



# Where has all the Adderall Gone? Psychostimulants for the Non- Psychiatrist

Jason Beaman, D.O., M.S., M.P.H., FAPA  
Associate Clinical Professor  
Interim Chair, School of Forensic Sciences  
Oklahoma State University Center for Health Sciences

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## Objectives

1

Understand the evaluation of Adult ADHD

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Understand the treatment of Adult ADHD

3

Understand the appropriate use of psychostimulants

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TABLE 1. Percentage of persons aged 5-49 years with at least one stimulant prescription fill, by sex, age group, calendar year, average annual percent change (2010-2020), and annual percent change (2020-2021) — MarketScan commercial databases, United States, 2010-2021

Sex and age group, yrs	Percentage, by year					Average annual % change* 2010-2020	Annual % change** 2020-2021
	2010	2011	2018	2019	2021		
Sample size (millions)	83.7	10.0	17.4	16.0	16.4	13.3	—
Both sexes, all ages	9.6	9.7	8.6	8.7	8.6	4.1	1.4
Male, all	3.9	4.0	4.4	4.0	4.8	4.2	8.8
Female	5.6	5.7	4.2	4.7	3.8	0.0	-1.0
0-4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5-9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10-14	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15-19	0.0	0.0	0.0	0.0	0.0	0.0	0.0
20-24	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25-29	0.0	0.0	0.0	0.0	0.0	0.0	0.0
30-34	0.0	0.0	0.0	0.0	0.0	0.0	0.0
35-39	0.0	0.0	0.0	0.0	0.0	0.0	0.0
40-44	0.0	0.0	0.0	0.0	0.0	0.0	0.0
45-49	0.0	0.0	0.0	0.0	0.0	0.0	0.0
50-54	0.0	0.0	0.0	0.0	0.0	0.0	0.0
55-59	0.0	0.0	0.0	0.0	0.0	0.0	0.0
60-64	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Source: MarketScan, IMS Health. \*Average annual percent change (AAPC) for 2010-2020. \*\*Annual percent change (APC) for 2020-2021. Data are based on MarketScan commercial databases. Percentages are rounded to the nearest tenth. Percentages are based on the number of persons with at least one stimulant prescription fill. Data are based on MarketScan commercial databases, United States, 2010-2021.

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TABLE. Percentage of persons aged 5-18 years with at least one stimulant prescription fill, by sex, age group, calendar year, average annual percent change (2016-2020), and annual percent change (2020-2021) — Behavioral comorbidity databases, United States, 2016-2021

Sex and age group, yrs	Percentage, by year					Average annual % change <sup>a</sup> 2016-2020	Annual % change <sup>b</sup> 2020-2021
	2016	2017	2018	2019	2020		
Overall, all	5.2	5.3	5.3	5.3	5.2	0.0	18.9
5-11	5.0	5.0	5.0	5.1	5.1	-0.5	9.7
12-14	4.8	4.9	4.7	4.8	4.8	0.2	8.3
15-18	5.5	5.2	4.9	5.1	5.3	0.1	15.1
20-24	5.4	5.5	5.2	5.1	5.2	0.0	19.2
25-29	4.2	4.4	4.4	4.3	4.6	0.4	17.4
30-34	3.6	3.8	3.9	4.0	4.1	0.1	16.3
35-39	3.1	3.4	3.5	3.7	4.0	0.3	17.5
40-44	2.8	3.1	3.1	3.2	3.5	0.3	16.3
45-49	2.8	2.9	2.9	3.0	3.2	0.3	9.4
50-54	2.1	2.2	2.2	2.4	2.6	0.3	16.2
55-59	1.6	1.7	1.7	1.8	2.0	0.4	13.7
60-64	1.2	1.3	1.3	1.4	1.6	0.2	11.1

Derivation: Mc, Bohn MC, Newcomer K, et al. Trends in Stimulant Prescription Fills Among Commercially Insured Children and Adults — United States, 2016-2021. *Morbidity and Mortality Weekly Report* 2023;72:327-332. DOI: <https://doi.org/10.1093/ajph/2023.72.327.332>

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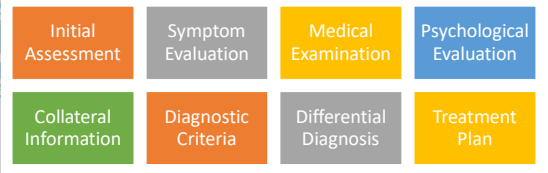
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## Diagnosing ADHD in an Adult




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## Initial Assessment

- Why Now?
- Is their history in agreement with:
  - Medical Record
  - PMP
- Are they interested in symptom reduction or just medication




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# Symptoms of ADHD

Inattention

Hyperactivity

Impulsivity

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## Symptoms of ADHD Inattention

Paying	close attention to details or making seemingly careless mistakes at work or during other activities
Sustaining	attention for long tasks, such as preparing reports, completing forms, or reviewing lengthy papers
Listening	closely when spoken to directly
Following	instructions and finishing duties in the workplace



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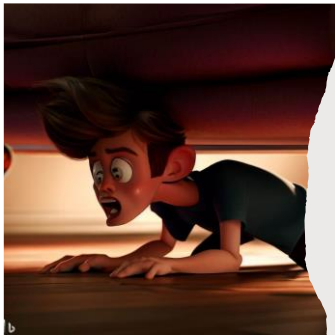
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## Symptoms of ADHD Inattention

- Organizing tasks and activities and managing time
- Engaging in tasks that require sustained attention
- Losing things such as keys, wallets, and phones
- Being easily distracted by unrelated thoughts or stimuli
- Being forgetful in daily activities, such as paying bills, keeping appointments, or returning calls

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### Symptoms of ADHD Hyperactivity and Impulsivity

- Excessive fidgeting, restlessness, difficulty sitting still for extended periods, and/or running or climbing when not allowed
- Talking with or interrupting others in class or during leisure time
- Being unable to engage quietly in leisure activities
- Inappropriate use of physical energy
- Incessant talking, often being unable to complete a task
- Excessive talking, such as talking when asked not to, or talking too much
- Interrupting or intruding on others




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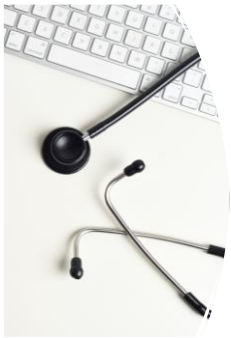
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### Medical Examination

- Focused on ruling out other causes
  - Medical Conditions
  - Substances

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### Medical Causes of ADHD Symptoms

- Thyroid dysfunction
- Major Depressive Disorder
- Bipolar Disorder
- Anemia

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### Substances that Impair Attention

- Any depressant
- Stimulants in certain situations
- Common offenders:
  - Marijuana
  - Opioids
  - Benzodiazepines



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### Psychological Evaluation

- May include assessments or testing
- Examines:
  - Cognitive abilities
  - Attention
  - Executive functioning



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**Rating Scales**

- Childhood Symptom Scale
- Wender Utah Rating Scale
- Adult ADHD Rating Scale-IV
- Brown Attention-Deficit Disorder Rating Scale and Diagnostic Form
- Conners Adult ADHD Rating Scales
- Current Symptoms Scale by Barkley and Murphy
- Wender-Reimherr Adult Attention-Deficit Disorder Scale

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Childhood Symptom Scale

Retrospective assessment of 18 DSM IV criteria

Also Includes:

- Functional disabilities
- Oppositional Defiant Disorder
- Conduct Disorder

Piper et al. Diagnosis and Management of Attention-Deficit/Hyperactivity Disorder in Adults. American Family Physician 2012 May; 85 (20):2456.

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Wender Utah Rating Scale

Retrospective assessment of childhood ADHD symptoms from ages 8-10

2 Versions:

- Regular (61 questions)
- Short (25 questions)

Piper et al. Diagnosis and Management of Attention-Deficit/Hyperactivity Disorder in Adults. American Family Physician 2012 May; 85 (20):2456.

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Adult ADHD Rating Scale-IV

Has a long version and a quick screen

Originally designed for children and adolescents

Used successfully in adults

Piper et al. Diagnosis and Management of Attention-Deficit/Hyperactivity Disorder in Adults. American Family Physician 2012 May; 85 (20):2456.

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### Brown Attention-Deficit Disorder Rating Scale and Diagnostic Form

- Also about:**
  - Clinical history
  - Early schooling
  - Family history
  - Physical health
  - Substance use
  - Sleep habits
- Also gathers data from observer/significant other
- 40 questions
- Focuses mostly on inattention

Pine et al. Diagnosis and Management of Attention-Deficit/Hyperactivity Disorder in Adults. American Family Physician 2012 May; 85 (20):2456.

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### Connors Adult ADHD Rating Scales

- 3 versions:**
  - Screening
  - Short
  - Long
- Self and Observer reports
- 8 Scales

Pine et al. Diagnosis and Management of Attention-Deficit/Hyperactivity Disorder in Adults. American Family Physician 2012 May; 85 (20):2456.

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### Connors Adult ADHD Rating Scales

- Allows for ADHD by DSM IV Criteria and by measuring emotional lability
- Good interrater reliability between self report and physician rating




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### Current Symptoms Scale by Barkley and Murphy

- Self report scale of 18 symptoms corresponding to DSM IV criteria




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### Wender-Reimherr Adult Attention-Deficit Disorder Scale

Measures severity of symptoms using Utah criteria

Useful to assess mood lability symptoms

Part of a Diagnostic and Management of Attention-Deficit/Hyperactivity Disorder in Adults. American Family Physician 2012 May; 85 (20):2495.

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### Collateral Information

- Helpful to have supporting information from the individual that has it
- Very important to ask for specific metrics
- “What do you notice most?”
- Consider asking them to keep track

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# Diagnostic Criteria

All of the symptoms are considered for criteria

As a general rule, you should assign a symptom to only one criteria of one mental condition

i.e. Trouble concentrating can be MDD, GAD, or ADHD

- Assign the symptom to the condition that you think is contributing to it the most.

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## Adult ADHD

- ADHD is a disorder that begins in childhood
- Adults with ADHD experience symptoms prior to the age of 12
- Must have 5 symptoms
- Must be present in two or more settings




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## Differential Diagnosis

### Mental Conditions

- MDD
- GAD
- PTSD
- Personality Disorder

### Medical Conditions

Malingering/Nefarious causes

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# Treatment Plan

-  What is the patient's goals Should be measurable
-  What is the patient's past history?
-  Absolutely should use a controlled substance contract
-  Plan should include monitoring for diversion

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# Treatment

- Stimulants
- Non-stimulants
- Antidepressants

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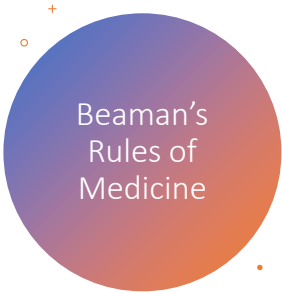
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# Beaman's Rules of Medicine

1. Patients should not die because they go to the doctor
2. Patients should not become addicted because they went to the doctor

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**Stimulants:  
Amphetamines**

- Immediate release dextroamphetamine
- Immediate release dextroamphetamine/amphetamine (Adderall)
- Extended release dextroamphetamine/amphetamine (Adderall XR)
- Lisdexamfetamine (Vyvanse)

Post et al. Diagnosis and Management of Attention-Deficit/Hyperactivity Disorder in Adults. American Family Physician 2012 May; 85: 290-295.

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**Stimulants:  
Methylphenidate**

- Immediate release
  - Ritalin
- Extended release
  - Concerta

Post et al. Diagnosis and Management of Attention-Deficit/Hyperactivity Disorder in Adults. American Family Physician 2012 May; 85: 290-295.

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**Nonstimulants**

- Atomoxetine
  - Strattera
  - \*First line treatment when concerned about drug abuse
- Guanfacine
  - Intuniv

Post et al. Diagnosis and Management of Attention-Deficit/Hyperactivity Disorder in Adults. American Family Physician 2012 May; 85: 290-295.

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Antidepressants

**Bupropion**

- Wellbutrin

**Desipramine (TCA)**

- Norpramin

Post et al. Diagnosis and Management of Attention-Deficit/Hyperactivity Disorder in Adults. American Family Physician 2012; May 15; 85(10):1266.

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Medication Strategies

**Start low dose**

**Titrate monthly to functionality**

**Each medication has its own side effect profile**

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Medication Strategies



REMEMBER THAT ALL TREATMENT DECISIONS ARE RISK/BENEFIT



MAY BE MORE BENEFIT BASED ON OCCUPATION



MAY BE MORE RISK BASED ON BACKGROUND

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### Medication Strategies



Risk/Benefit Equation is constantly changing



Need monitoring for diversion/dependence/addiction



Always check function!

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### Monitoring

Urine Drug Screens

PMP

Pill Counts

Refill timing

Behavior

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### Drug Testing

- Screening
  - Immunoassay
  - Lots of false positives
- Mass Spectroscopy
  - Confirmatory
  - Relatively no alternative explanation for a substance to be present



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## Urine Drug Screens

- Should be done at first visit
- Should be done frequently in the beginning of treatment
- Should be done routinely after
- All patients tested the same



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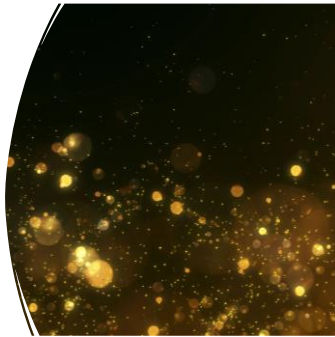
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## Abnormal Urine Drug Screens

- Inconsistent Positive
  - Positive for something it should not be
- Inconsistent Negative
  - Negative for something it should be positive for



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## Inconsistent Positive

- Have to acknowledge and have to do something
- Ask yourself how the substance can be contributing to the symptoms
- Are you abiding by the Hippocratic Oath



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### Inconsistent Positive Options

- More frequent monitoring
- Discontinuation of medication
- Referral to substance treatment




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### Inconsistent Negative

- Huge Red Flag
- Should consider immediate cessation
- You cannot knowingly contribute to diversion




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### Prescription Monitoring Program

- Should be checked at every visit
- Adherence to controlled substance contract
- Violations need to be addressed in the chart




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## Pill Counts

- Can verify adhering to prescription instructions
- Can be done at your office or at a local pharmacy
- Should be random but flexibility is important



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## Aberrant Behaviors

- Driving the conversation toward controlled substances
- Demanding
  - Certain medications
  - Higher doses
- Refusal to participate in alternative treatment or diagnostics
- History of diversion



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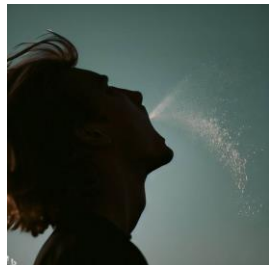
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## What about marijuana?

- Absolute no
- Marijuana causes inattention
- The appropriate first step is to stop the offending agent
- Both are addicting and mind-altering



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Conclusion

- ADHD requires an accurate objective diagnosis
- Stimulants should not be first line and should be very cautiously
- Documentation and monitoring are paramount to avoid patient harm and physician liability

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**Questions?**  
[Jason.Beaman@okstate.edu](mailto:Jason.Beaman@okstate.edu)  
 [@sanitydoc](https://twitter.com/sanitydoc)

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