



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

Objectives

1

Understand the
evaluation of Adult
ADHD

2

Understand the
treatment of Adult
ADHD

3

Understand the
appropriate use of
psychostimulants

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) — National Commercial Database, United States, 2010–2021

Sex and age group, yrs	2010	2017	2018	2019	2020	2021	Average annual % change* 2010–2020	Annual % change* 2020–2021
Sample size (millions)	28.7	19.0	17.4	16.0	15.4	13.3	—	—
Both sexes, all ages	9.6	9.7	9.6	9.7	9.6	9.1	1.4	7.9
Males, all	3.9	4.0	4.0	4.0	4.0	4.2	0.0	5.0
5–17	1.6	1.6	1.6	1.7	1.6	1.7	1.1	11.0
18–49	10.0	10.0	10.0	10.0	10.0	10.0	0.0	0.0
18–19	1.9	1.9	1.9	1.9	1.9	1.9	0.0	0.0
20–24	1.6	1.6	1.6	1.6	1.6	1.6	0.0	0.0
25–29	4.0	4.1	4.1	4.1	4.2	4.7	1.2	11.9
30–34	5.6	5.6	5.6	5.6	5.6	5.7	0.0	1.8
35–39	2.7	2.7	2.7	2.7	2.7	2.7	0.0	0.0
40–44	2.1	2.2	2.2	2.2	2.2	2.2	0.0	0.0
45–49	1.7	1.8	1.8	1.8	1.8	1.8	0.0	0.0
50–54	1.3	1.4	1.4	1.4	1.4	1.4	0.0	0.0
55–59	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0
60–64	0.8	0.8	0.8	0.8	0.8	0.8	0.0	0.0

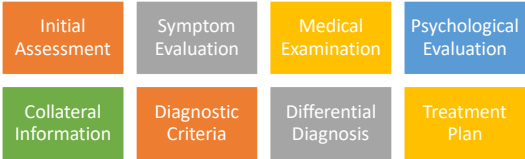
Derivation: MD, Bates ML, Newcombe K, et al. Trends in Stimulant Prescription Fills Among Commercially Insured Children and Adults — United States, 2010–2021. *MMWR Morbidity and Mortality Weekly Report* 2022;71:327–332. DOI: <https://doi.org/10.15585/mmwr.mm7123a4>.

TABLE. Percentage of persons aged 5–64 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) — Behavioral comorbidity databases, United States, 2010–2021

Sex and age group, yrs	Percentage, by year					Average annual % change* 2010–2020	Annual % change** 2020–2021
	2010	2011	2019	2020	2021		
Female, all	5.2	5.3	5.9	6.6	6.1	5.8	15.9
5–9	5.0	5.0	5.5	5.9	5.9	4.0	9
10–14	4.8	4.9	4.7	4.8	4.8	0	8.3
15–19	5.9	5.2	6.9	5.1	5.3	0.1	19.7
20–24	5.6	5.5	5.2	5.1	5.2	−1.8	19.2
25–29	6.2	6.4	6.4	6.5	6.6	0.5	17.8
30–34	5.9	5.9	5.9	6.1	6.4	0.1	19.9
35–39	5.1	5.6	5.5	5.7	6.0	0.7	17.9
40–44	3.8	3.1	3.1	3.2	3.5	0.0	16.3
45–49	2.8	2.8	2.9	3.0	3.2	0.3	9.4
50–54	2.1	2.2	2.2	2.4	2.5	0.5	16.8
55–59	1.6	1.7	1.7	1.9	2.0	0.4	5.9
60–64	1.2	1.2	1.2	1.4	1.4	0.0	9.1

Derivation: MA, Bahrn MC, Newhouse K, et al. Trends in Stimulant Prescription Fills Among Commercially Insured Children and Adults — United States, 2010–2021. MMWR Morbidity and Mortality Weekly Report 2023;72:327–332. DOI: <https://doi.org/10.15585/mmwr.mm7212a1>.

Diagnosing ADHD in an Adult



Initial Assessment

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



Symptoms of ADHD

Inattention

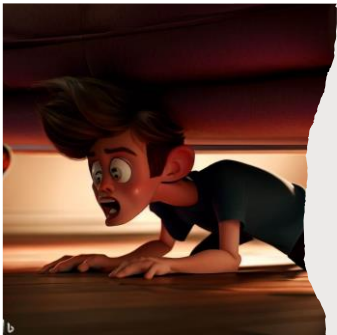
Hyperactivity

Impulsivity

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





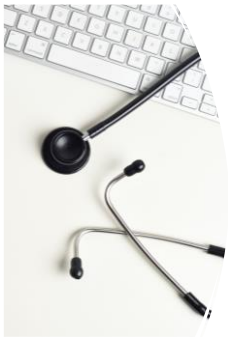
Symptoms of ADHD
Inattention

- 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

Symptoms of ADHD Hyperactivity and Impulsivity

- Hyperactive children: continuously, excessively, and/or inappropriately moving about and/or running when not allowed to do so
- Fidgeting with or tapping hands or feet or squirming in seat
- Being unable to engage in quiet activities
- Talking excessively
- Interrupting or intruding on others when they are not called on
- Having difficulty waiting their turn, such as when waiting in line
- Having difficulty completing tasks





Medical Examination

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

Medical Causes of ADHD Symptoms

Thyroid dysfunction

Major Depressive Disorder

Bipolar Disorder

Anemia

Substances that Impair Attention

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



Psychological Evaluation

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



Rating Scales

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

Childhood Symptom Scale

Retrospective assessment of 18 DSM IV criteria

Also Includes:

- Functional disabilities
- Oppositional Defiant Disorder
- Conduct Disorder

Pine et al. Diagnosis and Management of Attention-Deficit/Hyperactivity Disorder in Adults. American Family Physician. 2012 May; 85 (20):2458.

Wender Utah Rating Scale

Retrospective assessment of childhood ADHD symptoms from ages 8-10

2 Versions:

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

Pine et al. Diagnosis and Management of Attention-Deficit/Hyperactivity Disorder in Adults. American Family Physician. 2012 May; 85 (20):2458.

Adult ADHD Rating Scale-IV

- Has a long version and a quick screen
- Originally designed for children and adolescents
- Used successfully in adults

Pine et al. Diagnosis and Management of Attention-Deficit/Hyperactivity Disorder in Adults. American Family Physician. 2012 May; 85 (20):2458.

Brown Attention-Deficit Disorder Rating Scale and Diagnostic Form

- Adult group**
 - 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

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

Connors Adult ADHD Rating Scales

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

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

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



Current Symptoms Scale by Barkley and Murphy

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



Wender-Reimherr Adult Attention-Deficit Disorder Scale

Measures severity of symptoms using Utah criteria

Useful to assess mood lability symptoms

Best et al. Diagnosis and Management of Attention-Deficit/Hyperactivity Disorder in Adults. Research Family Physician 2012 May; 75 (20):288-293.

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

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.

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



Differential Diagnosis

Mental Conditions

- MDD
- GAD
- PTSD
- Personality Disorder

Medical Conditions

Malingering/Nefarious causes

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

Treatment

Stimulants

Non-stimulants

Antidepressants

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

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 2002 May; 65:990-995.

Stimulants: Methylphenidate

Immediate release

• Ritalin

Extended release

• Concerta

Post et al. Diagnosis and Management of Attention-Deficit/Hyperactivity Disorder in Adults. American Family Physician 2002 May; 65:990-995.

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 2002 May; 65:990-995.

Antidepressants

Bupropion

- Wellbutrin

Desipramine (TCA)

- Norpramin

Patel et al. Diagnosis and Management of Attention Deficit/Hyperactivity Disorder in Adults. American Family Physician 2012 May; 85:260-266.


Medication Strategies

Start low dose


Titrate monthly to functionality

Each medication has its own side effect profile


Medication Strategies



REMEMBER THAT ALL TREATMENT DECISIONS ARE RISK/BENEFIT



MAY BE MORE BENEFIT BASED ON OCCUPATION



MAY BE MORE RISK BASED ON BACKGROUND

Medication Strategies



Risk/Benefit Equation is constantly changing



Need monitoring for diversion/dependence/addiction



Always check function!

Monitoring

Urine Drug Screens

PMP

Pill Counts

Refill timing

Behavior

Drug Testing

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



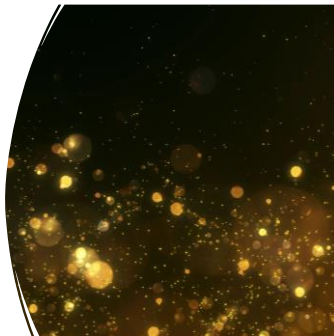
Urine Drug Screens

- 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



Abnormal Urine Drug Screens

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



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



Inconsistent Positive Options

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



Inconsistent Negative

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



Prescription Monitoring Program

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



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



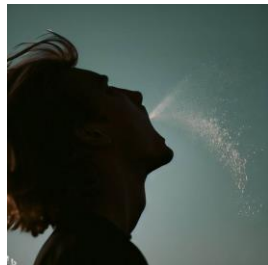
Aberrant Behaviors

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



What about marijuana?

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



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

Questions?

Jason.Beaman@okstate.edu

 @sanitydoc
