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Prescribing Guidelines for Pennsylvania



CENTRAL NERVOUS SYSTEM (CNS) STIMULANTS IN ADULTS

Central Nervous System (CNS) stimulants (referred to as “stimulants” throughout this guideline) are a common pharmacological treatment for adults with attention-deficit hyperactivity disorder (ADHD) and may also be prescribed for conditions such as narcolepsy. Stimulants are known to cause increased wakefulness, reduced appetite, and feelings of euphoria brought on by the rapid release of neurotransmitters, including dopamine, serotonin, and norepinephrine.¹ Common prescription stimulants, typically prescribed for the treatment of ADHD, include amphetamines (e.g., Adderall® and Dexedrine®) and methylphenidate (e.g., Ritalin® and Concerta®).

Many stimulant medications are a Schedule II controlled substance, designated by the U.S. Drug Enforcement Administration (DEA). As defined by the DEA, Schedule II controlled substances have a higher potential for misuse and abuse which underscores the need for safe prescribing and patient education when initiating and providing chronic stimulant therapy. This guideline provides information on effective prescribing practices of stimulants for adult patients, discusses trends among stimulant prescribing in Pennsylvania and misuse, care during chronic stimulant therapy, discontinuation of stimulant therapy, and non-stimulant treatment options.

Trends

An estimated 16 million adults are prescribed stimulants annually, and the national annual rate of dispensed prescription stimulants increased from 5.6 to 6.1 prescriptions per 100 people between 2014 to 2019.² Analysis of dispensation data from the Pennsylvania Prescription Drug Monitoring (PDMP) System shows that there has been a 28.2% increase in the number of prescription stimulant dispensations in the commonwealth (among all age groups) from quarter 3 (July-September) of 2016 to quarter 3 of 2021. However, also found was a decrease in new initiations among stimulant-naïve individuals among all age groups (note, the Department of Health’s Office of Drug Surveillance and Misuse Prevention defines stimulant-naïve as not filling a Schedule II stimulant prescription in the previous 365 days). This may indicate that some of the increase in stimulant prescribing trends in Pennsylvania is driven by current stimulant users aging into older age categories. In Pennsylvania, males are more likely to receive stimulant prescriptions compared to females. This may be because males are more likely to be diagnosed with ADHD.

Overdoses involving prescription and illicit stimulants increased by approximately 194% between quarter 3 of 2016 and quarter 3 of 2021. Stimulant-related overdose deaths encompassing prescription stimulants as well as illicit stimulants, such as cocaine, have been increasing in Pennsylvania as well. Most illicit and prescription stimulant-related overdose deaths also involve one or

more opioids and the overall proportion of overdose deaths with a stimulant contributing to death has increased from 2017 to 2020 (based on 2020 deaths as of November 2021). However, in Pennsylvania, stimulant-related overdose deaths are mostly driven by the illicit stimulant cocaine.

In a study based on data from the 2015 and 2016 National Surveys on Drug Use and Health, patterns and correlations of prescription stimulant misuse and use disorders in comparison to people reporting medical use of stimulant medication was examined.³ People who misused prescription stimulants were more likely to report both licit and illicit substance use problems.³ The most common motivation for recent prescription stimulant misuse reported was to help be alert or concentrate.³ Adults with past-year prescription stimulant misuse reported a friend or relative as the most common source for obtaining prescription stimulants.³ Among adults who received a prescription stimulant from a friend or relative (for free), 83.9% reported that the friend or relative received the prescription stimulant from a physician.³

Practice Recommendations

Providers should incorporate the following practices into their care of a patient who may be prescribed stimulant therapy.

Evaluation and Initiation of Therapy^{3-9, 24}

1. Before initiating stimulant therapy, providers should conduct and document a history that includes a detailed mental and physical examination that uses evidence-based screening and diagnostic tools and establishes screening and diagnosis for comorbidities.
 - a. Prescription stimulants are a common treatment for ADHD. Individuals with ADHD may have comorbid illnesses or conditions. In fact, an estimated 75% of adults with ADHD have at least one comorbid condition. Individuals who may be at risk for ADHD who are diagnosed with other disorders such as anxiety and depression may benefit from first receiving treatment for the most severely impairing disorder. Treating the most severely impairing disorder may allow the healthcare provider to assess whether ADHD symptoms improve prior to initiation of stimulant therapy. Improvement in mood and reduction in symptoms from other conditions, such as anxiety, may translate to improved focus and impulse control in some patients.
 - b. Diagnostic accuracy for ADHD is improved by using psychometrically validated measures of symptoms and impairment and collecting collateral

report on current functioning. The American Academy of Family Physicians (AAFP) compiled [Adult ADHD Assessment and Diagnosis tools](#).

2. When considering stimulant therapy, the active use of other medication, including other controlled substances, should be considered. Concurrent use of controlled substances and/or other prescribed medications may reduce the desired effect. Pennsylvania state law requires providers to obtain and review a report from the Prescription Drug Monitoring Program (PDMP) System before prescribing a controlled substance. Care should be taken to obtain PDMP data from all relevant states, which usually can be accomplished through the Pennsylvania PDMP System.
3. Medical records from past healthcare providers should be obtained, and reviewed, as they often are a valuable source of past care, including response to medications.
 - a. Stimulants may be avoided in patients with psychotic symptoms or unmanaged bipolar disorder. Concurrent stimulant use with monoamine oxidase inhibitors (MAOI) or use in 14 days preceding MAOI treatment may not be advised. Similarly, if there is a history of mania or psychosis, severe anorexia, narrow-angle glaucoma, uncontrolled

hyperthyroidism or hypertension, or symptomatic cardiovascular disease stimulant use may not be advised.

4. The initial patient evaluation should include documentation of a diagnosis, treatment plan, and goals of therapy. Goals of therapy should be specific and measurable and should be integrated into ongoing patient monitoring throughout treatment. Providers are also encouraged to provide and document education to patients on the risks associated with prescription stimulants, including the risk for misuse and use disorder.
5. When initiating stimulant therapy, providers may consider only providing enough medicine to last until the next appointment.
 - a. Immediate release amphetamine is the most diverted and misused prescription stimulant.²⁴

Care During Chronic Stimulant Therapy⁴⁻¹²

1. Patients should receive ongoing education on proper storage and disposal of controlled substances. [Pennsylvania's Prescription Drug Take-Back Program](#) allows patients to discard old, unwanted, or unused medication for free.
2. For adults with ADHD, optimal dosing varies widely across patients and there are no good predictors of optimal dose. Therefore, gradual titration is advised with repeated assessment of efficacy and tolerability for each dose

employed. When titrating a dose, it is helpful to measure both change in symptoms using validated measures and to assess the change in functioning. Objectively defined treatment goals improve the capacity to measure medication benefits (e.g., able to complete 90% of work on time, etc.). Whereas vague treatment goals (e.g., to feel more focused, etc.) can impede accurate identification of optimal dose. While dose dependent changes in symptoms and side effects are seen with stimulants, there is no clear evidence that doses above the FDA-approved maximum are more efficacious.

- a. Long-acting stimulants are the preferred treatments for adults with ADHD. Methylphenidate and amphetamines generally have similar efficacy and tolerability profiles, but patients may respond to or tolerate one class better than the other.
3. Stimulants are available in various dosage forms such as oral suspensions, chewable tablets, sprinkle capsules, liquids, and patches. The individual patient's preference and needs should be considered when prescribing a particular form. Stimulants allow for appreciable flexibility in dosing and the predominant difference between stimulant formulations is the onset and duration of

therapeutic effects, allowing providers to tailor use in settings/times where impairment exists.

- a. For patients who are receiving stimulants for ADHD, the duration of the selected medication and efficacy make it important to identify the times of day when ADHD produces the most impairment. Similarly, the duration of stimulant medication can also impact tolerability, especially sleep onset and dinner appetite.
4. The subacute effects of stimulant use are often experienced once the initial drug reaction of wakefulness and euphoria wears off. These effects can include fatigue, depression, chronic insomnia, increased appetite, impaired memory, and anhedonia. Stimulant use releases large amounts of dopamine and serotonin. Therefore, nonclinical use of these medications may cause mood fluctuations, anxiety, and depression. These adverse effects are less likely to occur with clinical use at the FDA-approved dose ranges but still may occur. Patients should receive education on possible medication side effects and how to manage them.
5. Healthcare providers may consider administering urine drug screening throughout the duration of stimulant therapy to confirm that prescribed medication is being taken as prescribed. Medication counts may also be

considered, particularly if there is concern about diversion or storage.

Discontinuation of Stimulants¹⁰⁻¹³

The following are best practices and considerations for healthcare providers when patients discontinue treatment with prescription stimulants. Also discussed are considerations when patients present symptoms of possible stimulant or substance use disorder.

1. In patients who have engaged in aberrant drug-related behaviors, such as taking more medication than prescribed or sharing medication with other people, providers should carefully determine if the risks associated with chronic stimulant therapy outweigh documented benefit. Providers should also consider assessing whether aberrant drug-related behaviors such as taking more medication than prescribed may be due to undertreatment of the condition.
2. For adults taking stimulants for the treatment of ADHD, data shows that most adults use them intermittently. It is advised that patients who stop stimulants do not restart use at the full therapeutic dose after an extended absence due to the risk of increased side effects.
3. Patients presenting symptoms of possible stimulant and/or substance use disorder should receive a facilitated referral for addiction specialty evaluation and treatment.

Patients at risk for a substance use disorder should not be abruptly dismissed from the practice without a referral to treatment.

- a. Examples of possible symptoms related to stimulant and/or substance use disorder include but are not limited to continued use of stimulants despite harmful physical, social, or mental health problems caused or exacerbated by a stimulant, or recurrent stimulant use resulting in inability to complete work, school, or home obligations.²¹
- b. Healthcare providers may utilize [evidence-based screening and assessment tools](#) to identify patients who may be at risk for a stimulant and/or substance use disorder. Universal screening approaches, such as Screening, Brief Intervention, and Referral to Treatment (SBIRT), may help providers deliver early intervention and treatment services for people who are at risk for developing or who have a substance use disorder. Learn more about [SBIRT](#).
- c. A healthcare provider may refer a patient to their insurance carrier who can help the patient identify local treatment providers who are covered under their insurance plan.

- d. Patients who are uninsured or underinsured may be referred to their local county drug and alcohol program, which is known as a Single County Authority in Pennsylvania. Information on Single County Authorities in Pennsylvania may be found [here](#).
- e. A patient who is diagnosed with a stimulant use disorder may be treated with motivational interviewing, cognitive behavioral therapy, contingency management, or community reinforcement approach; all of which have been shown to decrease frequency of use and quantity. Unlike opioid use disorder, there is no FDA-approved medication currently available for stimulant use disorder. A detailed review of treatment for stimulant use disorder goes beyond the scope of this document. However, more information on stimulant use disorder treatment may be found [here](#).

use disorder should be made on individual risk-benefit analysis. Patients with a co-occurring substance use disorder should be monitored closely to ensure prescribed stimulants are being used properly and substance use is not worsened.

- a. In a study that analyzed stimulant prescriptions and drug-related poisoning risk among persons receiving buprenorphine treatment for opioid use disorder, stimulant use was associated with improved retention to buprenorphine treatment.¹⁴ A slight increase in risk of drug-related poisoning was also observed however this risk may be offset by the associated prolonged exposure to buprenorphine, which is a protective factor against overdose.¹⁴

Non-Stimulant Treatment Options

Please note, a detailed review of non-stimulant treatment options goes beyond the scope of this document. Non-stimulant treatment considerations have been summarized for the following disorders and conditions: ADHD, Narcolepsy, Obstructive Sleep Apnea, and Binge Eating Disorder.

ADHD^{5-10, 15}

For the treatment of ADHD, stimulants remain a primary treatment option. However, research and data support the use of various non-pharmacological treatments that may also be considered. Healthcare providers may encourage patients with diagnosed ADHD to identify and request accommodation needs in

Prescription Stimulant Treatment in Patients with Substance Use Disorder

While stimulants have the potential for misuse, evidence suggests stimulants may be effective in patients with an existing substance use disorder and co-occurring ADHD.¹³ The decision regarding use of stimulant medication for patients who have a substance

school or workplace settings. The Americans with Disabilities Act of 1990 recognizes ADHD as a recognized disability and qualified individuals may consider requesting reasonable accommodations in work or school settings if it does not create undue hardship. Primary care providers may consider providing a referral to a behavioral health specialist for direct psychosocial treatment for ADHD and support with developing workplace or school accommodations. Patients may also benefit from utilizing time management techniques and organizational apps. Cognitive behavioral therapy (CBT) is an additional non-pharmacological treatment option for adults with ADHD. CBT aims to help patients overcome difficulties in completing daily tasks, managing time, and developing emotional self-regulation. Healthcare providers may also support patients by identifying and sharing resources of recommended techniques and apps for patients. The Children and Adults with Attention-Deficit/Hyperactivity Disorder (CHADD) Resource Center, funded by the Centers for Disease Control and Prevention, compiled [research behind CBT for ADHD](#) along with additional non-pharmacological resources and information that may be helpful to healthcare providers and patients with ADHD.

Healthcare providers may also consider non-stimulant pharmacological treatment for ADHD in adults. Atomoxetine (Strattera) and Viloxazine extended release (Qelbree) are FDA-approved non-stimulant treatments for ADHD. Non-stimulant options require

daily dosing, reduced effect sizes, and have a delayed therapeutic onset compared to stimulants but they have less physical side effects and offer whole day coverage with no concerns of misuse or diversion.

Narcolepsy¹⁶⁻¹⁷

There are several non-pharmacological approaches that may be used on their own or in combination with stimulant therapy for the treatment of narcolepsy. Support groups for narcolepsy, either online or in person, have risen in popularity and may be beneficial and effective for patients. Behavioral changes such as avoidance of excessive caffeine, avoidance of medications that contribute to daytime sleepiness, maintaining a sleep schedule, and practicing sleep hygiene have also been proven effective for the treatment of narcolepsy. Patients with diagnosed narcolepsy may also be encouraged to avoid smoking, especially at night, exercise daily, avoid large meals right before bed, and relax before bed. Like ADHD, Narcolepsy is also recognized under the Americans with Disabilities Act and employers must provide reasonable accommodations to employees with disabilities. Patients with Narcolepsy may consider disclosing their diagnosis and working with their employer or school to develop a modified schedule that allows them to complete tasks when they are the most alert. Sleep specialists, for example, may help patients learn about best practices when communicating with work or school officials about accommodations.

Non-stimulant pharmacological treatment for narcolepsy may include antidepressants or sodium oxybate. Tricyclics (e.g., imipramine, desipramine, clomipramine, and protriptyline) and selective serotonin and noradrenergic reuptake inhibitors (e.g., venlafaxine, fluoxetine, and atomoxetine) are two classes of antidepressant drugs that have been proven effective in controlling cataplexy (sudden muscle loss) due to narcolepsy. Sodium oxybate is a sedative approved by the FDA to treat cataplexy and excessive daytime sleepiness in individuals with narcolepsy.

***Obstructive Sleep Apnea*¹⁸⁻²⁰**

It is recommended to try non-pharmacological approaches first for the treatment of obstructive sleep apnea given the weak evidence for effectiveness of medication. Additionally, use of methylphenidate and amphetamines may be discouraged due to cardiovascular risks. Positive Airway Pressure (PAP) therapy, weight loss if a patient is overweight, use of oral appliances to hold the jaw forward during sleep, and avoidance of alcohol are all recommended for treatment of obstructive sleep apnea.

***Binge Eating Disorder*²²⁻²³**

The major goals for the treatment of binge eating disorder are to reduce eating binges and increase healthy habits. Lisdexamfetamine dimesylate (Vyvanse) was the first FDA-approved medication to treat moderate to severe binge eating disorder. Vyvanse is a stimulant and side effects may occur. While medication

can be helpful, it may have limited impact on weight loss. Therefore, non-medication treatment is also recommended.

Since binge eating disorder may also be comorbid with mental health conditions, such as depression, psychotherapy treatment may be recommended.²² Psychotherapy can help people with binge eating disorder learn how to mitigate or eliminate unhealthy habits and reduce binge eating. Examples of psychotherapy treatment include cognitive behavioral therapy, interpersonal psychotherapy, or dialectical behavior therapy. Weight loss programs may be recommended, in combination with psychotherapy, once binge-eating is treated and managed.²² Dieting may trigger binge-eating episodes, so close medical supervision is necessary.²² Additional lifestyle changes such as engaging in regular physical activity, sticking to meal plans and psychotherapy sessions, connecting with family, friends, and/or peers with diagnosed binge eating disorder, and journaling to increase awareness of feelings and actions related to binge eating may also be recommended.²² Research also suggests that patients with binge eating disorder benefit from receiving highly individualized treatment.²³

Conclusion

The trends discussed in these guidelines emphasize the important role that healthcare providers play in safely and effectively prescribing stimulants and educating patients on the importance of taking prescription stimulants as prescribed, safely storing, and disposing unused medication, and the potential risks of prescription stimulants. **These guidelines are intended to help healthcare providers improve patient outcomes and to supplement, but not replace, an individual provider's clinical judgement. Clinical decision making should be based on a relationship between the clinician and patient, and an understanding of the patient's clinical situation, functioning, and life context.**

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