

# ATTENTION DEFICIT DISORDERS







No greater  
blessing in  
the life of a  
person with  
ADHD than  
adults who  
understand  
ADHD.



Myths & lack  
of deeper  
understanding  
of ADHD results  
causes us to  
treat people  
with ADHD in  
ways that can  
only hurt them.



# Risks of untreated ADHD in adults

- Underachievement
- Low self-esteem, depression, and anxiety
- Arrests/incarcerations
- Chronic stress due to these issues can also lead to other conditions.
- Unplanned pregnancies
- Difficulty in relationships
- Job instability.
- Negative parent-child interactions
- **Drug and alcohol misuse**
- Increased mortality rate
- Unintentional injuries
- Financial problems
- **A myriad of health problems which, on the surface, would seem to not have anything to do with ADHD**

# Medication Families

**Methylphenidate**  
**Amphetamine**  
**Non-Stimulants**

## Medication Families

### **Methylphenidate**

Long-acting oral

Long-acting, pro-drug, oral

Long-acting, delayed onset, oral

Short-acting oral

Transdermal patch

## Medication Families

### Methylphenidate

- **Long-acting oral** (Relexxi, Concerta, Focalin XR, Cotempla XR, Aptensio XR, Quillivant XR (liquid), Quillichew ER (chewable), Ritalin LA, Metadate CD)
- **Long-acting, pro-drug, oral** (Azstarys)
- **Long-acting, delayed onset, oral** (Jornay PM)
- **Short-acting oral** (Focalin, Ritalin, Methylin chewable & liquid)
- **Transdermal patch (Daytrana)**

## Medication Families

### Amphetamine

- **Long-acting oral** (Dynavel XR, Mydayis, Adzenys XR, Adderall XR, Dexedrine Spansules)
- **Long-acting, pro-drug, oral** (Vyvanse capsule & chewable)
- **Short-acting oral** (Evekeo, Zenzedi, Adderall, ProCentra liquid)
- **Transdermal patch** (Xelstrym)



## Medication Families

### Non-Stimulant

- alpha-2 adrenergic agonists-  
developed for hypertension (**Onyda XR**-liquid clonidine, **Kapvay**-clonidine, **Intuniv**-guanfacine)
- Norepinephrine reuptake inhibitors,  
chemically related to antidepressants  
(**Strattera**, **Qelbree**)

Cool

• [adhdmedicationguide.com](http://adhdmedicationguide.com)

## ADHD Medication Guide\*

Revised: September 1, 2025

Amphetamine Formulations – Long Acting, Oral** (Medications in this section are shown at actual dose)									
<b>Dyanavel XR®</b> (D-Amphetamine sulfate) (biphase)	6-17 yrs: 2.5-20mg ID: 2.5 or 5mg Biphase – 20mg		5mg		10mg		15mg		20mg
<b>Dyanavel XR</b> (D-Amphetamine sulfate) (biphase)	6-17 yrs: 2.5-20mg ID: 2.5 or 5mg Biphase – 20mg	2.5mg 1mL	5mg 2mL	7.5mg 3mL	10mg 4mL	12.5mg 5mL	15mg 6mL	17.5mg 7mL	20mg 8mL
<b>Myday®</b> (mixed amphetamine salts)	10-17 yrs: 12.5-45mg ID: 12.5mg Adults: 12.5-45mg ID: 12.5mg Biphase – 12.5/12.5/12.5/12.5	12.5mg		25mg		37.5mg		50mg	
<b>Adzenne XR-OT®</b> (D & L-phenylisopropyl amphetamine) (single phase)	6-17 yrs: 2.5-15mg ID: 2.5mg 12-17 yrs: 2.5-15mg ID: 5mg Adults: 12.5mg Biphase – 10/10		2.5mg	6.2mg	8.4mg	12.5mg	15.7mg	18.9mg	
<b>Adderall XR®</b> (mixed amphetamine salts)	6-17 yrs: 5-20mg ID: 5mg Adults: 5-20mg Biphase – 10/10		5mg	10mg	15mg	20mg	25mg	30mg	
<b>Dexedrine Spansule®</b> (D-amphetamine sulfate)	6-17 yrs: 10-40mg ID: 10mg 2-bi-daily		5mg	10mg	15mg				
Amphetamine Free-Drug Formulations – Long Acting, Oral** (Medications in this section are shown at actual dose)									
<b>Vyvanse®</b> (lisdexamfetamine dimesylate)	6-16 Adults: 10-70mg ID: 10mg	10mg	20mg	30mg	40mg	50mg	60mg	70mg	
<b>Vyvanse®</b> (lisdexamfetamine dimesylate)	6-16 Adults: 10-70mg ID: 10mg	10mg	20mg	30mg	40mg	50mg	60mg	70mg	
Amphetamine Formulations – Short Acting, Oral** (Medications in this section are shown at actual dose)									
<b>Desox®</b> (D- & L-phenylisopropyl amphetamine)	1-5 yrs: ID: 2.5mg 3-bi-daily 6-17 yrs: 5-40mg divided BID ID: 5mg 3-bi-daily		5mg		10mg				
<b>Zenado®</b> (D-amphetamine sulfate)	1-5 yrs: ID: 2.5mg 3-bi-daily 6-17 yrs: 5-40mg divided BID ID: 5mg 3-bi-daily	2.5mg	5mg	7.5mg	10mg	15mg	20mg	30mg	
<b>Adderall®</b> (mixed amphetamine salts)	1-5 yrs: ID: 2.5mg 3-bi-daily 6-17 yrs: 5-40mg divided BID ID: 5mg 3-bi-daily		5mg	7.5mg	10mg	12.5mg	15mg	20mg	30mg
<b>ProCentra®</b> (D-amphetamine sulfate) (biphase)	1-5 yrs: ID: 2.5mg 3-bi-daily 6-17 yrs: 5-40mg divided BID ID: 5mg 3-bi-daily		5mg/2mL						
Non-Stimulants** (Medications in this section are shown at actual dose)									
<b>Oxydo™ XR</b> (lisdexfenpropyl extended release) (single phase)	6-17 yrs: 0.1-0.4mg ID: 0.1mg	0.1mg 1mL	0.2mg 2mL	0.3mg 3mL	0.4mg 4mL				
<b>Exenatide®</b> (lisdexfenpropyl extended release)	6-17 yrs: 0.1-0.4mg ID: 0.1mg q.i.d.	0.1mg							
<b>Intensyl®</b> (lisdexfenpropyl extended release)	6-17 yrs: 1-4mg ID: 1mg 12-17 yrs: 1-4mg ID: 2mg Adults: 1-4mg ID: 2mg	1mg	2mg	3mg	4mg				
<b>Qelmar®</b> (methylphenidate)	6-17 yrs: 100-400mg ID: 100mg 12-17 yrs: 100-400mg ID: 200mg Adults: 100-400mg ID: 200mg	100mg	200mg	300mg	400mg				
<b>Strattera®</b> (atomoxetine)	6-17 yrs: 10-60mg ID: 10mg Adults: 10-60mg ID: 20mg	10mg	20mg	30mg	40mg	50mg	60mg	70mg	80mg

## Research

### ADHD drug treatment and risk of suicidal behaviours, substance misuse, accidental injuries, transport accidents, and criminality: emulation of target trials

*BMJ* 2025 ; 390 doi: <https://doi.org/10.1136/bmj-2024-083658> (Published 13 August 2025)

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ADHD meds  
reduce risks  
associated w/  
the disorder

Drug treatment for ADHD associated with beneficial effects in **reducing the risks** of

- suicidal behaviours
- substance misuse
- transport accidents
- criminality
- but not overall accidental injuries

## More research

- **Quality of life (QoL) improves**  
2025 JAACAP meta-analysis found **moderate improvements in global functioning and QoL** across treatments (more than just checklist results)
- **Cardiovascular risk: nuance not panic.** A 2024 JAMA Psychiatry ties **greater cumulative stimulant exposure with higher CVD risk**—small absolute risks; still monitor BP/HR and family history.
- Safest message is “**screen, monitor, don’t scaremonger.**”
- **Growth/weight:** 2023–25 data suggest **small height effects and complex weight trajectories** (early suppression; longer-term catch-up or rebound).
  - For schools: **flag concerns back to prescribers.**



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## Non-pharmacological interventions

Parent training & behavior therapy (PTBM) still first-line adjunct. 2023–24 work in real-world clinics shows licensed-clinician-delivered behavior therapy is helpful. A study looked at a program of **10 weekly 60-minute sessions attended by ADHD adolescent and parent**

# Non-pharmacological interventions

- **School-based programs:** A 2025 meta-analysis of 26 studies found **improvements in combined ADHD symptoms, inattention, academics, social skills** (effect sizes small-to-moderate). ***Daily report cards, classroom contingencies, and organizational-skills training***



# Non-pharmacological interventions

- **Exercise helps!** Multiple recent meta-analyses point to **meaningful gains in attention/executive function** from structured physical activity (including “cognitively engaging” exercise). Build movement breaks & routines into 504/IEP plans.

# Cognitively engaging exercise for 504/IEP plans

*Physical activity that also challenges the brain.*

Supports attention, working memory, & self-regulation more than repetitive exercise alone.

Examples

- Martial arts
- Team sports
- Dance or choreographed movement
- Obstacle courses or circuit training
- Short 'movement snacks can boost focus and reduce restlessness

## Digital therapeutics/coaching:

Evidence for app-based attention training is **promising but mixed**; treat as **adjuncts**, not replacements for BPT/meds. Example:

FDA-approved

- **EndeavorRx** is the prescription digital-therapeutic video game approved for children (ages 8–12 initially, expanded to include 13–17) to *improve attention function*.
- **EndeavorOTC** is the “over-the-counter” (nonprescription) version intended for **adults (18+) with ADHD**. As of its FDA authorization (June 2024), the label is limited to adults.



An FDA-cleared therapeutic video game for ADHD.



- <https://www.endeavorrx.com/about-endeavorrx/>

- Accumulating evidence that sleep problems are routine
- Do not encourage melatonin use
- Emphasize sleep hygiene, treat primary sleep disorders, and coordinate med timing.

## Sleep and ADHD

**Neurofeedback** for ADHD is a form of EEG biofeedback in which individuals are said to learn to self-regulate their brainwave patterns—typically training to increase certain frequencies (like beta) or reduce others (like theta)—while receiving real-time visual or auditory feedback from sensors on the scalp. The idea is that, with practice, these shifts in brain activity can improve attention, impulse control, and executive function.

## Neurofeedback for ADHD

- Across best recent evidence, EEG-based neurofeedback **is not supported as a stand-alone ADHD treatment.** In largest, rigorous meta-analysis to date, benefits vanished on blinded ratings; only small effects showed up for processing speed and in subgroups using “standard” protocols—signals too narrow to recommend routine clinical use.
- Expensive, time-consuming, and often keeps kids away from more effective (and cheaper) treatment.

## Neurofeedback for ADHD

- **An adjunct with uncertain clinical impact, potentially helpful for processing-speed tasks in some, safe but time-intensive and costly, and less effective than standard behavioral supports and medication**

Who are we  
missing? Who is  
underdiagnosed?

- Girls
- Hispanics
- Asian

Especially with inattentive  
type



# ADHD & Girls: New Study (UCLA, PEDIATRICS, Oct 2016)

2000 girls between 8-13

Co-occurring disorders	ADHD GIRLS	Non-ADHD GIRLS
Anxiety Disorder	38%	14%
Depression	10%	3%
Oppositional/ Defiant	42%	5%
Conduct Disorder	13%	<1%

*Girls with attention deficit hyperactivity disorder are at higher risk than girls without ADHD for multiple mental disorders that often lead to cascading problems such as abusive relationships, teenage pregnancies, poor grades and drug abuse.*

## Some implications

- **Check** sleep, comorbidity
- **Choose** standardized scales (Conners-4/Vanderbilt) and repeat for progress.
- **Champion** daily report cards + organizational coaching + movement blocks; measure attendance, homework completion,;
- **Coordinate** on meds (timing, supply swaps); watch vitals/growth flags; document functional wins (not just grades).
- **Consider** adjuncts (EndeavorOTC, eTNS) selectively; set expectations.
- **Close gaps:** raise index of suspicion for girls/Hispanic/Asian students and for inattentive-dominant presentations.



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