



Attention Deficit Hyperactivity Disorder Management Guideline

Attention Deficit Hyperactivity Disorder (ADHD) is an important disorder to be aware of, as it can significantly interfere with a patient's ability to keep a job, do well in school, and be appropriate in social settings. Although traditionally thought of as a childhood disorder, there is now an understanding that adults can suffer from ADHD as well.

All people can be inattentive, and/or hyperactive at times. However, ADHD is marked by exhibiting symptoms the majority of the time, and to an extent that it causes problems with functioning. An additional criterion is that the symptoms occur in two or more settings. This is important, because it can differentiate between a reaction to a certain environment (e.g. a child who acts out at home, but not at school or church is likely responding to the home environment in an immature fashion, but likely does not have ADHD).

The recognition and treatment of ADHD is important because untreated ADHD is associated with risky behaviors. For example, substance misuse, head injuries, and motor vehicle accidents are all much higher in individuals with untreated ADHD compared to everyone else.

The standard of treatment for ADHD is the use of stimulant medications, such as methylphenidate (Ritalin®) and amphetamine salts. There are also non-stimulant medications available, such as atomoxetine (Strattera®), clonidine, and guanfacine. It is important to note that the stimulant medications have abuse potential, and may be diverted. It is also important to note that they are DEA Schedule II substances, meaning that prescriptions cannot contain refills, and cannot be called in to pharmacies.

In the ECHO Access program, we do not screen for ADHD at baseline, as we do for so many other psychiatric disorders. This is because symptoms from other disorders, including substance use disorders,

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intoxication ,and withdrawal, can mimic ADHD, and would lead to diagnostic confusion. Therefore, ADHD is the one disorder that we will be screening for only if clinically indicated. For example: a patient who initially screened for depression is treated with an antidepressant. She remarks that she consistently forgets to take her medication, despite having a high level of motivation to get better. Upon further exploration, she reveals that she forgets a lot of things, misplaces her keys daily, etc. It would be appropriate to screen her for ADHD.

A potentially difficult clinical situation is a patient with a history of stimulant misuse (e.g. cocaine, methamphetamine, or even prescription stimulants), who screens positive for ADHD. Often times, trying the non-stimulant medications in this population first makes a lot of sense. Before trying a stimulant in a person with a history of a substance use disorder, the case should be presented on IAP ECHO.

Sleep hygiene	Patients should use their bed for sleep and sex only. Move the television out of the bedroom. Develop a regular and relaxing routine for bedtime. Set a regular time to get up and get dressed each day. Drink caffeinated beverages (if at all) in the morning only.
Exercise	Exercise is an excellent anxiolytic (something that decreases anxiety). It doesn't need to be strenuous. Daily brisk walking for 30 minutes is enough. Do some exercise outside the house every day, if possible. The evidence is strongest for aerobic exercise (walking, swimming, running, biking) but strength building (weight-lifting and using exercise machines) also helps.
Social activation	People with anxiety may isolate themselves and constantly think about their worries. It is important that they stay connected with family and friends, even if they do not feel like it. They should schedule meetings and activities that they used to enjoy. This is adopting the "fake it until you make it approach."
Quit drugs. Limit alcohol	Many illicit drugs, like cocaine and methamphetamines, may elevate mood in the short-term, but can also make anxiety worse in the short-term and long-term. Alcohol may decrease anxiety in the short-term, but can worsen anxiety in the long-term. Alcohol makes falling asleep easier, but staying asleep harder. Alcohol use also increases risk of suicide. Support your patients to quit.
Limit tobacco and caffeine	Both tobacco and caffeine are stimulants which can worsen anxiety. Decreasing the amount of (or not using) caffeine and tobacco can make anxiety much better.
Practice mindfulness techniques or do CBT homework	Mindfulness techniques may include sitting or walking meditation, yoga, and the body scan. CBT homework may include writing down automatic thought and behavior patterns and thinking about underlying belief systems
Take medications as directed	Patients may be prescribed: <ul style="list-style-type: none"> - Anxiolytic medication (some of the same medicines commonly used to treat depression) - Possibly another medicine to increase the effect of the

	<p>anxiolytic.</p> <p>Talk to patients to see if they are taking their prescribed medicines and if there are barriers to adherence. Many patients also take dietary supplements, alternative medications (such as SAME) or herbal medications. Ask about these so that you can see if there are toxic side effects or interactions with prescribed medicines.</p>
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Educate the patient about warning signs of worsening anxiety or risk of suicide and when to call the team:

- Persistent thoughts of hurting or killing themselves, especially with a specific plan
- Access to weapons or other dangerous means of hurting themselves
- Substance abuse or increased use
- Increasing social isolation: not spending time with other people
- Increasing anhedonia: not enjoying the things/activities they used to enjoy
- Increasing feelings of hopelessness or feeling helpless to control their worrying
- Increasing difficulty with sleep
- Increasing irritability or arguing with friends and family
- Increasing number or severity of panic attacks
- Increasing worry or fear of the next panic attack which leads to avoidance of usual activities
- Increasing problems at work or school
- Difficulty doing the basic activities of daily life (food preparation, paying bills, keeping themselves clean)

Medication side effects that are bothersome

NP: DIAGNOSIS (DSM V)

- A. A persistent pattern of inattention and/or hyperactivity-impulsivity that interferes with functioning or development, as characterized by (1) and/or (2):
 1. **Inattention:** Six (or more) of the following symptoms have persisted for at least six months to a degree that is inconsistent with developmental level, and that negatively impacts directly on social and academic/occupational activities:
 - i. Often fails to give close attention to details or makes careless mistakes, in schoolwork, at work, or during other activities
 - ii. Often has difficulty sustaining attention in tasks or play activities
 - iii. Often does not seem to listen when spoken to directly
 - iv. Often does not follow through on instructions and fails to finish schoolwork, chores, or duties in the workplace
 - v. Often has difficulty organizing tasks and activities
 - vi. Often avoids, dislikes, or is reluctant to engage in tasks that require sustained mental effort
 - vii. Often loses things necessary for tasks or activities

- viii. Is often easily distracted by extraneous stimuli
 - ix. Is often forgetful in daily activities
2. **Hyperactivity and Impulsivity:** Six (or more) of the following symptoms have persisted for at least six months to a degree that is inconsistent with developmental level, and that negatively impacts directly on social and academic/occupational activities:
- i. Often fidgets, or taps hands or feet, or squirms in seat
 - ii. Often leaves seat in situations where remaining in seat is expected
 - iii. Often runs about or climbs in situations where it is inappropriate
 - iv. Often unable to play or engage in leisurely activities quietly
 - v. Is often “on the go”, acting as if “driven by a motor”
 - vi. Often talks excessively
 - vii. Often blurts out an answer before a question has been completed
 - viii. Often has difficulty waiting in his or her turn
 - ix. Often interrupts or intrudes on others
3. Several symptoms were present before age 12
4. Several symptoms are present in two or more settings
5. There is clear evidence that symptoms interfere with, or reduce the quality of social, academic, or occupational functioning
6. The symptoms are not due to another psychiatric disorder

Medication	Brand	Initial Titration Dose	Frequency	Time to Initial Effect	Duration, h	Maximum Dose	Available Doses
Methylphenidate	Ritalin	5mg	BID-QID	20-60 min	3-5	2 mg/kg	5, 10, 20
	Ritalin LA	20mg	Qday	20-60 min	6-8	60mg	20, 30, 40
	Ritalin SR	20mg	Qday-BID	1-3 h	2-6	60mg	20
	Metadate	20mg	Qday	20-60 min	6-8	60mg	10, 20, 30, 40, 60
	Concerta	18mg	Qday	20-60 min	12	54mg under 13 y/o, 72mg over 13	18, 27, 36, 54

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						y/o	
	Methyl ER	10mg	Qday	20-60 min	8	60mg	10, 20
	Methylin	5mg	BID-TID	20-60 min	3-5	60mg	5, 10, 20
	Daytrana	10mg	Apply for 9 h	60 min	11-12	30mg	10, 15, 20, 30mg patch
Dexmethylphenidate	Focalin	2.5 mg	BID	20-60 min	3-5	20mg	2.5, 5, 10
	Focalin XR	5mg	Qday	20-60 min	8-12	30mg	5, 10, 15, 20
Mixed Amphetamine	Adderall	2.5-5mg	Qday – BID	20-60 min	6	40mg	5, 7.5, 10, 12.5, 15, 20, 30
	Adderall XR	5mg	Qday	20-60 min	10	40mg	5, 10, 15, 20, 25, 30
Dextroamphetamine	Dexedrine	2.5mg	BID-TID	20-60 min	4-6	40mg	5, 10
Lisdexamfetamine	Vyvanse	20mg	Qday	60 min	10-12	70mg	20, 30, 40, 50, 60, 70
Atomoxetine	Strattera	0.5mg/kg/day, then increase to 1.2mg/kg/day for adults and children over 154 lbs, up to 100mg/day	Qday – BID	1-2 weeks	10-12	1.4mg/kg	10, 18, 20, 40, 60, 80, 100
Guanfacine ER	Intuniv	1mg/day	Qday	1-2 weeks	10-12	4mg/day	1, 2, 3, 4
Clonidine ER	Kapvay	0.1mg/day	Qday-BID	1-2 weeks	10-12	0.4mg/day	0.1, 0.2

Adapted from American Academy of Pediatrics, supplemental appendix for implementing ADHD guidelines

Side-effects: It is important to monitor for key side-effects from medications used to treat ADHD

Stimulants: Insomnia



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Anorexia

Irritability

Tics

Anxiety

Atamoxetine: Retrograde ejaculation

Suicidal ideation

Headache

GI Upset

Guanfacine & Clonidine: Orthostatic hypotension

Medication Treatment Algorithm for ADHD

