### ADHD Medication Management for Clinicians

ADHD and Related Concerns Conference November 2, 2023 Jonathan Shook, MD, FAAP



#### Disclosures

- I have no relevant financial relationships with manufacturers of any commercial products and/or providers of commercial services discussed in this CME activity.
- Generic medication names used when possible, but brand names are often needed to clearly identify some formulations of ADHD medications



### Objectives

- As a result of participation in this activity, the learner should be able to do the following:
  - More confidently choose among ADHD medications and troubleshoot common side effects or concerns related to ADHD medications.
  - Improve quality of care and patient satisfaction by having more treatment options for patients with ADHD.
  - Overcome certain barriers to care for patients with ADHD by navigating insurance formularies, manufacturer rebates/coupons, and other tools that can reduce drug costs for patients.



AAP Toolbits <sup>**</sup>		$\equiv$ AAP Publications	Search.	Auticm Toolkit	Pright Euturos	Toolkit	Mor
AAP Toolkits" ADHD Toolkit Autism Toolkit Bright Futures Toolkit Mer		AAP Toolkits"	ADHD Toolkit	Autism Toolkit	Bright Futures Toolkit		Mer



#### <prev Next>

ADHD – Caring for Children With ADHD: A Practical Resource Toolkit for Clinicians (3rd Edition) ⊘

#### Ву

William Zurhellen, MD, FAAP; Herschel R. Lessin, MD, FAAP; Eugenia Chan, MD, MPH, FAAP; Carla Counts Allan, MS, PhD; Mark Wolraich, MD, FAAP;

#### TOOLKIT CHAPTER

#### Systemic Barriers to the Care of Children and Adolescents with ADHD ⊘

DOI: https://doi.org/10.1542/9781610023627-1\_05\_Barriers

Published: 2019

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#### Introduction

With its 2019 Clinical Practice Guideline, the American Academy of Pediatrics published a supplemental paper addressing, from a clinical and policy standpoint, barriers to high-quality care for children and adolescents who are being evaluated and/or treated for ADHD, and offering strategies for improvement. These barriers and strategies are summarized below.

#### Barrier: Limited Access to Care Because of Inadequate Developmental-Behavioral and Mental Health Care Training During Pediatric Residency and Other Clinical Training Programs and Shortages of Consultant Specialists and Referral Resources

There is an overall lack of adequate pediatric residency and other training programs for pediatric clinicians on developmental-behavioral and mental health conditions, including ADHD.



#### Key Action Statement 4

- ADHD is a chronic condition; therefore, the PCC should manage children and adolescents with ADHD in the same manner that they would children and youth with special health care needs, following the principles of the chronic care model and the medical home.
  - No significant change from 2011



### ADHD Long Term Prognosis

#### • Chronic course

- 50-60% of children continue with ADHD in adulthood
- 75% of adolescents continue with ADHD into adulthood

#### • Acknowledge positive traits/strengths

- Curiosity (inattention)
- Energetic (hyperactivity)
- Creative/spontaneous (impulsive)



### ADHD Long Term Prognosis

- More likely to have motor vehicle crashes and lose driving license
  - Stimulant meds improve driving performance
- Poorer academic outcomes
  - Less schooling completion, lower achievement scores, more course failures
- More likely to be unemployed or have poor job performance



- More likely to have lower self esteem
  - More anxiety and depression
- May have increased risk for substance abuse
  - Some studies show stimulants are protective





#### Friction between the child and parents, teachers and peers

- Difficulty making and keeping friends
- Tension between parents marital problems for parents
- Losing shoes, coats, etc.

#### Greater risk for intentional and unintentional injury

• Stimulant meds may be preventive



- Quantifying the Protective Effects of Stimulants on Functional Outcomes in Attention-Deficit/Hyperactivity Disorder: A Focus on Number Needed to Treat Statistic and Sex Effects
- Joseph Biederman, M.D. Maura DiSalvo, M.P.H.Ronna Fried, Ed.D.K. Yvonne WoodworthItai Biederman, M.B.A.Stephen V. Faraone, Ph.D.
- Published:July 23, 2019DOI:<u>https://doi.org/10.1016/j.jadohealth.2019.05.015</u>
- "Our study documents that early treatment with stimulant medication has very strong protective effects against the development of serious, ADHD-associated functional complications like mood and anxiety disorders, conduct and oppositional defiant disorder, addictions, driving impairments and academic failure," says Joseph Biederman, MD, chief of the Pediatric Psychopharmacology and Adult ADHD Program at MGH and MassGeneral Hospital for Children.



- Study (continued from previous slide) calculated protective effects of stimulant medication for children/teens:
- 3 participants with ADHD needed to be treated to prevent 1 from repeating a grade or developing conduct disorder, anxiety disorders or oppositional-defiant disorder.
- 4 participants with ADHD needed to be treated to prevent 1 from developing major depression or experiencing an accident during the driving simulation.
- 5 participants with ADHD needed to be treated to prevent 1 from developing bipolar disorder, 6 to prevent 1 from smoking cigarettes, and 10 to prevent 1 from developing a substance use disorder.



#### **ADHD Long Term Prognosis**





#### **ADHD Long Term Prognosis**



EZCare Clinic

Top 25 Inspirational Stories of Famous People With ADHD



## Key Action Statement 5: ADHD Treatment

- Age 4 5:
  - Parent training in behavior management (PTBM) first line Tx
  - Consider Methylphenidate (MPH) if needed
- Age 6 11:
  - FDA approved med first line (preferably stimulant)
  - Med plus PTBM and/or behavioral classroom interventions (preferably both)
- Age 12 18:
  - FDA approved med first line with teen's assent
  - Behavioral and/or training interventions if available

## Key Action Statement 5

• No significant change from 2011



KAS 5a: For preschool-aged children (age 4 years to the sixth birthday) with ADHD, the PCC should prescribe evidence-based PTBM and/or behavioral classroom interventions as the first line of treatment, if available.

Methylphenidate may be considered if these behavioral interventions do not provide significant improvement and there is moderate-to-severe continued disturbance in the 4-through 5-year-old child's functioning. In areas in which evidence-based behavioral treatments are not available, the clinician needs to weigh the risks of starting medication before the age of 6 years against the harm of delaying treatment.

KAS 5b. For elementary and middle school-aged children (age 6 years to the 12th birthday) with ADHD, the PCC should prescribe FDA-approved medications for ADHD, along with PTBM and/or behavioral classroom intervention (preferably both PTBM and behavioral classroom interventions). Educational interventions and individualized instructional supports, including school environment, class placement, instructional placement, and behavioral supports, are a necessary part of any treatment plan and often include an IEP or a rehabilitation plan (504 plan).

KAS 5c. For adolescents (age 12 years to the 18th birthday) with ADHD, the PCC should prescribe FDA-approved medications for ADHD with the adolescent's assent. The PCC is encouraged to prescribe evidence-based training interventions and/or behavioral interventions as treatment of ADHD, if available. Educational interventions and individualized instructional supports, including school environment, class placement, instructional placement, and behavioral supports, are a necessary part of any treatment plan and often include an IEP or a rehabilitation plan (504 plan).



#### ADHD Treatments

- Non-pharmacologic treatments
  - Behavior therapy
    - Parent training in behavior management (PTBM) recommended by American Academy of Pediatrics (AAP) as first-line for preschoolers
  - Education and training
    - Home/family routines
    - Extra help at school
    - Organizational skills training for older kids/teens
  - Lifestyle optimization
    - Sleep, nutrition, exercise, etc.



#### **ADHD** Treatments

- FDA Approved Medications:
  - Stimulants: recommended by AAP as first line for school-age children 6 years old and up (with or without behavior therapy).
    - Immediate release (shorter duration)
    - Extended release (longer duration)
  - Non-stimulants
    - Work differently; can take weeks to see optimal effects
    - Can be taken along with stimulants



#### Benefits of ADHD Medications

- Sustained and improved focus
- Less impulsivity
- Improved mood
- Greater attention to detail
- Better memory

#### Stimulant medications

CONNECTIONS HATTIESBURG CLINIC

- Methylphenidate and amphetamine formulations
  - Used to treat ADHD since the 1960s.
- Primary target neurotransmitter is dopamine
  - key role in attention and motivation.
  - helps in controlling emotional responses.
- Effective in reducing symptoms in 70-80% of those with ADHD
- Optimal dose not determined by age, weight, or severity of symptoms
  - Efficacy and tolerability

### Non-stimulant medications



- Designed for 24 hour duration
- Gradual onset of action
- Side effects usually mild and transient
  - e.g. somnolence, nausea, fatigue, dizziness, etc.
- Good option when stimulants not tolerated
- Often used + stimulant



### Non-stimulant Medications

- Different mechanism of action and side effects than stimulants.
  - Atomoxetine (SNRI)
  - Viloxazine (SNRI)
  - guanfacine (Alpha-2 agonist)
  - clonidine (Alpha-2 agonist)
- Primarily Increase brain activity of or mimic effects of norepinephrine.
  - neurotransmitter linked to attention and mood
  - Effectiveness < stimulants
  - may take 2-6 weeks to show effectiveness



#### Guanfacine

- Extended release (Intuniv) FDA approved for ADHD ages 6-17
  - Generic available: 1,2,3,4 mg tabs-must be swallowed
  - Once daily dose
- Immediate release (Tenex) FDA approved for HTN in adults
  - Studied and used successfully off label for ADHD and Tics in children
  - Generic available: 1,2 mg tabs- can be halved, chewed/crushed
  - Recommended bid-tid dosing
- Strange BC. Once-daily treatment of ADHD with guanfacine: patient implications. Neuropsychiatr Dis Treat. 2008 Jun;4(3):499-506. doi: 10.2147/ndt.s1711. PMID: 18830439; PMCID: PMC2526381.



## Guanfacine Immediate Release (Tenex)

- Off label Tx option for younger children with ADHD
- Consider for younger kids with significant hyperactivity/impulsiveness
  - +/- stimulant Tx
- Does not usually affect appetite
- May also help tics and sleep onset
  - May increase sleepwalking, dreams, bedwetting, etc.
- Main side effect is sedation- often improves with time
  - Dose can be reduced/spaced if needed
  - Monitor HR/BP
- Titrate upward as follows with 1 mg tab:
  - 1/2 tab q evening x 3 nights; 1/2 tab bid x 1 week; 1/2 tab q a.m. + 1 tab q p.m. x 1 week;1 tab bid.
  - hold dose at optimal benefits/side effects; can continue up to 2 mg bid if needed



#### Criteria for initiation of pharmacotherapy in children with ADHD

Diagnostic assessment is complete and confirms diagnosis of ADHD

Child is age 4 years or older\*

Caregivers accept medication as a contribution to management

School will cooperate in administration and monitoring<sup>1</sup>

No previous sensitivity to the chosen medication

Child has normal heart rate and blood pressure

Child has no known cardiac risk factors

Child does not have a significant comorbid condition such as seizures, tics, depression, or anxiety<sup>∆</sup>

Substance abuse and stimulant misuse/diversion among household members are not a concern (for children who will be treated with immediate-release stimulants)<sup>\$</sup>



\* Primary care clinicians may wish to consult a specialist for medication management of children age 4 to 5 years.

It is not safe to permit the child or adolescent to take their own medication to school.

Δ Primary care clinicians may wish to consult with a specialist for management of children with ADHD complicated by comorbid conditions.

Nonstimulants, osmotic release methylphenidate, the methylphenidate
patch, and prodrug stimulant formulations are alternatives to immediate release or more easily abusable stimulant preparations for children who live in
households where substance abuse, diversion, and misuse are a concern.

Adapted from: Hill T, Taylor E. An auditable protocol for treating attention deficit/hyperactivity disorder. Arch Dis Child 2001; 84:404.

Updated with information from:

 Wolraich ML, Hagan JF Jr, Allan C, et al. Clinical practice guideline for the diagnosis, evaluation, and treatment of attention-deficit/hyperactivity disorder in children and adolescents. Pediatrics 2019; 144: e20192528.



#### **ADHD Medication Prerequisites**

- Document baseline height, weight, blood pressure, & heart rate
- Pretreatment baseline for common ADHD med side effects
  - appetite, sleep pattern, headaches, abdominal pain, tics
  - h/o sleep problems does not predict stimulant-related sleep problems and may actually improve with stimulant Tx
- Adolescent patients should be assessed for substance use or abuse
  - should undergo evaluation and treatment for addiction before treatment for ADHD (if possible)



#### Pretreatment Education Visit

- Acceptance of med by child/teen improves long term adherence
- Discuss potential benefits/goals of successful ADHD medication
  - Daily symptom/functional improvements and long term progress/goals
- Discuss potential risks/side effects
  - Appetite/weight, sleep, tics, mood, etc.
- Explain process of med dose titration and frequency of f/u
  - In person vs. telehealth visits, communication via phone calls/messages
  - f/u questionnaires for teachers, forms for school, etc.



### ADHD Meds: Choice of Agent

- Duration of desired coverage
  - homework or driving may require coverage into evening
- Time of day when the target symptoms occur
- Preference of the child/adolescent and their caregiver or guardian
- Expense/insurance coverage/availability
- Ability of the child to swallow pills or capsules
- Desire to avoid administration at school



### ADHD Meds: Choice of Agent

- Potential adverse effects
- H/o substance abuse in pt. or household
  - avoid stimulants or use stimulants with less potential for abuse
- Coexisting emotional or behavioral condition
  - Consider alpha-2 agonist if over-aroused, easily frustrated, highly active, or aggressive
- Coexisting tic disorder
  - Consider alpha-2 agonist



### Stimulants vs. Non-stimulants

- Stimulants have larger treatment effect size and have long record of safety and efficacy
  - Positive response rate for children/teens to a given stimulant is ~ 70%
  - ~ 80% will have positive response if stimulants tried systematically
- Stimulants have shown significant improvement in multiple domains:
  - ADHD core symptoms
  - caregiver-child interactions
  - aggressive behavior
  - academic productivity and accuracy
- Stimulant benefits limited to duration of action during the day
  - Non-stimulant benefits available 24 hr.



### Methylphenidate (MPH) vs. Amphetamine (AMP)

- MPH more tolerable than AMP in children/teens
  - AAP guidelines make no preference
  - England's National Institute for Health and Care Excellence (NICE) ADHD guidelines recommend MPH first line for children/teens
- AMP slightly more efficacious than MPH in children/teens
  - Consider AMP if MPH not effective/tolerated
  - Consider if h/o positive response to AMP in close family member



### Stimulant Duration of Action

- Long acting stimulant in a.m. best for most students
  - Most help for 8-12 hr.
  - Usually avoids med dosing during school day
  - Improves medication consistency/adherence
  - Less risk for diversion
- Short acting stimulant often used in after school hours to help with homework or other activities
  - Duration 3-5 hr.



Revised: September 1, 2023





Cohen Children's Medical Center

Northwell Health\*

#### ADHD Medication Guide\*



Amphetamine	Formulations – Long	Acting	g, Oral** (	Medications	in this section are sl	hown at ac	tual size)											
Dyanavel <sup>®</sup> XR (d- & I-amphetamine sulfate)	6 Yrs-Adults: 2.5-20mg; SD: 2.5 or 5mg			5mg				10mg				15mg	15			20mg	20	
Dyanavel <sup>®</sup> 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 <sup>®</sup> ‡ (mixed amphetamine salts)	13–17 Yrs: 12.5–25mg; SD: 12.5mg Adults: 12.5-50mg; SD: 12.5mg	12.5mg	465			25mg	465 25mg			37.5mg	465 375mg			50mg	465 Somg	Am	phetamine	Formulations -
Adzenys XR-ODT <sup>®</sup> ¶ (d- & I-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	9	6.3mg		9.4mg		12.5mg		15.7mg		18.8mg	0	Xelstr	ym <sup>™</sup>	18mg / 9hrs
Adzenys ER <sup>®</sup> (d- & I-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	n o o e e	6.3mg 5mL		9.4mg 7.5mL	22.00	12.5mg 10mL		15.7mg 12.5mL	R 0 0 0 0	18.8mg 15mL		6-17 Yr SD: 4 Adults:	s: 4.5–18mg; .5mg 9-18mg;	~1.7"x 1.7"
Adderall XR <sup>®</sup> ‡ (mixed amphetamine salts)	6–17 Yrs: 5–30mg; SD: 10mg Adults: 5-30mg; SD: 20mg (biphasic – 50/50)			G 5mg		G 10mg	DERAL	G 15mg	ADDER	G 20mg	DERAL	G 25mg	ADDERALL 25 mg	G 30mg	I DECEMBER	SD: 9	ing	~1.5"x1.5"
Dexedrine Spansule® (d-amphetamine sulfate)	6-17 Yrs: 10–60mg; SD: 5mg 1-2x/day			<b>G</b> ◆ 5mg	500 513	<b>G</b> ◆ 10mg		G 15mg	• 55								9mg / ~1.2"x	9hrs 1.2"
Amerikatamina	Due Dune Fermulatia		A setting	0												4.	5mg / 9hrs	
Ampnetamine	Pro-Drug Formulatio	ons – Lo	ong Acting,	Oral	(Medications in t	his section	are shown at actual	size)		a		a		a	_	-	0.9" x 0.9"	
(lisdexamfetamine)	6 Yrs-Adults: 10-70mg; SD: 30mg	10mg	\$489 10 mg	20mg	\$489 20 mg	30mg	5489 30 mg	40mg	\$489 40 mg	50mg	5465 50 mg	60mg	S489 60 mg	70mg	5489 70 mg		(Stade / ) )	
Vyvanse <sup>®§</sup> (chewables) (lisdexamfetamine) (strawberry flavor)	6 Yrs-Adults: 10-70mg; SD: 30mg	G 10mg	10	G 20mg	20	G 30mg	30	G 40mg	40	G 50mg	50	G 60mg	60			(Patche around the pate	s are shown at 100% each patch reflects t ch itself.)	actual size. The color border he color of the packaging, not
Amphetamine Formulations – Short Acting, Oral** (Medications in this section are shown at actual size)																		
Evekeo <sup>®</sup> (d- & I- amphetamine sulfate)	3–5 Yrs: SD: 2.5mg 1x/day 6–17 Yrs: 5-40mg divided BID; SD: 5mg 1-2x/day			5mg	5			10mg	Ð									
Evekeo <sup>®</sup> ODT (d- & I- amphetamine sulfate)	6—17 Yrs: 5-40mg divided BID; SD: 5mg 1-2x/day	2.5mg	0	5mg	9			10mg	0			15mg	(3)	20mg	20			
Zenzedi <sup>®</sup> (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	25	G 5mg	3	7.5mg	7.5	G 10mg				<b>G</b> 15mg	15	C 20mg	20	G 30mg	0	
Adderall <sup>®</sup> (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	5	G 7.5mg	(7.5-)	<b>G</b> 10mg	-10-	G 12.5mg	0	<b>G</b> 15mg		G 20mg	-2 0-	G 30mg	-30-	
ProCentra <sup>®</sup> (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	d													
												1				1		
Non-Stimulant	S** (Medications in this section a	ire shown at	actual size)					1				-						
Intuniv <sup>®†</sup> (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	0	G 2mg	2MG	G 3mg	ЭМС	G 4mg	HMG									
Kapvay <sup>®†</sup> (clonidine, extended release)	6–17 Yrs: 0.1-0.2mg BID; SD: 0.1mg qHS	G 0.1mg	651	(only in do pack) 0.2mg	652													
Strattera <sup>®†</sup> (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)	<b>G</b> 10mg	500m 3223 10 mg	G 18mg	S233 14 mg	G 25mg	Ling Ing	G 40mg	And the second s	G 60mg	1228 60 mg	G 80mg	2000 80 mg	G 100mg	2251 100 mg			
Qelbree <sup>®</sup> ‡ (viloxaxzine)	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					

http:/ /www .adhd medic ationg uide.c om/



#### Key Action Statement 6

• 2019: The PCC should titrate doses of medication for ADHD to achieve maximum benefit with tolerable side effects.

• No significant change from 2011


# ADHD Medical Management

- "High bar" of expectations with ADHD medicine
  - •Goal is a "win-win" with noticeable improvement and no significant side effects
  - •change plans when needed
- Start med at low dose and increase as needed
  - every 7-10 days for children
  - Every 3-5 days for older teens/adults



### ADHD Medical Management

- Follow up soon after starting or changing medicine
   Usually 2 3 weeks
- Regular visits to monitor weight, height and vital signs
  - feedback from the individual with ADHD
  - feedback from parents, teachers and others
- Follow up appointments spaced to every 3 months after medicine dosage optimized.
  - •Telemedicine = improved communication/convenience



# Treatment Failure on Stimulant

- Is dosage high enough?
- Adherence?
  - Check PDMP and growth chart
- Try different stimulant
- Consider adding or changing to non-stimulant



# Key Action Statement 7 (NEW!)

 2019: The PCC, if trained or experienced in diagnosing comorbid conditions, may initiate treatment of such conditions or make a referral to an appropriate subspecialist for treatment. After detecting possible comorbid conditions, if the PCC is not trained or experienced in making the diagnosis or initiating treatment, the patient should be referred to an appropriate subspecialist to make the diagnosis and initiate treatment.

# ADHD Co-existing Conditions







- Increased demand since pandemic
  - Increased stresses on those previously not treated for ADHD
  - Increased access to care with relaxed restrictions
  - Over-diagnosing?
- Supply of ingredients limited by DEA?
- Manufacturing problems?



#### • Duration?

- Affecting:
  - Adderall (mixed amphetamine salts) IR and XR generics
  - Ritalin (methylphenidate) brand and generics
  - Focalin (dexmethylphenidate) IR and XR generics
  - Concerta (methylphenidate HCl extended-release) generics
  - Metadate ER & CD (methylphenidate HCl extended-release) generics
  - possibly others



- Brand Concerta and Adderall XR supply is available for now
  - Some pharmacies may not order/keep it
  - Insurance coverage can be obstacle
- MS DOM, MSCAN, CHIP programs say they will now cover brand name Concerta and Adderall XR due to shortages.



#### MISSISSIPPI DIVISION OF MEDICAID UNIVERSAL PREFERRED DRUG LIST

#### EFFECTIVE 10/01/2023 Version 2023 Updated:09/29/2023



www.medicaid.ms

.gov/preferred-

drug-list/

#### (For All Medicaid, MSCAN and CHIP Beneficiaries)

Gainwell Technologies' DUR+ process is a proprietary electronic prior authorization system used for Medicaid fee for service claims. MSCAN plans may/may not -have electronic PA functionality. However, they must adhere to Medicaid's PA criteria.

THERAPEUTIC DRUG CLASS	PREFERRED AGENTS	NON-PREFERRED AGENTS	PA CRITERIA
			<ul> <li>1 claim for a 30-day supply with the requested agent in the past 105 days</li> <li>Documented diagnosis of narcolepsy – ADDERALL, EVEKEO, METHYLIN, PROCENTRA, RITALIN, ZENZEDI</li> </ul>
	LONG-A	CTING	
	ADDERALL XR (amphetamine salt combination) amphetamine salt combination ER CONCERTA (methylphenidate) dexmethylphenidate ER dextroamphetamine ER DYANAVEL XR SUSPENSION(amphetamine) lisdexamfetamine (generic Vyvanse) lisdexamfetamine (generic Vyvanse Chewable) methylphenidate CD (generic Metadate CD) methylphenidate ER (generic Concerta) methylphenidate ER Tabs (generic Ritalin SR) methylphenidate ER/LA Caps (generic Ritalin LA) QUILLICHEW (methylphenidate) QUILLIVANT XR (methylphenidate)	ADHANSIA XR (methylphenidate) ADZENYS XR ODT (amphetamine) ADZENYS ER SUSPENSION (amphetamine) amphetamine susp 24 hr (generic ADZENYS ER) APTENSIO XR (methylphenidate) AZSTARYS (serdexmethylphen/dexmethylphen) COTEMPLA XR-ODT (methylphenidate) DAYTRANA (methylphenidate) DEXEDRINE (dextroamphetamine) DYANAVEL XR tablet(amphetamine) FOCALIN XR (dexmethylphenidate) JORNAY PM (methylphenidate) methylphenidate ER caps (generic Aptensio XR) methylphenidate ER (generic Relexxi) methylphenidate patch (generic Daytrana) MYDAYIS (amphetamine salt combination) RELEXXI (methylphenidate)	<ul> <li>Minimum Age Limit</li> <li>6 years – Adderall XR, Adhansia XR, Adzenys ER Suspension, Adzenys XR ODT, Aptensio XR, Azstarys, Concerta, Cotempla XR ODT, Daytrana, Dexedrine, Dyanavel XR Focalin XR, Jornay PM, Metadate, CD, methylphenidate ER 72mg, Quillichew, Quillivant XR, Relexxii, Ritalin LA, Vyvanse, Xelstrym</li> <li>13 years – Mydayis</li> <li>16 years – Provigil</li> <li>18 years – Nuvigil, Sunosi</li> <li>Maximum Age Limit</li> <li>18 years – Cotempla XR ODT, Daytrana</li> </ul>

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Drug coverage subject to the rules and regulations set forth in Sec. 1927 of Social Security Act. This is not an all-inclusive list of available covered drugs and includes only managed categories. Unless otherwise stated, the listing of a particular brand or generic name includes all dosage forms of that drug. NR indicates a new drug that has not yet been reviewed by the P&T Committee.

PREFERRED BRANDS will not count toward the two brand monthly Rx limit.

Drugs highlighted in yellow denote a change in PDL status.

An \* denotes existing users will be grandfathered; grandfathering is defined as approving a Non-Preferred agent for an existing user; all other changes will not qualify for grandfathering.

A # denotes existing users will NOT be grandfathered.

To search the PDL, press CTRL + F



### Vyvanse (lisdexamfetamine) Update

# **FDA Approves Multiple Generics** for Vyvanse **Vyvanse Patent Expired** August 2023

Gina Pera's ADHDRollerCoaster.org

 14 companies may now manufacture and sell generic versions of <u>Vyvanse</u> capsules and chewable tablets, according to the FDA.









# Newest stimulant medications



### • Jornay PM:

(Delayed release, extendedrelease Methylphenidate)

- Taken in the evening.
- Effective by time of awakening and through the rest of the day.

#### Gradually absorbed in the colon for long and consistent ADHD symptom control

Methylphenidate (MPH) is absorbed at a slower rate in the colon than in the upper bowel<sup>6,7</sup>



Suggested JORNAY PM passes dosing time through the upper gastrointestinal (GI) tract intact\*

8 PM

6 AM Approximately 10 hours later: All of JORNAY PM has reached the colon where MPH release

starts to occur?

0

M

Absorption of MPH in the colon is gradual and prolonged:

-50% of the drug is gradually released between 10 and 14 hours after dosing (6+w-10+w/<sup>62</sup>

-50% of the drug is gradually released between 14 and 20 hours (10 av-4 rw)<sup>67</sup>

# -6

8 PM

extended-release caesules

With higher doses. MPH exposure lasts longer into the evening<sup>14</sup>

Dissolution and absorption of JORNAY PM is not dependent on any single factor (eg. pH, normal variations in GI transit time, site of release, etc)<sup>6</sup>

#### IMPORTANT SAFETY INFORMATION (continued) WARNINGS AND PRECAUTIONS

Serious Cardiovascular Reactions: Sudden death, stroke, and myocardial infarction have been
reported in adults treated with CNS stimulants at recommended doses. Sudden death has been
reported in pediatric patients with structural cardiac abnormalities and other serious heart
problems taking CNS stimulants at recommended doses for ADHD. Avoid use in patients with
known structural cardiac abnormalities, cardiomyopathy, serious heart arrhythmias, coronary
artery disease, and other serious cardiac problems.

Please see additional Important Safety Information throughout and on pages 6-7. Please see accompanying Full Prescribing Information, including Boxed Warning.



### Jornay PM (Delayed release, extended-release Methylphenidate)



Based on multiple-dose simulations, accumulation of JORNAY PM was predicted to be negligible<sup>8</sup>

\*Concentrations are dose-weight-normalized in healthy adults, adolescents with ADHD, and children with ADHD. Results based on a 54-mg oral dose of JORNAY PM administered in the evening at 9 PM. Dose-weight-normalized exposure was similar among all age groups.<sup>6</sup>

Cmaa occurs between noon and 2 PM (16-18 hours postdose).6

C<sub>max</sub>, peak plasma concentration; PK, pharmacokinetic.

#### Jornay PM (Delayed release, extendedrelease Methylphenidate)

#### **Optimizing dose and time of dosing**



Your child's healthcare provider will likely start with 20 mg and may increase their dose to achieve continued efficacy through the evening. In clinical studies, most patients aged 6-12 had optimal efficacy at 60 mg or 80 mg.



JORNAY PM has a bioavailability of about 75%. This means that it cannot be substituted milligram-for-milligram with other methylphenidate products.<sup>5</sup>

#### Study 1 post hoc analysis—estimated ratio of JORNAY PM optimized dose and prior stable stimulant dose<sup>6</sup>

Prior J	ADHD	Therapy"	Sample Size	Mean Prior Stimulant Dose (mg/day)	Mean Optimized JORNAY PM Dose (mg/day)	Mean Dose Ratio <sup>a</sup>
MPH ER		OROS MPH	26	38	69	2.0
		d-MPH ER	10	18	62	4.3
		MPH CD	15	37	59	1.8
	ER	MEROS	11	34	66	2.2
		MPH HCI ER	5	18	48	3.5
		ER MPH	2	15	40	3.0
AMP	ER	Lisdexamfetamine dimesylate	14	45	60	1.9
		MAS ER	3	20	80	4.0

\*Included branded and generic formulations: ADHD, attention-deficit/hyperactivity disorder; AMP, amphetamine; d-MPH ER, dexmethylphenidate (Focalin XR\*); ER, extended release; MAS ER, mixed amphetamine salts extended release (Adderall XR\*); MEROS, methylphenidate extended-release oral suspension (Quillivant XR\*); MPH, methylphenidate; MPH CD, methylphenidate controlled-release delivery (Metadate CD\*); MPH HCI ER, methylphenidate hydrochloride extended release (Ritalin LA\*); OROS MPH, osmotic release oral system methylphenidate (Concerta\*).

The mean dose ratio for each prior therapy was the average of individual dose ratios.

Post hoc analysis of a pivotal study (Pivotal Study 1) of JORNAY PM in ADHD patients aged 6-12 years (N=98) to compare prior ADHD medication dose and mean optimized dose of JORNAY PM at the end of the 6-week, open-label dose-optimization phase.<sup>6</sup>



Reassure your patients that they will likely optimize to a higher dose of JORNAY PM than their previous methylphenidate due to its unique qualities<sup>5</sup>

### Newest stimulant medications



### • Azstarys

• 30% dexmethylphenidate/ 70% serdexmethylphenidate

AZSTARYS is designed to provide immediate and extended d-MPH activity with a smooth and gradual offset<sup>1,3,4</sup>





### (30% dexmethylphenidate/70% serdexmethylphenidate)



#### Rapid

d-MPH is immediately released.<sup>1,4</sup>

#### Bioactivation

SDX travels to the lower GI tract, where it is bioactivated.<sup>1,5,6</sup>

Using proprietary Ligand Activated Therapy® technology, SDX is converted to d-MPH.<sup>4,5</sup>

#### Continuous

The continuous conversion of d-MPH provides active drug throughout the day with a smooth and gradual offset.<sup>1,3,4</sup>

### (30% dexmethylphenidate/70% serdexmethylphenidate)



#### Total d-MPH HCl from the IR d-MPH and SDX prodrug

Total d-MPH HCl per dose

CONNECTIONS

G CLINIC

	AZSTARYS (SDX/d-MPH)	Combined molar dose over the day (d-MPH HCl)		
Recommended starting dose once daily	26.1 mg/5.2 mg	20 mg		
39.2 mg 7.8 mg	39.2 mg/7.8 mg	30 mg		
	52.3 mg/10.4 mg	40 mg		

### (30% dexmethylphenidate/70% serdexmethylphenidate)

CONNECTIONS HATTIESBURG CLINIC



Results are from a pharmacokinetics study of AZSTARYS in healthy adults under fasted conditions.<sup>1a</sup> The clinical relevance of these data has not been established.

### (30% dexmethylphenidate/70% serdexmethylphenidate)

- Plasma concentration—time curve (mean ± standard deviation) for (A) d-MPH and (B) SDX after 1 and 4 doses of Treatment D: 52.3/10.4 mg SDX/d-MPH, 40 mg total equivalent d-MPH HCl. n = 23. d-MPH, dexmethylphenidate; SDX, serdexmethylphenidate.
- Braeckman R, Guenther S, Mickle TC, Barrett AC, Smith A, Oh C. Dose Proportionality and Steady-State Pharmacokinetics of Serdexmethylphenidate/Dexmethylphenidate, a Novel Prodrug Combination to Treat Attention-Deficit/Hyperactivity Disorder. J Child Adolesc Psychopharmacol. 2022 Jun;32(5):288-295. doi: 10.1089/cap.2022.0015. Epub 2022 Jun 3. PMID: 35666231; PMCID: PMC9245728.





# Newest non-stimulant medication

• Qelbree (viloxazine)

- Selective norepinephrine reuptake inhibitor (NRI)
- Approved to treat ADHD in adults and children 6 and older
- Extended release capsules (100, 150, 200 mg)
  - Can be opened and sprinkled into food
- 24 hr. Duration taken once daily



# Qelbree (viloxazine)

- Immediate release form was approved in Europe from the 1974 until 2002 for treatment of depression
  - Recent research has shown effects on serotonin and dopamine systems which could explain improvements seen in depression and possibly anxiety.

#### IMPORTANT SAFETY INFORMATION

#### WARNING: SUICIDAL THOUGHTS AND BEHAVIORS

In clinical studies, higher rates of suicidal thoughts and behaviors were reported in patients with ADHD treated with Qelbree than in patients treated with placebo. Closely monitor all Qelbree-treated patients for clinical worsening and for emergence of suicidal thoughts and behaviors.



# Qelbree (viloxazine)

### Titrate weekly as needed to optimize ADHD symptom control<sup>1,2</sup>

#### Children 6 to 11<sup>1</sup>



Titrate Qelbree 100 mg/week over 1 to 3 weeks to reach effective dose.<sup>1</sup>

#### Adolescents 12 to 17<sup>1</sup>



Titrate Qelbree 200 mg/week over 1 week as needed to reach effective dose.<sup>1</sup>

#### Maximum dose for children and adolescents is 400 mg daily

#### Adults 18 and older<sup>2</sup>



Titrate Qelbree 200mg/week over 1-2 weeks as needed to reach an effective dose; maximum dose for adults is 600 mg daily.<sup>1</sup>

#### Maximum dose for adults is 600 mg daily

# Helpful App for Insurance Coverage of Medications

#### App Store Preview

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Search Coverage coverage of all FDA approved drugs across 6.500 plans, updated nightly			and d	Understand Restrictions and drug status based on your patients' geography and channel				Identify Alternatives based on what your patients' plans identify as covered alternatives		
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Your single source of reliable and current drug coverage and restriction information. "Need to know if that drug is covered? Are you a prescribing doc and want to select a preferred drug for your patient?" MMIT's drug status information is updated nightly, ensuring you have the data points needed to guide prescribing decisions for your patients. Quickly understand how every health plan and PBM covers all FDA approved medications in your geography.



### MS Prescription Monitoring Program (MS PMP) CONNECTIONS WWW.pmp.mbp.ms.gov





### MS Prescription Monitoring Program (MS PMP)

- Electronic tracking program managed by the MS Board of Pharmacy
- Online service available 24/7 that provides patient's controlled substance drug profile as well as prescriber and dispenser information.
- Tool for regulatory agencies and authorized law enforcement to identify potential inappropriate use of controlled substance prescription medication



### MS Prescription Monitoring Program (MS PMP)

- Aids practitioners and dispensers in providing proper care relating to controlled substances.
- Helpful to monitor med adherence
- Useful to ensure correct dosage and formulation
  - Possible to integrate into EHR



#### ADHD Medication Calculator/Converter

For Healthcare Professionals Only

Home	How To	) Use	Terms of Use	Press	Refere	ences	Contact Us			
Current Medication					New M	ledication	How To Use			
Name:		Concerta (methylphenidate)				Focali				
Dose:	oose: 36 mg		mg		10mg 8-12h, dosed qd		<ol> <li>Read the terms of Ose</li> <li>Choose your patient's existing medication (e.g. Adderall) in</li> </ol>			
Duration Of 8-12h, dosed qd Action:		dosed qd					the left column 3. Enter your patient's current dosage			
Time to Peak Effect:	ime to Peak 45-90 min ffect:			15-30 min		<ol> <li>Choose your patient's new medication (e.g. Vyvanse) in the right column</li> </ol>				
Recommend Starting Dos	commended >6yo: 18mg , >18yo: 18-36mg			>6yo: 5mg, adults: 10mg		Available on the iPhone App Store ANDROID APP ON Google play				
Titration Recommend	itration Increase weekly 18mg/day Recommendation:			>6yo: increase 5mg/day weekly, adult; increase 10mg weekly.						
Maximum 6-1 Recommended Dose:		6-13yo: 2mg/kg/day up to 54mg ≻13yo: 72mg			2mg				30mg child, 40mg adult	
Off Label Maximum Do	ff Label < 40kg: 72mg , adolescent: 90mg , adult: 108mg laximum Dose:				108mg				50mg	
Dosage form available:	ns	18,27,3	36, 54			5,10, 1	5, 20,25, 30, 35, 40			

ADHDMedCalc.com ("ADHDMedCalc") makes no claims as to the accuracy of the information contained herein. The user acknowledges and agrees that this Site and its ADHD medication calculator/converter will be used only as a reference aid, and that the information contained in the product is not intended to be (nor should it be used as) a substitute for the exercise of professional judgment. Neither ADHDMedCalc nor any other party involved in the preparation of this Site shall be liable for any damages resulting in whole or part from any user's use of or reliance upon this Site or any material contained herein. PLEASE READ OUR TERMS OF USE CAREFULLY BEFORE ACCESSING OR USING THIS SITE. BY ACCESSING OR USING THIS SITE, YOU AGREE TO BE BOUND BY THE TERMS AND CONDITIONS SET FORTH IN THE TERMS OF USE.





- Cotempla XR-ODT (methylphenidate) and Adzenys XR-ODT (d,lamphetamine)
  - <u>https://aytubio.com/products/#ADHD</u>
  - Patients with commercial insurance pay no more than \$75 at any pharmacy, \$50 at partner pharmacies



- Quillivant XR (methylphenidate), Quillichew (methylphenidate) ER, Dyanavel XR (d,l-amphetamine sulfate)
  - <a href="https://coupon.trisadhd.com/">https://coupon.trisadhd.com/</a>
  - Commercially insured patients may pay as little \$25.
  - Discount is capped; cost can be higher depending on insurance plan



- Jornay PM (Delayed, extended release methylphenidate)
  - <u>https://www.jornaypm-pro.com/#savings-and-support</u>
  - Commercially insured patients pay \$0 for first Rx
  - \$25 or less for further Rx if insurance covers Jornay PM
  - \$75 or less if insurance does not cover Jornay PM



- Azstarys (30% dexmethylphenidate/ 70% serdexmethylphenidate)
  - <u>https://www.azstarys.com/savings-and-support</u>
  - Commercially insured patients pay \$0 for first Rx
  - \$25 or less for further Rx if insurance covers Azstarys
  - \$50 or less if insurance does not cover Azstarys



# **ADHD Pharmacogenetics**

- Genes have been identified that can affect how one responds to certain medications.
  - Primarily genes involving how drugs are metabolized
- Several companies offer genetic testing to help with selecting mental health medications.



# **ADHD Pharmacogenetics**

- Goal is to decrease the need for trial and error when prescribing mental health medications.
  - Not uncommon try several doses and types of ADHD medication to find the right fit.
- Not enough evidence that genetic testing will help find "the right" ADHD medication
  - Majority of population are "normal" metabolizers; tests more helpful for the less common "outliers"



# **ADHD Pharmacogenetics**

- Genetic tests are very expensive and often not covered by insurance
  - Other factors affect how medications work
  - age, sex, diet, lifestyle routines, other health conditions, other medications
- Not recommended for use in ADHD treatment guidelines by American Academy of Pediatrics (AAP) or other organizations.
  - Possible in the future depending on research findings
  - May be an option for some who have tried and failed multiple medications

### Stimulants: Rare side effects



• weight loss

- increased anxiety
- social blunting/withdrawal
- slight delay in the rate of growth, but final height likely not affected
- heart problems in children with pre-existing heart defects
#### Stimulants: Common side effects



- Loss of appetite
- Sleep problems
- Body complaints headache, stomachache, heart racing, dizziness, dry mouth, chest pain
- Moodiness sadness or madness
- Tics



### Managing Poor Appetite with Stimulants

- Take med at or after a meal
- Breakfast very important
  - protein and complex carbohydrates
- Calorie dense foods at meals and snacks
- Adjust eating schedule
  - Understand about lunch; go with times most hungry
- Possible medication
  - Cyproheptadine most common

### Sleep problems on Stimulants



- No screen for one hour before bedtime good reading time
- Good bedtime routine
- Possible white noise or soft music
- Limit sugar and caffeine after 4 PM
- Possible medication
- Consider decreasing duration of stimulant med

#### Moodiness on Stimulants



- Improve sleep, nutrition, exercise
- If throughout duration with no symptom improvement, increase dose
- If at peak time, lower dose or try longer acting med
- If in afternoon, add IR medication or increase dose
- Change medication type or mode of release
- Additional diagnosis?

#### Body Complaints on Stimulants

CONNECTIONS HATTIESBURG CLINIC

- Headaches or Dizziness
  - better nutrition, better sleep, more fluids
- Chest pain
  - take medication with food (not sugary)
  - GERD medication

## Tics on Stimulants



- Patience
- Lower dose or different release mode
- Change medication type
- Add medication
  - e.g. guanfacine or clonidine



### Common Concerns about Stimulants

- Long term side effects?
  - Growth
  - Cardiovascular
- Risk of addiction?
- Are generic medications OK?
- Can ADHD meds be taken during pregnancy?



#### Common Concerns about Stimulants

- Drug holidays?
  - Weekends/holidays/summers
- Can one develop tolerance to ADHD meds?
- Can I take other medications or drink alcohol?

#### Goals of treatment



- Appropriate academic performance
- Good self-esteem
- Improved Relationships
- Happy, healthy, productive adult



#### Helpful ADHD Resources

- AAP ADHD Guidelines
- <u>www.uptodate.com/ADHD in children and adolescents: Treatment</u> <u>with medications</u>
- www.adhdmedicationguide.com/
- <u>www.chadd.org</u>
- www.additudemag.com
- <u>www.apsard.org</u>





NEXT

ABOUT TRAINING

SCHOLARSHIPS

MENTAL HEALTH RESOURCES

WAYS TO GIVE

MENTAL HEALTH BLOG

#### The REsource for Advancing Children's Mental Health

REACH is a 501c3 non-profit organization dedicated to ensuring that the most effective, scientifically proven mental health care reaches all children and families. REACH provides thousands of primary care providers, therapists, and health care institutions with training in the best evidence-based therapies in order to better diagnose, treat and manage child and adult mental health issues.

#### **REGISTER FOR MENTAL HEALTH TRAINING COURSES**

lama...

#### **Expanding Access To Mental Health Care**

The US has a pediatric mental health crisis. At least 6 million children and teens were suffering from mental illness before COVID-19. Most did not have access to mental health services even then. During the pandemic, pediatric mental illness has skyrocketed, while services have stayed flat. By providing mental health training for doctors, therapists, educators, and parents, REACH increases the nation's capacity to help children with mental health disorders.



# The Ultimate Guide to ADHD Medication

Everything you need to know about medication options, achieving optimal benefits, and overcoming side effects.



<u>https://www.additudemag.com/download/ultimate-guide-adhd-medications/</u>



### Comments/Questions?

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CONNECTIONS

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