Neisan Sabet, DO.

Child and Adolescent psychiatry Fellow

PGY V

Lehigh Valley Health Network

Neisan.sabet@jefferson.edu

Introduction:

- Attention deficit hyperactivity disorder (ADHD) is a most common childhood behavioral disorder diagnosed in outpatient settings.
- Most common significant pediatric behavior disorder.
- Defined as a pattern of inattentive and hyperactive impulsive behavior inconsistent with developmental level which interferes with functioning in social, educational or work setting.
- Involves delay in development of self-control and self-regulation.
- “ADHD is a far more deficit of behavioral inhibition than of attention”- Barkley.
- Child’s inability to stop, look, listen and think.
- Chronic disorder, cause impairment into adolescence and adulthood.
- Behavior first noticed when the child is a toddler but can be normative before age 4. Appears in early child life (preschool years), persist through adolescence and 70% continued into adulthood.

Introduction:

- Overactivity usually the first symptom to remit while distractibility is the last.
- Several inattentive or hyperactive-impulsive symptoms were present prior to age 12 years
- Several inattentive or hyperactive-impulsive symptoms are present in 2 or more settings
- Symptoms interfere with, or reduce the quality of, social, academic, or occupational functioning
- Subtypes: Combined, Predominantly inattentive, predominantly hyperactive
- 17 years or older only 5 symptoms from each criterion necessary

Hyperactivity: inappropriate excessive motor activity -restlessness, fidgeting and appearing to be driven by a motor. Decreases when child is engaged in interested activities such as playing video games.

- Level of gross motor activity usually decreases with age however the inner sense of restlessness may continue into young adult life.

Impulsivity: actions without forethought about consequences; may be associated with desire for immediate rewards or to avoid delay.

- Seen when the child engages in dangerous activities, yells out in class or interrupts or intrudes on others during games or conversations.
- Impulsive behavior might result in trouble with parents, teachers or other children including verbal or physical fights.
- Symptoms of impulsivity can persist into adulthood even after hyperactive symptoms have diminished.

Inattention - difficulty sustaining focus, trouble maintaining organization and being easily distracted by extraneous stimuli.

- Symptoms of inattention become prominent in elementary school when the child is approximately 8 to 9 years old and symptoms can be lifelong.

- DSM 5 Criteria:
  - Inattention: Six or more of the following symptoms that have persisted for at least 6 months to a degree that is inconsistent with development level and that negatively impacts directly on social and academic/occupational activities:
    - Often fails to give close attention to detail or makes careless mistakes in schoolwork, at work, or during the activities
    - Often has difficulty sustaining attention in tasks or play activities
    - Often does not seem to listen when spoken to directly
    - Often does not follow through on instructions and fails to finish schoolwork, chores, or duties in the workplace
    - Often has difficulty organizing task and activities
    - Often avoids, dislikes, or is reluctant to engage in tasks that require sustained mental effort
    - Often loses things necessary for tasks or activities
    - Is often easily distracted by extraneous stimuli
    - Is often forgetful in daily activities

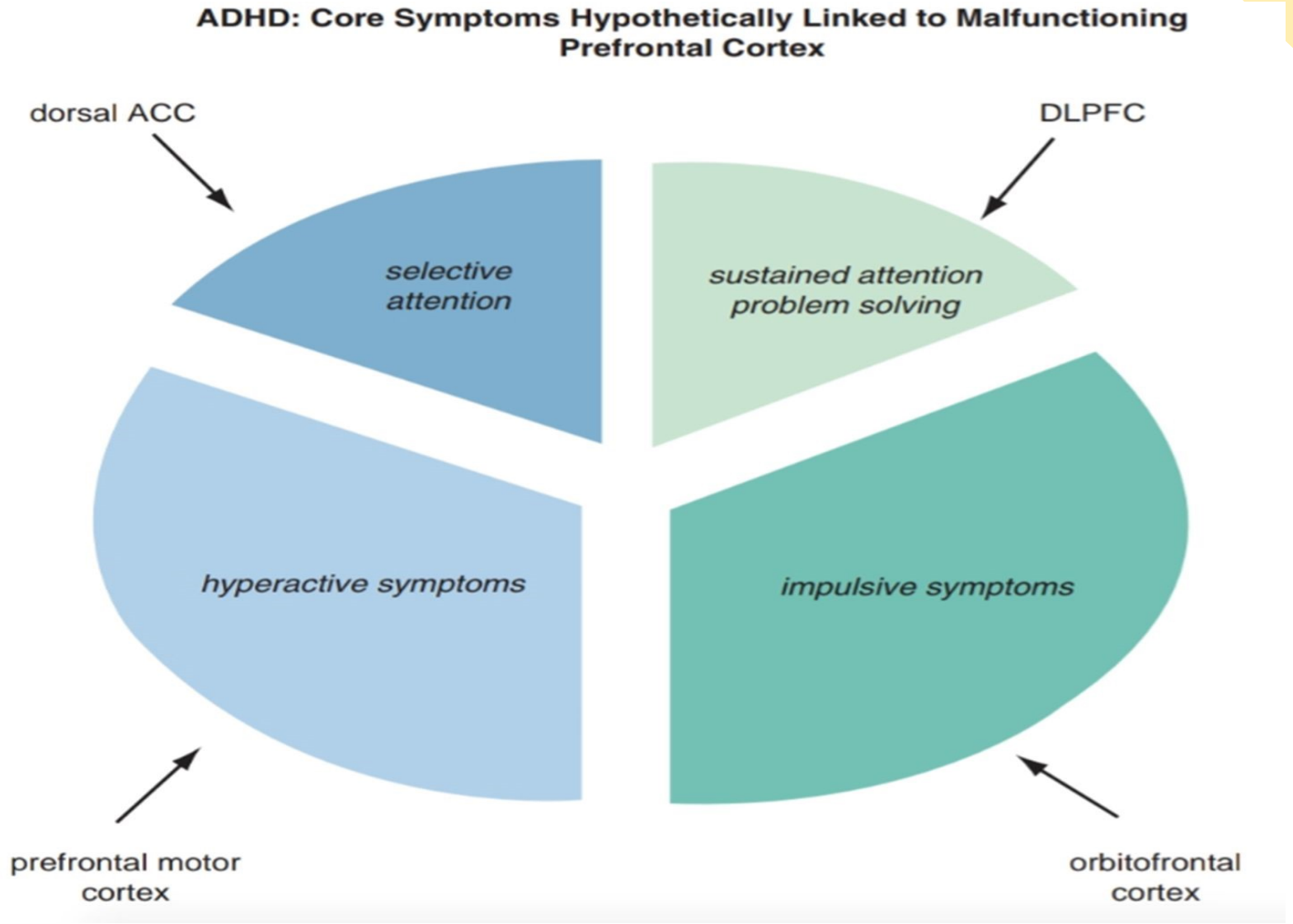
- Hyperactivity and impulsivity: Six or more of the following symptoms have persisted for at least 6 months to a degree that is inconsistent with developmental level and that negative impact directly on social and academic/ occupational activities.
  - Often fidgets or taps hands or feet or squirms in seal
  - Often leave seat in situations when remaining seated is expected
  - Often runs about or climbs in situation where it is inappropriate
  - Often unable to play or engage in leisure activities quietly
  - If often “on the go” and acting as is if “driven by a motor”
  - Often talks excessively
  - Often blurs out an answer before a question has been completed
  - Often has difficulty waiting his of her turn
  - Often interrupts or intrudes on others

Epidemiology:

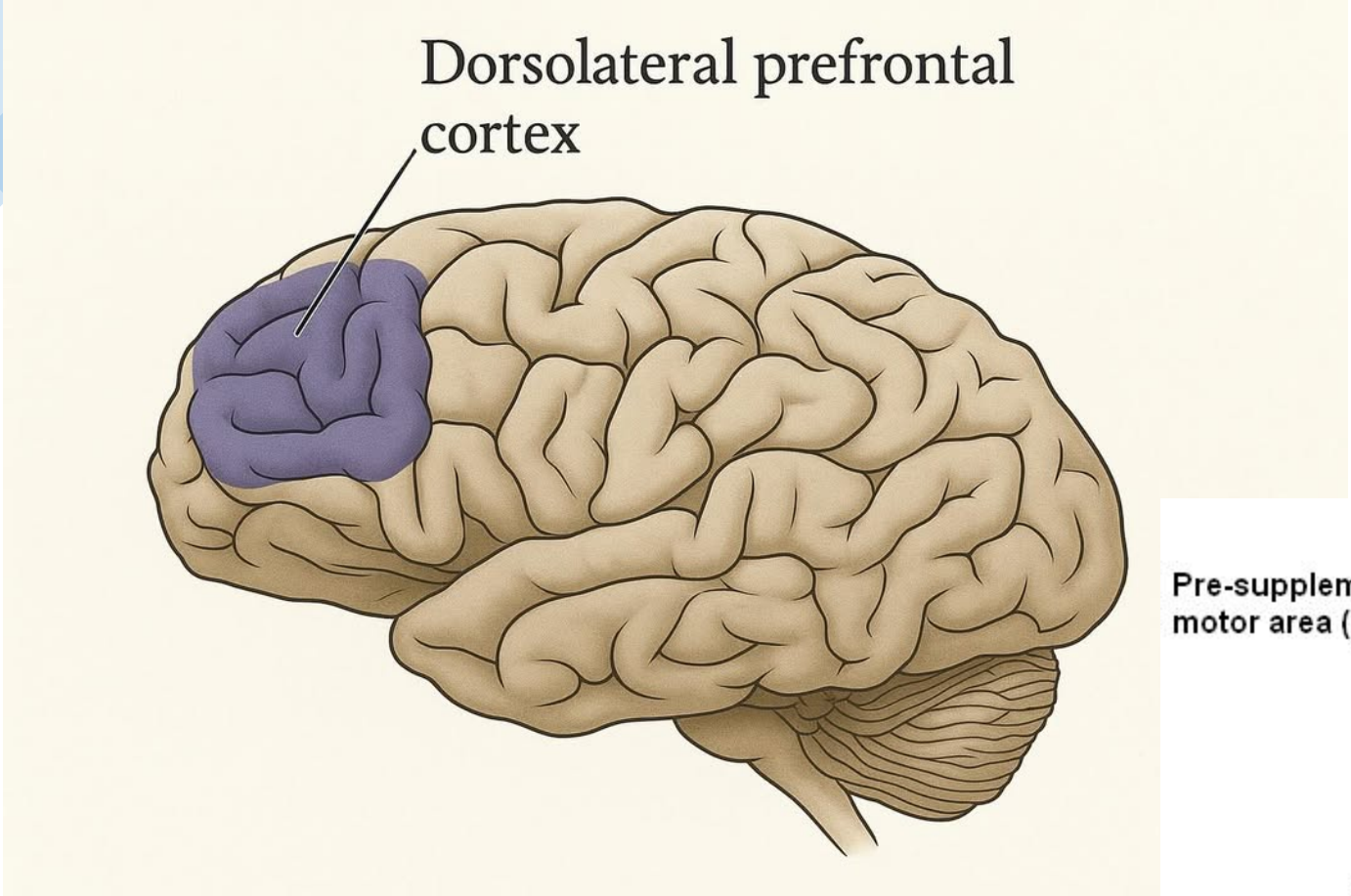
- Prevalence 5% in children and 2.5% in adults. School age children between 3% and 7%
- Male to female ratio
  - In childhood clinical settings, the diagnosed ratio is roughly **4:1** (males to females),
  - General population studies show a closer true ratio of **2:1**.
  - By adulthood, the diagnosed ratio drops significantly to approximately **1.6:1 or nearly 1:1**, as women are increasingly diagnosed later in life.
- Treatment with stimulants has been associated with decreased risk for substance abuse.

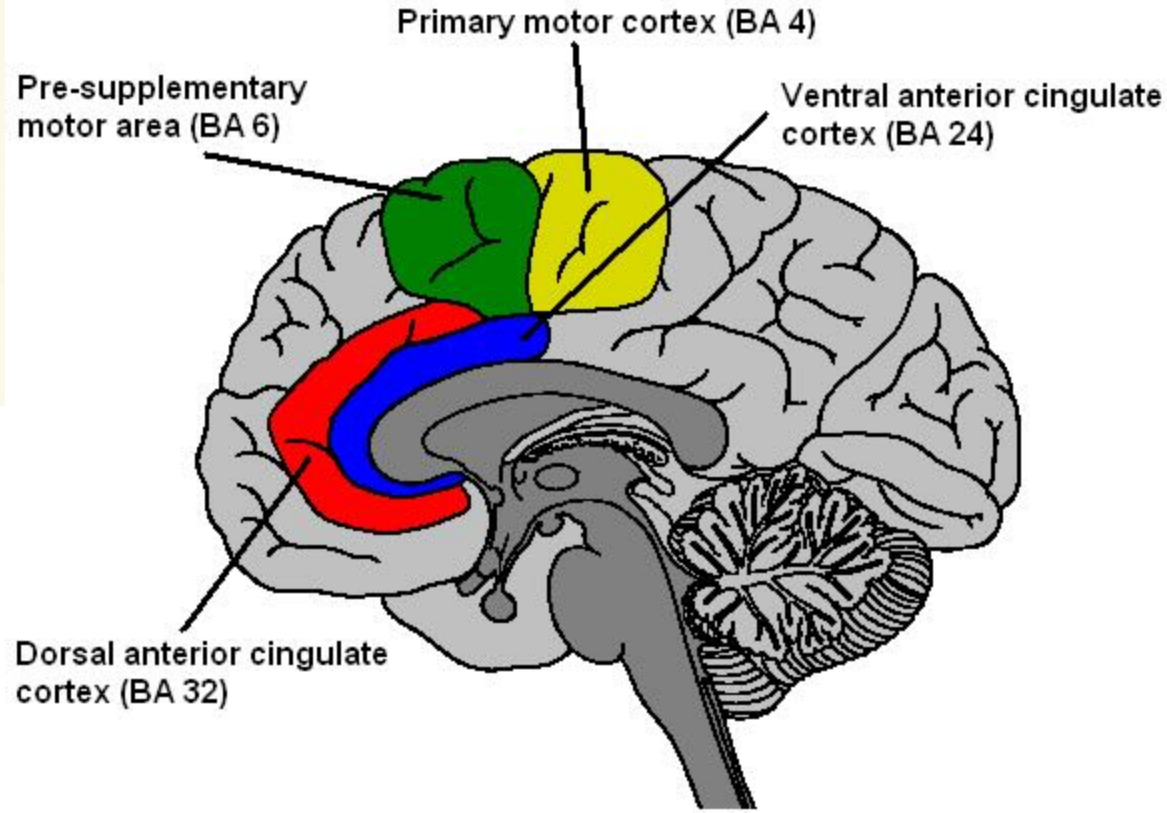
Etiology/Pathophysiology:

- Runs in families and is highly heritable.
- Neurotransmitter dysfunction (NE and Dopamine) impairs inhibitory systems.
- Neuroimaging and neuropsychological studies support the central role of prefrontal lobe and basal ganglia in mediating ADHD.
- No causal genes identified.
- Risk factors include maternal smoking, substance abuse, obstetrical complications, malnutrition, exposure to toxins, and viral infections.
- Medical conditions associated with ADHD include seizure, thyroid disorder, TBI, neurocutaneous syndrome, Fetal Alcohol Syndrom, Lead poisoning.
- Brain imaging indicates the prefrontal cortex, basal, ganglia, and cerebellum are reduced in size or have abnormalities in asymmetry
- Differential dx includes seizure d/o, conduct d/o, ODD, learning disorders



DACC: dorsal anterior cingulate cortex
DLPFC: dorsolateral prefrontal cortex


Dorsolateral prefrontal cortex


Primary motor cortex (BA 4)
Pre-supplementary motor area (BA 6)
Ventral anterior cingulate cortex (BA 24)
Dorsal anterior cingulate cortex (BA 32)

Structural Differences MRI

- **Smaller Brain Volume:** A landmark study published in The Lancet confirmed that people with ADHD have slightly smaller overall brain volumes, with notable size reductions in specific regions**.**
- **Delayed Maturation:** The ADHD brain matures at a slower pace. Key subcortical structures —including the amygdala (emotion), hippocampus (memory), and basal ganglia (motor control/attention)—tend to be smaller in children with ADHD but often catch up or normalize by adulthood.
- **Prefrontal Cortex:** The prefrontal cortex, which controls planning, focus, and impulse regulation, often shows reduced gray matter thickness and slower development compared to neurotypical controls.

Functional Differences fMRI, PET, and SPECT

- **Impaired Connectivity:** In neurotypical brains, a network called the Default Mode Network (DMN) synchronizes during rest. In ADHD brains, these regions fail to synchronize properly, leading to lapses in attention and executive dysfunction.
- **Hypofrontality (Reduced Blood Flow):** Positron-emission tomography (PET) and SPECT scans show decreased blood flow and lower glucose metabolism in the prefrontal cortex during tasks requiring concentration.
- **Atypical Communication Lines:** Functional scans show altered pathways between deep information-processing structures (like the caudate and putamen) and the frontal cortex. This contributes to problems with motivation and behavioral control.

Differences according to age:

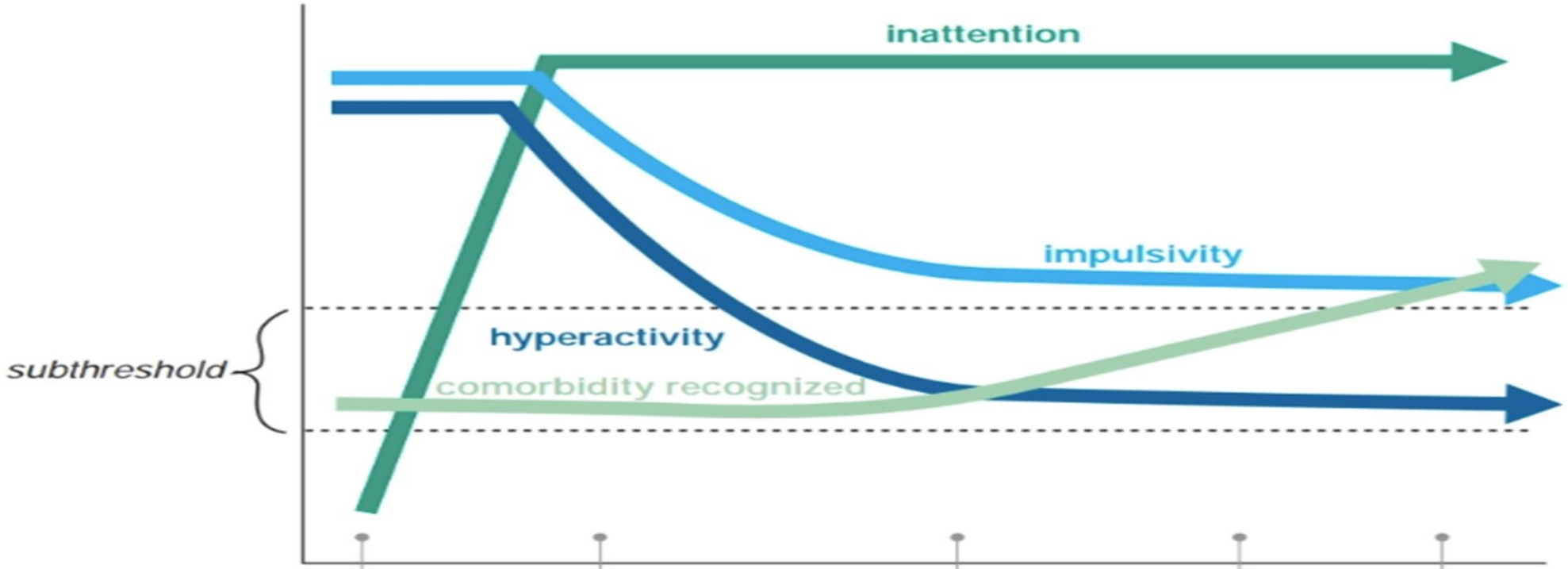
- **Pre-school:** play < 3mins, not listening, no sense of danger

- **Primary school:** activities < 10 mins, forgetful, distracted, restless, intrusive, disruptive

- **Adolescence**: attention< 30 mins, no focus/planning, fidgety, reckless

- **Adult:** incomplete details, restless, forgetful, impatient, accidents

Impact of Development on ADHD



preschool	school-age	adolescence	college age	adulthood
behavioral disturbances	- behavioral disturbances - academic problems - difficulty with social interactions - self-esteem issues	- academic problems - difficulty with social interactions - self-esteem issues - legal issues, smoking and injury	- academic failure - occupational difficulties - self-esteem issues - substance abuse - injury/accidents	- occupational failure - self-esteem issues - relationship problems - injury/accidents - substance abuse

ASSOCIATED FACTORS:

- **Difficulty with time management**.
- Do not develop an **internal sense of pace in planning tasks**.
- **Poor sense of time** leads to problems in estimating the actual difficulty of waiting in line, planning how much time a task requires or even knowing when to come home when playing with other children.
- **Problems in emotion regulation-**resulting in temper outbursts, mood lability and reactivity.
- Moods can change dramatically with no obvious connection with what is going on in the environment.
- **Significantly impaired social skills**.
- **Face peer rejection** because of their overreactivity in social situations (a reliable long term negative predictor of development particularly in adolescence).
- ~60 percent of children with ADHD continue to be impaired in adult life.

Comorbidity

Diagnosis:

- Detailed medical history including family history and developmental history
- Rating scales helpful in establishing the presence of core ADHD symptoms in more than one setting.
- ADHD-specific scales have been found to have greater than **90 percent sensitivity and specificity** if used in the correct population.

Commonly used rating scales:

- Conners Rating Scales for parents (CPRS-R) and teachers (CTRSR),
- Adolescent Self-Report Scale
- Vanderbilt ADHD Diagnostic Parent and Teacher Scales
- Swanson, Nolan and Pelham (SNAPIV)
- Brown ADD Rating Scales for Children, Adolescents, and Adults

TABLE. ADHD treatment strategies

Pharmacological options	
Stimulants	Nonstimulant
• Amphetamine based • Methylphenidate based: immediate release, sustained release, extended release	• SNRIs • Alpha-2 adrenergic agonist

Nonpharmacological options		
Behavioral and psychosocial strategies		Other
• Behavioral parent training • Coaching programs • Cognitive-behavioral therapy	• Psychoeducation • Lifestyle changes • Dietary modifications[a]	• Neurofeedback • Transcranial magnetic resonance[a]

[a]Limited evidence.

- ADHD is now considered as a disability under IDEA and may qualify under the “Other health impaired category for special education or related services.
- Children with ADHD who do not require Specialized Education Service (SES) may qualify for appropriate accommodations under 504.
- Academic interventions include appropriate academic planning, effective classroom management, and good communication with school personnel.
- Children with learning difficulties may require speech and language assessment and intervention.
- Technological aids- computer, calculators.
- In-school modifications- at classroom level, at the task level, or at individual level.
- Behavior therapy- targets maladaptive behavior. Strategies includes increased positive attention, punishment procedures (timeout), and selective ignoring, charts/point systems.

Table D.1.5 Summary of recommendations for treatment

Severity	4–5 years of age	6–11 years of age	12–18 years of age
Mild to moderate	• Psychoeducation • Parent training programs • Teacher-administered behavior therapy • If no improvement and symptoms are severe, consider methylphenidate.	• Parent training programs and CBT • If no access to CBT and in severe cases with uncomplicated ADHD: stimulants or atomoxetine • If no response: add stimulants or atomoxetine (first line medications) • If no adequate response or significant side effects: switch to another first line medication (e.g., from methylphenidate to dexamphetamine or to atomoxetine) • If no response and significant comorbidity: try second line medications	• Stimulants or atomoxetine • If no response: add CBT • If no adequate response or significant side effects: switch to another first line medication (e.g., from methylphenidate to dexamphetamine or to atomoxetine) • If no response and significant comorbidity: try second line medications
Severe		• Stimulants or atomoxetine, if possible combined with CBT • If no adequate response or significant side effects: switch to another first line medication (e.g., from methylphenidate to dexamphetamine or to atomoxetine) • If no response and significant comorbidity: try second line medications	• Stimulants or atomoxetine, if possible combined with CBT • If no adequate response or significant side effects: switch to another first line medication (e.g., from methylphenidate to dexamphetamine or to atomoxetine) • If no response and significant comorbidity: try second line medications

First line medications: stimulants, atomoxetine
Second line medications: extended release guanfacine,
Third line medications: extended release clonidine, tricyclic antidepressants, brupopion

ADHD Medication Guide*

Revised: May 1, 2026

Methylphenidate Formulations – Long Acting, Oral**

(Capsules and tablets in this section are shown at actual size)

Relexxii®†	6-12 Yrs: 18-54mg; SD: 18mg 13-17 Yrs: 18-72mg; SD: 18mg ≥18 Yrs: 18-72mg; SD: 18mg or 36mg	G 18mg	G 27mg	G 36mg	45mg	G 54mg	63mg	G 72mg					
Concerta®†	6-12 Yrs: 18-54mg; SD: 18mg 13-17 Yrs: 18-72mg; SD: 18mg ≥18 Yrs: 18-72mg; SD: 18mg or 36mg	G 18mg	G 27mg	G 36mg		G 54mg							
Focalin® XR‡ (dexmethylphenidate)	6-17 Yrs: 5–30mg; SD: 5mg 18 Yrs-Adult: 10–40mg; SD: 10mg (biphasic – 50/50)	G 5mg		G 10mg		G 15mg		G 20mg	25mg	G 30mg	G 35mg	G 40mg	
Cotempla XR-ODT®¶ (grape flavor)	6-17 Yrs: 8.6–51.8mg; SD: 17.3mg (biphasic – 25/75)	8.6mg		17.3mg		25.9mg		34.6mg x 2		51.8mg x 2			
Aptensio® XR‡	6 Yrs–Adult: 10–60mg; SD: 10mg (biphasic – 40/60)	G 10mg	G 15mg	G 20mg		G 30mg		G 40mg	G 50mg	G 60mg			
Quillivant XR® 25mg/5mL (5mg/mL) (banana flavor)	6 Yrs–Adult: 20–60mg; SD: 20mg (Continuous Release – 20/80)	10mg 2mL 1 Bottle: 300mg 60mL		20mg 4mL 1 Bottle: 600mg 120mL		30mg 6mL 1 Bottle: 900mg 180mL		40mg 8mL 2 Bottles: 600mg 120mL	50mg 10mL 2 Bottles: 750mg 150mL	60mg 12mL 2 Bottles: 900mg 180mL			
QuilliChew ER®§ (cherry flavor)	6 Yrs–Adult: 20–60mg; SD: 20mg (Continuous Release – 30/70)			20mg		30mg		40mg					
Ritalin® LA‡	6-12 Yrs: 10–60mg; SD: 20mg (biphasic – 50/50)	G 10mg		G 20mg		G 30mg		G 40mg		G♦ 60mg			
Metadate® CD‡	6-17 Yrs: 10–60mg; SD: 20mg (biphasic – 30/70)	G♦ 10mg		G♦ 20mg		G♦ 30mg		G♦ 40mg	G♦ 50mg	G♦ 60mg			

Methylphenidate Pro-Drug Formulations - Long Acting, Oral**

(Medications in this section are shown at actual size)

Azstarys®† (dexmethylphenidate + serdexmethylphenidate)	6-12 Yrs: 26.1/5.2 – 52.3/10.4; SD: 39.2/7.8 mg; 13 Yrs – Adult: 39.2/7.8 – 52.3/10.4; SD: 39.2/7.8mg	26.1mg SDX / 5.2mg d-MPH	39.2mg SDX/ 7.8mg d-MPH	52.3mg SDX/ 10.4mg d-MPH		

Methylphenidate Formulations – Long Acting/Delayed Onset, Oral**

(Medications in this section are shown at actual size)

Jornay PM®‡	6 Yrs–Adults: 20–100mg (dosed in the evening); SD: 20mg	20mg	40mg	60mg	80mg	100mg

Methylphenidate Formulations – Short Acting, Oral**

(Medications in this section are shown at actual size)

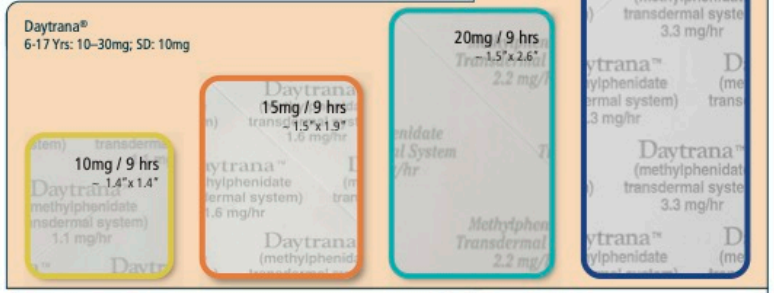
Focalin® (dexmethylphenidate)	6–17 Yrs: Daily: 5–20mg, divided BID; SD: 2.5mg BID		G 2.5mg	G 5mg	G 10mg	
Ritalin®	6–12 Yrs: Daily: 10–60mg; divided BID or TID; SD: 5mg BID Adults: Daily: 10–60mg, divided BID or TID		G 5mg	G 10mg	G 20mg	
Methylin Chewable§ (grape flavor)	6–12 Yrs: Daily: 10–60mg; divided BID or TID; SD: 5mg BID Adults: Daily: 10–60mg, divided BID or TID	G♦ 2.5mg	G♦ 5mg	G♦ 10mg		
Methylin® Solution (grape flavor)	6–12 Yrs: Daily: 10–60mg; divided BID or TID; SD: 5mg BID Adults: Daily: 10–60mg, divided BID or TID		G 5mg/5mL	G 10mg/5mL		

Methylphenidate Formulations - Long Acting, Transdermal

(Patches are shown at 100% actual size. The color border around each patch reflects the color of the packaging, not the patch itself.)

G

Daytrana®
6-17 Yrs: 10–30mg; SD: 10mg



Administration Key:

¶ Orally disintegrating tablet
† Must be swallowed whole
§ Chewable
¥ Can be mixed with yogurt, orange juice, or water
‡ Can open capsule and sprinkle medication on apple sauce
❣ Can open capsule and mix with apple sauce or yogurt
? Can open capsule and sprinkle medication into water or onto apple sauce

Generic Key:

G Indicates a generic formulation is also available; generic products are not shown

G Indicates a generic (but NOT a branded) formulation is available

View the latest version of the ADHD Medication Guide at:
www.ADHDMedicationGuide.com

* **Important Information:** The ADHD Medication Guide only includes medications indicated by the FDA for the treatment of ADHD. The age-specific dosing information listed for each medication reflects the FDA-approved prescribing information. "SD" refers to the FDA-recommended starting dose, which sometimes varies by age. Practitioners should refer to the FDA-approved product information to learn more about each medication.

♦ **Discontinued ADHD Medications:** The following FDA-approved proprietary formulations are no longer available (though, in some cases, branded or generic equivalents are still available): Adhansia XR; Adzenys ER (liquid); Cylert (pemoline); Dexedrine Spansules (5mg, 15mg); Dexedrine tablets; DextroStat tablets; Evekeo ODT tablets; LiquADD solution; Metadate CD capsules; Metadate ER tablet (10mg); Methylin Chewable tablets; Ritalin LA capsule (50mg); Ritalin SR tablets (20mg), Strattera.

** **Disclaimer:** The ADHD Medication Guide was created by Dr. Andrew Adesman of Northwell Health, Inc. Northwell Health is not affiliated with the owner nor is it an owner of any of the medications or brands referenced in this Guide. No endorsement or affiliation exists between Northwell Heath and the owner of the medications or brands. The ADHD Medication Guide is a visual aid for professionals caring for individuals with ADHD. In clinical practice, this guide may be used to assist patients in identifying medications previously tried, and may allow clinicians to identify ADHD medication options for the future. Although every effort has been made to depict the true size and color of each medication depicted, we cannot guarantee there are not minor distortions. This Guide should not be used as an exclusive basis for decision-making. The user understands and accepts that if Northwell Health were to accept the risk of harm to the user from use of this Guide, it would not be able to make the Guide available because the cost to cover the risk of harm to all users would be too great. Thus, use of this ADHD Medication Guide is strictly voluntary and at the user's sole risk.

Northwell™
Cohen Children's Medical Center

ADHD Medication Guide*

Revised: May 1, 2026

Amphetamine Formulations – Long Acting, Oral** (Medications in this section are shown at actual size)

Dyanavel® XR§ (d- & l-amphetamine sulfate) (bubblegum flavor)	6 Yrs–Adults: 2.5–20mg; SD: 2.5 or 5mg (Continuous Release)		5mg		10mg		15mg		20mg	
Dyanavel® XR (d- & l-amphetamine sulfate) 2.5mg/mL (bubblegum flavor)	6 Yrs–Adults: 2.5–20mg; SD: 2.5 or 5mg (Continuous Release)	2.5mg 1mL	5mg 2mL	7.5mg 3mL	10mg 4mL	12.5mg 5mL	15mg 6mL	17.5mg 7mL	20mg 8mL	
Mydayis®‡ (mixed amphetamine salts)	13–17 Yrs: 12.5–25mg; SD: 12.5mg Adults: 12.5-50mg; SD: 12.5mg (triphasic – 33.3/33.3/33.3)	G 12.5mg		G 25mg		G 37.5mg		G 50mg		
Adzenys XR-ODT®¶ (d- & l-amphetamine) (orange flavor)	6–12 Yrs: 3.1–18.8mg; SD: 6.3mg 13–17 Yrs: 3.1–12.5mg; SD: 6.3mg Adults: 12.5mg (biphasic – 50/50)		3.1mg	6.3mg	9.4mg	12.5mg	15.7mg	18.8mg		
Adderall XR®‡ (mixed amphetamine salts)	6–17 Yrs: 5–30mg; SD: 10mg Adults: 5-30mg; SD: 20mg (biphasic – 50/50)		G 5mg	G 10mg	G 15mg	G 20mg	G 25mg	G 30mg		
Dexedrine Spansule® (d-amphetamine sulfate)	6-17 Yrs: 10–60mg; SD: 5mg 1-2x/day		G♦ 5mg	G 10mg	G♦ 15mg					

Amphetamine Pro-Drug Formulations – Long Acting, Oral** (Medications in this section are shown at actual size)

Vyvanse®¥ (capsules) (lisdexamfetamine)	6 Yrs–Adults: 10–70mg; SD: 30mg	G 10mg	G 20mg	G 30mg	G 40mg	G 50mg	G 60mg	G 70mg		
Vyvanse®§ (chewables) (lisdexamfetamine) (strawberry flavor)	6 Yrs–Adults: 10–70mg; SD: 30mg	G 10mg	G 20mg	G 30mg	G 40mg	G 50mg	G 60mg			

Amphetamine Formulations – Short Acting, Oral** (Medications in this section are shown at actual size)

Evekeo® (d- & l- amphetamine sulfate)	3–5 Yrs: SD: 2.5mg 1x/day 6–17 Yrs: 5-40mg divided BID; SD: 5mg 1-2x/day		G 5mg		G 10mg					
Zenzedi® (d-amphetamine sulfate)	3–5 Yrs: SD: 2.5mg 1x/day 6–16 Yrs: 5-40mg divided BID; SD: 5mg 1-2x/day	2.5mg	G 5mg	7.5mg	G 10mg		G 15mg	G 20mg	G 30mg	
Adderall® (mixed amphetamine salts)	3–5 Yrs: SD: 2.5mg 1x/day 6–17 Yrs: 5-40mg divided BID; SD: 5mg 1-2x/day		G 5mg	G 7.5mg	G 10mg	G 12.5mg	G 15mg	G 20mg	G 30mg	
ProCentra® (d-amphetamine sulfate) (bubblegum flavor)	3–5 Yrs: SD: 2.5mg 1x/day 6–17 Yrs: 5-40mg divided BID; SD: 5mg 1-2x/day		G 5mg/5mL							

Amphetamine Formulations- Long Acting, Transdermal

Xelstrym™ (d-amphetamine)
6-17 Yrs: 4.5–18mg; SD: 4.5mg
Adults: 9-18mg; SD: 9mg

(Patches are shown at 100% actual size. The color border around each patch reflects the color of the packaging, not the patch itself.)

Non-Stimulants** (Medications in this section are shown at actual size)

Onyda™ XR (clonidine, extended release) (orange flavor)	6–17 Yrs: 0.1-0.4mg; SD: 0.1mg (Continuous Release)	0.1mg 1mL	0.2mg 2mL	0.3mg 3mL	0.4mg 4mL					
Kapvay®† (clonidine, extended release)	6–17 Yrs: 0.1-0.2mg BID; SD: 0.1mg qHS	G 0.1mg								
Intuniv®† (guanfacine, extended release)	6–12 Yrs: 1-4mg; SD: 1mg 13–17 Yrs: 1-7mg; SD: 1mg Weight-based dosing: SD: 0.05–0.08 mg/kg/day; may increase to 0.12 mg/kg/day	G 1mg	G 2mg	G 3mg	G 4mg					
Qelbree®‡ (viloxazine)	6–11 Yrs: 100-400mg; SD: 100mg 12–17 Yrs: 200-400mg; SD: 200mg Adults: 200-600mg; SD: 200mg	100mg SPN 100	200mg SPN 200	300mg SPN 150	+ SPN 150	400mg SPN 200	+ SPN 200			
Strattera®† (atomoxetine)	≤70kg: 0.5mg/kg x ≥3days, then 1.2mg/kg (max:1.4mg/kg, not to exceed 100mg) >70 kg: 40mg x ≥3days, then 80mg (max:100mg)	G 10mg	G 18mg	G 25mg	G 40mg	G 60mg	G 80mg	G 100mg		

- Updated versions of the ADHD Medication Guide can be viewed at: www.ADHDMedicationGuide.com
- Laminated copies of the ADHD Medication Guide can be ordered on-line from the ADD Warehouse
- Contact Dr. Andrew Adesman with any comments or suggestions: ADHDMedGuide@Northwell.edu

Northwell℠
Cohen Children's Medical Center

Short-Acting Stimulant Medications for Treatment of ADHD

Revised: July 1, 2026

	Methylphenidate-Based Medications	Amphetamine-Based Medications
Liquids	• **Methylin®** (Generic: Methylphenidate HCl oral solution)	• **ProCentra®** (Generic: Dextroamphetamine sulfate oral solution)
	Advantages: easy to swallow, easy to make small dose adjustments, especially when first starting treatment, different flavors **Disadvantages:** some children may not like the flavor	
Chewables	• **Methylin®** (Generic: Methylphenidate HCl chewable tablets; Brand name is no longer available)	----------
	Advantages: different flavors **Disadvantages:** some patients may not like the flavor	
Crushables	• **Ritalin®** O-L (Generic: Methylphenidate HCl oral tablet) • **Focalin®** O-L (Generic: Dexmethylphenidate HCl oral tablet) • **Methylin®** O-L (Generic: Methylphenidate HCl chewable tablet); Brand name is no longer available	• **Adderall®** O-L (Generic: Amphetamine-Dextroamphetamine tablets, or Mixed amphetamine) • **Zenzedi®** O-L (Generic: Dextroamphetamine sulfate tablet at the 5, 10, 15 and 20 mg) • **Evekeo®** O-L (Generic: Amphetamine sulfate tablets)
	Advantages: helpful for patients who cannot easily swallow pills; if the tablets are crushed, the medication may be "hidden" within food O-L **Disadvantages:** not flavored; possibly bitter if not "hidden" within food	

- **Abbreviations:** **ER:** extended release **O-L:** Off-label (likely safe and effective, but not FDA approved for administration in this manner) **HCl:** Hydrochloride MG: milligram
- **Medication Names:** Brand name formulations are shown in bold print and the common generic name for each medication follows parenthetically. If a medication is "Brand only", then there is no generic formulation available at this time. The generic names shown for "Brand only" medications are for information purposes only.
- **Medication Groupings:** Medications are grouped by means of administration option. Medications within a grouping (for example, "sprinkles") are often similar but not identical. For example, they may differ in terms of dosing strength, how quickly they work, when they wear off, and/or how well they work mid-day.
- **Generic Medications:** Although generic formulations are very similar to the corresponding brand medication, they are typically not identical. For some medications, several different manufacturers may make a generic formulation for a specific brand formulation. Just as generic formulations may differ modestly from the corresponding brand formulation, there may also be modest differences among the various generic formulations made by different manufacturers. For some individuals with ADHD, the clinical response may be better to a generic formulation than to the corresponding brand formulation, and sometimes the reverse is true.
- **Additional Information:** The most up-to-date versions of the Stimulant Medication Guide and the ADHD Medication Guide can be viewed on-line at www.ADHDMedicationGuide.com To purchase laminated copies of the latest version of the Stimulant Medication Guide, write to: ADHDMedGuide@northwell.edu. To purchase laminated copies of the latest version of the ADHD Medication Guide, go to www.ADDWarehouse.com.

Created by Dr. Andrew Adesman of Northwell Health, Inc. Questions or comments: contact ADHDMedGuide@northwell.edu.

Cohen Children's Medical Center
Northwell Health

Long-Acting Stimulant Medications for Treatment of ADHD

Revised: July 1, 2026

	Methylphenidate-Based Medications	Amphetamine-Based Medications
Liquids	• **Quillivant® XR** (Brand only; Methylphenidate HCl ER oral suspension; banana flavor) • **Azstarys®** (Brand only; Serdexmethylphenidate and dexmethylphenidate oral capsules)	• **Dyanavel® XR** (Brand only; Amphetamine ER oral suspension; bubblegum flavor) • **Vyvanse®** (Generic: Lisdexamfetamine dimesylate capsules)
	Advantages: easy to swallow, easy to make small dose adjustments - especially when first starting treatment, different flavors (brand versus generics) **Disadvantages:** some patients may not like the flavor	
Chewable Tablets	• **QuilliChew® ER** (Brand only; Methylphenidate HCl ER chewable tablets; cherry flavor)	• **Dyanavel® XR** (Brand only; Amphetamine ER chewable tablets; bubblegum flavor) • **Vyvanse®** (Generic: Lisdexamfetamine dimesylate chewable tablets; strawberry flavor)
	Advantages: different flavors (brand versus generics) **Disadvantages:** some patients may not like the flavor	
Oral Disinte-grating Tablets	• **Cotempla® XR--ODT** (Brand only; Methylphenidate ER orally disintegrating	• **Adzenys® XR-ODT** (Brand only; Amphetamine ER orally disintegrating tablet)
	Advantages: dissolves quickly, no liquid is needed to take the tablet, does not need to be swallowed whole **Disadvantages:** some patients may not want to place medicine under their tongue	
Sprinkles	• **Focalin® XR** (Generic: Dexmethylphenidate HCl ER oral capsules) • **Metadate® CD** (Generic: Methylphenidate HCl ER (CD) oral capsules) • **Ritalin® LA** (Generic: Methylphenidate HCl ER (LA) oral capsules) • **Aptensio® XR** (Generic: Methylphenidate HCl ER (XR) oral capsules) • **Jornay® PM** (Brand only: Methylphenidate HCl ER oral capsules) • **Azstarys®** (Brand only: Serdexmethylphenidate and dexmethylphenidate oral capsules)	• **Adderall® XR** (Generic: Amphetamine-Dextroamphetamine capsules, or mixed amphetamine salts capsules) • **Vyvanse®** (Generic: Lisdexamfetamine dimesylate capsules, or chewable tablets[◊,L]) • **Dexedrine® Spansule**[◊,L] (Generic: Dextroamphetamine sulfate ER oral capsules) • **Mydayis®** (Brand only; mixed salts of a single-entity amphetamine ER capsules)
	Advantages: capsules can be opened and the medication "sprinkled" on food **Disadvantages:** some patients may have oral texture sensitivity to the small beads (Note: Azstarys and Vyvanse capsules contain powder, not beads)	
Transdermal Patches	• **Daytrana®** (Generic: Methylphenidate transdermal system)	• **Xelstrym®** (Brand only; Dextroamphetamine transdermal system)
	Advantages: applied directly to skin, patch can be cut to optimize dose (off label); patch can be kept on beyond 9 hours (off label) **Disadvantages:** takes longer to start working; a mild or moderate temporary rash is not uncommon	
Crushables	• **QuilliChew® ER** (Brand only; Methylphenidate HCl ER chewable tablets)	• **Dyanavel® XR** (Brand only; Amphetamine ER chewable tablets; bubblegum flavor) • **Vyvanse®** (Generic: Lisdexamfetamine dimesylate chewable tablets; strawberry flavor)
	Advantages: helpful for patients who cannot easily swallow pills; if the tablets are crushed, the medication may be "hidden" within food; different flavors (brand versus generics) **Disadvantages:** some patients may not like the flavor	
Non-Chewable Tablets	• **Concerta®** (Generic; Methylphenidate HCl ER (OSM) tablets)	--------
	Advantages: -------- **Disadvantages:** must be swallowed whole	

Cohen Children's Medical Center
Northwell Health

Resources:

- American Academy of Child and Adolescent Psychiatry has an excellent ADHD Resource center
- Dulcan CAP concise to guide (5th edition).
- E-textbook of Child and adolescent mental health.
- Psychiatric interview of Children and adolescents.
- K&S synopsis of psychiatry
- www.chadd.org
- https://www.adhdmedicationguide.com/

THANK YOU