LET'S FOCUS ON ADHD

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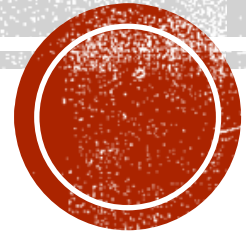

The University of Oklahoma College of Medicine
DEVELOPMENTAL-BEHAVIORAL PEDIATRICS

OBJECTIVES

At the end, participants should be able to:

1. Describe prevalence, etiology, diagnostic criteria of ADHD.
2. Explain importance of assessing children for other disorders or disabilities that may complicate a diagnosis of ADHD.
3. Be familiar with treatment strategies including medication management and behavioral strategies.
4. List accommodations and strategies that may enhance the learning environment for children with ADHD.
5. Differentiate between an IEP and 504-Plan.
6. Describe effective follow up and monitoring strategies.

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ATTENTION DEFICIT HYPERACTIVITY DISORDER (ADHD)

- When you hear "ADHD," what words come to your mind?
- What images come to your mind? What do you picture?
- Do you know someone with ADHD? How would you describe them to a stranger?

ADHD: THE NUMBERS

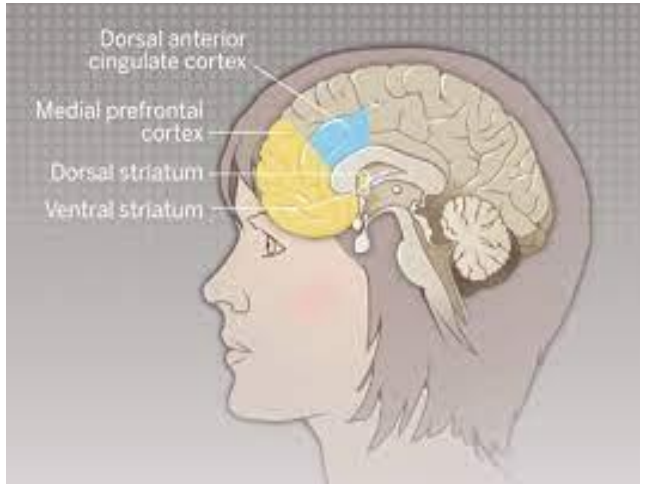
- Estimated prevalence in school-aged children is 9-15%
  - 14% Males
  - 6% Females
- Estimated overall prevalence = 7.2%
- Male:Female Ratios:
  - Hyperactive Type = 4:1
  - Inattentive Type = 2:1

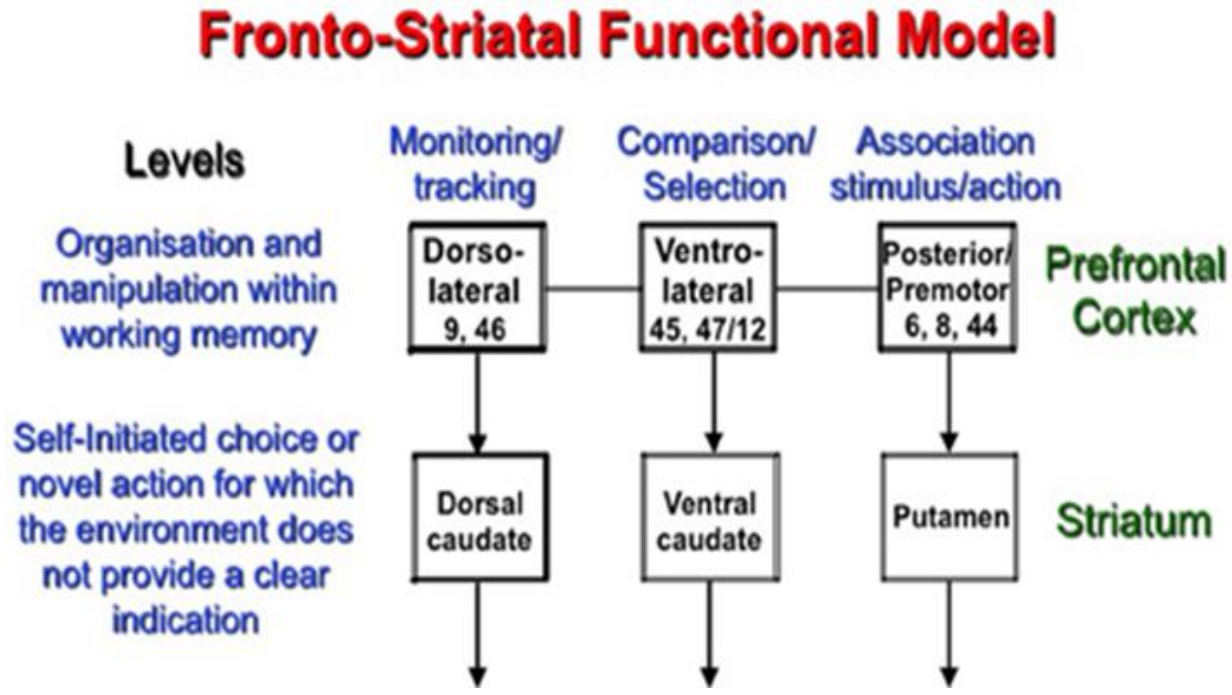
WHAT CAUSES ADHD?

- Genetics Contribute - It runs in families
  - Estimated heritability = 75%
- The Environment Contributes:
  - Sleep Deficiency
  - Premature Birth
  - Prenatal Exposure to Tobacco Smoke
  - Prenatal Exposure to Alcohol
  - Head Trauma
- The ADHD Brain is Different (next slide)

ADHD IN THE BRAIN

- **Reduced** Global Brain Activation
- Reduced Activity in the **Prefrontal Cortex** and the **Basal Ganglia**.
- The **Prefrontal Cortex** communicates with the **Basal Ganglia** through the **Frontal Striatum** using the neurotransmitters **DOPAMINE** and **NOREPINEPHRINE**.
- The **Basal Ganglia** have different parts called the **Dorsal Caudate Nucleus**, the **Ventral Caudate Nucleus**, and the **Putamen**.
- These interactions are considered the center of **executive functioning** and **motor response inhibition** in the brain.





College of Medicine
DEVELOPMENTAL-BEHAVIORAL PEDIATRICS

HOW THE ADHD BRAIN WORKS, OR DOESN'T WORK…

- Dysfunction in Executive Functioning (**EF**) and Motor Response Inhibition (**MRI**)
  - **EF**: Forward planning, Abstract Reasoning, Mental Flexibility, Working Memory
  - **MRI**: modulating/coordinating motor actions/reactions to information
- These are parts of the brain that take all of the information one knows, process it, and turn it into actions.
- ADHD = a poor connection between knowing and doing from moment to moment.
- In a *poorly motivated* child: more disruptive, reactive behaviors with negative attention-seeking.
- In a *strongly motivated* child: increased emotional intensity, anxiety, controlling behaviors, and rigidity as they attempt to compensate for a lack of internal consistency.

CASE STUDY: NINA (4 YEAR OLD GIRL)

- Mother Reports:
  - Busy in the womb
  - Multiple trips to the ER for impulsive injuries
  - Nina has been asked to leave 2 daycare settings for impulsive behaviors
  - She interrupts her parents and forgets tasks like brushing her teeth.
- Teacher Reports:
  - Disruptive behavior in class
  - Difficulty playing quietly and sitting still in circle time

  Difficulty waiting her turn to play with toys

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NINA'S FINDINGS

- Patient Interview
  - Easily distracted and interrupts your questions frequently
  - During the interview, Nina keeps trying to leave and has major tantrums.
- Teacher Vanderbilt
  - Very sweet when she wants to be, does things before thinking about it, makes problematic choices, has trouble understanding "personal space"

CASE STUDY: EDWARD (7 YEAR OLD BOY)

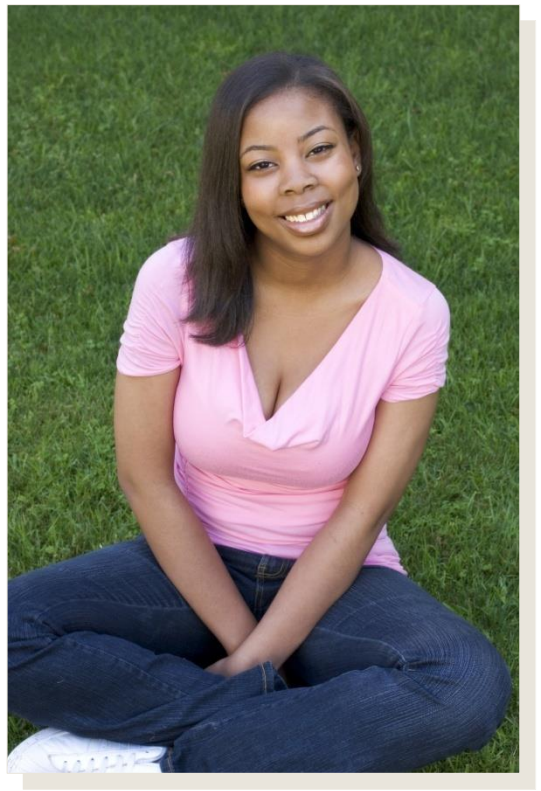
- Mother reports:
  - Does not listen to her, especially in the morning
  - Often talks back and does not do what he is told
  - Forgetful, easily distracted
- Teacher reports:
  - Problems completing work, getting out of seat, waiting his turn

EDWARD'S FINDINGS

- Patient Interview
  - Complains that the teacher is mean; and he can't get all his work done
  - During the interview he fidgets, plays with books in office
- Report cards
  - Below average in all subjects. In danger of having to repeat the grade

CASE STUDY: BRITTANY (15 Y/O GIRL)

- Bright young woman with no learning disabilities
- Brittany did well academically until the 6th grade when she began a steady academic decline
- She appears demoralized about her poor grades but not clinically depressed
- Review of school records indicate mild chronic organizational problems but until the 6th grade no significant impairment



ADHD ACCORDING TO THE DSM-V

- **Persistent Symptoms**: ≥ 6 months
- **≥ 2 settings** (e.g., school, home, church).
- Symptoms have **negatively impacted** academic, social, and/or occupational **functioning**.
- In clients aged < 17 years:
  - **≥ 6 symptoms** are necessary
- In clients aged ≥ 17 years:
  - **≥ 5 symptoms** are necessary
- Symptoms present prior to age **12 years**.
- Symptoms not better accounted for by a different psychiatric disorder (e.g., mood disorder, anxiety disorder) and do not occur exclusively during a psychotic disorder
- Symptoms **not exclusively** a manifestation of **oppositional** behavior

DSM-V: INATTENTIVE SYMPTOMS

- Displays poor listening skills
- Loses and/or misplaces items needed to complete activities or tasks
- Sidetracked by external or unimportant stimuli
- Forgets daily activities
- Diminished attention span
- Lacks ability to complete schoolwork and other assignments or to follow instructions
- Avoids or is disinclined to begin homework or activities requiring concentration
- Fails to focus on details and/or makes thoughtless mistakes in schoolwork or assignments

DSM-V: HYPERACTIVE/IMPULSIVE SYMPTOMS

- **Hyperactive Symptoms**:
  - Squirms when seated or fidgets with feet/hands
  - Marked restlessness that is difficult to control
  - Appears to be driven by "a motor" or is often "on the go"
  - Lacks ability to play and engage in leisure activities in a quiet manner
  - Incapable of staying seated in class
  - Overly talkative

- **Impulsive Symptoms**:
  - Difficulty waiting turn
  - Interrupts or intrudes into conversations and activities of others
  - Impulsively blurts out answers before questions completed

CLASSIFICATION – DSM-V CONT'D.

- **Combined Type**:
  - Patient meets both inattentive and hyperactive/impulsive criteria for the past 6 months
- **Predominantly Inattentive Type**:
  - Patient meets inattentive criterion, but not hyperactive/impulse criterion, for the past 6 months
- **Predominantly Hyperactive/Impulsive Type**:
  - Patient meets hyperactive/impulse criterion, but not inattentive criterion, for the past 6 months
- Symptoms may be classified as mild, moderate, or. severe based on symptom severity

LET'S REFLECT BACK ON OUR 3 CASES…

- How might these symptoms (inattention, impulsivity, and hyperactivity) manifest differently at different developmental stages?

HOW DO WE DIAGNOSE ADHD?

- ADHD diagnosis is dependent on behavioral reports by those observing the child.
- It's all about context!
- ≥ 2 Settings = ≥ 2 Different Observers (e.g. Parent AND …)
- **Behavioral Rating Scales**:
  - NICHQ Vanderbilt Assessment Scale (Parent and Teacher Forms)
  - Rating Scales ALONE are not sufficient for diagnosis without a clinical interview/history
- **Other Sources of Information**:
  - School Reports
  - Behavioral Report Cards
  - The Child (tend to be inaccurate reporters regardless of age)

OTHER INFORMATION TO CONSIDER IN DIAGNOSIS

- **Family History**:
  - Genetic component to ADHD, tends to run in families
  - Important assessing risk of comorbidities
  - Bipolar Disorder is often misdiagnosed ADHD
  - Cardiac history is important when considering stimulant medications
- Inattention can also present similarly to **absence seizures**.
- **Sleep history**: Sleep apnea creates behaviors similar to ADHD

ADHD COMORBIDITIES?

1. **Learning Disorders (Most Common)**
2. **Disruptive Behavior Disorders**:
   - Oppositional Defiant Disorder (ODD)
   - Conduct Disorder
3. **Internalizing Conditions**:
   - Anxiety
   - Depression
4. **Autism Spectrum Disorder**
5. **Less Common**:
   - Developmental Coordination Disorder
   - Tic Disorders/ Tourette's Syndrome
   - Thyroid Disorders

NOTES ON THE VANDERBILT FORM

- Let's Review this form and compare it to the DSM-V Criteria.
- For what disorders is the Vanderbilt well-validated for aiding in diagnosis?
  - ADHD (all types)
  - ODD
  - Conduct Disorder
- For what disorders is it helpful but NOT well-validated for diagnosis?
  - Internalized Disorders (Depression, Anxiety, TRAUMA)
  - Learning disorders
  - Autism Spectrum Disorder
  - Psychotic Disorders
  - You may have to use other tools to assess for these conditions.

LET'S FOCUS ON ADHD TREATMENT, BUT FIRST…A WIGGLE BREAK!

EDUCATING THE FAMILY

- ADHD is a chronic condition, that means its SYMPTOMS must be MANAGED, NOT CURED.
- ADHD is a LIFELONG condition, but symptoms tend to improve with age.
- Other Sources of Information:
  - *ADHD 3rd Edition What Every Parent Needs to Know* - By *Wolraich and Hagan*
  - *Russell Barkley's "30 Essential Ideas You Should Know About ADHD" https://www.youtube.com/watch?v=BzhbAK1pdPM*
  - www.chadd.org
  - www.help4adhd.org

WHAT ARE SOME POSITIVES TO ADHD?

- **Energetic**
  - Can accomplish a lot of things when they are motivated
- **Enthusiastic**
  - Can be incredibly positive and engaging in teams.
- **Spontaneity/Curiosity**
  - May discover things no one thought to look for
- **Inventiveness/Creativity**
  - Tend to engage well with creative problem-solving and find solutions no one else could
- **Hyper focus**
  - A double-edged sword, but potentially very useful

LET'S FOCUS ON NEURODIVERSITY….

- Advocates argue that diverse neurological conditions are a result of normal human genome variations
- Typically applied to variants in cognitive processing (e.g. ADHD, autism, learning DOs)
- Advocates for accommodation and inclusion as opposed to "fixing"
- Proponents may or may not conceptualize ADHD as a disability
- Others concerned that neurodiversity movement may trivialize what can be debilitating or life-denying disorders beyond quirks or subtle personality traits

OVERVIEW OF ADHD TREATMENT

- Treatment includes modifying both the **INTERNAL** and **EXTERNAL** environment:
  - **Medication** –Mainly contributes to the INTERNAL environment, but impacts the EXTERNAL environment as well
  - The following mainly contribute to the EXTERNAL environment, but impacts the INTERNAL environment as well
    - **Behavioral Interventions**
    - **Organizational Supports**
    - **Environmental Accommodations**

MEDICATIONS FOR ADHD - STIMULANTS

- Most effective, well-researched medications for ADHD
- Fast acting
- A lot of options
- Modulates **Dopamine**
- **Methylphenidates** – Ritalin, Concerta, Aptensio, Focalin, Daytrana, Quillivant, Metadate,
- **Amphetamines** – Adderall, Vyvanse, Dexedrin, Dexostat
- **Common Side Effects**: Decreased appetite, Weight loss, Sleep problems, Headaches, Irritability/ Nervousness
- **Less Common Side Effects**: Gastrointestinal: nausea, abdominal discomfort, weight loss, dry mouth; Increased HR, BP, Dizziness, Stuttering, Growth suppression, Extensive bruising, Muscle damage, Dyskinesia, Behavioral Rebound, Hallucinations/Mania, Exacerbation of Tics and Tourette's Syndrome

MEDICATIONS FOR ADHD – NON-STIMULANTS

- Effective for ADHD, but less so than stimulants
- Slower onset (especially SNRIs)
- **Alpha 2 Adrenergic Agents** (e.g. the "blood pressure medicines")
  - Often combined with stimulants for **synergistic** effects
  - Guanfacine (Tenex, Intuniv)
  - Clonidine (Kapvay)
  - Common Side Effects: Somnolence, fatigue & lethargy, Headache, GI symptoms, abdominal pain, vomiting, constipation, and diarrhea, Lethargy, Affect lability
  - Less Common Side Effects: Hypotension, Syncope, Bradycardia, AV block
- **Selective Norepinephrine Reuptake Inhibitors –** Similar to antidepressants
  - Atomoxetine (Strattera) & Viloxazine (Qelbree)
  - Common Side Effects: Decreased Appetite, Somnolence, Nausea/vomiting, Abdominal Pain, Fatigue, Mood swings
  - Less Common Side Effects: Mood swings, Dyspepsia, Rare hepatotoxicity, Increased suicidal ideation

ADHD Medication Guide*

Revised: October 1, 2022

Methylphenidate Formulations – Long Acting** (Capsules and tablets in this section are shown at actual size)

Medication	Dosing									
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	G 72mg (36mg + 36mg)		Methylphenidate ER 72mg (bioequivalent to 2 x 36 mg Concerta tablets)		
Aptensio® XR‡	6 Yrs–Adult: 10–60mg; SD: 10mg (biphasic – 40/60)	10mg	15mg	20mg	30mg	40mg	50mg	60mg		
Cotempla XR-ODT®¶ (grape flavor)	6-17 Yrs: 8.6–51.8mg; SD: 17.3mg	8.6mg		17.3mg	25.9mg	34.6mg (T2 + T2)		51.8mg (T3 + T3)		
Focalin® XR‡ (dexmethylphenidate)	6-17 Yrs: 5–30mg; SD: 5mg 18 Yrs-Adult: 5–30mg; SD: 5mg (biphasic – 50/50)	G 5mg		G 10mg	G 15mg	G 20mg	G 25mg	G 30mg	G 35mg	G 40mg
Quillivant XR® 25mg/5mL (5mg/mL) (banana flavor)	6 Yrs–Adult: 20–60mg; SD: 20mg	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			20mg	30mg	40mg				
Ritalin® LA‡	6-12 Yrs: 10–60mg; SD: 20mg (biphasic – 50/50)	G 10mg		G 20mg	G 30mg	G 40mg		G (red)◆ 60mg		
Metadate® CD‡	6-17 Yrs: 10–60mg; SD: 20mg (biphasic – 30/70)	G (red)◆ 10mg		G (red) 20mg	G (red) 30mg	G (red)◆ 40mg	G (red) 50mg	G (red)◆ 60mg		
Metadate® ER†	6 Yrs-Adult: 20–60mg; SD: 20mg	G (red) 10mg		G 20mg						
Daytrana® (patch)	6-17 Yrs: 10–30mg; SD: 10mg (The color border around each patch reflects the packaging color, not the patch itself.)	G 10mg 1.4"x1.4"	G 15mg 1.5"x1.9"	G 20mg 1.5"x2.6"	G 30mg 1.5"x3.9"					

Methylphenidate Pro-Drug Formulations - Long Acting** (Medications in this section are shown at actual size)

Medication	Dosing					
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** (Medications in this section are shown at actual size)

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

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

Medication	Dosing					
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	
Methylphenidate 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 (red)◆ 2.5mg	G (red)◆ 5mg	G (red)◆ 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		

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 sprinkle medication into water or onto apple sauce
- ⁑ Can open capsule and mix with apple sauce or yogurt

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

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

- 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

****Important Information:** 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 full prescribing information for each medication. **Please note:** medications have been arranged on the ADHD Medication Guide for ease of display and visual comparison; dosing comparability cannot be assumed.

◆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; Ritalin LA capsule (60mg); Metadate CD capsules (40mg, 60mg); Metadate ER tablet (10mg); Ritalin SR tablets (20mg); Methylin Chewable tablets (2.5mg, 5mg, 10mg); Dexedrine Spansules (5mg, 10mg); Dexedrine tablets (5mg, 10mg); DextroStat tablets (5mg, 10mg); LiquADD solution (5mg/5mL), and Cylert (pemoline).

***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 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. The Guide includes only medications indicated by the FDA for the treatment of 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. Practitioners should refer to the FDA-approved product information to learn more about each medication. 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.

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ADHD Medication Guide*

Revised: October 1, 2022

Amphetamine Formulations – Long Acting**

(Medications in this section are shown at actual size)

Dyanavel® XR (d- & l-amphetamine sulfate)	6 Yrs–Adults: 2.5–20mg; SD: 2.5 or 5mg	2.5mg	5mg	7.5mg	10mg	12.5mg	15mg	17.5mg	20mg	
Dyanavel® XR (d- & l-amphetamine sulfate) 2.5mg/mL (bubblegum flavor)	6 Yrs–Adults: 2.5–20mg; SD: 2.5 or 5mg	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	12.5mg		25mg		37.5mg		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		3.1mg	6.3mg	9.4mg	12.5mg	15.7mg	18.8mg		
Adzenys ER® (d- & l-amphetamine) 1.25mg/mL (orange flavor)	6–12 Yrs: 6.3–18.8mg; SD: 6.3mg 13–17 Yrs: 6.3–12.5mg; SD: 6.3mg Adults: 12.5mg		3.1mg 2.5mL	6.3mg 5mL	9.4mg 7.5mL	12.5mg 10mL	15.7mg 12.5mL	18.8mg 15mL		
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**

(Medications in this section are shown at actual size)

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

Amphetamine Formulations – Short Acting**

(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		5mg		10mg					
Evekeo® ODT (d- & l- amphetamine sulfate)	6–17 Yrs: 5-40mg divided BID; SD: 5mg 1-2x/day		5mg		10mg		15mg	20mg		
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		15mg	20mg	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							

Non-Stimulants**

(Medications in this section are shown at actual size)

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					
Kapvay®† (clonidine, extended release)	6–17 Yrs: 0.1-0.2mg BID; SD: 0.1mg qHS	G 0.1mg	(only in dose pack) 0.2mg							
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		
Qelbree®‡ (viloxazine)	6–11 Yrs: 100-400mg; SD: 100mg 12–17 Yrs: 200-400mg; SD: 200mg Adults: 200-600mg; SD: 200mg	100mg	200mg	300mg	+	400mg	+			

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BEHAVIORAL INTERVENTIONS

- **Parent Behavioral Management Training** (first-line treatment for preschool age)**:**
  - **Parent Child Interaction Therapy (PCIT)**
  - **The Incredible Years**
  - **Positive Parenting Program (PPP)**
- **Barkley Parent Training/Oppositionality Methods**
- **Mindfulness-Based Interventions**
- **Cognitive Behavior Therapy**
  - Especially if co-occurring anxiety, depression
- **Organizational Strategies/Coaching**
- **Behavioral Reward Charts**
  - Manages BOTH organization AND engagement
  - Make sure and provide varied rewards and reward choices as kids with ADHD can get bored with repetition

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DIANA BAUMRIND'S PARENTING STYLE MODEL

Authoritarian

Authoritative

Permissive

Demanding

Responsive

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DIANA BAUMRIND'S PARENTING STYLE MODEL

Foundation for Most Evidence-Based Parenting Strategies

Authoritarian

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PARENT CHILD INTERACTION THERAPY (PCIT)

- Short-term, specialized behavior management program for children 2-7 yo & families
- Treats behavioral and/or emotional difficulties
  - ADHD
  - Oppositional/Defiant Problems
  - Aggressive Behaviors
  - Adjustment Problems
  - Children impacted by Substance Abuse/Abuse/Neglect
  - Children in Foster Care, Adopted, recently Reunited with parents
- Works with child and caregiver together to **improve overall behavior** and **reduce parenting stress.**
- 12-16 weekly sessions with caregiver and child

WHAT IS PCIT?

- Manualized intervention for disruptive behavior problems[1]
  - Evidence-based[2]
  - Emphasis on quality of parent-child relationship and interaction patterns

- Therapists must be certified or supervised by a certified therapist

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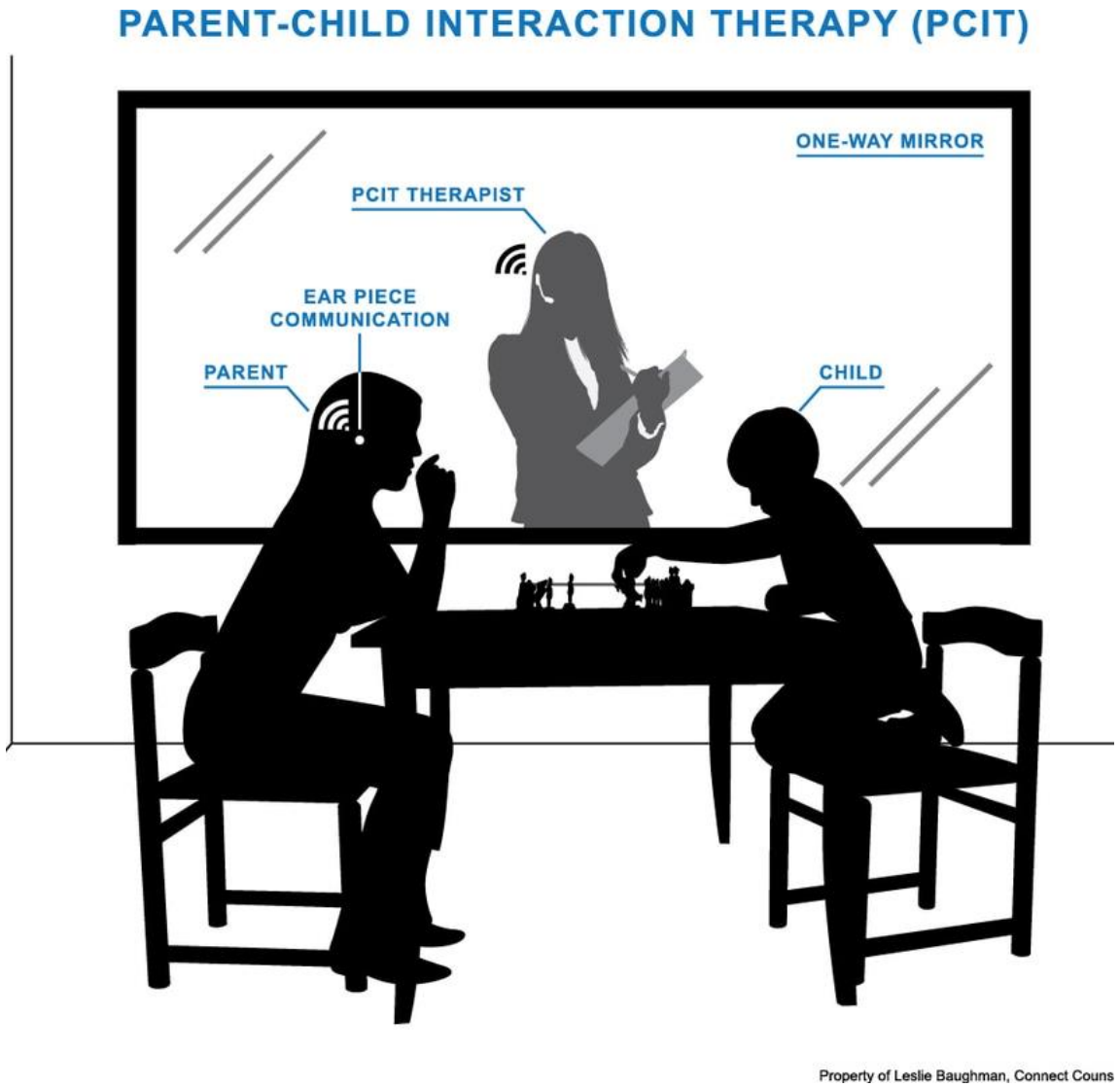
PCIT COMPONENTS

- Child-Directed Interaction Phase
  - PRIDE Skills
    - Praise
    - Reflection
    - Imitation
    - Description
    - Enthusiasm
- Parent-Directed Interaction Phase
  - Behavioral Leading and Management
- Behavior monitored with the Eyberg Child Behavior Inventory throughout treatment

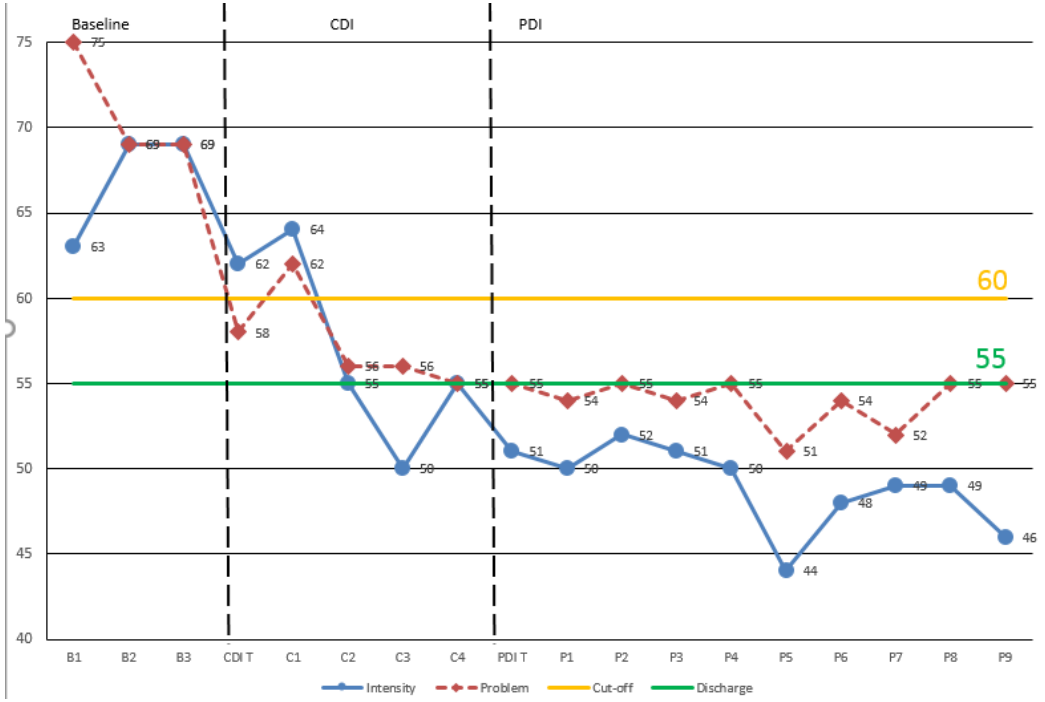
HOW IS PCIT DIFFERENT?

- Only model with emphasis on live feedback
- Only model with progress based on skill acquisition



TYPICAL OUTCOMES OF PCIT

- Reductions in:[3]
  - Child behavior problems
  - Parenting stress
  - Parent and child psychopathology symptoms
- Increased child language skills[4]
- Reduced risk[5] and recidivism of child physical abuse[6]
  - Recognized as one of the most effective treatments[7]



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PCIT CERTIFIED THERAPISTS

- Recognized as providing an evidence-based treatment for the most common mental health referral for children (externalizing behaviors)
- Listed on the PCIT International website so families and other professionals can find them
- Have access to attend virtual calls with Global Trainers at no cost
- Gain access to a listserv of certified PCIT providers around the world

PCIT INTERNATIONAL

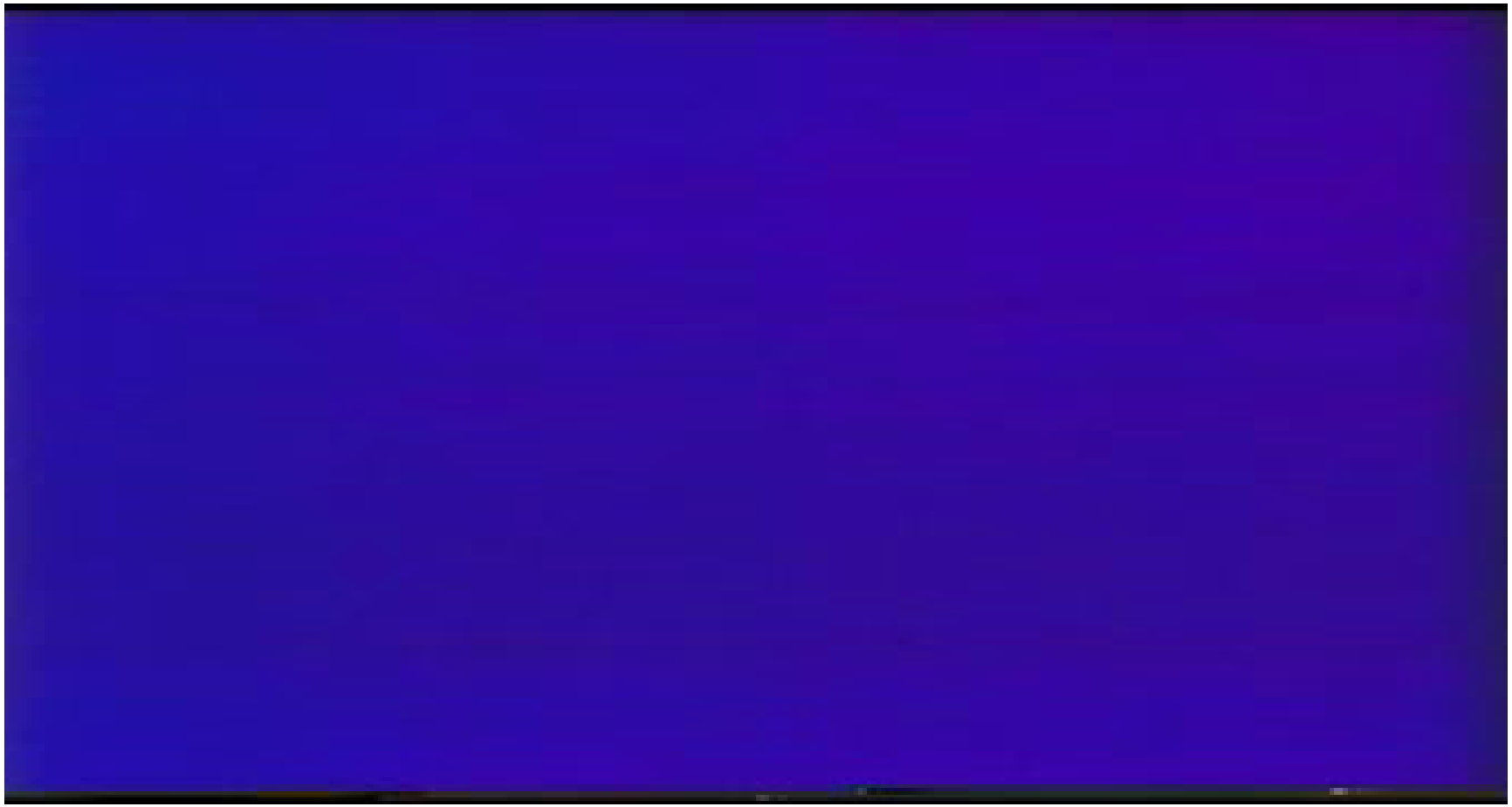
OUHSC PCIT TRAINING PROGRAM

- www.pcitok.org
- Internationally recognized training team:
  - Beverly Funderburk, PhD (President, PCIT Intl)
  - Vicki Cook, LPC
  - Carisa Wilsie, PhD
  - Tabitha Fleming, PhD
  - Odyssey Bagby, Coordinator
- Training Options: PCIT Therapist Certification, Within Agency Trainer, Recalibration, Student Training





PCIT Before Video



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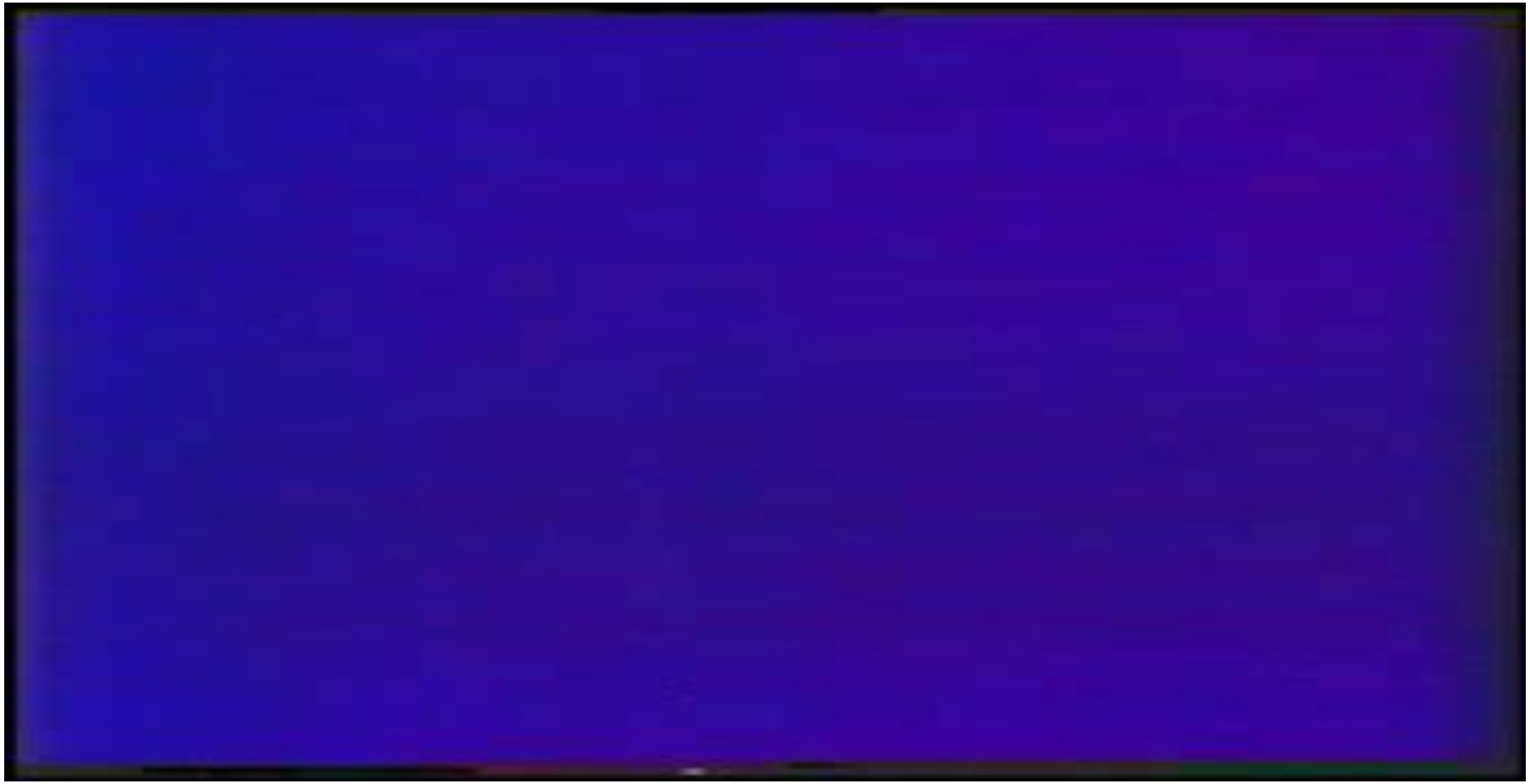
PCIT After Video



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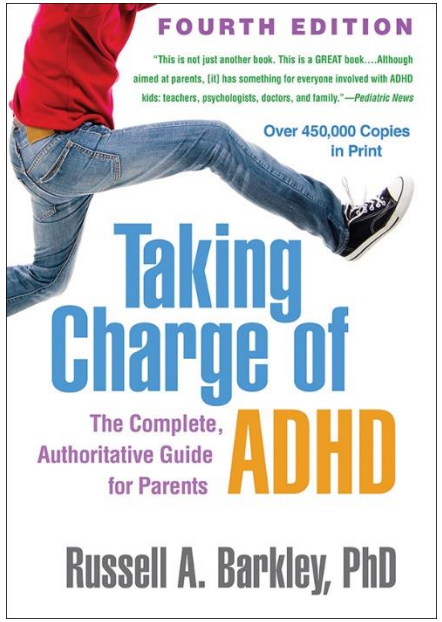
BEHAVIORAL INTERVENTIONS

- **Parent Behavioral Management Training** (first-line treatment for preschool age):
  - **Parent Child Interaction Therapy (PCIT)**
  - **The Incredible Years**
  - **Positive Parenting Program (PPP)**
- **Barkley Parent Training/Oppositionality Methods**
- **Mindfulness-Based Interventions**
- **Cognitive Behavior Therapy**
  - Especially if co-occurring anxiety, depression
- **Organizational Strategies/Coaching**
- **Behavioral Reward Charts**
  - Manages BOTH organization AND engagement
  - Make sure and provide varied rewards and reward choices as kids with ADHD can get bored with repetition

OTHER BEHAVIORAL INTERVENTIONS

- Barkley ADHD Training Model/Method
  - Central deficit in ADHD = poor response inhibition, which involves three interrelated processes:
    - (1) to inhibit the initial prepotent response to an event;
    - (2) to stop an ongoing response, allowing a delay in the decision to reply;
    - (3) to control interference from distracting information
  - *Russell Barkley's "30 Essential Ideas You Should Know About ADHD" https://www.youtube.com/watch?v=BzhbAK1pdPM*



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OTHER BEHAVIORAL INTERVENTIONS

- Mindfulness-Based Intervention
  - Meditation/Focusing on the present moment without judgement or reaction
  - Movement practice (e.g.Yoga) emphasizes interoceptive, proprioceptive, and kinesthetic aspects of movement
  - Strengthened awareness, more integrated sense of self-accomplishment through the attention regulation process
- Cognitive Behavioral Therapy
  - Particularly if exhibiting signs of anxiety, depression, or emotion dysregulation

BEHAVIORAL INTERVENTIONS

- **Parent Behavioral Management Training** (first-line treatment for preschool age)**:**
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- **Cognitive Behavior Therapy**
  - Especially if co-occurring anxiety, depression
- **Mindfulness-Based Interventions**
- **Organizational Strategies/Environmental Supports**

MODIFYING THE EXTERNAL ENVIRONMENT

- **VISUAL** Organizational Supports
  - People with ADHD struggle with all levels of organization around planning and executing tasks
- Harnessing **engagement** and **motivation**
  - In the ADHD brain, typically the strongest stimuli is getting through to action moment to moment
  - All of the best organizational techniques in the world do not matter if the child doesn't really care, because it is easier for the other stimuli to get through to action

DYSFUNCTIONAL INTERNAL ORGANIZATION

- Timing
- Organizing Details
- Memory
- Planning Steps
- Controlling emotions as they arise
- Modulating focus (inattention vs. hyper focus)
- Initiating
- Finishing
- Impulsivity
- Prioritizing

SO HOW DO WE HELP?! EXTERNAL VISUAL ORGANIZATION

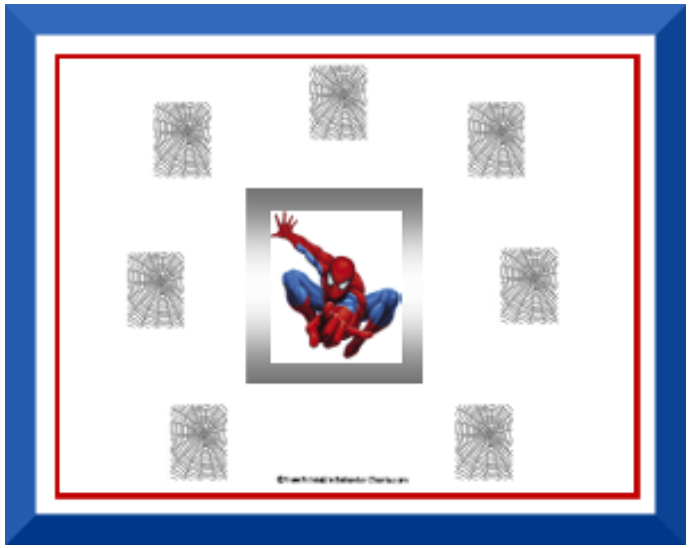
- Prioritize achievable goals and don't try to fix everything at once.
- Set the child and family up for success by starting small.
- Use EXTERNAL VISUAL ORGANIZATION to scaffold the brain's dysfunction:
  - Keep it simple and straight forward
  - Don't try to put everything on it
  - Make it eye-catching, they MUST see it
    - Remember attention is the problem, so it needs to be placed in a spot where it will easily cross the child's field of vision.
  - It needs to look INTERSTING to the child
    - "Interesting" does not mean unclear, but may not live up to adult standards
  - The CHILD should help make it (aids significantly in engagement)

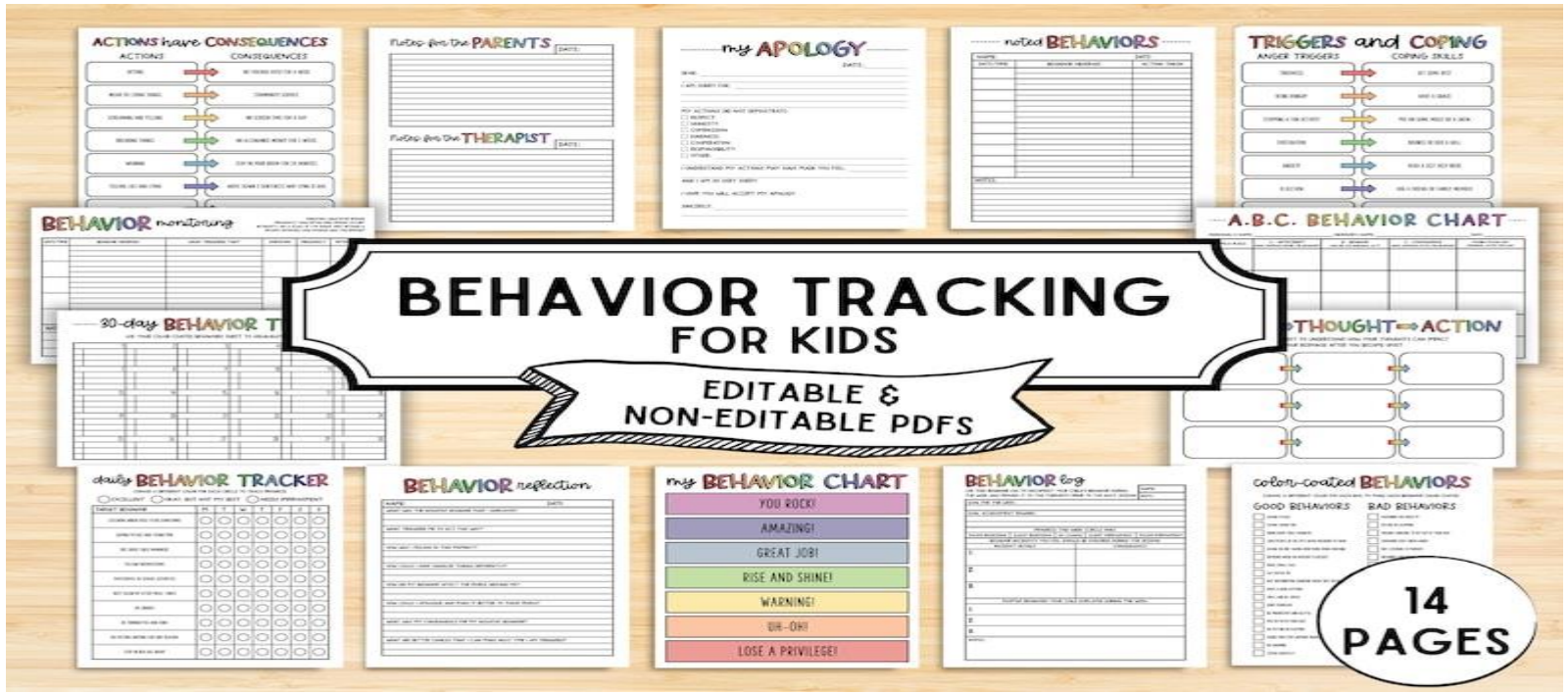
NEVER OVERLOOK ENGAGEMENT

- The ADHD brain struggles with modulating engagement.
- Often, the behaviors that are manifesting are the result of stimuli that are generating the strongest signals in the child's brain from moment to moment coupled with a lack of self-regulation/processing before acting on said stimuli.
- For example, a child that throws a tantrum when their video game is turned off suddenly has a brain whose strongest stimuli is a combination of engagement with the game and anger/annoyance. Since they lack the innate circuitry to regulate their behavioral response to those internal stimuli, they act out.
- So the child with ADHD MUST be engaged towards more positive adaptive behaviors.
- This is why identifying/engaging **strengths** and **positive reinforcement** is so important.
- Motivators include:
  - Novelty
  - Competition
  - Special interest
  - Urgency/pressure
    - Play/humor

BEHAVIORAL REWARD CHARTS

- Manages BOTH organization AND engagement
- Make sure and provide varied rewards and reward choices as kids with ADHD can get bored with repetition





SCHOOL-BASED SUPPORTS

ACCOMMODATIONS AT SCHOOL

- Children with ADHD are now eligible for special educational services in the public schools under both the Individuals with Disabilities in Education Act (IDEA) and Section 504 of the Civil Rights Act
- All students with ADHD qualify for a 504-Plan
- May qualify for IEP if additional learning disorder or via Other Health Impaired category

STRATEGIES FOR ACCOMMODATIONS

- Use a Homework/Assignment Folder
- Use preferential seating (near teacher; carrels to decrease distractions during focused work)
- Use non-verbal cues to child to get back on task (shoulder tap, hand signals)
- Direct organizing comments to all class, not just affected child
- Extend time for taking tests
- Shorten class work/homework assignments
- Offer frequent movement breaks; allow "moving while learning"
- **Functional Behavior Assessment/Analysis**

OUTSIDE ACCOMMODATIONS

- School-Home Daily Report Card
- Homework coaches (study skills tutors)
- Extracurricular activities can be protective factors to keep children with ADHD positively linked to the school and maintain their school pride and enthusiasm.
  - Better if not removed for punishment

COMPLEMENTARY ALTERNATIVE TREATMENTS

- Nutritional Supplements
  - Fish oil has some promise but need more info
  - Other vitamins/minerals (e.g. Zinc)
- Elimination Diets
  - No proven efficacy
  - Sugar restriction **not beneficial**
- Biofeedback (EEG)
  - Long in use but mostly anecdotal-level support

SHARED MONITORING OF SYMPTOMS

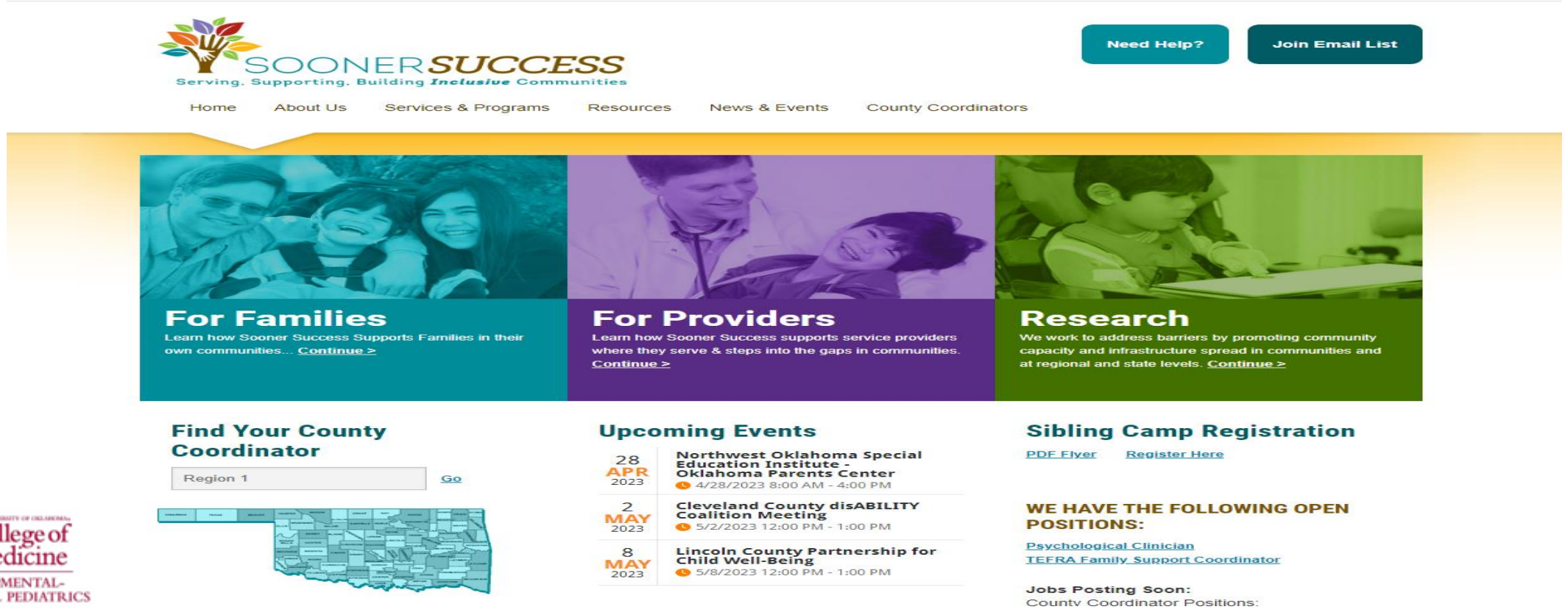
- Follow up Rating Scales for Teachers and Parents
  - Morning vs Afternoon
  - Medication Administration Time
  - Bus Rides
- Assessing symptoms and side effects
- Close communication between teachers, parents, physicians, and therapists

FOLLOW UP

- After an initial ADHD diagnosis, physicians may ask parents to contact them weekly with reports of behavior at home and school.
- Medication doses/regimens can often be adjusted quickly to meet the needs of the child.
- **More effective communication = more effective treatment!**

SOONER SUCCESS

- Family Resource Navigation- available in 18 counties/statewide
- soonersuccess.ouhsc.edu



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QUESTIONS?

- Any questions we do not get to can also be sent to my email!

- Thank you!

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