ADHD – IN BRIEF

INITIAL ASSESSMENT AND DIAGNOSIS

Recommendations:

- Patients with possible ADHD risk factors (e.g., a history of inattention, hyperactivity or impulsivity, other psychiatric disorders, substance abuse, trauma, psychosocial adversity, etc.) should be identified and diagnosed, based on DSM 5 criteria.
  See http://psychcentral.com/disorders/childhood-adhd/ for full list of all symptoms.
- An assessment for ADHD should include a physical exam and direct interviews with the patients and families/caregivers, and if possible, teachers. The presence of functional impairment in two different environments/domains (e.g., at home and school) is required for the diagnosis.
- Patients should be evaluated in terms of possible ADHD and related symptoms using a valid rating scale, such as the Vanderbilt ADHD Rating Scale. These rating scales should be collected from the primary caregiver(s) and at least one teacher at the time of initial diagnosis, and throughout treatment. Both scales can be downloaded at no cost, https://www.cappcny.org/home/clinical-rating-scales/
- The patient's Primary Care Clinician should establish relevant links/collaboration with the school and mental health resources in the community, which may include patients and families who have dealt with adolescent ADHD and are willing to serve as resources to other affected adolescents and their family members. Of special importance is the modification of the educational planning if necessary.
- If a clinician identifies a child or adolescent with moderate or severe ADHD, but there are also complicating factors/conditions such as co-existing mental health disorders, consultation with a mental health specialist should be considered. Appropriate roles and responsibilities for ongoing management by the Primary Care Clinician and mental health clinicians should be communicated and agreed upon.

Differential Diagnosis:

The differential diagnosis for suspected ADHD in children and adolescents typically includes, so a medical examination is indicated to rule out possible "mimics."

- Anxiety Disorders
- Posttraumatic Stress Disorder
- Adjustment Disorders
- Autism Spectrum Disorder
- Affective/Mood Disorders/Bipolar Disorder
- Substance Induced Mood Disorder
- Learning Disabilities
- Vision/Hearing/Speech Impairments
- Disruptive Behavior Disorders
- Normal Moodiness of Teens
- Fetal Alcohol Syndrome
- Sleep/Breathing Disorders
- Brain Tumors/Infections
- Head Injury
- Schizophrenia
- Eating Disorders
- Narcolepsy

- Phenylketonuria

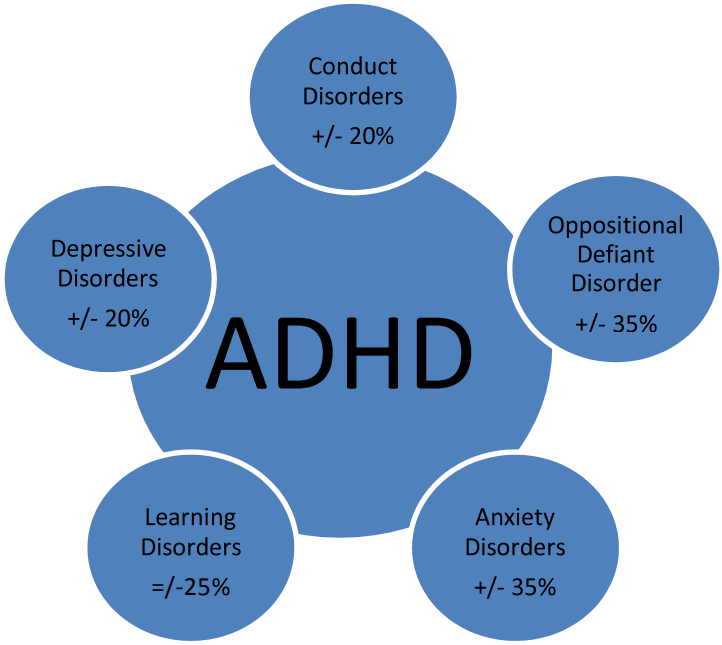
Medical Conditions That Can Resemble ADHD:

There are also some ***medical conditions*** that can "mimic" ADHD including:

- Absence Seizures
- Thyroid disease (hypo- or hyperthyroidism)
- Iron Deficiency Anemia
- Lead Toxicity
- Hypoglycemia
- Nutritional Deficiencies
- Food Allergies/Food Hypersensitivities
- Uremia
- Hearing-Impairment

Comorbidity:

Children with ADHD commonly have one or more co-occuring mental health disorders, particularly Oppositional Defiant Disorder and Anxiety disorders.



MTA et al, 1999

If you rule out ADHD during your evaluation but the patient has another mental health illness, please refer to other treatment guidelines in this series for treatment recommendations or call the Psych TLC team for recommendations on diagnosis and treatment.

Treatment

Treatment Recommendations:

After identifying a patient with ADHD, a treatment plan should be established. The approach should recommend the initiation of medication treatment, behavioral recommendations or a combination of both treatment modalities. The evidence has shown that stimulant medications are the most effective intervention for the control of ADHD symptoms. Assessment of treatment response should be completed frequently and modified accordingly as needed.

Psychosocial Interventions:

- Education can help improve parent, teacher, employer, spouse, and patient understanding of symptoms and their impact on relationships. Behavior Therapy can help to problem solve the demands of an academic setting, occupational stress, social demands, home conflicts, or other challenges for the child -- (i.e. organizing tasks, structuring daily activities, anger management, etc.). Behavior therapy usually is focused on teaching parents or teachers how to use positive rewards and consequences to encourage appropriate behaviors in the child, parental consistency in expectations, avoidance of anger and conflict with the child, and building positive relationship between the caregivers (parents or teachers) and the child.
- Individual therapy with the child can help deal with negative beliefs about the self that have developed over time, improve the child's ability to cope with his/her emotions, and improve communication skills.
- Behavior therapy when applied to parents is often called Parent Skills Training, which can help individualize positive and negative reinforcement to extinguish behaviors, improve self-control, improve quality time, and implement a token economy when applicable.
- Consider referrals to parent support groups or group therapy.
- Address comorbidities with other disorders.

Pharmacotherapy:

Medication treatment should be reassessed frequently (at least every month) and necessary changes should be made accordingly to accomplish diminution in symptoms.

- Stimulants (most commonly used)
- Non-stimulants
- Antidepressants
- Anti-hypertensives

See medication chart for dosing strategies with these agents.

It is our recommendation to start with a trial of a stimulant. Explain the process to the parents and the potential side-effects of these medications. If after trying a medication there is no response, then you may try other stimulants. However, if there is limited or no response after trying different stimulants, we recommend that you seek a consultation with a mental health specialist or the Psychiatric

Telemedicine program (Psych TLC: 501- 320-7270 or 1-844-547-5688).

Recommendation - Collaborative Care

- Primary Care clinicians should actively support children and adolescents who are referred to mental health for disruptive or aggressive symptoms. Consider sharing care with mental health professionals if possible.

- **The free Psych TLC** service is available for:
  - Consultation on psychiatric medication related issues including:
    - Advice on diagnosis and initial management for your patient
    - Titration of psychiatric medications
    - Side effects of psychiatric medications
    - Combination of psychiatric medications with other medications
    - Referral and services consultation regarding children with mental health issues

  - A licensed mental health professional (MHP) and a child and adolescent psychiatrist (CAP) are available via telephone to provide consultation and support to PCPs from 8am-5pm, M-F. Simply call **(844) 547-5688 or (501) 320-7270** to contact the Psych TLC Call Center. One of our expert MHPs will obtain basic information from your about the child and then set up a convenient time for Peter S. Jensen, MD, or another child & adolescent psychiatrist to call you back, usually within 30 minutes to 2 hours.

FDA Approved Medications for ADHD

Stimulant — Methylphenidate Family

Trade Name	Generic Name	Available Forms	Dosing	Duration	Peak Effect	Age Indicated	Side Effects	Comments
APTENSIO XR	Methylphenidate	Capsule (can be sprinkled): 10, 15, 20, 30, 40, 50, 60 mg	Start at 10 mg, increase by 10 mg qwk until good control. MDD 60 mg	8-12 hours	1-2 hours*	6+	**Common:** Loss of appetite, sleep disturbance, nervousness, nausea, vomiting, abdominal pain, weight loss, dizziness, headaches, changes in heart rate and blood pressure (usually elevation of both), rebound ADHD. **Less common:** palpitations, skin rashes and itching (usually with patch), mood changes, irritability. **Rare:** growth retardation, psychotic symptoms, myocardial infarction, drug dependence, severe depression on withdrawal of drug. **Monitor:** Ht, Wt, Pulse and BP	40% released early; 60% later
CONCERTA	Methylphenidate	Tablets (noncrushable-OROS):18, 27, 36, 54 mg	Start at 18mg qAM and increase each wk until good control. MDD 72 mg	8-12 hours	6-8 hours	6+		
DAYTRANA	Methylphenidate (patch)	Patch: 10, 15, 20, 30 mg	Start with 10mg patch and increase by 5-10 mg each wk until good control. MDD 30 mg. **Note:** Patch to be placed once a day in the AM and removed 9 hrs later. Apply 2 hrs before desired effect.	12 hours	Effective ~2 hrs after applied; for ~3 more hours after removed	6+		Higher plasma levels than oral methylphenidate
FOCALIN	Dexmethylphenidate	Tablets (scored): 2.5, 5,10 mg	Start with 2.5 mg 1-2 times per day and increase by 2.5 mg each week until good control. May need 3rd reduced dose in PM. MDD 30 mg	4 hours	2-3 hours	6+		
FOCALIN XR	Dexmethylphenidate	Capsules (can be sprinkled): 5, 10, 20 mg	Start with 5 mg 1 x per day; increase by 5 mg each week until good control. May need noon dose. MDD 30 mg	8-12 hours	3-4 hours	6+		
METADATE CD	Methylphenidate	Capsule (can be sprinkled): 10, 20, 30, 40, 50, 60 mg extended release	Start at 20 mg qAM and increase by 10-20 mg each week until good control. MDD 60 mg	6-8 hours	3-5 hours	6+		30% released early; 70% later
METHYLIN	Methylphenidate	Oral solution: 5mg/10 ml; 10 mg/10 ml. Tablets (chewable): 2.5, 5, 10 mg. Tablet (scored): 5,10, 20 mg	Start with 5 mg twice daily (before breakfast and lunch) with increase of 5-10 mg wkly until good control. May need 3rd reduced dose in PM. MDD 60 mg	4 hours	2-3 hours	6+		
QUILLICHEWER	Methylphenidate hydrochloride	Tablets (chewable): 20, 30, 40 mg (20 & 30 scored)	Start at 10 mg, increase by 10-20 mg qwk until good control. MDD 60 mg.	8-12 hours	1-2 hours*	6+		
QUILLIVANT XR	Methylphenidate hydrochloride	Oral solution: 25 mg/5 cc extended release	Start at 20mg qAM and increase by 10mg each week until good control. MDD 60 mg	8-12 hours	2- 4.5 hours	6+		
RITALIN	Methylphenidate	Tablets (scored): 5, 10, 20 mg	Start with 5mg twice daily (before breakfast and lunch) with increase of 5-10mg wkly until good control. May need 3rd reduced dose in PM. MDD 60 mg. Under age 6, start with 2.5 mg bid, usual effective dose: ~ 0.7mg / kg total daily dose	4 hours	2-3 hours	6+		
RITALIN LA	Methylphenidate	Capsule (can be sprinkled): 10, 20, 30, 40 mg	Capsule cannot be split (but CAN be sprinkled) so best to titrate with short-acting Ritalin and then switch to Ritalin LA. MDD: 60 mg	6-8 hours	3-5 hours	6+		

*Extrapolation from PDR graph

Hargrave 2016 (Revision of REACH Institute/Peter Jensen's Table: "Medications for ADHD")

FDA Approved Medications for ADHD

Class	Subclass	Trade Name	Generic Name	Available Forms	Dosing	Duration	Peak Effect	Age Indicated	Side Effects	Comments
Stimulants	Amphetamine Family	**ADDERALL**	Amphetamine (mixed salts: dextroamphetamine/ levoamphetamine)	Tablet:(scored) 5, 7.5, 10, 12.5;15, 20, 30 mg	Start at 5 mg 1-2 times per day and increase by 5 mg qwk until good control. MDD 40 mg	4-6 hours	3 hours	3+	**Common:** Loss of appetite, sleep disturbance, nervousness, nausea, vomiting, abdominal pain, weight loss, dizziness, headaches, changes in heart rate and blood pressure (usually elevation of both), rebound ADHD. **Less common:** Palpitations, skin rashes and itching (usually with patch), mood changes, irritability. **Rare:** Growth retardation, psychotic symptoms, myocardial infarction, drug dependence, severe depression on withdrawal of drug. **Monitor:** Ht, Wt, P, BP	**Evekio** is similar to adderall
		ADDERALL XR	Amphetamine (mixed salts: dextroamphetamine/ levoamphetamine)	Capsules: (can be sprinkled) 5, 10, 15, 20, 25, 30 mg	Start at 5 mg qAM and increase by 5mg qwk until good control. May need to add 2nd dose. MDD 30 mg	8-12 hours	3-5 hours	6+		
		ADZENYS XR-ODT	D-L-Amphetamine sulfate	Tablets, extended release, orally disintegrating 3.1, 6.3, 9.4,12.5,15.7,18.8 mg	Start at 6.3 mg; Increase qwk by 3.1-6.3 mg until good effect.	8-12 hours	3-5 hours	6+		50% IR / 50% ER 18.8 mg ~ = 30 mg Adderal XR
		DEXEDRINE	Dextroamphetamine	Tablet: 5 mg	Start at 5 mg 1-2 x/d and increase by 5 mg qwk until good control. MDD 40 mg	4-6 hours	3 hours	3+		**Zenzedi** is similar to dexedrine
		DEXEDRINE SPANSULE	Dextroamphetamine	Spansule: (can be sprinkled) 5, 10, 15 mg	Start at 5 mg qAM and increase by 5 mg each wk until good control. MDD 45 mg	6-10 hours	3-4 hours	3+		
		DYNAVEL XR	Amphetamine	Liquid suspension 2.5 mg/mL	Start at 2.5 mg qAM, increase dose by 2.5 mg q4-7d until good control. MDD 20	10-14 hours	2-6 hours*	6+		2.5mg equivalent to 4mg Adderall XR
		PROCENTRA	Dextroamphetamine sulfate	Oral solution 5 mg/5 cc	Start at 5 mg qAM (2.5 mg ages 3-5) Increase by 5 mg (2.5 mg ages 3-5) qwk until good control. Dosed q4-6 hr. MDD 40 mg	3-5 hours	3-4 hours	3+		
		VYVANSE	Lisdexamphetamine (pro-drug)	Capsule: (may open caps and dissolve in water): 20, 30, 40, 50, 60, 70 mg	Start at 20 mg qAM and increase by 10-20 mg qwk until good control. MDD 70 mg	8-12 hours	3.5-4.5 hours	6+		Has decreased abuse potential. Peak onset delayed by one hour if taken with food
NON-Stimulants	SNRI	**STRATTERA**	Atomoxetine	Capsule: 10, 18, 25, 40, 60, 80, 100 mg	**Up to 70 kg:** Start with 0.5 mg/kg/d. Increase in 3 days to 1.2 mg/kg as a single or divided dose. MDD 1.4 mg/kg/d or 100 mg **70 kg or greater:** Start with 40 mg. Increase in 3d to 80 mg as a single or divided dose. MDD 100 mg	18-24 hours	2-4 wks after starting any given dose	6+	**Common:** Irritability, sedation or insomnia, appetite suppression, stomach upset, constipation, palpitations, sweating. **Less common:** Increased blood pressure, fainting, allergic reaction, angioedema. **Rare:** (box warning): Liver failure, suicidal ideation. **Monitor:** Wt, BP, P	
	a-2 Agonists	**INTUNIV**	Guanfacine XR	Tablets: 1, 2, 3, 4 mg	Start with 1 mg qAM; increase by 1 mg no sooner than weekly to MDD 4 mg (7 mg in large adolescents), may need bid dosing	24 hours	1 week or more	6-17	**Common:** Sleepiness, fatigue, abdominal pain, dizziness, hypotension, headache. **Monitor:** P, BP	Wean slowly to avoid rebound hypertension
		TENEX[1]	Guanfacine	Tablets: 1, 2 mg	Start with 0.5 mg qhs. Increase by 0.5 mg q4-7d to MDD 4 mg divided bid-tid	12-24 hours	4-8 hours	MDD (A)	**Common:** Dry mouth, sedation, dizziness, constipation, headache, impotence. No serious side effects have been reported. **Monitor:** P, BP	Taper by 1mg q3-7d
		KAPVAY	Clonidine hydrochloride ER	Tablets: 0.1, 0.2 mg	Start with 0.1 mg qhs, incr by 0.1 mg no sooner than qwk to MDD 0.4 mg divided bid	18-24 hours	1 wk or more	6-17	**Common:** Sleepiness, fatigue, abdominal pain, dizziness, hypotension, headache. **Monitor:** P, BP	Wean slowly to avoid rebound hypertension
		CATAPRES[1]	Clonidine hydrochloride	Tablets: 0.1, 0.2, 0.3 mg	Start with 0.05 mg qhs. Increase by 0.05 mg q4-7d to MDD 0.4 mg divided tid-qid	3-6 hours	3-4 hours	HTN (Peds+A)	**Common:** Dry mouth, sedation, dizziness, constipation, headache, impotence. No serious side effects have been reported. **Monitor:** P, BP	Taper by 0.1 mg q3-7d

[1]Not FDA-approved for ADHD but often used; *Extrapolation from PDR **(A): Adolescents** **Hargrave 2016 after Jensen/REACH**

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http://psychiatry.uams.edu/clinical-care/psych-tlc/