

# Appropriate Use of Stimulant Medications in Adults With ADHD

Over the past 2 decades, the attention-deficit/hyperactivity disorder (ADHD) treatment spectrum has expanded to include intermediate-acting and long-acting treatments. Despite the advances in drug delivery technology for stimulant medications, short-acting stimulants remain widely prescribed for adults with ADHD.<sup>1,2</sup> Understanding the diverse mechanisms and pharmacokinetic profiles of the currently available group of long-acting stimulant formulations will help clinicians tailor treatment to individual patient needs.

In a recent *Psychiatric Times*® Expert Perspectives video series, Greg Mattingly, MD, associate clinical professor at Washington University School of Medicine in St Louis, Missouri, and president-elect of the American Professional Society of ADHD and Related Disorders (APSARD); and Oren Mason, MD, family physician at Attention MD in Grand Rapids, Michigan; had a wide-ranging discussion highlighting key points from a presentation they delivered at the 2023 APSARD annual meeting. They examined how the landscape of stimulant medications has evolved and how to improve the patient experience with stimulants. Ahead is a summary of key points and clinical insights from the discussion.

## Evolving Treatment Landscape for Adult Patients With ADHD

As explained by Dr Mattingly, many long-acting medications achieve their duration of action by combining various ratios of immediate-release and extended-release components, which results in 2 peaks on the pharmacokinetic (PK) curve. “That first pulse [corresponds] to an immediate-release component, and the later pulses [are] delayed-release components that [occur] throughout the day...Formulations with immediate-release components usually have what we call a biphasic pharmacokinetic profile,” said Dr Mattingly. “[This means] that patients may potentially feel the on/off periods or the [adverse] effects of medicines [in a] coming-and-going [manner] rather than feeling the full duration of coverage.”

## Guidance for Prescribing Stimulants in Adults

Within the past 15 to 20 years, the diagnosis of ADHD has increased to a greater extent for adults than for children and adolescents. In fact, a 2021 global systematic review and meta-analysis found a global prevalence of 8.83% in adults around the world. When treating adult patients with ADHD, Dr Mattingly noted that understanding various PK profiles can optimize treatment decision-making for patients with ADHD who may have disparate needs.

He explained that for agents that contain a higher proportion of immediate-release medication, patients tend to exhibit greater early medication exposure relative to total exposure. “Typically, [this] is reflected by an earlier onset of action,” he said, “but per-

haps [it does not have] sustained duration of action.” In comparison, Dr Mattingly said, “Formulations that have less drug available in immediate release but have more of the [medication acting in] extended release tend to give [the patient] a longer duration of coverage.”

Dr Mattingly went on to describe multiple technologies that have different PK profiles. “They all need to be understood to optimize the outcomes for your patients,” he said.

According to Dr Mattingly, advantages of long-acting formulations include: improving or augmenting symptom coverage throughout the day, potentially improving treatment response, helping with adherence, and potentially improving tolerability without having the on/off effect. He also added, “It’s breaking the barriers of stigma and improving privacy.” He concluded that currently, guidance is to shift away from short-acting agents whenever appropriate.

## Clinician and Patient Perspectives on Stimulants for ADHD

Keeping the benefits of long-acting stimulants in mind, clinicians can improve the patient experience when treating adult ADHD. According to Dr Mason, the goal of treatment is to improve symptoms and to achieve functional remission, which is when the functional impairments begin to normalize. “In my experience, [although]

people understand a small bit about ADHD, [patients] may not understand the full impact of ADHD on their lives,” said Dr Mason. “When we prescribe these medications, we should literally see the changes across [their full] spectrum of symptoms.”

When treating adult patients with ADHD, Dr Mason explained that despite the benefits of long-acting stimulants, many patients ask for short-acting stimulant medications. “[They may have] concerns about cost or fear of the medications, hoping to limit their exposure to something they don’t understand,” said Dr Mason. “I think we have to explore it with people. There’s a lot of reassurance we can give. [We can explain] that these medications don’t change personality when properly administered, patients have overwhelmingly positive experiences to them, and a trial of [long-acting] medication may help educate them about the [benefits] that they might see from ADHD medication therapy.”

In addition, it’s important for clinicians to consider medication duration. Dr Mason said that clinicians can give patients an expectation of what the average patient might experience; they will, however, need additional education to understand when a medication is wearing off.

To achieve adequate duration, clinicians should begin with prescribing long-acting medications to achieve an all-day duration, according to Dr Mason. “An all-day duration is simply not going to [be achieved] with a short-acting medication, a medication [with effects that only last] for 4 to 6 hours,” said Dr Mason. “We let patients know what we expect the duration of benefit to be, and then we actually measure it. If the duration is inadequate, [we’ll] either switch to another long-acting preparation or, in some cases, we’ll add a short-acting booster to lengthen the duration of benefit.”

He went on to explain that with many longer-acting preparations, there is an improvement in duration of benefit, not just in midday effect. “Through the titration optimization, we need to ask questions about both efficacy and duration of benefit. If we’re not able to obtain adequate duration

of benefit from one long-acting medication, we have others that we can try. If no long-acting preparation gives the patient the duration necessary, we can add short-acting boosters in the afternoon.”

Keeping in mind the appropriate utilization of stimulants and the avoidance of the overuse of short-acting formulations, Dr Mason highlighted current stimulant prescribing practices and clinician perspectives about treating adults with ADHD, explaining that there is a trend of improvement across the medical spectrum, despite the need for more improvement in the landscape. “ADHD management spans a range of specialties, and [there are] different practices within each. We looked at a 2017 cross-sectional study across US-based health care professionals. For the purpose of the study, we’re going to talk about 4 specialties: psychiatrists, neurologists, primary care doctors, and psychiatric nurse care practitioners. When asked to identify which pharmacotherapy they prescribe as first-line treatment, short-acting stimulants were cited by 17% of psychiatrists and 29% to 36% of the other 3 groups. This means that there [are] a lot of short-acting stimulants being used primarily for ADHD right out of the gate. Psychiatrists are more likely than the other groups to prescribe long-acting stimulants.”

In addition, health care professionals were asked how strongly they agree or disagree with the following statement: It’s difficult to determine optimal ADHD treatment regimen for adult patients. According to Dr Mason, there was a resounding yes from 45% of psychiatrists and 60% of primary care physicians, neurologists, and nurse practitioners. “This is an opportunity for education,” he said. “We need more awareness about the actual benefits of the [long-acting] medications, the deficiencies of short-acting medications relative to long-acting stimulants, and the opportunity to do better for our patients.”

Despite the benefit patients can yield from ADHD medications, there are unmet needs that remain. According to Dr Mason, adequate duration of effect is an area in

need of improvement, especially for adults with ADHD. “Clinicians should be aware of how the method of extending duration [with short-acting agents] influences drug pharmacokinetics,” he said. “Health care professionals have identified a need for guidance regarding stimulant medications for ADHD.”

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— OWEN MASON, MD

Dr Mattingly added that patients who misperceive the energizing effects of stimulants for clinical benefit may drive a preference for short-acting stimulants. As the role of long-acting medications within the spectrum of ADHD treatment continues to evolve, Dr Mason said that there is a need for more education related to the benefits of long-acting medications relative to short-acting stimulants to help improve patient outcomes.

#### REFERENCES

1. Cascade E, Kalali AH, Weisler RH. Short-acting versus long-acting medications for the treatment of ADHD. *Psychiatry (Edgmont)*. 2008;5(8):24-27.
2. Mattingly GW, Wilson J, Ugarte L, Glaser P. Individualization of attention-deficit/hyperactivity disorder treatment: pharmacotherapy considerations by age and co-occurring conditions. *CNS Spectr*. 2021;26(3):202-221. doi:10.1017/S1092852919001822

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