parent to assess improvement from baseline.
- Follow-up assessments also ask about potential medication side effects.
- In addition to questions about ADHD symptoms, there are questions to screen for behavioral disorders, mood, and anxiety disorders.

Case Presentation:

Tiffany is a 9-year-old girl. She walks into her math class, and is greeted by her teacher, Mrs. Snook. Tiffany smiles and waves to Mrs. Snook, and then Tiffany holds the door for her friends coming in the door behind her. Tiffany has been having a very good day. Mrs. Snook announces that today the class will be practicing fractions. Tiffany worries because she finds fractions to be particularly challenging. Mrs. Snook writes the first problem on the board, and Tiffany begins to work on the problem. She hears the other children whispering and starts listening to their conversation worried they might be talking about her because she is not good at math. She pulls her attention back to the problem, then begins to wonder what her parents are making for dinner tonight. She starts tapping her pencil on the desk and squirming in her seat. This is a very difficult math problem, and she doesn't know where to start.

Case Presentation:

Tiffany is a 9-year-old girl. She walks into her math class and greets her teacher, Mrs. Snook. Tiffany smiles and waves to Mrs. Snook. She opens the door for her friends coming in the door behind her. It is a very good day. Mrs. Snook announces that today the class will be working on fractions. Tiffany worries because she finds fractions to be particularly challenging. Mrs. Snook writes the first problem on the board, and Tiffany begins to work on the problem. She hears the other children whispering and starts listening to their conversation worried they might be talking about her because she is not good at math. She pulls her attention back to the problem, then begins to wonder what her parents are making for dinner tonight. She starts tapping her pencil on the desk and squirming in her seat. This is a very difficult math problem, and she doesn't know where to start.

May have anxiety, but limited to school performance or social interactions.

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In a generally positive mood. Appears to be friendly. Does not seem persistently irritable.

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Easily distracted by things going on in her environment. Mind wanders.

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Case Presentation (cont):

After attempting the problem for several minutes, Tiffany throws her books on the floor and shouts, “I’m just no good at anything!” When Mrs. Snook tries to reassure her, Tiffany snaps, “Leave me alone! I don’t want to be in your stupid class anyway!” and storms out.

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Low frustration tolerance
Oppositional defiant behaviors
Low self-esteem

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Low frustration tolerance
Oppositional defiant behaviors
Low self-esteem



Mood disorder

ADHD

vs.

Mood Disorders

- **Deficient emotional self-regulation**, many shifting moods in one day
- “**Fine until frustrated**”
- **Impulsive behaviors, impulsive emotions = temper tantrums**
- **Low self-esteem** related to occupational performance or not being accepted by their peers
- **Low motivation** to initiate tasks, because they are overwhelmed by complex tasks

- **Persistent mood symptoms** may be indicative of disruptive mood dysregulation disorder (**DMDD**) or major depressive disorder (**MDD**).
 - Bipolar disorder is rare in pre-adolescence, though would need to meet criteria for hypomanic or manic episode.
-

Common Co-Occurring Diagnoses with ADHD in Children

1

Oppositional defiant disorder
“Fine until frustrated” = ADHD + ODD

Co-occurs in 25% of children with inattentive presentation and 50% of children with hyperactive presentation.

2

Disruptive mood dysregulation disorder (persistently irritable)

Often meet the criteria for ADHD, but persistent irritable mood changes the diagnosis to DMDD.

3

Specific learning disability/intellectual disability

Can be confounding or comorbid. If academic performance does not improve with ADHD treatment, consider evaluation for learning/intellectual disabilities.

4

Anxiety disorders

Social/performance anxiety
“Will the other kids think I’m different? Will I fail this test?”

Adult ADHD Self-Report Scale (ASRS-v1.1)

- **Part A: most predictive of ADHD diagnosis**
- Part B: offers additional information about presentation
- Important to discuss the **level of impairment** associated with each symptom because even sub-threshold ADHD can cause functional impairment and may require treatment.
 - Have symptoms interfered with your ability to perform your job/schoolwork, maintain friendships/intimate relationships, complete things around the house?
- Did they have any of these symptoms present in childhood? How did these symptoms impact them in school?

Considerations for Diagnosing ADHD in Adults

Depression

Untreated ADHD increases the risk for mood disorders, so consider ADHD if persistent depressive symptoms unresponsive to treatment.

ADHD

**Substance
Use
Disorder**

23% of adults with SUD have ADHD and ADHD is a significant risk factor for SUD, so if either diagnosis is present, should screen for the other.

ADHD

**Bipolar
disorder**

Consider if symptoms of hyperactivity, poor concentration, sleep disturbance, impulsivity are episodic (BPD) or persistent (possibly ADHD). Episodes of mood lability may occur many times in one day in ADHD presentation.

ADHD

Medication Management for ADHD

Talking to Families about Medication

Tell children and parents:

- Stimulant treatment is highly effective and one of the **best studied** of all medications in children and adolescents.
- They will likely see effects of medication **immediately**.
- The medication only works on the days it is taken, and *it won't work if a dose is missed that day*.
- **Symptoms may return as medication wears off throughout the day.**
- Medication *may interfere with sleep* if given too late in the day.
- Medication works best when combined with behavioral therapy.
- **Focus on symptoms**

Medication may:

- “Help you pay better attention in school”
- “Help you stay in your seat”
- “Help you remember what you learned”
- “Help you focus on homework”

Before starting Medication

- EKG
- Blood pressure
- Heart rate
- Height
- Weight
- History of heart conditions or cardiac symptoms
- Family history of heart conditions or sudden/early cardiac death
- **Stimulants and nonstimulant atomoxetine are contraindicated in children with structural cardiac abnormalities = can result in sudden cardiac death.**

Stimulants

vs.

Nonstimulants

- Amphetamines
 - Adderall
- Methylphenidates
 - Ritalin
 - Focalin
 - Concerta
- Lisdexamfetamine (Vyvanse)

- Atomoxetine
- Guanfacine
- Clonidine
- Wellbutrin

Adverse Effects

- Nausea, insomnia, loss of appetite, headaches
- If the child experiences any cardiac side effects (difficulty breathing, chest pain, heart palpitations, dizziness), **STOP MEDICATION IMMEDIATELY** and contact your doctor
- Tell kids:
 - Pay attention to your bodies: If anything feels “different” or “funny,” let your parents know.
 - Side effects are usually temporary and go away within a few days to a few weeks.
 - If side effects don’t go away, or you don’t like the way you feel on the medication, we can try something different.

ADHD Parents Medication Guide

Summary

- ADHD is more than just a disorder of attention.
- It's also not “just a behavioral problem.”
- Complex etiology of neurological, genetic, and environmental factors contribute to ADHD symptomatology.
- ADHD, even subthreshold ADHD, has far-reaching psychiatric, social, and occupational consequences.
- Early intervention is the key to promoting positive outcomes.
- Early and accurate diagnosis will connect individuals with early and effective treatment.
- **Since most children see their pediatrician regardless of race, cultural beliefs, or socioeconomic status, the collaborative care model is perfect avenue for timely identification to promote early treatment and reduce long-term consequences.**

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Questions



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