


# ADHD

• Attention Deficit Hyperactivity Disorder •

Attention Deficit Hyperactivity Disorder (ADHD) occurs in roughly 9.4% of children, with boys being more likely diagnosed (12.9%) than girls (5.6%)<sup>1</sup>.

**DSM-5 criteria for ADHD**

**≥5 symptoms per category in adults, ≥6 months; age of onset ≤12 years; noticeable in ≥2 settings; impact on social, academic or occupational functioning; not better accounted for by another mental disorder**



<b>Inattention</b>	<b>Hyperactivity / Impulsivity</b>
(a) Lack of attention to details / careless mistakes	(a) Fidgetiness (hand or feet) / squirms in seat
(b) Difficulty sustaining attention	(b) Leaves seat frequently
(c) Does not seem to listen	(c) Running about / feeling restless
(d) Does not follow through on instructions (easily side-tracked)	(d) Excessively loud or noisy
(e) Difficulty organising tasks and activities	(e) Always "on the go"
(f) Avoids sustained mental effort	(f) Talks excessively
(g) Loses and misplaces objects	(g) Blurts out answers
(h) Easily distracted	(h) Difficulty waiting his or her turn
(i) Forgetful in daily activities	(i) Tends to act without thinking

[Download a free ADHD medication guide!](#)

**Screening**

CoPPCAP recommends pediatric providers consider use of multi-informant rating scales to, diagnose ADHD, track response to intervention 2-3 weeks after starting medication, to guide dose changes, and routinely every 6 months

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even when stable medication dose is achieved to monitor symptoms. Additionally, when tracking response to treatment intervention, consider use of the same screening form used at baseline prior to diagnosis.

Screener.Dx Category	Screener.Name	Screener.Acronym	Screener.Description
ADHD	NICHQ Vanderbilt Assessment Scale Diagnostic Rating Scale 6-12 years Caregiver Report Teacher Report	Vanderbilt ⇒ <a href="#">English</a> ⇒ <a href="#">Spanish</a>	The Vanderbilt Assessment Scale is a 55-question assessment tool that reviews symptoms of ADHD. It also looks for other conditions such as conduct disorder, oppositional-defiant disorder, anxiety, and depression.
ADHD	ADHD Rating Scale IV - Preschool Version 3-5 years Caregiver Report	ADHD Rating Scale IV - Preschool Version ⇒ <a href="#">English</a>	The ADHD Rating Scale-IV obtains parent ratings regarding the frequency of each ADHD symptom based on DSM-IV criteria. Parents are asked to determine symptomatic frequency that describes the child's home behavior over the previous 6 months. The ADHD Rating Scale-IV is completed independently by the parent and scored by a clinician. The scale consists of 2 subscales: inattention (9 items) and hyperactivity-impulsivity (9 items). If 3 or more items are skipped, the clinician should use extreme caution in interpreting the scale. Results from this rating scale alone should not be used to make a diagnosis.
ADHD	Swanson, Nolan, and Pelham (SNAP) Questionnaire – IV 3-5 years Caregiver Report Teacher Report	SNAP-IV ⇒ <a href="#">English</a> ⇒ <a href="#">Spanish</a>	The SNAP-IV 18-item scale is an abbreviated version of the Swanson, Nolan, and Pelham (SNAP) Questionnaire (Swanson, 1992; Swanson et al., 1983). Items from the DSM-IV criteria for attention-deficit/hyperactivity disorder (ADHD) are included for the two subsets of symptoms: Inattention (items 1–9) and Hyperactivity/Impulsivity (items 10–18).
ADHD	Conners, 3rd Edition 6 – 18 years Caregiver Report Teacher Report Self-Report	Conners 3 ⇒ \$\$\$	The Conners 3 assesses cognitive, behavioral, and emotional problems, with a focus on ADHD and comorbid disorders—providing teacher, parent, and student perspectives.
ADHD	Child Behavior Checklist 6 – 18 years Caregiver Report Teacher Report Self-Report	CBCL ⇒ \$\$\$	The Child Behavior Checklist (CBCL) is a common tool for assessing depression in children, as well as ADHD, and other emotional and behavioral problems.

ADHD	Behavior Assessment System for Children, 3rd Edition 2 - 21 years Caregiver Report Teacher Report Self-Report	BASC 3 => \$\$\$	BASC-3 applies a triangulation method for gathering information. It analyzes a child's behavior from three perspectives: self, teacher, and parent.
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**Diagnosis**

- 314.01 (F90.2) Combined presentation: If both Criterion A1 (inattention) and Criterion A2 (hyperactivity-impulsivity) are met for the past 6 months.
- 314.00 (F90.0) Predominantly inattentive presentation: If Criterion A1 (inattention) is met but Criterion A2 (hyperactivity-impulsivity) is not met for the past 6 months.
- 314.01 (F90.1) Predominantly hyperactive/impulsive presentation: If Criterion A2 (hyperactivity-impulsivity) is met but Criterion A1 (inattention) is not met over the past 6 months.

Specify if:

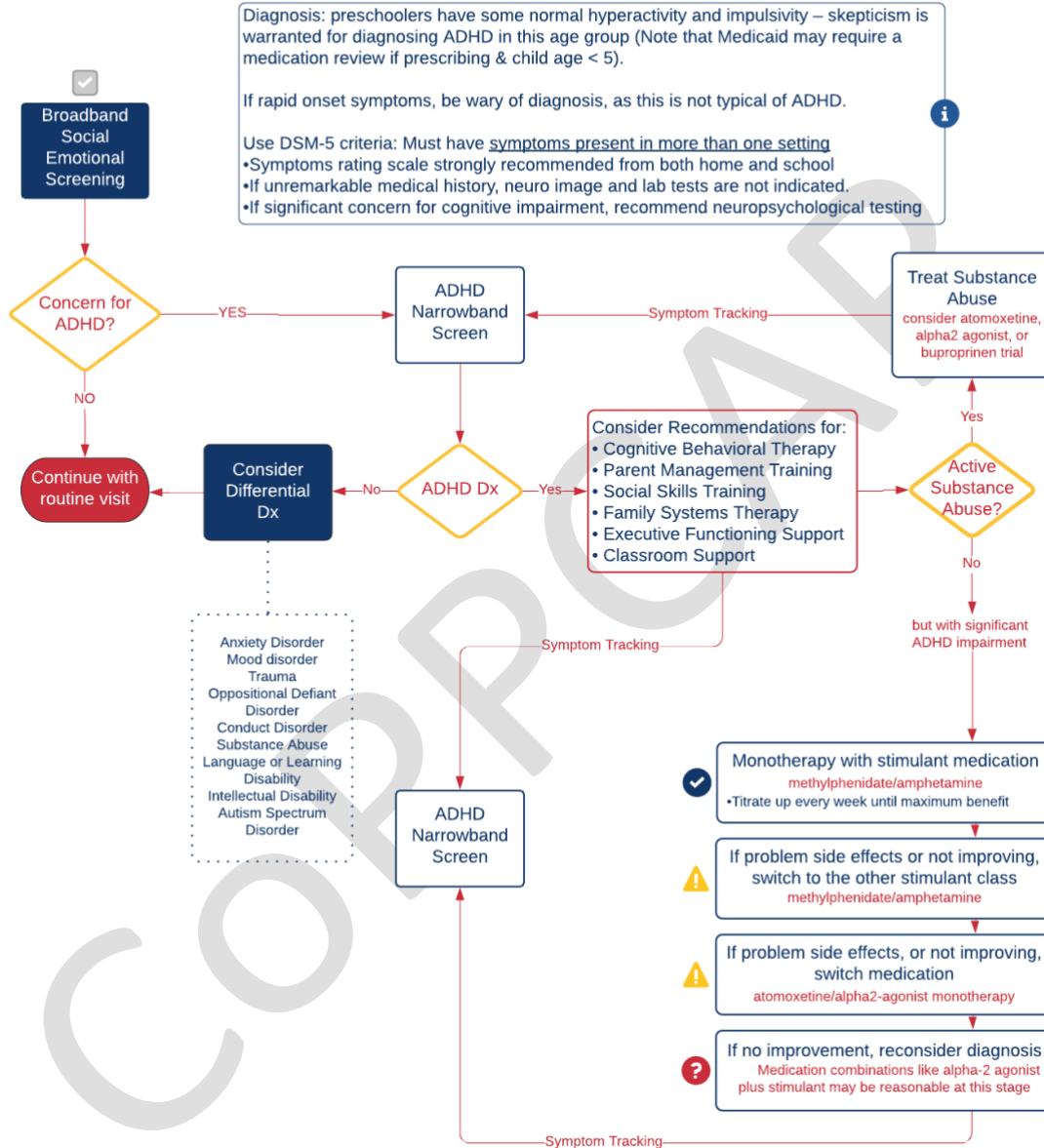
- ◇ In partial remission: When full criteria were previously met, fewer than the full criteria have been met for the past 6 months, and the symptoms still result in impairment in social, academic, or occupational functioning.

Specify current severity:

- Mild: Few, if any, symptoms in excess of those required to make the diagnosis are present, and symptoms result in only minor functional impairments.
- Moderate: Symptoms or functional impairment between “mild” and “severe” are present.
- Severe: Many symptoms in excess of those required to make the diagnosis, or several symptoms that are particularly severe, are present, or the symptoms result in marked impairment in social or occupational functioning.

## ADHD Algorithm

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click the algorithm above to enlarge

## Treatment Modalities

**Therapy:** when ADHD symptoms are mild patients and families can consider therapy alone, otherwise evidence-based research supports use of intervention with both therapy and medication. When recommending therapy services, consider evidence-based therapies such as:

- Cognitive Behavioral Therapy (CBT)
- Parent Management Training
- Social Skills Training
- Family Systems Therapy
- Executive Function Coaching
- Video Games?
  - In 2020 the FDA approved [EndeavorRx](#), a prescription-only, game-based treatment that is indicated to improve attention function as measured by computer-based testing. It is the first digital therapeutic intended to improve symptoms associated with attention deficit hyperactivity disorder (ADHD), as well as the first game-based therapeutic granted marketing authorization by the FDA for any type of condition.

**Pharmacological:** when ADHD symptoms are moderate or severe, treatments using an evidenced-based therapy and medication in combination provide the best efficacy.

- Medical workup recommended if medication will be used.
  - Obtain the patient's and patient's family's cardiovascular history (if patient or family has a cardiac history of sudden death, and/or cardiac symptoms patient should obtain more intensive cardiac workup before initiating stimulant treatment), risk of lead poisoning, history of sleep apnea, patient's height, weight, blood pressure, and substance use history. It is advisable to follow up every 2 weeks until appropriate dose achieved, then monitor all of the above every 3 months.
- Stimulants are first line treatment. All stimulants are based on two formulations...
  - Methylphenidate derivatives (includes Ritalin, Focalin, Concerta, etc): FDA approved starting at age 6yo.

- Amphetamine derivatives (includes Adderall, Vyvanse, etc): some are FDA approved starting at age 3 yo (i.e. Adderall)
  - common side effects include decreased appetite, headache, insomnia, GI discomfort, increased anxiety, possibly worsens tics
  - less common side effects: anxiety, activation
- Non-stimulants (FDA approved starting at age 6yo):
  - Alpha-2 adrenergic agonists: Guanfacine, Clonidine
    - side effects include sedation, constipation, hypotension, dizziness, rebound hypertension if stopped suddenly
  - Selective NE reuptake inhibitor: Atomoxetine
    - side effects include suicidal ideation, severe liver injury, priapism
  - Viloxazine is a prescription medication that was approved by the FDA in 2021 to treat attention deficit hyperactivity disorder (ADHD) in children and adults. It is a noradrenergic reuptake inhibitor (NRI), which means that it works by increasing the levels of norepinephrine in the brain. Norepinephrine is a neurotransmitter that plays a role in attention, focus, and impulse control.
    - The most common side effects of viloxazine are: nausea, vomiting, diarrhea, stomach pain, headache, dizziness, sleepiness, dry mouth, blurred vision.
    - Viloxazine can also cause more serious side effects, such as: suicidal thoughts or actions, liver problems, seizures, heart problems, blood pressure problems
- Other medications to consider
  - note that **none** of the following are FDA approved for ADHD
    - Bupropion
    - Venlafaxine
    - TCAs
    - Modafinil
    - Natural Therapies (e.g. Omega3, attentional OTC “medications”)

# COLORADO CARE GUIDE

ADHD Medication Guide*										Revised: October 1, 2022
<b>Methylphenidate Formulations – Long Acting**</b> (Capsules and tablets in this section are shown at actual size)										
Concerta®†	6-12 Yrs: 18-54mg; SD: 18mg 13-17 Yrs: 18-72mg; SD: 18mg ≥18 Yrs: 18-72mg; SD: 18mg or 36mg	18mg	27mg	36mg	54mg	72mg	90mg	108mg	126mg	Methylphenidate ER 72mg (Bupropion to 2 x 36 mg Concerta tablets)
Aptensio® XR†	6 Yrs-Adult: 16-60mg; SD: 16mg (bupropion - 50/50)	16mg	15mg	20mg	30mg	40mg	50mg	60mg	70mg	80mg
Cotempla XR-ODT®§	6-17 Yrs: 8.4-51.8mg; SD: 17.3mg (grape flavor)	8.6mg	17.3mg	25.9mg	34.6mg	43.2mg	51.8mg	60.4mg	69.0mg	77.6mg
Focalin® XR†	6-17 Yrs: 5-30mg; SD: 5mg (bupropion - 50/50)	5mg	10mg	15mg	20mg	25mg	30mg	35mg	40mg	45mg
Quilichew XR®	6 Yrs-Adult: 20-60mg; SD: 20mg (cherry flavor)	20mg	30mg	40mg	50mg	60mg	70mg	80mg	90mg	100mg
Quilichew ER®§	6 Yrs-Adult: 20-60mg; SD: 20mg (cherry flavor)	20mg	30mg	40mg	50mg	60mg	70mg	80mg	90mg	100mg
Ritalin® LA†	6-12 Yrs: 10-40mg; SD: 20mg (bupropion - 50/50)	10mg	20mg	30mg	40mg	50mg	60mg	70mg	80mg	90mg
Metadate® CD†	6-17 Yrs: 10-40mg; SD: 20mg (bupropion - 50/50)	10mg	20mg	30mg	40mg	50mg	60mg	70mg	80mg	90mg
Metadate® ER†	6 Yrs-Adult: 20-60mg; SD: 20mg	20mg	30mg	40mg	50mg	60mg	70mg	80mg	90mg	100mg
Daytrana®	6-17 Yrs: 10-30mg; SD: 10mg (The oral tablet should be used with the patch (not the patch itself))	10mg	15mg	20mg	30mg	40mg	50mg	60mg	70mg	80mg
<b>Methylphenidate Pro-Drug Formulations – Long Acting**</b> (Medications in this section are shown at actual size)										
Azstarys®†	6-12 Yrs: 26.1652 - 52.3304; SD: 26.0826 mg 13 Yrs-Adult: 26.0278 - 52.0556; SD: 26.0139 mg	26.1mg SD†	39.2mg SD†	52.3mg SD†	65.4mg SD†	78.5mg SD†	91.6mg SD†	104.7mg SD†	117.8mg SD†	130.9mg SD†
<b>Methylphenidate Formulations – Long Acting/Delayed Onset**</b> (Medications in this section are shown at actual size)										
Jornay PM®§	6 Yrs-Adult: 20-100mg (taken on the evening); SD: 20mg	20mg	40mg	60mg	80mg	100mg	120mg	140mg	160mg	180mg
<b>Methylphenidate Formulations – Short Acting**</b> (Medications in this section are shown at actual size)										
Focalin®	6-17 Yrs: Daily 5-20mg, divided BID; SD: 2.5mg BID	2.5mg	5mg	10mg	15mg	20mg	25mg	30mg	35mg	40mg
Ritalin®	6-12 Yrs: Daily 10-40mg, divided BID or TID; SD: 5mg BID Adults: Daily 10-40mg, divided BID or TID	5mg	10mg	15mg	20mg	25mg	30mg	35mg	40mg	45mg
Methylphenidate Chewable†	6-12 Yrs: Daily 10-40mg, divided BID or TID; SD: 5mg BID Adults: Daily 10-40mg, divided BID or TID	2.5mg	5mg	10mg	15mg	20mg	25mg	30mg	35mg	40mg
Methylphen Solution (grape flavor)	6-12 Yrs: Daily 10-40mg, divided BID or TID; SD: 5mg BID Adults: Daily 10-40mg, divided BID or TID	5mg/5mL	10mg/5mL	15mg/5mL	20mg/5mL	25mg/5mL	30mg/5mL	35mg/5mL	40mg/5mL	45mg/5mL
<p><b>*Important Information:</b> 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. <b>Please note:</b> medications have been arranged on the ADHD Medication Guide for ease of display and visual comparison; dosing comparability cannot be assumed.</p> <p><b>†Discontinued ADHD Medications:</b> 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 capsule (40mg, 60mg), Metadate ER tablet (20mg), Ritalin SR tablets (20mg), Methylphen Chewable tablets (2.5mg, 5mg, 10mg), Dexamfetamine Spansule (5mg, 10mg), Dexamfetamine tablets (5mg, 10mg), Lisdexamfetamine (5mg/5mL), and Cylert (generalist).</p> <p><b>‡Disclaimer:</b> The ADHD Medication Guide was created by Dr. Andrew Adelman of Northwell Health, Inc. Northwell Health is not affiliated with the owner or any of the medications or brands referenced in this Guide. No endorsement or affiliation exists between Northwell Health and the owner of the medications or brands. The ADHD Medication Guide is a visual aid for professional care 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 no 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.</p> <p>Copyright 2006, 2016, 2017, 2019, 2020, 2021, 2022 by Northwell Health, Inc., New Hyde Park, New York. All rights reserved. Reproduction of the ADHD Medication Guide or the creation of derivative works is not permitted without the written permission of Northwell Health. The sale of this Guide is strictly forbidden. Send inquiries to Office of Legal Affairs, Northwell Health, 2000 Marcus Avenue, New Hyde Park, NY 11042. This Guide is accurate as of October 1, 2022.</p>										

**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  
 ‡ Indicates a generic formulation is also available; generic products are not shown  
 † Indicates a generic (but NOT a branded) formulation is available

• Updated versions of the ADHD Medication Guide can be viewed at: [www.ADHDMedicationGuide.com](http://www.ADHDMedicationGuide.com)  
 • Laminated copies of the ADHD Medication Guide can be ordered on-line from the ADD Warehouse  
 • Contact Dr. Andrew Adelman with any comments or suggestions: [ADHDMedication@Northwell.edu](mailto:ADHDMedication@Northwell.edu)

ADHD Medication Guide*										Revised: October 1, 2022
<b>Amphetamine Formulations – Long Acting**</b> (Medications in this section are shown at actual size)										
Dyanavel® XR	6 Yrs-Adults: 2.5-20mg; (if 4-amphetamine sulfate)	2.5mg	5mg	7.5mg	10mg	12.5mg	15mg	17.5mg	20mg	
Dyanavel® XR	6 Yrs-Adults: 2.5-20mg; (if 3-amphetamine sulfate)	2.5mg	5mg	7.5mg	10mg	12.5mg	15mg	17.5mg	20mg	
Mydayis®†	13-17 Yrs: 12.5-25mg; SD: 12.5mg Adults: 12.5-25mg; SD: 12.5mg	12.5mg	25mg	37.5mg	50mg	62.5mg	75mg	87.5mg	100mg	
Adzenys XR-ODT®§	6-12 Yrs: 3.1-18.8mg; SD: 6.3mg 13-17 Yrs: 3.1-18.8mg; SD: 6.3mg Adults: 12.5mg	3.1mg	6.3mg	9.4mg	12.5mg	15.7mg	18.8mg	21.9mg	25.0mg	
Adzenys ER®	6-12 Yrs: 3.1-18.8mg; SD: 6.3mg 13-17 Yrs: 3.1-18.8mg; SD: 6.3mg Adults: 12.5mg	3.1mg	6.3mg	9.4mg	12.5mg	15.7mg	18.8mg	21.9mg	25.0mg	
Adderall XR®†	6-17 Yrs: 5-30mg; SD: 10mg Adults: 5-30mg; SD: 20mg (bupropion - 50/50)	5mg	10mg	15mg	20mg	25mg	30mg	35mg	40mg	
Dexedrine Spansule®	6-17 Yrs: 10-40mg; SD: 5mg (10mg)	5mg	10mg	15mg	20mg	25mg	30mg	35mg	40mg	
<b>Amphetamine Pro-Drug Formulations – Long Acting**</b> (Medications in this section are shown at actual size)										
Vyvanse®†	6 Yrs-Adults: 10-70mg; SD: 30mg	10mg	20mg	30mg	40mg	50mg	60mg	70mg		
Vyvanse®§	6 Yrs-Adults: 10-70mg; SD: 30mg	10mg	20mg	30mg	40mg	50mg	60mg	70mg		
<b>Amphetamine Formulations – Short Acting**</b> (Medications in this section are shown at actual size)										
Evekeo®	3-5 Yrs: SD: 2.5mg 1x/day 6-17 Yrs: 5-40mg divided BID; SD: 5mg 2x/day	5mg	10mg	15mg	20mg	25mg	30mg	35mg	40mg	
Evekeo® ODT	6-17 Yrs: 5-40mg divided BID; SD: 5mg 2x/day	5mg	10mg	15mg	20mg	25mg	30mg	35mg	40mg	
Zenzedi®	3-5 Yrs: SD: 2.5mg 1x/day 6-16 Yrs: 5-40mg divided BID; SD: 5mg 2x/day	2.5mg	5mg	7.5mg	10mg	15mg	20mg	25mg	30mg	
Adderall®	3-5 Yrs: SD: 2.5mg 1x/day 6-17 Yrs: 5-40mg divided BID; SD: 5mg 2x/day	5mg	10mg	15mg	20mg	25mg	30mg	35mg	40mg	
ProCentra®	3-5 Yrs: SD: 2.5mg 1x/day 6-17 Yrs: 5-40mg divided BID; SD: 5mg 2x/day	5mg/5mL	10mg/5mL	15mg/5mL	20mg/5mL	25mg/5mL	30mg/5mL	35mg/5mL	40mg/5mL	
<b>Non-Stimulants**</b> (Medications in this section are shown at actual size)										
Intuniv®†	6-17 Yrs: 1-4mg; SD: 1mg 18 Yrs-Adults: 1-4mg; SD: 1mg	1mg	2mg	3mg	4mg					
Kapvay®†	6-17 Yrs: 0.1-2mg; SD: 0.1mg qHS	0.1mg	0.2mg							
Strattera®†	6-17 Yrs: 18mg - 72mg; SD: 18mg 18 Yrs-Adults: 18mg - 72mg; SD: 18mg	18mg	25mg	36mg	45mg	54mg	63mg	72mg	81mg	90mg
Qelbree®†	6-11 Yrs: 100-400mg; SD: 100mg 12-17 Yrs: 200-400mg; SD: 200mg Adults: 200-400mg; SD: 200mg	100mg	200mg	300mg	400mg					

click the image above to enlarge

Educational Interventions: recommend families contact the child’s school district to learn more about the availability and process to obtain the following educational interventions, or visit <http://www.cde.state.co.us/cdesped/iep>

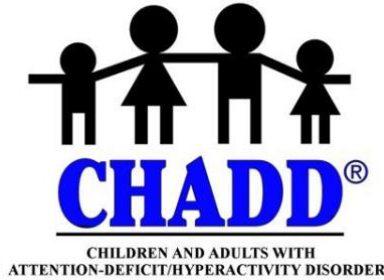
- IEP: Federal law (i.e. it’s federally funded) entitles children/teens with specific disabilities to obtain a free & appropriate public education which may include services including Psychological services, PT, OT, and Speech amongst others. ADHD falls under the “Other Health Impairment” classification. Obtaining an IEP is usually an involved process.
- 504 Plans: typically provide for classroom accommodations (i.e. extended testing time, student placement near teacher, etc) and may be easier to obtain than an IEP. 504 plans are managed by the school (principal, guidance counselor, teacher, etc) and need to be rewritten each year.

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## Free Resources:

- [AACAP – ADHD: Parents’ Medication Guide](#)
- [AAP – Caring for Children With ADHD: A Practical Resource Toolkit for Clinicians, 3<sup>rd</sup> Edition](#)



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