

# THE CARLAT REPORT

## ADDICTION TREATMENT

A CE/CME Publication

CURRENT COVERAGE OF TOPICS IN ADDICTION MEDICINE

Worth 2 CME credits!

Noah Capurso, MD, MHS  
Editor-in-Chief

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#### Learning Objectives

After reading these articles, you should be able to:

1. Diagnose and treat various behavioral addictions.
2. Assess patients for nootropic use.
3. Summarize some of the findings in the literature regarding addiction treatment.

## Food Addiction and Related Disorders

Heidi Moawad, MD. Clinical assistant professor, Case Western Reserve School of Medicine, Cleveland, OH.

Noah Capurso, MD, MHS. Assistant professor of psychiatry, Yale University, New Haven, CT; Editor-in-Chief, The Carlat Addiction Treatment Report.

Dr. Moawad and Dr. Capurso have no financial relationships with companies related to this material.

**S**amantha is a 34-year-old woman who presents with distress over her inability to control her eating habits. She describes intense cravings, especially for fast foods like burgers and potato chips, and admits to eating in secret. She has tried multiple times to cut back but feels irritable and anxious without her regular “fix.” Samantha denies feelings of guilt or shame about the amount she consumes, but instead mentions withdrawal symptoms when she tries to reduce her food intake. She recalls

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### Highlights From This Issue

#### Feature Article

Food addiction is an emerging concept in the field of eating disorders, and though related to binge eating disorder, it is a separate diagnostic entity.

#### Feature Q&A

Gambling disorder is highly prevalent, but performing a thorough assessment is vital to make an accurate diagnosis and construct an optimal treatment plan.

#### Q&A on page 6

Taking a detailed sexual history while maintaining a nonjudgmental and empathic stance is essential when working with patients with sexual addictions.

#### Article on page 7

Nootropics are an emerging class of medications meant to enhance cognition, but they can have dangerous side effects.



## Diagnosis and Treatment of Gambling Addiction

### Timothy Fong, MD

Clinical Professor of Psychiatry and Biobehavioral Sciences; Co-Director, Gambling Studies Program; David Geffen School of Medicine at UCLA, Los Angeles, CA.

Dr. Fong receives research support from Connections in Recovery. Relevant financial relationships listed for the author have been mitigated.

#### CATR: How do we know when gambling becomes disordered?

**Dr. Fong:** Gambling crosses into disordered territory when it results in harmful consequences. It's not about how often you gamble, or even how much money you've lost; it's more about the role that gambling has in your life. If you continue to gamble in a way that's harmful and distressing and emotionally painful, that's an addiction. People with gambling disorder will continue to gamble despite these consequences, and they'll experience urges and cravings to gamble that interfere with and impair daily life.

#### CATR: That sounds a lot like a substance use disorder (SUD).

**Dr. Fong:** Historically, gambling disorder has been placed in many categories: “process addiction,” “behavioral addiction,” and there was once a proposal for “hedonistic dysregulation syndrome,” which probably never caught on because it's such a mouthful. But you're right to point out the similarity to SUDs, because



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## Expert Interview – Diagnosis and Treatment of Gambling Addiction

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gambling disorder is an addictive disorder, just one that does not involve the ingestion of a substance. In fact, the DSM-5 moved gambling disorder from the impulse control disorders section into the substance-related and addictive disorders section. So according to the DSM, at least as of 2013, gambling disorder is an addiction. That said, the science is always evolving, and emerging technologies are making the distinction between various behavioral dysregulation disorders very fuzzy. We're now seeing crossover with video games, internet gaming disorder, social media consumption, and gambling disorder. Someone may watch others play online video games excessively; maybe they don't spend their own money, but they're watching a slot machine simulator. Is that a gambling disorder? A gaming disorder? A social media use disorder? You can see how making these diagnostic distinctions gets messy, and it's unclear how important those distinctions are clinically.

### CATR: How common is gambling disorder?

**Dr. Fong:** Lifetime prevalence of gambling disorder hovers around 1% to 2% of the general population. And there is significant geographic variability. For example, 12-month prevalence can be as high as 3%–6% in some areas or as low as 0.1%–1% in others (Abbott MW, *Public Health* 2020;184:41–45). The prevalence is similar to bipolar disorder (BD) or schizophrenia. That's a lot more common than most people realize. Why? Because people rarely like to talk about it. Has a patient ever come to your office with the chief complaint "I gamble excessively and I need help to stop"? Probably not. And I think that's because of how we view money as a society. It goes all the way back to the morals and principles that this country was founded on. Back then, gambling was viewed as a vice and a sin but also as a way of escalating your future fortunes. So, these perceptions run very deep. People with money are seen as successful. And if you lose money, you're not only a loser financially, but maybe character-wise too.

### CATR: What are some important risk factors for gambling disorder?

**Dr. Fong:** The risk factors are like those we see for SUDs. Breaking it down along the lines of the biopsychosocial model is not only useful conceptually but can help create a treatment roadmap for individual patients. Look at their risk factors and use those to identify fruitful areas to intervene. There are genetic risk factors (Slutske WS. Genetic and environmental contributions to risk for disordered gambling. In: A. Heinz et al, eds. *Gambling Disorder*. Cham, Switzerland: Springer Nature; 2019). Head injury is a potential risk factor. So is taking certain medications, particularly dopamine agonists (such as pramipexole and ropinirole) or partial dopamine agonists (such as aripiprazole). Many psychiatric conditions are associated with gambling disorder—particularly depression, BD, ADHD, SUDs, and antisocial personality disorder. Interestingly, even dementia is associated with gambling disorder. It may seem surprising at first, but it makes sense when you think of some of the psychological factors that drive the disorder, namely impulsivity and impairments in attention, focus, and cognition (Moreira D et al. *J Gambling Studies* 2023;39(2):483–511). The gambling industry are aware of this; we've all seen those buses bringing in older adults, many of whom are probably cognitively impaired.

### CATR: Are there other psychological traits associated with gambling disorder?

**Dr. Fong:** People who develop gambling disorder are more likely to engage in high-risk and sensation-seeking behaviors and are very competitive (Rogier G et al. *Scand J Psychol* 2020;61(2):262–270). Also, and this may seem counterintuitive, people who don't do well with loss—there's higher risk in those with lower degrees of grit and resilience. I don't have a good psychological term for this, but it's captured in pop culture these days with the term "FOMO," or "fear of missing out." Many people with

## Brief Biosocial Gambling Screen

### During the past 12 months...

- Have you become restless, irritable, or anxious when trying to stop/cut down on gambling?
- Have you tried to keep your family or friends from knowing how much you gambled?
- Did you have such financial trouble as a result of your gambling that you had to get help with living expenses from family, friends, or welfare?

Source: Gebauer L et al, *Can J Psychiatry* 2010;55(2):82–90

Continued on page 3

gambling disorder have an intense aversion to missing out on opportunities, in this case, to win money. It's this aversion that drives ongoing gambling, even when it's causing problems.

**CATR: We covered bio- and psycho-; what about social?**

**Dr. Fong:** This has to do with availability, access, and who is gambling around you. Is gambling prevalent in your community? Do your friends gamble? We've done work examining elevated levels of gambling in Asian American communities because the social entertainment of gambling is woven into the fabric of their society (Alegría AA et al, *CNS Spectr* 2009;14(3):132–142). For example, there is at least anecdotal evidence that casinos market more to certain Asian American communities, raising participation rates and social acceptance of gambling as a community activity (Keovisai M and Kim W, *J Gambl Stud* 2019;35(4):1317–1330).

**CATR: Let's talk about patient assessment. Do you think all patients should be screened?**

**Dr. Fong:** Absolutely, and usually it isn't done. We learn very little about gambling disorder and other behavioral addictions in training, so the topic usually goes unaddressed. It's a silent addiction that's easy to miss: Patients look fine, they can walk and talk, their balance is good, and they're not overdosing. They're distressed, but often you can't see that, so it's easy to forget if you're not thinking about it. I tell my students that gambling disorder has never been listed as a cause of death on a death certificate, but many people have died because of the consequences of gambling disorder. Suicide rates are high; co-occurring psychiatric disorders are common. So, at the very least, we should be screening at intake. But the topic also should be revisited from time to time—I'd suggest annually. And keep it on your differential when a patient is not responding to standard treatments.

**CATR: How should we go about screening?**

**Dr. Fong:** I recommend folding it into your intake or into your first few sessions. Start off simply: "How do you spend your money on entertainment?" "Over the last 12 months, have you ever spent money in a gambling setting such as a casino or at the racetrack?" If you prefer something more structured, the Brief Biosocial Gambling Screen (BBGS) is a good three-item questionnaire (Dowling NA et al, *Clinical Psychol Rev* 2019;74:101784) (*Editor's note: See "Brief Biosocial Gambling Screen" table on page 2*).

**CATR: Let's say a patient screens positive—what next?**

**Dr. Fong:** Well, don't just end it at the BBGS. Use the screener to open further conversation. I recommend starting with the basic logistical stuff: "Where and how do you gamble?" "What types of bets do you like?" "Where do you get money to gamble?" "Do you use brick-and-mortar casinos, mobile sports betting, internet gambling on the computer or phone?"

**CATR: There are so many ways to gamble these days. The landscape must be very different than 20 or 30 years ago.**

**Dr. Fong:** Absolutely—patients essentially have a casino in their pocket 24/7. Moreover, access to money is easier than ever before, and that can create rapid changes to one's financial situation. Nearly anyone can hop online and get a high-interest payday loan. But obviously, these are not sound investments. People can rack up debt very quickly with these online predatory loans. Whenever a patient is talking a lot about their finances or how they're stressed over money, that should immediately raise your antenna and you should ask about gambling.

**CATR: Where do you go after asking the logistical questions?**

**Dr. Fong:** Move on to the deeper questions: "What is it about gambling that draws you in?" "What is your relationship to money?" "How do you feel about winning/losing?" "Why do you think you continue to gamble?" "How do you deal with losses in your life?" Neglecting to ask these questions is a missed opportunity. They're how you can start understanding what drives your patient. I recommend staying curious and nonjudgmental; it's hard to go wrong if you keep that in mind.

**CATR: That brings up treatment. What are the treatment options?**

**Dr. Fong:** There are no FDA-approved medications for gambling disorder, and I don't believe we'll get one in the next 10 to 15 years. Most of our medication trials have not proven very successful. So one of the principal uses of medications is to treat co-occurring disorders. But there is some evidence for the opioid antagonists naltrexone and nalmefene (just recently available in the US as an opioid overdose reversal agent) in higher doses and N-acetylcysteine. I've found that medications can be particularly useful for patients with biological reactivity. I'll ask, "Tell me what it's like when you're driving to the casino. What are you feeling? What are you thinking?" Someone with high biological reactivity might say, "I get butterflies in my stomach, my heart races, and my palms are sweaty." There is work being done on other biological approaches such as rTMS, and other medications such as varenicline, acamprosate, and ondansetron. The data on these are either too early or too mixed to recommend them at this point. So, my biological approach usually boils down to naltrexone plus treatment of co-occurring psychiatric disorders.

**CATR: What about nonmedication treatments?**

**Dr. Fong:** There are a lot of psychotherapy options—over a dozen, in fact. We have evidence for motivational interviewing, cognitive behavioral therapy, psychodynamic therapy, and supportive therapy; they all work with similar effect sizes. Dr. Nancy Petry, a pioneer in gambling treatment, has developed a cognitive behavioral treatment specific to gambling disorder as well as a short one- or two-session brief behavioral therapy (Dowling et al, 2019). I mentioned that medication can be particularly

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**"I fold screening for gambling addiction into intake or the first few sessions. Start simply: 'How do you spend your money on entertainment?' 'Over the last 12 months, have you ever spent money in a gambling setting such as a casino or at the racetrack?' Use these questions to open further conversation."**

Timothy Fong, MD

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## Expert Interview – Diagnosis and Treatment of Gambling Addiction

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helpful for patients with high biological reactivity. On the other hand, I tend to focus on psychotherapy for patients who describe dissociation. They might describe going to the casino as “going on autopilot” without even remembering how they got there.

**CATR: What about the nonexpert? How might they go about treating patients with gambling disorder?**

**Dr. Fong:** The longer I’ve been in this field, the simpler my approach has become, driven more by a whole-patient approach. I structure clinical conversations around SAMHSA’s four major dimensions that support a life in recovery: home, health, purpose, and community ([www.tinyurl.com/2s7wt7dd](http://www.tinyurl.com/2s7wt7dd)). The initial goal is to reestablish healthy practices that have been neglected, such as sleep, nutrition, exercise, and stress management. You must balance physical health, mental health, and general well-being. Otherwise, gambling disorder is going to be very hard to overcome.

**CATR: What about online resources?**

**Dr. Fong:** There are telehealth options available for those who don’t have good access locally. For those who struggle with online gambling, there’s a software program called Gamban, which is an app you can install to block gambling websites ([www.gamban.com](http://www.gamban.com)). It’s not a standalone treatment, but it removes easy access to gambling, and I find it gives patients an opportunity to pause and ask themselves, “Is this really what I want to be doing?” There are a lot of online portals and self-help workbooks out there. One I am affiliated with is the UCLA Gambling Program ([www.UCLAgamblingprogram.org](http://www.UCLAgamblingprogram.org)), and we provide downloadable PDF materials for free. For providers who are particularly motivated, I recommend the national conferences put on by the National Council on Problem Gambling and the International Center for Responsible Gaming. Most states host their own educational conferences as well.

**CATR: Any other advice?**

**Dr. Fong:** We haven’t discussed the importance of community yet, the importance of having a good treatment network. Peer support like Gamblers Anonymous ([www.gamblersanonymous.org](http://www.gamblersanonymous.org)) and Gamblers in Recovery ([www.gamblersinrecovery.com](http://www.gamblersinrecovery.com)) can be enormously helpful. It shouldn’t be the only component of treatment, but it can be a good adjunct. And almost every state funds a form of gambling treatment, often free of charge. For families, I’d recommend Gam-Anon, which is a companion to Gamblers Anonymous. And anyone can call 1-800-GAMBLER, which is a resource hotline that offers advice to people throughout the country (*Editor’s note: See “Gambling Addiction Resources” table for more.*)

**CATR: Thank you for your time, Dr. Fong.**



Gambling Addiction Resources	
Resource	Description
1-800-GAMBLER	A 24/7 confidential national hotline; can connect those seeking help for problem gambling with local resources and referrals for all 50 states and US territories Call: 1-800-GAMBLER Chat: <a href="http://www.1800gamblerchat.org">www.1800gamblerchat.org</a> Text: 800GAM
Gamban	An app that blocks gambling websites; designed for those who struggle with online gambling <a href="http://www.gamban.com">www.gamban.com</a>
Gamblers Anonymous	An organization with peer support groups, hotlines, and resources; also offers support for families through their companion Gam-Anon program <a href="http://www.gamblersanonymous.org">www.gamblersanonymous.org</a> <a href="http://www.gam-anon.org">www.gam-anon.org</a>
Gamblers in Recovery	An international peer and family support group offering virtual meetings daily <a href="http://www.gamblersinrecovery.com">www.gamblersinrecovery.com</a>
International Center for Responsible Gaming	Offers conferences for providers and resources for those with gambling disorders <a href="http://www.icrg.org">www.icrg.org</a>
National Council on Problem Gambling	Offers national conferences and educational/training programs for providers; also offers services for individuals and families affected by problem gambling <a href="http://www.ncpgambling.org">www.ncpgambling.org</a>
UCLA Gambling Program	Provides downloadable PDF materials for free through their online portal <a href="http://www.UCLAgamblingprogram.org">www.UCLAgamblingprogram.org</a>

## Food Addiction and Related Disorders

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*starting to overeat during a stressful period in her early 20s, a time when she also noticed her BMI starting to increase. She’s been diagnosed with depression but has never been assessed for an eating disorder or food addiction.*

Food addiction is a new and still somewhat controversial concept in the fields of addiction and eating disorders. Whether someone can be truly addicted to certain foods, or the act of eating itself, is an open question. Some are skeptical as to whether the concept of addiction can be applied to an activity that is necessary to

stay alive, but research suggests that there is validity to categorizing food addiction as its own diagnostic entity (Gordon EL et al, *Nutrients* 2018;10(4):477).

While specific diagnostic criteria have yet to be formally defined, conceptualizing overeating behavior within a framework of addiction can help us better understand, and ultimately treat, some patients. Here, we will examine the emerging concept of food addiction, discuss how it distinguishes itself from binge eating disorder (BED), consider how to diagnose food addiction in patients, and review treatment approaches.

### What is food addiction?

Food addiction is described as a compulsion to consume specific foods or a general addiction to the act of eating itself. Only recently have the concepts of food addiction and BED begun to be parsed apart. The behavioral manifestations of both conditions are similar; patients tend to be overweight or obese and eat unhealthy amounts of food. However, the underlying dynamics that drive the disordered eating differ between the two diagnoses.

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### *Binge eating disorder*

BED is listed in DSM-5 as an eating disorder alongside well-known diagnoses such as anorexia and bulimia nervosa. Like these other eating disorders, drivers of disordered eating in BED are centered around self-perception, weight, and body image. This is reflected in criteria laid out in the DSM-5—embarrassment about amount of food consumed, feelings of disgust, and guilt about overeating, for example ([www.tinyurl.com/yc8hkwfc](http://www.tinyurl.com/yc8hkwfc)). Interestingly, some criteria do sound suspiciously similar to substance use disorder (SUD), such as inability to stop eating once started and a sense of lack of control, for example.

### *Food addiction*

Though there is some overlap, the underlying dynamics driving food addiction are fundamentally different from BED. Rather than concerns centered on weight and body image, patients with food addiction have an experience much more akin to an SUD. Symptoms of food addiction, like the DSM criteria for SUDs, include cravings, failed attempts at cutting back, and social impairment. People with food addiction may even develop withdrawal symptoms that manifest as anxiety, irritability, and difficulty concentrating (Parnarouskis L et al, *Obes Rev* 2022;23(11):e13507).

While some patients seem to have an addiction to the act of eating itself, most tend to eat excessive amounts of foods classified as “hyperpalatable.” These are ultra-processed foods that are high in salt, sugar, saturated fat, or artificial flavors and are ubiquitous in most industrialized cultures, such as fast food, candy, and potato chips (Gearhardt AN et al, *Curr Drug Abuse Rev* 2011;4(3):140–145). These foods are calorie dense, but low in their ability to satisfy food cravings, so people can eat large amounts of them in a single sitting, leading to an increased risk of serious medical conditions such as high blood pressure, type 2 diabetes, hyperlipidemia, and cardiovascular disease.

### **Epidemiology**

Given the lack of official diagnostic criteria, exact numbers are hard to come by, but it’s believed that food addiction

is highly prevalent. One large meta-analysis found that the prevalence of food addiction might be as high as 20% in the general population (Vasilio O, *Front Psychiatry* 2022;12:824936). Other research suggests that food addiction might be two to 2.5 times more common among people with obesity, though the population samples from which these figures were drawn had significant selection bias (Constant A et al, *Nutrients* 2020;12(11):3564).

Food addiction does not affect people evenly across the population. Those with depression, psychosocial stressors, anxiety, or a history of food restriction early in life have an increased risk of developing food addiction. One study in college-age students found that, like other eating disorders, food addiction is more common among females, people of White ethnicity, and those who have experienced adverse childhood events (Wattick RA et al, *Eat Weight Disord* 2023;28(1):14).

### **Recognizing and diagnosing food addiction**

Food addiction can be challenging to recognize. There are no definitive physical findings or biological markers that can be relied upon, though recent findings do suggest that there are metabolic changes in dopaminergic reward pathways (Mestre-Bach G and Potenza MN, *Nutrients* 2023;15(4):827). Instead, a proper diagnosis relies on having a high index of suspicion and taking a careful history. Pay particular attention if a patient mentions distress associated with eating or a propensity to consume hyperpalatable foods (Clark SM et al, *Obes Surg* 2019;29(9):2923–2928).

### *Language*

Individuals with obesity are commonly the targets of stigmatization and fat shaming. These can alienate your patient and disrupt therapeutic rapport, and they are associated with a host of negative health outcomes (Papadopoulos S and Brennan L, *Obesity (Silver Spring)* 2015;23(9):1743–1760). Therefore, it is important to maintain a nonjudgmental stance and use person-first language when gathering history about eating patterns and behaviors (Rubino F et al, *Nat*

*Med* 2020;26(4):485–497). A quick introductory statement before gathering a history (eg, “These are questions that I ask all my patients.”) can help people feel less singled out or targeted. It can also be helpful to use a structured screener, especially for providers who are inexperienced when it comes to evaluating eating disorders.

### *Screening*

Consider screening for food addiction using the Yale Food Addiction Severity Scale (YFAS) whenever you see patients with red flags. This validated scale is modeled after DSM-IV criteria for substance dependence and can be used for both screening and diagnostic purposes (Charzyńska E et al, *Nutrients* 2022;14(19):4041). It focuses on emotions related to eating certain foods, negative consequences of eating, maladaptive behaviors associated with eating, and social impairment (Clark et al, 2019). The full questionnaire and scoring instructions can be accessed at [www.tinyurl.com/352mx7sk](http://www.tinyurl.com/352mx7sk).

### **Treatment**

Cognitive behavioral therapy (CBT) has been shown to be effective in the treatment of SUDs as well as the treatment of eating disorders and obesity (Marchesini G et al, *Int J Obes Relat Metab Disord* 2002;26(9):1261–1267). CBT for food addiction focuses on identifying triggers that can lead to episodes of overeating and the development of adaptive coping strategies to deal with cravings and negative emotions. Highly restrictive diets have been shown to be less effective than those that maintain an element of flexibility; therefore, the goal of CBT should be to develop a normalized eating pattern rather than one that is highly restrictive (Adams RC et al, *Nutrients* 2019;11(9):2086).

For the most part, pharmacologic treatments of food addiction are limited to the treatment of comorbid psychiatric conditions such as depression and anxiety. Some medications with evidence for the treatment of BED, such as SSRIs and the antiepileptic drugs topiramate and zonisamide, are reasonable to try for patients with food addiction. However,

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Q & A  
With  
the Expert

## Evaluating and Treating Patients With Problematic Sexual Behaviors

Amos Turner, MD

Assistant professor of clinical psychiatry, Yale School of Medicine, New Haven, CT.

Dr. Turner has no financial relationships with companies related to this material.



**CATR:** Tell us about your specialty within the field of addictions.

**Dr. Turner:** I am an outpatient psychiatrist at the VA. I focus on posttraumatic stress disorder, substance use disorders (SUDs), and have a specialty clinic for people who have concerns related to sex, pornography, or other behavioral addictions.

**CATR:** Sex is a normal part of life for most people. When does it become an addiction?

**Dr. Turner:** The DSM doesn't have a diagnosis of sex addiction, and I tend to not use that term very often. The ICD-11 recognizes compulsive sexual behavior disorder, but there is still debate in the field about whether this is the best label. Like many psychiatric disorders, you should consider treatment if the patient is in distress. It may seem simplistic, but sex is worth exploring clinically when a patient tells me it's having an impact on their well-being. As an addiction psychiatrist, I find it helpful to think of when someone compulsively continues to do something, whether it's a sexual behavior or substance use, despite negative consequences.

**CATR:** What term do you use if not addiction?

**Dr. Turner:** There are a lot of terms; I've found that many patients identify with "out of control sexual behavior." And compulsive sexual behavior disorder is in the ICD-11, so there's rationale for that. But I have an open and honest discussion and try to mirror the patient's language whenever possible. If a patient says, "I feel like I'm addicted," and that's a useful concept for them, then I'll use the word "addiction." I try to stick to language that feels right to them. The caveat is if the language the patient is using is overly negative or judgmental. If so, that can be an opportunity for exploration. Where does that opinion come from, and what does it say about how they feel about themselves? Just like in SUDs, many patients have internalized shame and guilt, and we're battling negative self-talk. If the language used by the patients seems overly judgmental or self-defeating, I'll ask, "Is this language helping you achieve your goals, or is it a part of what's keeping you stuck?"

**CATR:** Many patients must be reluctant to talk about sex. How do you approach gathering a history?

**Dr. Turner:** I use three techniques to overcome any initial reluctance to talk about sex. First, I ask permission: "Would it be okay if I ask you some more questions so that I can better understand your pornography use?" I do this even if this is the chief complaint and why they are here to see me. Second, I acknowledge that many people are taught that it's not okay to talk about sex. I tell them it's normal for it to feel a bit awkward, but I also point out that this taboo doesn't entirely make sense. I say to them, in a slightly perplexed tone: "Here is this thing that is important to your life (or relationship), and you're not supposed to ever talk about it at all?!" I think this helps with therapeutic alliance and also enhances motivation by establishing that your relationship and sexual well-being is more important than a little awkwardness. Third, I use specific terms when discussing sex ("masturbation," "pornography," "orgasm," "penis," "vagina," etc). This decreases confusion and models that it is okay to discuss sexual topics. It helps patients practice sexual communication that could be helpful in their personal lives as well as appointments with me.

**CATR:** Any other tips?

**Dr. Turner:** Ask clarifying questions to fully understand situations the patient is describing. This is very similar to substance use. If someone with alcohol use disorder (AUD) says, "I drank on Saturday," we would likely ask about the circumstances, triggers, how much they drank, where they drank, how they felt, etc. I think the same thing applies to sexual topics. For example, if someone's goal is to reduce pornography consumption and they disclose that they viewed pornography recently, I would ask a similar line of clarifying questions so that we can better understand the situation and plan for the future (*Editor's note: See "Tips for Gathering a Sexual History" table on page 8*). Finally, let the patient lead the conversation and be willing to follow them. The patient will tell you what you need to know if you maintain openness and a nonjudgmental curiosity. People are very good at reading nonverbal cues. Patients respond to our cues, even subconsciously, about what topics are okay to talk about and what topics might be off-limits.

**"I use three techniques to overcome patient reluctance to talk about sex. First, I ask permission: 'Would it be okay if I ask you some more questions so that I can better understand your pornography use?' Second, I acknowledge that many people are taught it's not okay to talk about sex. Third, I use specific terms when discussing sex to decrease confusion and model that it is okay to discuss sexual topics."**

Amos Turner, MD

Continued on page 8

## A Spotlight on Two Emerging Nootropics

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Dr. Weleff, Dr. Anand, and Dr. Raffoul have no financial relationships with companies related to this material.

**N**ootropics, colloquially known as “smart drugs,” are a broad category of compounds marketed for their ability to improve memory, concentration, and alertness. They can be divided into two categories: prescription and nonprescription drugs. Prescription nootropics, such as methylphenidate, amphetamines, and modafinil, are among the most widely misused pharmaceuticals on the market, while nonprescription nootropics have little evidence that they benefit cognition. In fact, many have substantial addictive potential and can cause dangerous psychoactive and adverse medical effects.

The use and availability of nootropics have exploded in recent years. Kratom, for instance, is a tropical leaf from Southeast Asia with both opioid (at higher doses) and stimulant-like (at lower doses) properties that is highly addictive and can cause fatal overdose. Nearly unknown in Western medicine until recently, kratom is now used by millions of people who easily obtain it online, at smoke shops, or at gas stations (Groff D et al, *J Addict Dis* 2022;40(1):131–141). For more on kratom, see *CATR* Jan/Feb 2021.

### Assessing use

Nootropic use is seldom screened for in clinical settings, and most patients will never have been asked about these drugs. Given their easy over-the-counter (OTC) and online availability, patients may not view them as medications or drugs at all and so may not report use. Apart from prescription stimulants, nootropics are not included in routine urine drug screens, so it is important to directly ask patients about their use during intake interviews and periodically over the course of treatment.

Keep in mind that few patients will be familiar with the term “nootropics,” so we recommend asking patients whether they are taking anything OTC meant to enhance memory or boost energy levels. Naming a few specific nootropic agents can be helpful; Some common ones are ginseng, ginkgo, vinpocetine, L-theanine, kratom, khat, phenibut, and tianeptine. And we always like to include a broad catch-all screening question such as, “Do you take any OTC or herbal products at all?”

### Two up-and-comers

Of all the available OTC nootropics, phenibut and tianeptine are two that have become particularly concerning in recent years due to their growing popularity, addictive properties, and potential to cause significant harm. Here, we’ll outline what you need to know about each.

#### Phenibut

Known colloquially as “pbut” or “party powder,” phenibut was first synthesized in the Soviet Union in the 1960s. It has two main mechanisms of action: It is a GABA-B agonist, like baclofen, and a voltage-gated calcium channel inhibitor, like gabapentin and pregabalin. It is still prescribed today in Russia and some post-Soviet states for alcohol withdrawal and anxiety-related conditions (Lapin I, *CNS Drug Rev* 2001;7(4):471–481). In the US, it is marketed as an OTC nootropic and anxiolytic.

As might be expected from a GABA agonist, phenibut typically gives feelings of relaxation and anxiolysis but causes CNS depression when taken in excess. Its effects can be profound, including the need for hospitalization and even intubation (in severe cases). Treatment of phenibut intoxication, like that of other GABA agonists, is primarily supportive. Severe intoxication that compromises airway integrity should be managed in the ICU (Weleff J et al, *J Addict Med* 2023;17(4):407–417).

Phenibut can cause physiologic dependence with only a few days of use, and drug cessation can result in a severe withdrawal syndrome. Withdrawal

symptoms can vary widely, but they include seizure, agitation, and delirium as well as unusual movement disorders such as catatonia, rigidity, and tremors, likely due to glutamate and dopamine dysregulation.

There is no standardized protocol for phenibut withdrawal management, but it is typically treated like withdrawal from other GABAergic agents, such as alcohol or benzodiazepines: with tapering doses of barbiturates, benzodiazepines, or baclofen (as well as adjunctive GABA modulators like gabapentin). While there is no firmly established pharmacologic treatment for phenibut addiction, evidence suggests that baclofen might be an effective option (Weleff et al, 2023).

#### Tianeptine

First synthesized in France in the 1960s, tianeptine was initially touted as a rapid-acting tricyclic antidepressant. However, its mood-altering effects likely have less to do with serotonin and norepinephrine, and more to do with mu-opioid agonism (Samuels BA et al, *Neuropsychopharmacology* 2017;42(10):2052–2063). Tianeptine is still legal in France but is now classified as a synthetic opioid and scheduled as a narcotic.

In the US, tianeptine is unregulated and widely available as part of supplement mixtures under the brand names *ZaZa* and *Tianna*. Companies typically do not advertise tianeptine’s opioid agonism, though it has become common knowledge among those who use the drug, earning it the street names “gas station dope” and “gas station heroin.” In 2018, Michigan became the first state to ban its sale, with several others following suit, though it is still widely available online.

Fueled by mu-opioid agonism, tianeptine is highly addictive. And its short half-life of only 2.5 hours can lead to rapid dose escalation; case reports include descriptions of people using 1,500–5,000 mg daily, over 100 times the prescribed dose (Springer J and Cubala WJ, *J Psychoactive Drugs* 2018;50(3):275–280). Like phenibut, many professionals

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## A Spotlight on Two Emerging Nootropics

Continued from page 7

are unaware that tianeptine is widely misused, and it is not detected by routine urine immunoassays.

Clinically, tianeptine should be managed like other opioids; symptoms of intoxication and withdrawal, as well as the risk of overdose, are essentially identical. Patients experiencing tianeptine overdose should receive naloxone as soon as possible (Ari M et al, *Hum Exp Toxicol* 2010;29(9):793–795). Withdrawal can be treated with

buprenorphine or alpha-2 adrenergic agonists like clonidine along with supportive care. Like other opioids, studies have shown that buprenorphine

may be useful as maintenance treatment for tianeptine addiction (Trowbridge P and Walley A, *J Addict Med* 2019;13(4):331–333).

### CARLAT VERDICT

Seldom discussed among medical professionals, nootropics are drugs that are marketed for pro-cognitive effects (unsupported by evidence) but carry significant medical and addictive risks. Many are unregulated and sold OTC, so be sure to routinely ask your patients if they are using nootropics. Phenibut and tianeptine are two of the most worrying agents that can cause serious harm. In terms of treatment approaches, think of phenibut as a GABA agonist and tianeptine as an opioid.



## Expert Interview – Evaluating and Treating Patients With Problematic Sexual Behaviors

Continued from page 6

### CATR: Any tips on how to maintain this nonjudgmental stance?

**Dr. Turner:** This is an issue that many providers struggle with. A book that was very influential to me is *Treating Out of Control Sexual Behavior: Rethinking Sex Addiction* (Braun-Harvey D, Vigorito MA. New York, NY: Springer Publishing; 2016). The authors suggest asking, “What is your vision of sexual health?” This question reorients the treatment toward a goal of improving overall well-being in relationship to sexuality, instead of trying to change specific behaviors. As I said, providing a nonjudgmental space for individuals to explore their sexual beliefs and behaviors is crucial. Of course, that doesn’t mean we should support or encourage literally any sexual behavior. Clearly there are some that should be discouraged—pedophilia, exhibitionism, or any nonconsensual sex, for example. This book proposes six principles of sexual health that I find helpful to keep in mind: 1) consent, 2) nonexploitation, 3) protection from HIV/STIs and unwanted pregnancy, 4) honesty, 5) shared values, and 6) mutual pleasure. If a patient’s sexual behaviors are in line with these principles, we don’t really have standing to discourage them. It’s the combination of keeping these principles in mind along with constantly working toward improving general sexual health well-being that helps me maintain a healthy, nonjudgmental space.

### CATR: And how does all this relate to SUDs?

**Dr. Turner:** There are some aspects that overlap, which I think are fairly obvious. The areas that don’t overlap can pose a particular challenge, though. For example, pornography is involved in most of the referrals I receive. In SUD treatment, one fundamental approach to treatment is to remove access: not keeping alcohol in the house, flushing your drugs, deleting your dealer’s number. But technology has made that approach impossible; people have an essentially unlimited supply of novel sexual content they can access through their phone, which is with them 24 hours a day.

### CATR: What are some other challenging areas that don’t overlap with SUDs?

**Dr. Turner:** In SUDs, the concept of abstinence or sobriety is pretty well understood. If someone is having medical or personal problems related to cocaine use, the goal is usually to stop using cocaine. But how do you conceptualize sobriety when it comes to sex? Even if sex is a problematic area in someone’s life, the goal might not be complete celibacy. For many, sex and sexuality are an integral part of life. Here, I use a concept from the SUD world: “define your own sobriety” (if they identify with addiction terminology). Work with the patient to come up with their own goals and define what, for lack of a better term, their “best sexual life” might look like. That will look different for everybody because it’s highly personal. Fundamentally, we are trying to cultivate a sex-positive attitude. What I mean by that is we are helping a person explore their sexual behaviors, their fantasies, and their belief

systems in order to identify what behaviors promote their sexual health and well-being and what behaviors present barriers to achieving that well-being.

### CATR: Can you elaborate on specifically how you do this?

**Dr. Turner:** I use the Three Circle Model, which comes out of 12-step programs ([www.tinyurl.com/37xbzhve](http://www.tinyurl.com/37xbzhve)). It’s a helpful way of visualizing sexual goals. Imagine three concentric circles, like a bullseye: There’s an inner circle, a middle circle, and an outer circle. On the inner circle are behaviors the person hopes to change. These are behaviors to avoid completely. The middle circle contains behaviors that don’t necessarily violate the person’s sexual health goals, but if they aren’t careful with middle circle behaviors, they might be more likely to engage in inner circle behavior. And the outer circle contains healthy, positive behaviors, both

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### Tips for Gathering a Sexual History

Ask permission	“Would it be okay if I ask you some questions so that I can better understand your pornography use?”
Acknowledge awkwardness	“A lot of people feel a little uncomfortable talking about sex. But this is an important part of your life—you should be allowed to talk about it with your provider.”
Use specific terms	Avoid euphemisms; use the words “penis,” “vagina,” “sex,” “pornography,” etc.
Ask clarifying questions	“Help me better understand your pornography use. Where do you view it? How often? For how long?”



sexual and nonsexual (*Editor's note: See "Example of the Three Circle Model"*). For example, the inner circle might have the goal of eliminating infidelity, while the middle circle has behaviors like surfing dating websites. Patients can include nonsexual behaviors in the middle circle too, like skipping therapy appointments or not getting enough sleep. The outer circle might be sex with a long-term partner, masturbation, exercise, or time with friends.

**CATR:** Once you've defined these goals, what's next? What are the treatment options?

**Dr. Turner:** Psychotherapy, mostly rooted in a behavioral approach, has the most robust evidence. This can be offered in group or individual settings. There is evidence for many modalities, including cognitive behavioral therapy, motivational interviewing, acceptance and commitment therapy, and mindfulness-based relapse prevention (Efrati Y and Gola M, *Curr Sex Health Rep* 2018;10:57–64). For many patients, adding in couples therapy can be beneficial. My personal preference is not to be too dogmatic about any single approach. In my experience, I've found that adapting components of various approaches works the best. As I said before, attitudes, beliefs, and desires about sex are highly personal, so a lot of the early work is just helping a person figure out what approach will work for them. What fits with their life? What fits with their culture and belief system?

**CATR:** How do you suggest a nonexpert go about treating these patients?

**Dr. Turner:** You can't expect providers to have expertise in all the modalities I mentioned. But just meeting with a patient, allowing them to express these issues in a nonjudgmental space, can be enormously helpful. Helping them to clarify what, for them, is a problematic versus healthy behavior can be a very meaningful first step as well. Twelve-step groups are widespread and helpful for some. Sex Addicts Anonymous is probably the biggest one, but there are others, each with their own attitude and ethos. Some are online and some are in person. You just need to see what works best for your patient; for some, the 12-step approach may not be a good fit. A recovery phrase that I love is, "Take what you need and leave behind the rest." I tell patients we're going to try a lot of things and if something works, they can keep doing it—but if something doesn't, that's okay too.

**CATR:** There are phone apps available as well, right?

**Dr. Turner:** There are apps for those struggling with issues specifically related to the internet, be it pornography or dating websites. I recommend exploring apps that can help to limit access; there are a lot of them out there, and the landscape is constantly shifting, so I recommend that patients do some research and pick one that fits best for them.

**CATR:** It sounds like there are a fair number of resources available.

**Dr. Turner:** Yes, that's right—which also brings up the importance of a well-rounded team with complementary approaches. An addiction psychiatrist or general psychiatrist can approach sexual issues from a particular standpoint. Peer support groups can be valuable in a different way. Sex therapists, who are very much experts, can also be helpful for patients who have access to them.

**CATR:** There is some evidence for medication as well, right?

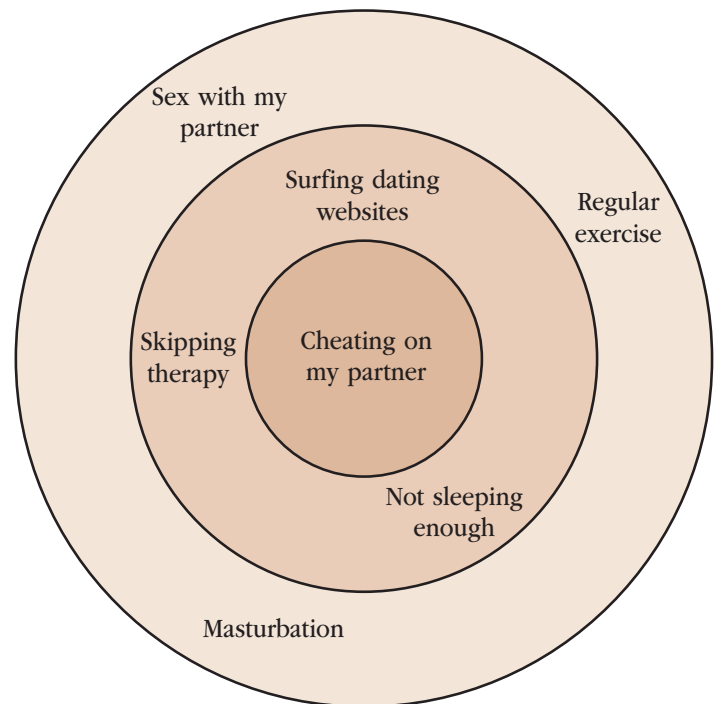
**Dr. Turner:** Naltrexone has a little evidence (Savard J et al, *J Sex Med* 2020;17(8):1544–1552). It's not been studied enough to be the standard of care, but given its favorable safety profile, it's a reasonable thing to try. I would recommend dosing it just as you would with AUD, the standard being 50 mg daily, with the option to decrease to 25 mg or increase to 100 mg daily. It's also important to treat comorbid psychiatric issues. This is an opportunity to point out the importance of good dual diagnosis care. Anxiety, depression, and trauma-related disorders are highly comorbid with all types of addictions, including behavioral addictions. This is where antidepressants like SSRIs and SNRIs can be helpful. And actually, the adverse effects of these medications on libido and sexual dysfunction can be beneficial for some patients.

**CATR:** Any final thoughts?

**Dr. Turner:** I would just like to pass on encouragement to providers out there who might have discomfort dealing with these issues. To some extent, we all want to stay within our own bubble of expertise. I'm the same way. But remember, when it comes to issues related to sex, you are helping a patient have space to explore something they may never have talked about before in their life. It can be healing simply to get more comfortable talking about sex, saying the word masturbation out loud, describing fantasies—they realize, "I wasn't judged. This didn't go horribly. I thought I was going to take this to the grave." That's a powerful gift that you can give to your patients, no matter your level of training or area of expertise.

**CATR:** Thank you for your time, Dr. Turner.

Example of the Three Circle Model



## Research Updates

### ALCOHOL USE DISORDER

#### *Deep Brain Stimulation for Severe Alcohol Use Disorder*

**Maryam Soltani, MD, PhD.** Dr. Soltani has no financial relationships with companies related to this material.

**REVIEW OF:** Davidson B et al, *Mol Psychiatry* 2022;27(10):3992-4000

**STUDY TYPE:** Prospective open-label study

Despite several FDA-approved medications, thoroughly researched psychotherapies, numerous support groups, and a slew of off-label treatments, alcohol use disorder (AUD) is still a leading driver of morbidity and mortality (GBD 2016 Alcohol Collaborators, *Lancet* 2018;392(10152):1015-1035). Novel treatment approaches are clearly needed, particularly for those with severe disease. One such promising approach is deep brain stimulation (DBS), a procedure most used in Parkinson's disease, in which a fine electrode is placed into the brain to stimulate deep structures.

In this 12-month observational study, six patients (33% female, mean age 49) with severe refractory AUD had a DBS electrode surgically implanted into the nucleus accumbens (NAc), a brain region critical in the maintenance of addiction. After surgery, patients were assessed over a 12-month period for self-reported drinking behaviors, depression, anxiety, obsessive and compulsive drinking, and liver function. PET scans were used to determine glucose metabolism in the NAc, and fMRI was utilized to gauge connectivity alterations and brain activity while viewing alcohol-related images.

Over the yearlong trial, measurements of alcohol consumption, obsessive-compulsive drinking, and anxiety showed consistent improvements. By the end of the trial, mean number of daily drinks had dropped from 10.4 to 2.7 ( $p < 0.05$ ). The mean score on the Obsessive-Compulsive Drinking

Scale decreased from 28.7 to 8.3, and mean Beck Anxiety Inventory scores dropped from 20.3 to 9.3. AST and ALT values dropped significantly as well. Hamilton Depression Rating Scale scores, however, did not change significantly.

Neuroimaging showed brain changes correlated with these clinical improvements. PET scans showed a decrease in glucose metabolism in the NAc six months after surgery. fMRI revealed decreased connectivity between the NAc and areas of the visual association cortex, a finding previously associated with a decrease in alcohol cravings (Bach P et al, *Psychoneuroendocrin* 2019;109:104385). Finally, researchers observed a decrease in the activation of the dorsal striatum, which is normally activated when participants view alcohol imagery.

While these results are promising, the intervention is not benign; it is brain surgery, after all. One participant developed an infection on the DBS hardware and required device removal. Researchers cautioned that they would expect an elevated risk of hemorrhage and seizure as well, even though those were not observed in this small trial. It is also worth noting that participants choosing to take a step as invasive as brain surgery are likely to be unusually motivated to stop drinking, and without a control group, we don't know how much of the observed effect was due to the intervention itself or placebo.

#### **CARLAT TAKE**

This small-scale, open-label trial shows promise for DBS as a novel treatment approach for those with severe AUD. Participants had an impressive drop in their drinking, and researchers were able to use neuroimaging to correlate this clinical response with brain changes. At this point, however, data are preliminary, and the procedure is not without risks, so even if DBS one day becomes an approved treatment, it will almost certainly be reserved only for the most severe patients.

### OPIOID USE DISORDER

#### *Extended-Release Buprenorphine for Opioid Use Disorder in Correctional Settings*

**Eli Neustadter, MD, MSc.** Dr. Neustadter has no financial relationships with companies related to this material.

**REVIEW OF:** Martin RA et al, *J Subst Abuse Treat* 2022;142:108851

**STUDY TYPE:** Retrospective cohort study

Incarcerated individuals with opioid use disorder (OUD) face significant challenges in accessing medication treatment and are at high risk for overdose after release. Extended-release (XR) formulations offer unique benefits by reducing logistical barriers and minimizing diversion concerns. Until a few years ago, the only available XR medication for OUD (MOUD) was naltrexone (Vivitrol). But another option became available in recent years: an XR injection of buprenorphine that goes by the trade name Sublocade, administered subcutaneously in the abdomen and lasting for a month (for more information, see *CATR* Jan/Feb/Mar 2023).

In a recent randomized controlled trial (RCT), incarcerated individuals taking XR buprenorphine (XR-BUP) required fewer jail clinic visits and had improved OUD treatment retention post-release compared to those taking immediate-release sublingual buprenorphine (SL-BUP) (Lee JD et al, *JAMA Netw Open* 2021;4(9):e2123032; see *CATR* Sept/Oct 2022). But what does XR-BUP treatment look like outside of an RCT in a real-world correctional setting?

In the current study, researchers reviewed medical and correctional records to characterize the naturalistic use of XR-BUP at the Rhode Island Department of Corrections (RIDOC) from January 2019 through February 2022. All individuals with OUD incarcerated through RIDOC are offered treatment with XR-BUP, and researchers assessed reasons for use and discontinuation of XR-BUP, reported side effects, and whether users followed up with treatment after release from prison.

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*These questions are intended as a study guide. Please complete the test online at [www.carlataddictiontreatment.com](http://www.carlataddictiontreatment.com). Learning objectives are listed on page 1.*

- Which of the following medication classes has evidence for the treatment of gambling disorder (LO #1)?
  - a. Glutamate modulators
  - b. Benzodiazepines
  - c. Atypical antidepressants
  - d. Opioid receptor antagonists
- Phenibut is prescribed in Russia and some former Soviet states to treat which of the following (LO #2)?
  - a. Anxiety and alcohol withdrawal
  - b. Depression and PTSD
  - c. Anorexia nervosa
  - d. Bipolar disorder and other mood disorders
- According to a 2022 study on deep brain stimulation (DBS) for alcohol use disorder (AUD), which of the following was observed in the 12 months following DBS intervention (LO #3)?
  - a. Decreased daily alcohol consumption
  - b. Improved scores on the Hamilton Depression Rating Scale
  - c. Increased scores on the Obsessive-Compulsive Drinking Scale
  - d. No significant change in AST and ALT values
- According to Dr. Turner, which of these medications has shown evidence of being effective in treating sex addiction (LO #1)?
  - a. Benzodiazepines
  - b. SSRIs
  - c. Naltrexone
  - d. SNRIs
- What medication is a potential treatment option for phenibut addiction (LO #2)?
  - a. Benzodiazepines
  - b. Buprenorphine
  - c. Baclofen
  - d. Barbiturates
- According to a study on extended-release buprenorphine (XR-BUP) for opioid use disorder (OUD) in correctional facilities, which of the following is true (LO #3)?
  - a. Most participants who switched to XR-BUP preferred it to methadone or sublingual buprenorphine (SL-BUP)
  - b. XR-BUP administration was associated with poor engagement with medications for OUD post-release
  - c. The primary reason cited for stopping XR-BUP was pain during injection
  - d. Authors concluded that SL-BUP was superior to XR-BUP because of cost
- Food addiction and binge eating disorder are two eating disorders centered around an individual's weight and body image (LO #1).
  - a. True
  - b. False
- Which of the following nootropics has earned the nickname "gas station dope" (LO #2)?
  - a. Phenibut
  - b. Tianeptine
  - c. Kratom
  - d. Vinpocetine

## Research Updates

Continued from page 10

Of 2,178 individuals taking MOUD, only 54 (96% male, 80% White) received XR-BUP. How well did these patients tolerate this medication? Sixty-one percent reported at least one side effect (average = 2.8 side effects), the most common being gastrointestinal, fatigue, and injection site pain/bruising. Nonetheless, 58% of individuals who chose to switch to XR-BUP (n = 29/50) preferred it to their previous medication (methadone or SL-BUP). The rate of treatment engagement after release was high. A total of 70% of those

on XR-BUP (n = 23/33) received a form of MOUD in the community: either XR-BUP (n = 10) or another MOUD (n = 13).

The researchers identified several study limitations, including small sample size, a single study site limiting generalizability, nonrandom treatment arms, and limited data on post-release clinical outcomes. It's also important to note that this study enrolled inmates from both jails and prisons, which can be comprised of substantially different populations. Unlike RIDOC, most facilities tend to be a jail or

a prison, but not both, raising some questions about generalizability.

### CARLAT TAKE

Though the overall number of participants was small, this study adds to the emerging evidence base that XR-BUP is feasible and effective in correctional settings. By addressing patient preference and diversion concerns, XR-BUP is a long-acting and potentially lifesaving MOUD option for this vulnerable population.

# THE CARLAT REPORT

## ADDICTION TREATMENT

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Food Addiction and Related Disorders  
Continued from page 5

lisdexamfetamine, which is FDA approved for the treatment of BED, does have addictive potential, leading some to caution against its use for patients with food addiction (Ratković D et al, *J Int Med Res* 2023;51(4):03000605231171016).

Another treatment option is peer support groups such as Overeaters Anonymous (OA; www.oa.org). OA has adopted the 12-step framework of Alcoholics Anonymous and applied it to food addiction and eating disorders. The framework's efficacy in SUDs, at least for some patients, suggests that it could be helpful for patients with food addiction as well, though this has not been studied directly. Given its lack of evidence, we recommend that OA be utilized as an adjunctive, rather than primary, treatment modality.

**CARLAT VERDICT** Food addiction distinguishes itself from BED in its underlying dynamics. Suspect food addiction in patients with obesity or who consume large amounts of hyperpalatable foods. Be sure to gather a careful history with all patients using nonjudgmental language and consider using the YFAS as a screening tool. The primary treatment is CBT, though SSRIs, antiepileptics, and adjunctive peer support groups can be considered as well.

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