

## HPH Guidelines for Evaluation and Initial Management of ADHD

Effective February 27, 2017

### **Purpose of This Clinical Tool:**

Attention-deficit/hyperactivity disorder (ADHD) is the most common neurobehavioral disorder of childhood and can profoundly affect the academic achievement, well-being, and social interactions of children. The American Academy of Pediatrics first published clinical recommendations for the diagnosis and evaluation of ADHD in 2000.

### **Summary of AAP Clinical Recommendations:**

- 1) The PCP should evaluate for ADHD in any child 4-18 years old who presents with academic or behavioral problems and symptoms of inattention, hyperactivity, or impulsivity.
- 2) To make a diagnosis:
  - a. Determine that DSM-IV criteria have been met, including impairment in more than one major setting.
  - b. Information should be obtained from reports from parents/guardians, teachers, and other school and mental health clinicians involved in child's care.
  - c. Other alternative causes of symptoms have been ruled out.
- 3) Include assessment for other conditions that might co-exist with ADHD:
  - a. Emotional or behavioral disorders: anxiety, ODD, depression, conduct disorder.
  - b. Developmental disorders: learning and language disorders, neurodevelopmental disorders.
  - c. Physical conditions: tics, sleep apnea.
- 4) Recognize ADHD as a chronic condition and therefore consider children and adolescents with ADHD as children and youth with special health care needs. Thus, management should follow the principles of the chronic care model and the medical home.
- 5) Recommendations for treatment vary depending on the patient's age:
  - a. *Preschool aged children (4-5 years of age)*: prescribe evidence based behavioral therapy as the first line of treatment and may prescribe Methylphenidate if the behavior interventions do not provide significant improvement and there is moderate-to-severe continuing disturbance in the child's function. In areas where evidence-based behavioral treatments are not available, the clinician needs to weigh the risks of starting medication at an early age against the harm of delaying diagnosis and treatment.
  - b. *Elementary school-aged children (6-11 years of age)*: prescribe US FDA approved medication and/or evidence-based parent and/or teacher-administered behavior therapy as treatment. The evidence is particularly strong for stimulant medications and sufficient but less strong for atomoxetine, extended release guanfacine, and extended release clonidine. The school environment, program, or placement is part of any treatment plan.
  - c. *Adolescents (12-18 years of age)*: prescribe US FDA approved medication with the assent of the adolescent and may prescribe behavior therapy as treatment.
- 6) The PCP should titrate doses to medication to achieve maximum benefit with minimum adverse effects.

### **Initial Medication Management:**

Goals: Negotiate goals with parents and patient:

- Ex: Increased work completion, decreased need for correction of behavior at school, decreased negative interactions with other children.
- Start with lowest dose of short acting medication Methylphenidate 5 mg (Ritalin equivalent) or mixed salts of amphetamine 5 mg (Adderall equivalent) BID (morning and lunchtime) and adjust as needed for symptom control.
- Evaluate with Vanderbilt questionnaire once before starting and at 1 month after medication.
- Recheck patient in office in 1 month after starting medication and assess:
  - School function – getting work done, behavioral problems, last report card satisfactory
  - Adherence to medications – missed doses, taking meds as prescribed
  - Side effects – sleep, appetite, headaches, stomach pain, tics, weight loss
  - Monitor for appropriate weight gain and normal blood pressure
- Continue to recheck patient every month until symptoms controlled and there is evidence of weight gain or stabilizations (if initial weight loss noted).
- Consider changing medication if:
  - Significant side effects
  - No symptom relief despite maximum dose of medication
  - Weight loss x 2 months on meds or 4 months without weight gain
- When weight is stable and if no sleep problems consider switch to long-acting medication:
  - Methylphenidate CR (Concerta semi equivalents, Concerta and the Mcneill generic are more expensive and no longer on most insurance formularies) tend to last about 10-12 hours.
  - Methylphenidate LA or ER (tend to last about 8-10 hours).
  - Mixed salts of amphetamine XR (Adderall XR equivalents) tend to last about 10 -12 hours.
- Once patient is stable on medications – evaluate every 2-3 months.
- Do not recommend medication holidays = continue meds 7 days a week to maximize symptom control and minimize side effects associated with medication breaks.

*First line medication: Ritalin SA (short-acting) 5mg or 10mg*

- Start with Ritalin SA Q4H x 2 doses (breakfast and lunch dosing).
- Good medication to start with due to short duration – will see results quickly and will wear off in 4-6 hours if there are side effects to medications.

*Adderall*

- Consider switching to this medication if symptoms not controlled on Ritalin.
- Dosing to start at ½ of last Ritalin dose used.

*Strattera*

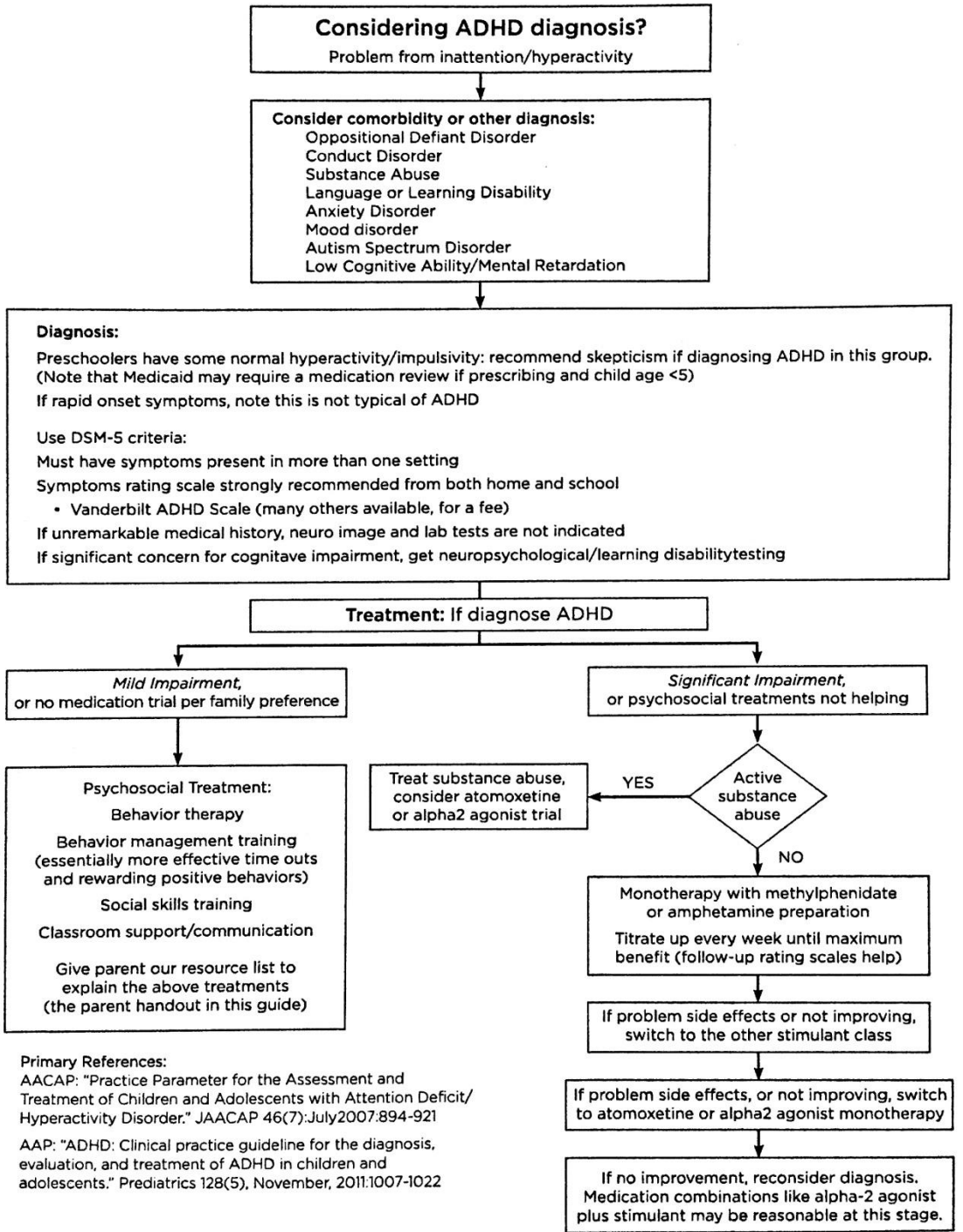
- Consider use of these long acting medications if there are still side effects on Adderall.

**Consider Referral to:**

- 1) Psychiatry or Developmental Pediatrician if there are any of the following:
  - Concerns about new development of anxiety or pre-existing anxiety worsens with treatment
  - There is failed monotherapy or a need for polypharmacy
  - Patient has maxed out on current medications (54 mg of Concerta, 30mg of Adderall XR)
  - There are other co-morbidities complicating diagnosis or treatment = ex. Autism, Eating Disorders
- 2) Cognitive Behavioral Therapist if there is significant Oppositional or Conduct Disorder behaviors.

Disclaimer: These referral guidelines have been generated by HHP specialists in collaboration with primary care physicians and are a work in progress. They are provided as general guidance to practicing clinicians, may change with time, and are not intended to supersede the medical judgment of the clinician.

# Attention Deficit Hyperactivity Disorder (ADHD)



PRIMARY CARE PRINCIPLES FOR CHILD MENTAL HEALTH

Hilt, R. *Seattle Children's Hospital Partnership Access Line Washington Care Guide 2017*, pg.28

## Screening tools:

Vanderbilt scales (parent fills out the parent version and teachers fill out the teacher version) found at

<http://www.nichq.org/childrens-health/adhd/resources/vanderbilt-assessment-scales>

# ADHD Stimulant Medications

## Short Acting Stimulants

Drug Name	Duration	Dosages	Stimulant Class	Usual Starting Dose	FDA Max Daily Dose	Cost of 1 month supply: Generic (Brand)
Methylphenidate (Ritalin, Methylin)	4-6 hours	5, 10, 20mg	Methyl.	5mg BID ½ dose if 3-5yr	60mg	\$14-30
Dexmethylphenidate (Focalin)	4-6 hours	2.5, 5, 10mg	Methyl.	2.5mg BID	20mg	\$14-40
Dextroamphetamine (Dexedrine, Dextro-Stat, Dexedrine SA, Pro Centra, Zenzedi)	4-6 hours	5, 10mg tabs	Dextro.	5mf QD-BID ½ dose if 3-5yr	40mg	\$30-50
Amphetamine Salt Combo (Adderall)	4-6 hours	5, 7.5, 10, 12.5, 15, 20, 30mg	Dextro.	5mf QD-BID ½ dose if 3-5yr	40mg	\$20-30

## Extended Release Stimulants

Drug Name	Duration	Dosages	Stimulant Class	Usual Starting Dose	FDA Max Daily Dose	Editorial Comments	Cost of 1 month supply: Generic (Brand)
Methylphenidate SR Metadate ER	4-8 hours	10, 20mg tab	Methyl.	10mg QAM	60mg	Generic available. Uses wax matrix. Variable duration of action	\$30-77
Concerta	10-12 hours	18, 27, 36, 54 mg	Methyl.	18mg QAM	72mg	Generic available. Osmotic pump capsule	\$100-270
Adderall XR	8-12 hours	5, 10, 15, 20, 25, 30mg	Dextro.	5mg QD	30mg	Generic available. Beads in capsule can be sprinkled	\$68-160
Metadate CD (30% IR) -8 hours	-8 hours	10, 20, 30, 40, 50, 60mg capsules	Methyl.	10mg QAM	60mg	Generic available. Beads in capsule can be sprinkled	\$63-220
Ritalin LA (50% IR) -8 hours)	-8hours	10, 20, 30, 40mg capsules	Methyl.	10mg QAM	60mg	Generic available. Beads in capsule can be sprinkled	\$65-150
Focalin XR	10-12 hours	5 to 40mg in 5mg steps	Methyl.	5mg QAM	30mg	Beads in capsule can be sprinkled	\$84-212
Daytrana patch	Until 3-5 hours after patch removal	10, 15, 20, 30mg Max 30mg/9hr	Methyl.	10mg QAM	30mg	Rash can be a problem, slow AM startup, has an allergy risk, peeling off a patch problem with young kids	\$320-330
Lisdexamfetamine (Vyvanse)	-10 hours	20, 30, 40, 50, 60, 70mg	Dextro.	30mg QD	70mg	Conversation ration from Dextroamphetamine is not established	\$285-300
Dexedrine Spansule Dextroamphetamine ER	8-10 hours	5, 10, 15mg	Dextro.	5mg QAM	40mg	Beads in capsule can be sprinkled	\$50-150
Quillivant XR	10-12 hours	25mg/5ml 1 bottle=300mg or 60ml	Methyl.	10mg QAM	60mg	Liquid banana flavor	\$275-290
Quillichew ER	6-8 hours	20, 30, 40mg	Methyl.	20mg QAM	60mg	Chewable cherry-flavored tablets	\$320-340

PRIMARY CARE PRINCIPLES FOR CHILD MENTAL HEALTH

Hilt, R. *Seattle Children's Hospital Partnership Access Line Washington Care Guide* 2017, pg.34

Hawaii Child and Adolescent Psych Resources for Primary Care

# ADHD Non-Stimulant Medications

Drug Name	Duration	Dosages	Usual Starting Dose	FDA Max Daily Dose	Editorial Comments	Cost of 1 month supply: Generic (Brand)
Atomoxetine (Strattera)	All day	10, 18, 25, 40, 60, 80, 100mg	0.5mg/kg/day (1 to 1.2mg/kg/d Usual full dosage)	Lesser of 1.4mg/kg/day or 100mg (HCA limit is 120mg/day)	Usually lower effectiveness has GI side effects, takes weeks to see full benefit	\$100-170
Clonidine (Catapres)	12 hour ½ life	0.1, 0.2, 0.3mg	0.05mg QHS if <45kg, otherwise 0.1mg QHS Caution if <5yr.	(Not per FDA) 27-40kg 0.2mg 40-45kg 0.3mg >45kg 0.4mg	Often given to help sleep, also treats tics, can have rebound BP effects	\$4-10
Clonidine XR (Kapvay)	12-16 hours	0.1, 0.2mg	0.1mg QHS	0.4mg daily	Lower peak blood level, then acts like regular clonidine (similar ½ life). Still sedating. Approved for combo with stimulants	\$42-100
Guanfacine (Tenex)	14 hour ½ life	1, 2mg	0.5mg QHS if <45kg, otherwise 1mg QHS Caution if <5yr.	(Not per FDA) 27-40kg 2mg 40-45kg 3mg >45kg 4mg	Often given to help sleep, also treats tics, can have rebound BP effects	\$4-20
Guanfacine XR (Intuniv)	16 hour ½ life	1, 2, 3, 4mg	1mg QD if over 6 years old (full dosage 0.05 to 0.12mg/kg)	4mg daily	Lower peak blood level, then acts like regular Tenex (similar ½ life) Still is sedating. Approved for combo with stimulants	\$28-70

Reference: AACAP ADHD Practice Parameter (2007), Micromedex 2013

## Relative Effect Size of ADHD Medication Choices

Effect size of all stimulants -1.0

Effect size of atomoxetine -.07

Effect size of guanfacine -0.65 (using Cohen's d-statistic)

## Stimulant Relative Potencies:

Methylphenidate 10mg ~ dexamethylphenidate 5mg

Methylphenidate 10mg ~ dexmethylphenetamine 5mg

PRIMARY CARE PRINCIPLES FOR CHILD MENTAL HEALTH

Hilt, R. *Seattle Children's Hospital Partnership Access Line Washington Care Guide* 2017, pg.35

**Therapy to consider:** Behavior Management Training or Behavior Therapies. Generally lasts 10-20 sessions with a qualified therapist. These treatments while helpful can be less effective than medications, though when used together may help with some difficulties more than just medications alone. Key points of this therapy includes reviewing information about ADHD, learning to attend to both misbehavior and when child complies, establishing a token economy, using timeouts effectively, managing noncompliant behavior in public settings, using a daily school report card, anticipating future misconduct.

### **Helpful Websites for Families and schools**

- Parents Med Guide: [www.parentsmedguide.org](http://www.parentsmedguide.org) (information about medications for ADHD)
- Children and Adults with ADHD: [www.chadd.org](http://www.chadd.org) (support groups, information resources)
- Teach ADHD: <http://teachadhd.com> (teaching advice for ADHD kids)

### **Hawaii Resources**

The ADHD Center of Hawai'i (<http://www.ldcenterofhawaii.com/>)